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Deliverable 5.2

WP5 Report: Good Practices for Successful Demonstrations

WP5: Case studies of demonstration on commercial
farms



PLAID
PEER-TO-PEER LEARNING:
ACCESSING INNOVATION
THROUGH DEMONSTRATION



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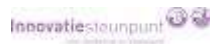
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ABSTRACT

This study presents an overview of 'Good Practices for Successful Demonstrations' from the H2020 PLAID project (Peer to Peer Learning: Accessing Innovation through Demonstration). The general objective for demonstrations is: "To present, discuss and demonstrate innovations in farming practices, materials and equipment in a way that helps farmers to make better informed decisions about innovation on their farm." 24 Case studies representing a wide variety of on-farm demonstrations across Europe were evaluated. This report describes lessons learned on how to prepare for a demonstration, carry it out on the day, and how to ensure impact once the demonstration has been concluded.



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To the memory of Frank Wijnands

While working on this report, we were shocked and saddened by the news of Frank Wijnands' sudden death. Frank played a large role in crafting the findings of this report, never being satisfied with easy answers and always raising questions in an attempt to bring the analysis to a higher level. We dedicate this report to his memory.



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1 EXECUTIVE SUMMARY

1.1 INTRODUCTION

This study presents an overview of 'Good Practices for Successful Demonstrations' from the PLAID project (Peer to Peer Learning: Accessing Innovation through Demonstration) that is funded under the EU Horizon 2020 Framework Programme. PLAID has been designed to map and analyse on-farm demonstrations with the aim *"to increase the innovativeness and sustainability of European agriculture by enabling a wider range of farmers and farm employees to access high quality peer-to-peer learning opportunities on commercial farms"*.

The starting point in PLAID is that on-farm demonstrations should not be seen as isolated activities but as taking place in the context of an **ongoing innovation process**. Demonstrations are meant to have a positive impact on that process, but the specific role of demonstrations is difficult to establish because these processes involve a variety of actors and factors. In this project we assess the ways to **increase the quality and effectiveness** of demonstrations within these innovations processes.

Demonstrations can help farmers to become aware of particular issues, to become motivated to change their practices and to gain useful knowledge on various options for change and use this to take better informed decisions on where to go with their own farm. The term 'useful knowledge' is key here. Information that a farmer receives (at demonstrations or via other channels) needs to be 'tuned to the needs of the farmer' by placing it in the context of the farmer's own practice. Demonstrations can play a key role in realising this if they seek to make that information 'tangible' for the visiting farmers. This can be done in two ways:

- **By using communication techniques that engage multiple senses: seeing, tasting, smelling, touching;**
- **By interacting with visiting farmers to make a closer connection between the supply side (the information provided and demonstrated) and the demand side (what farmers need for their own practice).**

Based on this, we formulate the following general objective for demonstrations: **"To present, discuss and demonstrate innovations in farming practices, materials and equipment in a way that helps farmers to make better informed decisions about innovation on their farm."**

1.2 PREPARING A DEMONSTRATION

Research Observation: Our case studies show that most organisers start '**doing**' before '**reflecting**' on what they want to achieve from a demonstration, and how to achieve this goal. They often see 'doing' as a **goal** (i.e. the demonstration), rather than as a **means** to achieve something else (helping the visiting farmer to take an informed decision on innovation).

To avoid this, it is important to first explicitly state the objective(s) of a demonstration. Objectives determine how the demonstration should be set-up to ensure that it achieves what it is intended to achieve. To give guidance to the organisation of a demonstration, the objectives need to address the following four aspects:

- Why: the motive(s) for the demonstration;
- What: the topic(s) of the demonstration;

- Who: the targeted visitors of the demonstration;
- Goals: what do the organisers want to achieve; what should visitors take home from the demonstration.

These four aspects determine how the demonstration can best be set-up to be successful and form the basis for the various organisational aspects of the actual demonstration event, including:

- Access: making the demonstration attractive and accessible for the targeted participants;
- Where: choosing the host farmer and location of the demonstration;
- When: setting the time of year and the duration of the demonstration;
- How: elaborating the programme of the demonstration, i.e. all demonstration activities and how they are to be carried out.

Before addressing these organisational issues, however, organisers first need to **reflect upfront** on what they see as a **success**. In this report we present the various aspects of success that they can take into consideration and use these in specifying their objectives for the demonstration.

1.3 CARRYING OUT DEMONSTRATIONS

Research observation: structure and networking opportunities were missing from many of the 24 PLAID cases.

Demonstration of innovations is clearly the primary focus of a demonstration event. However, there are various other important aspects of the demonstration programme that can contribute significantly to the success of a demonstration, including:

- A welcome reception;
- A formal opening with an explanation of the set-up;
- Various demonstration activities;
- A 'free' space and breaks with provision of food and drinks, e.g. welcoming with coffee, lunch, closing with drinks and bite;
- A formal closing.

How information is provided to the visitors is at least as important as the actual information. This 'mediation' has a great influence on how well the visitors process the information provided, and how this helps them to assess to what extent it may be useful for them. Some of the key lessons from the project are:

- **Tune** what is presented **to what visiting farmers need**: avoid long talks, make things practical and avoid scientific jargon;
- It is important **who tells what**: visitors will be influenced by how credible a speaker is and speakers need to make an effort to connect with the audience;
- **Actively engage** visiting farmers: pose questions, ask for opinions (e.g. via hand raising), let them actually handle equipment, or physically engage with the demonstration, etc.;
- Adjust **group size** to mediation technique: e.g. actively engaging larger groups is more difficult;
- Provide ample opportunities for '**informal exchange**' between visitors (is often the case but not always);

- **Ensure good acoustics:** especially with larger groups, background noise in the field (e.g. wind) can lead to poor audibility.

Research observation: Not all demonstrators and speakers are aware of these communication techniques and approaches. It can be helpful to give them some instructions for their presentation and interact with them on this prior to the demonstration.

1.4 INCREASING THE IMPACT OF DEMONSTRATIONS

Research observation: Many demonstrators do not seek to ensure impact after the event.

Demonstrations are held in a wider context of making European agriculture more sustainable. Demonstration organisers can do various things to stimulate that what a visiting farmer takes home from a demonstration aligns better with this wider context. Some of the main lessons are:

- Organisers should specify (in the objectives) what visitor-farmers should '**take home**' from the demonstration (key lessons and experiences);
- Provide take-home materials: **Hand-outs, Brochures**;
- Give special attention at the demonstration to **advisers and the farming press** who can play a role as 'multipliers' of demonstration messages after the demonstration;
- Use a **variety** of possible **communication channels** to provide platforms for information sharing and discussion after the demonstration;
- Try to explicitly **learn from what happened** at the demonstration (and the process of organising it) by organising **monitoring & evaluation**. This allows assessing the good and the weak features of the demonstration *vis-à-vis* the initial objectives.

Farmers do not change their behaviour easily immediately after a demonstration by implementing an innovation that they have observed. Usually, they first gather further information and interact with various others before making a decision to do so. The above steps can help demonstration organisers to stimulate that the visiting farmers take further steps.

1.5 GOOD PRACTICE OVERVIEW: CHECKPOINTS FOR SUCCESSFUL DEMONSTRATIONS

The table below provides an overview of specific checkpoints for demonstration aspects that should be addressed in the organisation of a demonstration.

Preparing a demonstration	
The organising team	Invite multiple organisations sharing your objective(s) to reach target group(s); Involve the host farmer family early-on in the organisation; A facilitator can assist to handle discussions in the team and act as a neutral third party.
Setting demonstration objectives	Ensure that the four aspects of objectives below are 'in tune' with each other.

Objective aspect 1: 'Why'	Specify the motivation for the demo, addressing (1) challenges that visiting farmers face and (2) emergence of new farming opportunities (materials, technologies, practices); Take regional agricultural developments and challenges into account to attract farmers and to increase your impact.
Objective aspect 2: 'What'	Specify the demonstrated topics, distinguishing materials, technologies, and practices.
Objective aspect 3: 'Who'	Specify targeted audience, distinguishing relevant types of farmers and other types of visitors.
Objective aspect 4: Goals	Specify what different visitor groups should take home from the demonstration; Specify the key messages.
The hosting farm	Choose the host such that the demo setting is representative of the farming situation of the most important target group. The presence of male and female host farmers encourages the participation of both male and female participants; Collaboration between commercial companies and farms could be beneficial: it allows participants to see the newest innovations on a real working farm; To reach a wider group of participants, the same demo can be held at different locations in a region/country and on different types of farms.
Timing of the demonstration	Ensure a good balance between availability of farmers and 'demonstration effectiveness'; Choose a fixed date for recurrent demonstrations; Take other events into account that could attract your targeted audience.
The overall demonstration programme	At the opening, make clear to visitors that there is a coherent set of activities, seeking to address their needs; A welcome by the host farmer family is very much appreciated; In a closing session, come back to the 'key take-home messages'; Provide a tour around the farm.
Demonstration activities	Tune the planned activities to the objectives of the demo; Split up large groups in smaller groups to increase active participation and discussion; Offer a wide range of experiences and look for ways to surprise participants.
Other organisational issues	Stimulate informal exchange (also by offering coffee, drinks, food); Create a stimulating and familiar setting; Use microphones, visual materials that each participant can see, put chairs in a circle, organise a market, provide funny icebreakers, ... be creative and original; Provide good audio-visual equipment; Have a 'plan B' for bad weather.
Announcement and registration	Assess needs of targeted audience(s) (via participating organisers) and address them in the invitation; Register participants before the event: this helps to learn what your audience needs and allows sending interesting materials before the event; Introduce all organisers in the invitation; Make the invitation clear and appealing. Do not overwork it, do not use different fonts; Provide a welcoming friendly photo of the hosting farm(er); Send personal invitations; Make special efforts for hard-to-mobilize farmers.

Monitoring & Evaluation	Set up M&E scheme; If possible, involve agricultural college or researchers.
Raising demo impact – planning follow-up	Provide hand-outs to take home; Make plans to continue interaction with visitors after the demo.
Carrying out a demonstration	
Types of mediation	Tune forms of mediation to type of demo activities and the audience.
Address variety in demo visitors	Offer range of activities, tuned to needs of different audiences. Give special attention to advisors and the farming press that can act as 'multipliers' of the demo messages.
Stimulating learning	Create small groups; Focus on key messages and repeat them; Provide 'open space' in the programme to stimulate interaction between visitors
Connecting with the audience	Make speakers introduce themselves; Use plain language; Refer to visiting farmers' challenges.
Active engagement	Offer 'hands-on' activities; Stimulate visitors to relate the demo to their own farm situation.
Take home messages	Identify key 'take-home lessons'; Provide brochures, flyers; Offer photos / videos Think about how to distribute materials during the demo event. If they are distributed during presentations, it might distract participants. Some of this information can also be sent in advance to the participants or after the demonstration.
Monitoring and Evaluation	Carry out visitor exit survey at minimum; Stress the importance of this and invite visitors to take part at the opening of the demonstration; Evaluate demo <i>vis-a-vis</i> the objectives.
Raising the impact of demonstrations	
Providing after-demo information	Repeat key messages; Provide links to further info and contacts; Provide on-demand further info / assistance.
Stimulating further learning and networking	Use various information channels (including social media); Connect people with comparable interests (based on visitor exit surveys); Make follow-up activities accessible for those who did not participate in the demo event; Send updates on new developments.
Stimulate after demo Peer-to-Peer interaction	Create P2P groups (virtual or face-to-face); Select topics for such groups from visitor exit surveys.
Advisors	Work with them before, during and after the demonstration; Organise a brief exchange with visiting advisors at the demonstration.

2 INTRODUCTION

As described in the Grant Agreement, the PLAID project has been designed to map and analyse on-farm demonstration with the aim “to increase the innovativeness and sustainability of European agriculture by enabling a wider range of farmers and farm employees to access high quality peer-to-peer learning opportunities on commercial farms”. To achieve this objective, PLAID has undertaken two main efforts to collect data on past and ongoing demonstrations across Europe, viz. (1) by creating a pan-European inventory (WP3; jointly with the AgriDemo-F2F project), and (2) by carrying out 24 case studies in 12 partner countries (WP5). This deliverable, which is part of WP5, is based on these 24 case studies.

The case study work and the analysis that is based on it was carried out through the following steps:

- Develop a **conceptual framework** (CF) to analyse on-farm demonstrations within the context of making agriculture more sustainable (WP2, Task 2.2, D2.1);
- Based on the CF, develop a **case-study methodology** to specify how to carry out case studies and to provide a template for case study reports (WP5, Task 5.1, research report);
- **Select** two **case studies** in each partner country so that the overall portfolio of 24 cases covers the main agricultural sectors and farm(ing) characteristics in Europe (WP5, Task 5.2, D5.1);
- Carry out the 24 case studies following this methodology and produce a **case-study report** on each of them (WP5, Task 5.3, 24 CS reports);
- Analyse the 24 case study reports and produce a **draft case study research report** that describes the main features of demonstrations that are observed in the 24 cases (WP5, Task 5.5, draft research report);
- Validate the draft CS findings at a Pan-European meeting with demonstration practitioners and with the PLAID case-study partners (WP5, Task 5.4);
- Based on the draft case study reports and the feedback from the Pan-European meeting, develop an overview of **good practices for successful demonstrations** that identifies how the various aspects of demonstrations (as identified in the methodology) can best be organised to achieve the targeted impacts of a demonstration (WP5, Task 5.5, final research report + deliverable).

This deliverable, D5.2, concerns this final report, i.e. the ‘good practice overview’ that are based on the 24 PLAID case studies. It is based largely on the research report “Observations from 24 on-farm demonstration cases across Europe” that resulted from the first step in the analysis of the case reports. This deliverable concerns the second step, by which these observations have been integrated and translated into ‘Good Practice Recommendations’. This deliverable thus provides a synthesis of the case study work which is illustrated with various practice examples from the cases.

The first chapter below describes the overall approach taken in the case-study work and its analysis. The next chapter discusses ‘demonstrations in context’ to acknowledge that on-farm demonstrations should be seen as part of a wider process to make agriculture more sustainable. This has consequences for how demonstrations should be embedded in these wider processes but also for how demonstrations themselves should be set-up. The following three chapters discuss three main aspects of demonstrations, notably ‘preparing a demonstration’, ‘carrying out a demonstration’ and ‘raising the impact of demonstrations’. These three chapters are illustrated with various practice examples from the cases. The report concludes with a reflection on ‘peer-to-peer’ learning. This ‘peer-to-peer’ (or P2P) learning underlies the motivation for holding demonstrations, as is



illustrated in the call that the PLAID project is based on. Our cases, however, render some interesting conclusions on the need to distinguish various forms of P2P learning and, furthermore, that the main reason for the effectiveness of P2P learning lies in its combination with other forms of learning.

3 THE PLAID CASE STUDY APPROACH

3.1 CONCEPTUAL FRAMEWORK

The PLAID conceptual framework aimed to assess the relevance of existing theories and approaches to analyse the role of on-farm demonstrations. This included theories on learning (with special attention for peer-to-peer learning), on behaviour and behavioural change (since demonstrations aim to stimulate farmers to apply changes to their own farm), and on sustainability. Concerning the role of demonstrations, however, the existing literature showed a significant gap since little has been published on how to do this effectively (though there is some literature on the history of demonstrations and selected accounts of individual demonstration activities in selected countries).

Seeking to fill that gap, PLAID teamed up with the AgriDemo-F2F project to develop what was called a 'project narrative'. This narrative identified the key aspects of a demonstration that both projects would take as a starting point since they had also agreed to develop joint final recommendations. This project narrative distinguishes the following aspects of demonstrations:

1. **Set up:** preparation, organisation, financing of the demonstration, etc.;
2. **Demonstration event:** everything (except learning; cf. next point) that happens at the actual demonstration (e.g. types & numbers of visitors, accessibility, setting, group sizes in different elements of the meeting, programme, unplanned things);
3. **Learning:** what and how participants take in and process information at the actual demonstration, as well as before and after the demonstration; it addresses both the process (incl. mediation techniques) and the content of the demonstration (the demonstrated topics);
4. **Anchoring:** application of knowledge/practices by demonstration visitors, adoption of innovation;
5. **Scaling:** wider use of demonstrated novelties by the larger farming community, diffusion of innovation;
6. **Demonstration context:** describes the agricultural subsystem that the demonstration is part of, i.e. the key actors, technology and practices, sustainability challenges, etc.

In the case study methodology, these six aspects were taken as a starting point for the data collection.

3.2 THE CASE STUDY METHODOLOGY

An important characteristic of the PLAID project is that the consortium consists of a mix of research organisations and farming advisory organisations. These partners have different attitudes towards doing research and different experiences on how to carry this out. To ensure that these heterogeneous partners would produce comparable results from the case study work required a rather 'straightforward' methodology and specific guidance on how to use it in the cases. To this end, we elaborated the six aspects above to identify rather specifically what kind of information would have to be collected and how to do that. We specified the various sources for data-collection, including:

- Academic papers;
- (Sub)sector reports;
- Media articles;

- Policy documents;
- Websites;
- Organisers and commissioners of demonstrations;
- Colleagues with expertise in the (sub)sector;
- (Sub)sector specialists;
- Demonstration visitors.

The methodology also specified the various methods for data-collection, including:

- Secondary document analysis (assessments of the sub-sector and demonstration cases);
- Interviews with experts, advisors;
- Interviews with farmers;
- Focus groups;
- Participant observations;
- Visitor surveys;
- 'Brief chats' with colleagues, sector specialists met at various occasions, etc.;
- Internet search;
- Media 'screening' (including general media, agricultural media, social media).

The methodology gave further guidance on how to use each of these methods. Partners could choose which methods they would use but, to give guidance, a table was included to specify which methods were most suited to collect data on each of the six aspects above.

The methodology was developed in two steps. First, a draft methodology was used by four partners (two research and two advisory organisations) in four test-cases. The results of these were used to develop a more robust version that was subsequently used by all partners.

3.3 SELECTION OF CASE STUDIES

The agricultural context in Europe varies widely. This implies that a selection of 24 cases can never be representative of the European variety, especially if we take into account the variation across agrarian subsectors and in types of farms (e.g. size, level of mechanisation, etc.). We therefore set out to make a selection that sought to strike a balance between comparability and variety.

To make the selection, each partner was asked to provide suggestions for 3-5 cases and describe their main characteristics using a specific template that included: agrarian subsector, farming system, frequency of holding the demonstration, expected number of visitors, whether it had a longer history (to be able to assess impact based on earlier versions of the demonstration). The Table 1 below lists the resulting selection, indicating the number of cases by each of these criteria.

Table 1: Case selection: number of cases by various criteria

Note: The total number of case studies for farming sector is more than 24 because some demonstrations addressed more than one sector.

Farming sector		Farming system		Number of visitors		Frequency		History	
Animal	12	conventional	6	0-10	1	< once per year	2	first time held	0
Arable	12	conventional + integrated	8	10-50	9	once per year	9	1-5 years	13
Fruit	2	integrated	5	50-100	2	> once per year	13	> 5 years	11
Horticulture	1	Organic	5	100-500	8				
Forage	1			> 500	4				
Viticulture	2								
Glasshouse horticulture	2								
Total	32	Total	24	Total	24	Total	24	Total	24

The final selection of cases is listed in Table 2 below. Based on the above methodology, partners produced 24 case study reports. Annex 1 provides a short description of each of the cases. The first column in the table below contains a case ID that is used to refer to the cases in the various chapters that follow.

Table 2: Overview of 24 PLAID case studies

Case ID	Case Study Title
BE1	Open Energy Day
BE3	Hof ten Bosch (potato)
BG1	Renewable energy sources in milk production
BG2	New plant protection technologies in grain crop production
CH1	Arenenberger Ackerbautreff (Arenenberg Arable Day)
CH2	PROVIEH: Organic cattle day
CRO1	Wheat & barley day
CRO3	Vegetable production Bais
ES1	Extensive Crops Trials Visit
ES2	Organic Cow Cheese Production
FR3	INOSYS: Réseaux d'élevage (Network of livestock farms)
FR4	SYPPRE: Platform for innovative crop systems
IT1	Demo days for sustainable viticulture
IT2	AIAB-APROBIO FVG - Organic farming
LAT1	Integrated fruit production
LAT2	Herbivorous Project: Network of demonstration farms in animal husbandry
NL1	National leek day
NL3	Grounded maize cropping
NOR1	Optimal soil culture
NOR2	Berry production in plastic tunnels
POL1	National potato day
POL2	Feast of Onions and potatoes
UK3	IFM Field Event
UK5	Lothian Monitor Farm Scotland

Photo 1: Comparison of different methods in sugar beet production (ploughing, direct sowing and mulch sowing; CH1).



3.4 INTEGRATING CASE STUDY RESEARCH REPORT

The main findings from the individual case study reports were integrated in a **research report** entitled “**Observations from 24 on-farm demonstration cases across Europe**”. This report provides an overview of the 24 case reports under the various demonstration topics that are specified in the methodology, although they have been somewhat re-grouped. This integrating report follows an analytical logic to assess the role of demonstrations by first discussing the demonstration in its context, then what happens at a demonstration to be able to influence what farmers do, subsequently the impact that a demonstration can have and, finally, how a demonstration is set up to realise this impact. The four key chapters in the integrating report are:

- Ch. 2: **Demonstrations in context**. It discusses the role of the context of demonstrations and how this affects why a demonstration is held, how it is set up and the potential impact that it may have.
- Ch. 3: **The demonstration event**. It discusses what happens at a demonstration which is partly affected by what is discussed in the previous chapter.
- Ch. 4: **Impact of demonstrations**. It discusses what visiting farmers do back home after visiting a demonstration and how this may affect the wider farming community. This combines the anchoring and scaling topics from the methodology since the findings from the cases were not sufficiently distinctive to deal with them separately. This impact discussion is also related to the context from Ch. 2.
- Ch. 5: **Preparing a demonstration**. It discusses how demonstrations are set up to achieve the outputs and impacts from the previous chapters.

In the research report, the chapters 3-5 listed above all start with a number of subsections on various demonstration aspects from the methodology and present the main observations from the 24 case studies on each of these aspects. These observations are ‘illustrated’ with examples from the case studies. Each of these three chapters ends with a subsection on ‘good practice recommendations’ that are derived from the previous, more descriptive subsections in the same chapter.



The research report "Observations from 24 on-farm demonstration cases across Europe" is publicly available and can be downloaded from the PLAID website (<https://www.plaid-h2020.eu/>).

3.5 GOOD PRACTICE SYNTHESIS

These 'good practice recommendations' from the case study research report basically form the present Deliverable 5.2 on the PLAID 'good practice overview'. The set-up of this deliverable, however, follows the temporal logic of demonstrations (rather than the analytical logic in the integrating report), i.e. it first discusses how a demonstration is set up, then what happens at the demonstration and, finally, the impact that a demonstration may have. Prior to that, this deliverable first discusses the context of a demonstration in the next chapter below. This context co-determines the objectives of a demonstration and the impact that a demonstration may have.

4 DEMONSTRATIONS IN CONTEXT

4.1 INTRODUCTION

In this chapter we discuss the wider context in which demonstrations take place, where there are many factors that influence farmers to change their practices and become more sustainable. The first section below discusses this wider context. The next section briefly indicates how this affects the attitudes and needs of farmers that visit a demonstration. Subsequently, four ingredients for change by visiting farmers are briefly presented: awareness, attitude, knowledge, and behaviour, followed by some general insights into how to affect the behaviour of demonstration visitors. Next, we discuss the possible outputs and impact of demonstrations, indicating that demonstration organisers can also play a role in stimulating the impact of a demonstrations. We conclude with a brief discussion on the role of demonstrations that acknowledges the context in which they are held.

4.2 INNOVATION TOWARDS SUSTAINABLE AGRICULTURE: THE ROLE OF AKIS

Demonstrations take place in a broader context in which the overall ambition is to stimulate innovation processes that contribute to making agriculture more sustainable. The two key terms in this ambition are 'sustainable agriculture' and 'innovation' that are briefly discussed in the next paragraphs.

Concerning the term '**sustainable agriculture**', we use this in the broad sense, i.e. addressing people, planet, and profit. Sustainability is often interpreted in a narrow sense, referring primarily to environmental and climate issues. In this study, we define it more broadly, also addressing farmers' capabilities to make a good living from their farm and the impact this may have on the wellbeing of others and of animals. This means that any demonstration that seeks to contribute to improving these aspects is taken to address sustainability issues. A complication may be that improvement of one aspect (e.g. new measures to reduce emissions) may come at the expense of another (e.g. a farmer's income). An important aspect of demonstrations can be to make such possible trade-offs explicit so that visiting farmers are better informed to make choices on adopting possible innovations.

A further complication concerning sustainability is that demonstrations usually have a rather narrow focus whereas sustainability is defined at a higher level, i.e. the whole farm or even the wider agro-food system. This renders a problem in assessing whether a demonstrated topic will contribute to sustainability as improvements at the detailed level may be counterbalanced by negative side effects on another level or by rebound effects.

Concerning the term '**innovation**', this is usually taken to refer to something new in an absolute sense, i.e. never done before. In demonstrations, however, the key aspect of 'newness' is that it is new to the visiting farmer. It may even refer to century-old practices or crop varieties and there are many examples of re-introducing these in present-day agriculture, often after adapting them a bit. This is sometimes called 'retro-innovation'.¹ As a result, for a demonstration a topic by definition is also an innovation, i.e. new to a significant share of the visiting farmers. Below, we will use the terms 'demonstration topic' and 'innovation' interchangeably.

¹ Loucanova, E., Parobek, J. and Kalamarova, M. (2015). Retro-Innovation and Corporate Social Responsibility. Studia Universitatis 'Vasile Goldis' Arad. Economics Series, Vol 25, Issue 4. DOI: 10.1515/sues-2015-0023.

Based on our broad interpretation of sustainability, there are various pressures on farmers to innovate. Some of these are internal to the agro-food system while others come from society at large due to various 'side effects' of farming systems on the wider environment. Examples of the former may be decreasing soil health due to monocultures, increased plant or animal diseases due to intensification, loss of farmer income related to globalisation of food and fodder markets, loss of production markets, etc. Examples of societal (and political) pressure may stem from concern over CO₂ emissions, pollution of surface waters from nutrients or herbicides, health problems of residents near large animal production facilities, animal welfare problems, etc.

Thus, farmers are under a variety of pressures for change but at the same time they are limited in what they can change because they are embedded in a larger agro-food system. As a result, changes at the farm may create misfits with the system that may lead to loss of production, fewer opportunities to sell crops, loss of income, etc.

While farmers are under a variety of pressures to innovate, they cannot do this on their own. They require assistance from others to provide them with knowledge on how to do so. They are thus embedded in a system that is usually referred to as the 'Agricultural Knowledge and Innovation System' (AKIS). AKIS is defined as "the collection of agricultural information providers, the flows of information between them, and the institutions regulating these relations."² Alternative acronyms AKS and AIS are sometimes used to refer to variations of this definition. Among the AKIS actors are farmers, farming advisors, researchers, businesses or other organisations that develop innovations, government agencies.

Some AKIS factors work at a pan-European level (e.g. the EU Common Agricultural Policy) while other factors may work only at the national level or may even be specific to the level of the individual farmer, e.g. the specific advisors that a farmer consults. For the latter, the term μ -AKIS (micro AKIS)³ is used. This includes the innovation factors that are relevant for an individual farmer, i.e. the sources of inspiration and information for a farmer, the factors that influence a farmer's decision-making.

A demonstration is intended to motivate and inform each visiting farmer and thus operates at the level of this μ -AKIS. This implies that the demonstration should attempt to make a connection between what is demonstrated and the motivations and attitudes of the visiting farmers. Since this will vary across the range of visitors, demonstrations will need to account for this which can be done in various ways:

- By offering a range of demonstration activities that may appeal to different subgroups of farmers;
- By interacting with farmers at the demonstration to better connect the information that is provided with what farmers need;
- By offering information that is relevant at a higher AKIS level and that is relevant for a range of farmers, for example, relevant market or political developments.

This implies that a demonstration not only seeks to address the direct farming issues related to the demonstrated innovation but also the **farming context** of the individual farmer as well as relevant aspects of the wider context in which a farmer operates.

Yet, a demonstration does seek to affect the behaviour of the individual visiting farmer. Let us take a closer look at what this may imply for organising a demonstration.

² Sutherland, L.-A. et al. (2018). *AgriLink's Multi-Level Conceptual Framework*. Research report from the H2020 AgriLink project. <https://www.agrilink2020.eu/our-work/conceptual-framework/>

³ *Ibid.*

4.3 GOVERNANCE OF DEMONSTRATIONS

Because demonstrations are carried out in a wider context of making agriculture more sustainable, they should be governed in a way that the visiting farmer is also informed on the wider implications of the demonstrated topics. This has consequences for the demonstration topics and the information that is provided on them. Demonstrations should not only address the agronomic or farming aspects of novelties but also to what extent they might affect the wider environment and other stakeholders in agro-food value chains.

This wider embedding also has consequences for who should be invited to attend the demonstration. Many on-farm innovations also require a tuning of efforts by the farmer with those of other stakeholders and/or new regulations may be required. To make the demonstration a success, these other stakeholders should then also be invited, and the demonstration should be organised so that it is attractive for them to participate.

These different stakeholder groups would thus all have an interest in making the demonstration a success and they could then be asked to also contribute towards realising this. This could be done in terms of a financial contribution, by taking part in preparing the demonstration event and defining the topics, and/or by providing assistance during the demonstration itself. Furthermore, since a demonstration would aim to contribute to integral sustainability, it would also serve the common interest. This provides a strong legitimisation to ask for financial support from various governmental sources.

4.4 THE CONTEXT AND NEEDS OF VISITOR-FARMERS

The way a farmer who visits a demonstration experiences her/his own situation may vary widely. Some important elements of a visitor's farming situation will include:

- a technical and practical setting in which s/he works: the available mechanisation and (technical) routines used to run the farm;
- specific farming challenges (e.g. income, soil quality, pests);
- economic performance of the farm (which also determines possibilities to invest in innovation);
- network relations with downstream and upstream commercial parties and with advisors;
- social context, including the farmer's family and neighbouring farmers.

Concerning her/his μ -AKIS, a farmer directly experiences:

- the sources regularly used to obtain knowledge and know-how on new methods and innovations;
- the type and level of support that is regularly used (e.g. various types of advisors);
- public and policy pressure for change;
- direct instruments to affect a farmer's behaviour, e.g. subsidies or penalties.

As a result of all this, a farmer will always face various challenges and may consider change of several farming aspects. Reversely, this may also lead to 'lock-in', i.e. that the farmer is not willing or able to change certain aspects. As a result, when the farmer visits a demonstration, s/he will not be completely open-minded but will have certain expectations on what s/he may take home from it that might be of use. The farmer may already have gathered information on the aspects that are demonstrated and will have

certain ideas on the relevance for his/her own situation. Certainly, the visiting farmer will have an interest in the topics that are announced (otherwise s/he would not go) but his/her motivation may be rather different from what motivates the organisers of the demonstration. The way a demonstration is organised then becomes crucial to make a connection between the two.

Photo 2: Visitors at a demonstration on new plant protection means (BG2).



4.5 INGREDIENTS FOR CHANGE: AWARENESS, ATTITUDE, KNOWLEDGE AND BEHAVIOUR

A demonstration usually seeks to influence the behaviour of the visiting farmers, notably to adopt the innovations that are demonstrated. Changing behaviour, however, does not happen all at once and there are a number of aspects that need to be distinguished to characterise the whole process. In the literature, the following four aspects are identified: awareness, attitude, knowledge, and behaviour:⁴

- **Awareness:** the farmer realises that something is an issue and/or that a specific innovation is available;
- **Attitude:** the farmer gives meaning to this new thing from the perspective of her/his own situation, e.g. this innovation is evaluated as relevant or not relevant for me;
- **Motivation:** the reasons that motivate a farmer has to attend a demonstration;
- **Knowledge:** the information that is provided at the demonstration and that the farmer processes in terms of what is relevant for her/his own situation;
- **Behaviour:** to change behaviour, a farmer needs awareness, motivation (attitude) and the necessary knowledge concerning an innovation.

Different farmers will be in different situations concerning these four aspects in connection with a specific demonstration topic. Hence, the demonstration needs to address all four (unless it targets a very specific coherent group of farmers).

⁴ Abrahamse, W. and Matthies, E. (2012). Informational strategies to promote pro-environmental behaviour: Changing knowledge, awareness and attitudes. In Linda Steg, Agnes van den Berg and Judith de Groot. (eds.), *Environmental Psychology: An Introduction*. The British Psychological Society and John Wiley & Sons, Ltd.

The **awareness** aspect is usually not addressed by itself, but it is implicit in the other aspects of a demonstration. Awareness is a necessary step, but it only leads to change if the next step is also taken, i.e. that the farmer's attitude or motivation is addressed to make the awareness 'stick'.

A farmer's **attitude** relates to how the farmer evaluates the innovation and determines the level of interest and the (preliminary) judgement or opinion that a farmer has of a demonstrated innovation. According to social psychology theory, attitude (belief about the practice / object and an evaluation of whether the outcome is good or bad) forms the basis for intended behaviour. Various factors may influence a farmer's attitude, especially the opinion of 'significant others' (see below) and the perceived ability to achieve the intended behaviour. At a demonstration, visitor-farmers will exchange opinions between themselves (P2P) and with other professional groups (F2E; farmer to expert). At the demonstration, these exchanges take place while the farmer is directly immersed in her/his professional community. The P2P and F2E exchanges that take place can then be considered as a professional dialogue on the merits, drawbacks, usefulness, feasibility, etc. of the demonstrated object. These exchanges are partly structured by the demonstration set-up, partly they are unstructured and informal between various individuals or smaller groups. These dialogues will help the visiting farmers to better determine their own position towards the demonstration topic and provide them with better arguments pro and contra in relation to their own situation.

The **motivation** for farmers to attend a demo can vary and may include specific challenges that a farmer faces at her/his own farm. A farmer can also be more 'open-minded' and be curious to see if there are any new developments that might be interesting. The opportunity to meet people (farmers, advisors, experts) can also provide a motivation.

Concerning the **knowledge** that a farmer obtains at a demonstration, we can distinguish two general types, notably factual knowledge and skills. Factual knowledge (or 'know-what') may relate to a range of issues in connection with an innovation. This is relatively easy to convey. Skill (or 'know-how') concerns what the farmer needs to do to apply the innovation. For 'simple' innovations this is also easy to convey but for more systemic innovations this is much more difficult. In the following chapters we will show that this does not always get the attention needed at demonstrations.

If a demonstration is well organised, it not only transfers information to the visitor-farmers but it also helps the farmer to process this into "what does it mean for me". Thus, the information becomes knowledge, with specific relevance for the visitor's own situation. In Chapter 6 below we will address this as a learning process. Eventually, after becoming aware, developing an attitude to the innovation, assessing whether implementing the innovation is possible, and having gathered the relevant knowledge, a farmer may **change behaviour**.

The first four aspects can be addressed at a demonstration while a change of behaviour will, of course, have to take place after a demonstration. However, through follow-up activities the organisers of a demonstration can also have influence on what happens after the demonstration to stimulate actual change of behaviour of visitor-farmers, as will be discussed in Chapter 7.

4.6 INFLUENCING A VISITING FARMER'S BEHAVIOUR

The PLAID Conceptual Framework⁵ identifies a number of factors that can promote behavioural change by visiting farmers:

- New information is important to change behaviour, but it is of equal importance **how** this **information is transferred**;
- The perceived **views of 'significant' others** can have an influence on behaviour. The term 'significant' indicates that a farmer especially values the views of specific people, among whom are colleague farmers. This underlines the importance of P2P learning that takes place at demonstrations;
- While it is important to transfer knowledge (i.e. increase knowledge or introduce new beliefs) it is also important to focus on **beliefs** about the desirability or ability of the new knowledge;
- Any issues that are widely seen as **barriers to behavioural change** should be addressed;
- Providing a **balanced argument** (both positive and negative aspects) is more likely to trigger behaviour;
- The **credibility of the demonstrator** is critical to the extent the individual engages in processing the information that is provided. Credibility can be supported by either acknowledged expertise or trustworthiness of the demonstrator.

These factors clearly indicate that setting up a good demonstration is not just a matter of providing knowledge but also paying attention to other learning attributes (how to present the knowledge, who presents the knowledge) and social aspects (interaction between visitors to stimulate peer-to-peer learning).

4.7 OUTPUT AND IMPACT OF THE DEMONSTRATION

The direct output of a demonstration is that a farmer will come home with new knowledge on the various aspects that have been demonstrated. Importantly, this is not only 'objective' knowledge but knowledge that a farmer has assessed on its merits for her/his own situation. Some aspects of the demonstration may have been completely new to some farmers and they will have a raised awareness on these. On others, they may have a better idea of the pros and cons which may either have lowered or increased their motivation to try and use this on their own farm. They will have a better idea of whether it is desirable, feasible, affordable, etc. As a result, a farmer may come home by being enriched in terms of:

- **Know-why** (raising awareness, providing motivation/inspiration for change): visitors become aware that there are specific problems or challenges and/or that new options are available and may be needed in the future and become motivated to use these in their own situation;
- **Know-what** (related to the demonstration topics): visitors are informed on specific novelties (new practices, materials, varieties, machinery, etc.);
- **Know-how** (related to applying the demo topic): visitors can connect the new information to their own practice and are able to assess possibilities to implement it on their own farm;

⁵ Burton, R. et al. (2017). *PLAID: A Practice-Based Conceptual Framework and Typology*. D2.1 from the Horizon 2020 PLAID project. <https://www.plaid-h2020.eu/>

- **Know-who** (related to demonstrators and farmer-colleagues): Visitor farmers meet various people that can provide them with information, farming supplies and/or assistance to help them to make their farm more sustainable.

Photo 3: Demonstrating potato transport line from harvester to truck (POL1).



Yet, this does not imply the farmer will change her/his behaviour as there are probably also various remaining unknowns and uncertainties and the farmer can use the new knowledge in various ways. In governance literature, three types of knowledge utilisation are distinguished that are also of relevance for demonstrations. These types are **instrumental** use (used directly as it is, if needed with some modifications), **conceptual** use (idea has been understood, causal relations, why something works, how it works etc., knowledge that can be used also in other situations), and **legitimative** use (to legitimise opinions and earlier actions).

Each of these may play a role in what different farmers do after a demonstration. Legitimative use may imply that a farmer has become more convinced that what s/he already did is right, and s/he may not change anything. Conceptual use may imply that a farmer understands better why certain things are as they are, or that a new approach might be interesting, but leave it for further consideration later. Instrumental use may imply that a farmer is motivated to change things in the near term, possibly after a process of further exploration and/or waiting until it fits her/his investment cycle.

As a result, it may take quite some time before the impact of a demonstration becomes visible and this impact is also affected by many other things than the demonstration. A farmer may decide to first collect information on certain aspects by using a variety of different sources, including articles in the farming press (broad variety of agricultural journals and magazines, newsletters, etc.), browsing the internet (news-sites, farmers' organisations, businesses) or social media. Furthermore, a farmer may get information from various specialists and farming advisors ('impartial' advisors or related to specific business). Finally, to help make up her/his mind, a farmer is likely to interact with various 'significant others', for instance, with farmer-colleagues (additional P2P exchange), at farmer study groups or working groups, or with her/his household members.

These processes are beyond the control of the organisers of a demonstration. Yet, there are various things the organisers of a demonstration can do to stimulate and 'smoothen' the processes that take place after a demonstration. This can be achieved by building

further on a strong point of demonstrations over written information or one-way communication channels, notably that farmers can actually see and feel the demonstrated object and see the result of specific prior activities. Furthermore, there is the opportunity to directly interact with peers and other relevant parties on what is demonstrated which can have a strong motivational effect on the visitors.

Demonstrators can then try to do several things to make the lessons a farmer has learned 'stick' and motivate her/him to continue a further exploration after a demo, including:

- Provide written materials on what is demonstrated that farmers can take home (leaflets, brochures). This may include presentations, descriptions, weblinks for further information, contacts for further assistance (e.g. advisors);
- Create space at the demonstration for networking and follow-on contacts with advisors, businesses, farmer colleagues, etc.;
- Provide opportunity for visitors (and non-visitors) to ask for further information after the demonstration and offer a (web-based) discussion platform;
- Liaise with farming advisors to provide adequate support after the demonstration;
- Invite and adequately inform the farming press.

Thus, demonstration organisers need to be modest and acknowledge that a demonstration does not typically lead to direct impacts on the farming system. Yet, they can also exploit the unique features of demonstrations and give an impetus to the overall innovation process. Thus, demonstrations do stimulate that the potential impacts are realised by using the following mechanisms:

- Empowering farmers (with motivation, knowledge, skills);
- Inspiring farmers to inform themselves further;
- Inspiring farmers to change specific farming practices;
- Multiplying demonstration outputs to raise their impact, e.g. via advisors, farming press, follow-up activities.

4.8 CONCLUSION ON THE ROLE OF DEMONSTRATIONS

In summary, on-farm change provides an important route towards sustainability, but this is part of a broader process in which many actors and factors play a role, many of which are beyond the control of farmers. Yet, with an of appropriate assessment of options for change and appropriate assistance, there are many things that farmers can do.

To help them do so, demonstrations can play an important role. They can help farmers to become aware of certain issues, to become motivated to change their practices and to gain 'useful knowledge' on various options for change and use this to take better informed decisions on where to go with their own farm.

The term 'useful knowledge' is key here. Information that a farmer receives (at demonstrations or via other channels) is usually of a kind that cannot be directly applied, and needs to be 'tuned to the needs of the farmer' by placing it in the context of the farmer's own practice. To achieve this, demonstrations can play a key role if they do not only provide 'abstract' information but if they also seek to make that information 'tangible' for the visiting farmers. This can be done in two ways:

- By not only using verbal means to transfer information but by also using means that allow using all senses: seeing, tasting, smelling, touching;



- By interacting with visiting farmers to make a closer connection between supply (the information provided and demonstrated) and demand (what farmers need for their own practice).

This brings us to formulating a general objective for demonstrations: ***"To present, discuss and demonstrate innovations in farming practices, materials and equipment in a way that helps farmers to make better informed decisions about innovation on their farm."***

In the following chapters we will indicate how this objective can be specified for a concrete demonstration, depending on the exact topic and the specific targeted farming community.

5 PREPARING A DEMONSTRATION

This chapter describes the steps that need to be taken to prepare a demonstration. It first addresses the constitution and tasks of the organising team and subsequently the setting of the demonstration objectives by this team. These objectives determine three general aspects of a demonstration that are discussed in three following sections, *viz.* Where it is held (the host farm), when it is held, and how it is set up (the demonstration activities). It then continues to discuss a set of other organisational issues, including the announcement and registration for the demonstration. Next, monitoring and evaluation are described as a means to assess the success of a demonstration and to help improve later demos. Finally, the planning of follow-up is discussed that should increase the impact of the demonstration.

Photo 4: Discussion on innovative fences at a French Demo Day on autonomy in sheep feeding (FR3).



5.1 THE DEMONSTRATION ORGANISERS

Some demonstrations are organised by individual farmers. The most noticeable example is the Polish 'feast of onions and potatoes' (POL2) that has been organised by a farmer's family since 2003. Over the years, it grew to an event with thousands of visitors which put a large pressure on the organisers. At a certain point, they decided they could no longer put up this effort and the 2108 edition was cancelled.

This provides a clear example that organising and hosting a demonstration may take a lot from a farmer. This may well be do-able for a smaller demonstration of a few dozen visitors but for larger demonstrations support will be needed. To share the burden, we found in most of our cases that a demonstration is organised by a team of partners from different organisations. This acknowledges that the visiting farmers operate in a context in which various aspects have to be considered. A team of people from different background then helps to ensure that a wider set of potentially relevant aspects will be addressed at the demonstration. Furthermore, a heterogeneous set of people will have different skills and different supporting networks which can be used to realise synergy in preparing and carrying out the demonstration.

Table 3: Overview of demonstration organisers in case studies

Demo ID	Individual farmer	Farmer cooperative	Farmer's organisation	Other agricultural support organisation	Advisory or extension service	Business or business organisation	Research organisation	Governmental organisation	NGO
BE1	X				X		X		
BE3	X		X			X	X		
BG1				X			X		X
BG2				X		X			X
CH1					X				
CH2			X				X		
CRO1						X	X		
CRO3	X								
ES1		X			X				
ES2	X								
FR3	X		X		X				
FR4							X		
IT1				X	X	X			
IT2									X
LAT1		X							
LAT2					X				
NL1			X		X		X		
NL2		X					X		
NOR1				X	X			X	
NOR2	X				X				
POL1							X		
POL2	X								
UK3									X
UK5	X			X	X				

The organisers of a demonstration have to carry out various tasks, including:

- Define the objectives of the demonstration;
- Plan and carry out preparatory work to organise the demonstration;
- Announce the demonstration event and invite relevant visitor groups;
- Carry out the demonstration;
- Plan and carry out monitoring and evaluation of the demonstration;
- Plan and carry out follow-up activities.

Demonstrations can be seen as having a supply side (what is demonstrated) and a demand side (what do the visiting farmers need). It is important that both sides are well represented in a team of organisers to ensure that the objectives of a demonstration address the supply and demand side in a balanced way. It is, therefore, important that the targeted audience of the demonstration is represented, i.e. it is always advisable to have farmers' representatives in the steering group of the demonstration. There may, however, be additional target groups - e.g., if a demonstration targets agricultural students, it is advisable to also have an agricultural school in the organising group; if policy makers are an important target group, it is important to also have a policy representative in the team.

An important aspect of organisers is that they are often organisations with a constituency that play an important role at the demonstration and can subsequently also be instrumental in recruiting their constituency to attend the event. These may include:

- Farmers' organisations;
- Farming advisory or extension organisations;
- Research organisations;
- Agricultural schools;
- Farming business organisations;
- Public authorities.

Who is to be part of the organising team depends on the objectives of the demonstration and how large the role is that various organisations have in connection with the demonstration, whether they are only at the demonstration to present their information or equipment or whether they are also active in organising it.

Practice examples

NL2: Since 2012, Wageningen Research (WR) in the Netherlands has been running the Grounded Maize cropping project and has organised demonstrations on this. Initially, these were not well attended. WR then started to organise these demonstrations jointly with a farmers' cooperative "Agrifirm" that sells a variety of farming supplies, and other organisations. They subsequently succeeded in reaching a much larger group of farmers.

CH2: For the Swiss organic cattle day, the two main organisers (the organic farmers' association and a research institute) invited other institutions to join the team of organisers. The choice was built on the selection of the demonstration farm: the main organisers invited relevant institutions from the region where the demonstration farm was located to have better access to targeted visitors

5.2 SETTING DEMONSTRATION OBJECTIVES

For any demonstration it is important to first explicitly state the objective(s) of the demonstration. This is key because the objectives determine everything else in connection with the demonstration. For instance, they determine how the demonstration should be set-up to ensure that it achieves what it is intended to achieve. The objectives thus form the background to establish the success of the demonstration afterwards. By comparing the actual output of the demonstration with the objectives, it is possible to see which aspects were successful and which were not. Such an evaluation can be used to better organise a next version of a demonstration.

Our case studies show that many demonstration organisers put little effort in specifying the objectives and tend to jump to the organisational aspects from the beginning. The result is that many demonstrations are not organised optimally as the feedback from various demonstration visitors clearly indicates. Much of this can be prevented if the demonstration objectives would be clearly defined at the beginning before starting to address the organisational aspects.

To realise this, organisers of demonstrations are advised to first put some effort in defining the objectives of the demonstration. Subsequently, when they discuss the organisational aspects of the demonstration, it is useful to go back to the objectives occasionally to assess whether the plans are indeed in line with the objectives and, if not, to adapt the plans or to adapt one or more aspects of the objective. This introduces reflexivity into the organisation of a demonstration that can help to ensure that how the demonstration set-up will indeed contribute to what the demonstration seeks to achieve.

To give guidance to the organisation of a demonstration, the objectives need to address the following aspects:

- Why: the motive(s) for the demonstration;
- What: the topic(s) of the demonstration;
- Who: the targeted visitors of the demonstration;
- Goals: what do the organisers want to achieve; what should visitors take home from the demonstration.

These four aspects are briefly elaborated in sections 5.2.1-5.2.4 below. They determine how the demonstration can best be set-up to be successful and form the basis for the various organisational aspects of the actual demonstration event, including:

- Access: making the demonstration attractive and accessible for various visitor groups;
- Where: choosing the host farmer and location of the demonstration;
- When: setting the time of year and the duration of the demonstration;
- How: elaborating the programme of the demonstration, i.e. all demonstration activities and how they are to be carried out.

These organisational aspects are elaborated in sections 5.3-5.6 below, after discussing the aspects of the demonstration objective that follow first.

Photo 5: On-farm demonstration at the Farm day in Valdgate (Photo: Anda Adamsone-Fiskovica; LAT2).



5.2.1 Demo objective aspect 1: Why – The motivation for a demonstration

The 'why' aspect specifies the motivation or need for the demonstration. The following two general reasons can lead to holding a demonstration, which is often inspired by a combination of these two:

- A **problem or a challenge** in agriculture, either 'internal' to farming (farming sustainability needs, e.g. plant health, labour) or societal/political (societal sustainability needs);
- A **new opportunity** (e.g. emerging from research, from business, from pioneer-farmers).

A demonstration has the largest impact when a new opportunity provides a solution to a problem or a challenge that is encountered by the visiting farmers. Therefore, organisers of a demonstration should not only look at what they seek to demonstrate but also **assess which problems visiting farmers may be facing** for which the demonstrated object can provide a solution. Both the problem and solution side should be addressed at a demonstration so that many visiting farmers are capable to connect the two for their own situation and are encouraged to consider applying the innovation.

Practice examples

BG2: A Bulgarian case was mostly problem-driven. An important problem is soil pollution from plant protection product residues which cause a dramatic decline in bee populations. The objective of the demonstration was to distribute knowledge and show equipment and tools to address these problems.

POL1: A Polish case, by contrast, was mostly supply-driven. The national potato day was organised by the IHAR-PIB Institute of Plant Breeding and Acclimatization. IHAR very much sought to promote itself among farmers and other stakeholders as an important partner in the provision of better potato varieties.

NOR2: A Norwegian case illustrates that both types of motivation can also be combined. Berry production at the Norwegian high latitudes is problematic because of relatively short season and unfavourable climate conditions. By setting up plastic tunnels, that were pioneered by a few farmers, Norwegian berry producers can extend the season, prevent major damage to crops due to heavy rain or droughts, and ensure the production to a greater extent.

5.2.2 Demo objective aspect 2: What – The topics of a demonstration

The 'what' aspect specifies the object that is demonstrated, e.g. farming equipment, farming practice, crop varieties, etc. Our case studies illustrate that there can be an enormous variety in the innovations that are demonstrated (cf. Annex 1). Two important aspects are:

- Range of innovations that are demonstrated (e.g. a narrow focus on machines for undersowing catch crops in maize (NL3) versus a broad range of demonstrated topics at an organic cattle day (CH2);
- 'Readiness' of various innovations (how easy is it to buy and/or apply).

Organisers can be guided by two different models to demonstrate these innovations:

- The **open market** model: the organisers do not target specific farmer groups with what they will demonstrate. A diverse range of things is displayed, and a variety of visitors look around to see whether there is something in it for them;
- The **targeted visitor and topic** model: the organisers target a specific farmer group with a limited number of specific innovations that are demonstrated.

Smaller demonstrations tend to be more targeted and often follow the second model while broad demonstrations with many topics often follow the open market model. In the latter case, however, some parts of the demonstration may also be more targeted. We'll get back to this below in Section 5.6.

The 'readiness' of the innovation(s) is important in defining who the targeted visitors should be. For innovations with a high degree of readiness, the target group can be the 'slow adopter' farmer. However, if an innovation has a low degree of readiness, only 'innovative' farmers are likely to consider using it. Yet, in such a case the demonstration could also target the 'slow adopter' farmer to raise awareness on the innovation which may make them prepared to apply it in the longer term.

It is useful if organisers make an overview of the various innovations they want to demonstrate and to assess their readiness. This they can subsequently use to address the 'who' and 'goals' aspects of the demonstration that are discussed below.

Practice examples

CH2: An example of the market model is the Swiss organic cattle day. The target audience of the event were farmers - especially organic farmers - interested in organic cattle husbandry from across Switzerland. This featured fourteen sessions which covered a broad range of topics in relation to organic cattle husbandry.

IT2: An Italian case that targeted regional organic farmers, by contrast, had a narrow focus on soil management for organic farming.

5.2.3 Demo objective aspect 3: Who – The visitors of a demonstration

Based on the 'why' and 'what' aspects discussed above, the demonstration organisers should specify which audience they target. This can be a specific subset of the farming community and/or other actors from the agro-food chain. One distinction may be related to the sectoral profile of what is demonstrated, for instance:

- Farmers in a specific subsector (e.g. dairy farmers, potato growers, fruit growers);
- Organic and/or integrated farmers.

Note: some demonstrations on organic or integrated topics may also be very inspiring for conventional farmers but this would then require a specific effort to make this attractive for them to attend.

Another distinction is related to the general type of attitude of farmers towards innovation, which connects to the 'readiness level' of what is demonstrated as discussed above:

- 'Reluctant adopter' farmer (when the topic of the demo has a high level of 'readiness');
- Innovative farmers (for topics with a low level of 'readiness');

Other audiences may include:

- Farming advisors (they are important as potential 'multipliers' of the demonstration 'messages');
- Farming press (can also act as 'multipliers');
- Stakeholders from the agro-food value chain;
- Policy makers (to make them aware of potential policy barriers or stimuli);
- General public (to improve connections between farmers and the rest of society).

Organisers should indicate which specific groups they target as that will determine which information channels should be used to reach these audiences. Of course, organisers can

also choose to target a variety of groups with a variety of topics and demonstrated objects (the 'open market' model discussed above). They should realise, however, that the extent to which a visitor does something with what is demonstrated depends on to what extent this visitor is able to assess the relevance of the demonstrated innovation for her/his own situation. This, then, depends to a considerable extent on 'how' the object is demonstrated (cf. Section 4.6) and to what extent this is tuned to the needs of the visitor. In an 'open market' model this tuning is far from optimal for many of the visitors. To increase the effectiveness of large demonstrations with many topics, organisers could identify a limited number of innovations that they see as key and for these use a more targeted model, tuned to the needs of a subset of specific visitors (farmers and/or others).

To organise a successful demonstration, it is important that organisers make an explicit choice on which farmers and possible other visitor groups they will target.

Practice examples

CRO1: The Croatian 'wheat and barley field day' targeted a varied set of visitors, all from the related value chains. These included farmers, wheat and barley seed producers, commercial wheat and barley producers, advisors, input suppliers of fertilizers and plant protection means, processors and end users of wheat and barley such as representatives from bakery industry, beer producers, animal feed producers.

CRO3: Another Croatian demonstration on vegetable production had a targeted approach for different visitor groups. The demonstration was held for an agricultural college but a separate subgroup was made consisting of students who were family farm members, young farmers or who were intending to take over the farm after graduation.

5.2.4 Demo objective aspect 4: Goals – What should visitors take home

We make a distinction between short term and long-term goals. The **short-term goals** refer to what the visitors of a demonstration take home. **Longer-term goals** can refer to what the visitors do after the demonstration with what they have learned.

At a demonstration, visitors can gain various types of knowledge. In Section 4.7, the following four types were distinguished: **know-why** (awareness, motivation); **know-what** (the demo topic); **know-how** (applying the demo topic); and **know who** (the demonstrators and farmer-colleagues met at the demonstration).

Concerning **short-term goals**, what different farmers take home will depend upon the type of farmer and the demonstrated object. For instance, for a 'reluctant adopter' farmer, a 'very advanced' innovation will only lead to increased awareness while an innovative farmer may be motivated to apply it back home.

Organisers need to be aware of these distinctions and, when they target 'reluctant adopter' farmers, emphasise the 'know-why' at such a demonstration while, if they target innovative farmers, they should emphasize the 'know-what' and the 'know-how'. The 'know-who' aspect is important for any type of farmer.

Organisers of a demonstration may also set **longer-term goals** on stimulating what demonstration visitors do with their new knowledge after the demonstration and thus seek to increase the impact of the demonstration. Such longer-term goals may include:

- **Empower farmers** in terms of motivation, knowledge and/or skills by providing them with further information after the demonstration;
- Motivate farmers to **inform themselves** further on specific aspects;

- Motivate farmers to further **consider changes** by offering platforms for exchange, e.g. via social media or face-to-face meetings;
- Motivate farmers to **change** specific farming **practices**;
- **Empower farming advisors** (in terms of motivation and knowledge) so that they can 'multiply' the demonstration output and raise its impact;
- Stimulate all of the above by **informing the farming press** on a variety of 'inspiring' new developments.

The above shows that the four aspects of the demonstration are closely linked and partially define each other. The topic, for instance, defines who the targeted audience should be. As a starting point, it is useful to address them in the order 1, 2, 3 and 4, but while doing so, it is likely that you will need to jump back and forth a bit to ensure that the four aspects lead to a coherent objective or a set of objectives.

Practice example

BE1 : The Belgian Open Energy Day had a well-defined goal. Under the assumption that most visitors would already have some knowledge on the various demonstrated energy techniques, the objective of the demonstration was to show them the practical implications of using these. By listening to and discussing with the host farmers and other experts they gained relevant 'experience-based' knowledge. Last, but not least, they could see 'for themselves'.

5.3 ACCESS

In several of our cases demonstrators complained that it was always the same profile of people that attended - mostly older men, over 40 years of age. Organisers and demonstrators likewise tend to be mostly men although there are some exceptions where the main organiser was a woman (IT2, NL1, POL1, UK3, LAT2).

One might argue that the male dominance in terms of **gender** representation can be expected because this reflects the composition of the community of farmers and farming organisations. However, demonstrations are usually inspired by the motivation to change things, to make farming more sustainable, and demographic aspects are part of that. In that respect, there are some serious imbalances in the present farmers' community, largely being composed of older men. Young people and women are clearly underrepresented. Organisers of demonstrations could then make an extra effort to make a demonstration attractive for these groups. This is especially true because demonstrations feature the real farming experience and the most effective way to recruit new groups for any type of profession is to let them experience directly what it is about.

Some demonstrations explicitly target **younger people** by inviting students from farming schools and colleges (FR3, CRO3). We have seen no examples, however, where women were an explicit target audience although there were some examples where the majority of visitors were female (NOR1, CRO3). In the Croatian case, this reflected the composition of the school that the visiting students attended. In the Norwegian case, this was attributed to the focus of the demonstration on organic farming that appears to attract more women than conventional agriculture does. In the Latvian case (LAT2) there was a clear gender bias towards female participants in demonstrations dealing with dairy cattle, while a much more equal split between male and female participants was observed in the case of beef cattle and sheep farming communities, thus indicating notable sectoral differences.

Various demonstrators indicate that male farmers are more attracted to the 'hard' side of agriculture, to equipment and machinery. Female farmers tend to be more attracted to the soft side, preferring more direct contact with plants and animals. Our typology

developed by cluster analysis⁶ suggested that two of the types of demonstration were more likely to include women, namely “Environmentally sustainable horticulture / orcharding” which focused on a broad sustainability approach with a focus on environmental improvements, and “Farmer led community development” which focused on the development of social capital in rural communities (mostly animal husbandry or general demonstrations) and attracted many non-farming visitors. The more production-oriented demonstration cluster-types tended to be male focused, some of them strongly. It is therefore these ‘hard’ production oriented demonstrations that most need to address the issue of gender balance, possibly by introducing a more general sustainability focus and making this clear in the invitation to the demonstration.

Another way to attract potential **new entrants** is to make the demonstration attractive to ‘outsiders’, i.e. people not directly involved as farmers but with an interest in farming. This can also make a demonstration attractive as a family event, so that farmers bring their spouses and children. We observed such an approach in some of our cases (CH1, POL2, CRO1).

Practice examples

CRO3: The Croatian case on greenhouse vegetables shows a gender shift. The demonstration targeted students from an agricultural college and the majority of these participating students appeared to be female. According to an accompanying teacher, this reflects a change in the school’s student population, which has recently changed to a 60% majority of female students. A notable share of the visitors were also young farmers working back home on their family farms.

CRO1: The Croatian ‘Wheat & barley day’ illustrates how a demonstration can be made attractive to ‘outsiders’. One attraction was the offer of free food and beverages. Furthermore, traditional music was played to create a party atmosphere. For people without transportation means there was free bus transportation from and to the city centre.

⁶ Elzen, B. and Burton, R. (2019). *Revision of the PLAID Conceptual Framework*. Ch.3. D2.2 from the Horizon 2020 PLAID project. <https://www.plaid-h2020.eu/>

Photo 6: Young farmer receiving 'hands-on' instruction and observing students at vegetable production demonstration (CRO3).



Aside from gender and age, the issue of access also can be viewed in terms of *geographic* and *financial* accessibility of demonstrations. The first one is more related to the regional distribution of on-farm demonstrations and the possibilities of farmers from more distant areas to attend these due to long distances and travel time (see also Section 5.4). The second, in turn, has more to do with affordability of attending a demonstration, which, aside from travel costs, relates to the presence or absence of a participation fee for the visitors of these events. Most of our case studies represented demonstrations that were offered free of charge or, even if featuring a fee, it was more a symbolic one. While free admission is seen as enhancing the overall accessibility, this approach has also been contested in some case studies arguing in favour of a fee to ensure participation of highly motivated attendants. At the same time this can discourage participation of those who are less motivated but probably are even in greater need to external stimuli for an on-farm change.

5.4 THE HOST FARM

In PLAID we focused on demonstrations held on commercial farms. Based on the range of farms from our case studies, we distinguished three types of such farms, notably:

- 'Regular' commercial farm, acting as an occasional host;
- Commercial farm, embedded in a research and extension programme;
- Commercial farm connected to or owned by a farming institute or organisation (e.g. research institute).

The advantage of the first type is that the farm is easily recognised by visitors as being representative of their own situation. We have, however, also encountered examples where some visitors indicated this was not really comparable to their own situation, e.g. in connection of the farm size or the level of mechanisation.

A disadvantage for such a farm is that the host farmer usually will have no experience in organising a demonstration. There will be a lack of special facilities (e.g. for meetings,

presentations (screens, audio), sitting, catering, toilets) and the farmer will need a lot of support from the organisers to realise a demonstration. Hosting a demonstration, however, can be quite a burden, especially in the case of a once-off demonstration in which there is no learning effect for the host on how to do this. In such a case, it is important that the expected workload is clearly communicated and taken into account by the host farmer prior to his/her involvement. The organisers should also consider whether they can give such a farmer an adequate compensation.

The other two types of host farms usually already have various necessary facilities and they can get further support from the programmes in which they are embedded or the organisation that they are part of. Organising a demonstration on such a farm is typically more 'professional'.

Which choice is made typically depends on the facilities and contacts possessed by the demonstration organisers. This choice may well be based mostly on practical considerations since our cases suggest that the success of a demonstration depends more on how it is organised (e.g. the quality of facilitation) than on the type of the farm where it is held.

An important consideration is where the host farm is located and how easy it is to be reached by the targeted visitors. Our cases suggest that visitors do not mind having to travel up to an hour for a demonstration that lasts half a day or more. This is also partially related to the strength of the motivation of the visitors. For a very targeted demonstration, visitors know what to expect and if that suits their interests, they won't mind traveling a bit further. For an open market model, visitors know less what they can expect but our cases also suggest that the social aspects of such a demonstration (meeting farmer colleagues and others) can be a strong motivator to be prepared to travel quite a distance.

Practice examples

LAT1: In a Latvian demonstration case on integrated fruit production, the selection of the host farm was based on the principle of rotation between a cooperative's member farms with an aim of visiting a different site each time. Between 2010-2018 six members had hosted these farm visits. The host of the observed event held in October 2017 was a family farm having specialised in apple growing since 2005. The farm had gained public recognition both from the local government and the Latvian Association of Fruit-growers.

NOR2: In a Norwegian case, the host farm was selected for the farmer's specific expertise. The local organiser chose this host farmer because he had most experience with cultivation of berries in tunnels in the region. In addition, he had participated in several projects about the production of berries in tunnels. He is recognised as a successful farmer by the organisers and is referred to as a pioneer in this field in the region: "He is future-oriented, and he can inspire people".

POL2: The Polish 'feast of union and potatoes' illustrates that the burden for the host farmer may also become too big. The demonstration was a private initiative from a farmer in 2003. Due to the success of the event it became bigger and bigger. In 2018, the organisers came to the conclusion that organising the event took too much time and effort, which had a large impact on their private life (e.g. no summer vacation with the children). They decided eventually to cancel the 2018 edition.

5.5 TIMING OF THE DEMONSTRATION

When to hold a demonstration can be a tricky issue. Farmers have many peak seasons and can have various routines during a working day (e.g. feeding animals, milking). Demonstrations need to take this into account to be able to reach as many farmers as possible. But the topic of a demonstration does not always allow picking a low season

since the rhythm of activities on a commercial demonstration farm is the same as on the farm of the visitors - e.g., the best time to demonstrate new harvesting or sowing machinery is in the harvesting or sowing season.

In our cases, we found an enormous variety in when a demonstration is held as well as in how long a demonstration lasts. The latter varies from a few hours in the evening up to two full days. Some demonstrations, especially the larger ones also offer the possibility of attending only part of it by organising it in a way that different activities target different visitor groups.

In general, it is advisable to **hold a demonstration in a low season if the topic allows doing so**. If this is not possible, then the potential visitors will attend the demonstration only if they have high expectations on what they may gain from it. **If a demonstration is held in a high season** it is **more critical** for the organisers to **assess what potential visiting farmers need** and set-up the demonstration so that these needs are met.

5.6 THE DEMONSTRATION PROGRAMME

5.6.1 The overall programme

Evidently, the focus at a demonstration needs to be on the various demonstration activities. However, there are various other important aspects of the demonstration programme that can contribute significantly to the success of a demonstration, including:

- A welcoming reception;
- A formal opening with an explanation of the set-up;
- Various demonstration activities;
- A 'free' space and breaks with provision of food and drinks, e.g. welcoming with coffee, lunch, closing with drinks and bite;
- A formal closing.

An **opening reception** is very instrumental in making visitors feel welcome. Furthermore, it is a place where people meet and where the initial peer-to-peer exchange begins.

Following that, a **formal opening** is very useful to explain the overall set-up of the demonstration and to convey the 'key rules' to make the demonstration a success. Some of these rules may include:

- Breaking up the group into smaller groups and explaining the importance of sticking to these groups (see below);
- Inviting the visitors to provide their feedback on the demonstration at the end of the event;
- Introducing people with special roles and making them easy to recognise (e.g. coloured caps or vests).

Furthermore, the opening can be the first occasion to **interact with the visitors** by asking a few simple questions that can be answered by hand raising. Another option is to use easy to use phone-apps⁷ for a simple poll, e.g. on the background of the visitors. This can help to 'loosen up' the visitors and get them accustomed to the interactive nature of the demonstration that will be continued during the rest of the programme.

⁷ E.g. mentimeter: <https://www.mentimeter.com/>

Photo 7: Speaker using web mentimeter web-platform to interact with the audience (IT1).



Catering offers the option to connect the event to the wider environment of the farm, e.g. by offering regional (also host farm's) products and involving regional caterers. Furthermore, eating and drinking offers possibilities for networking and peer-to-peer exchange.

A **formal closing** offers the opportunity to recap some key messages from the demonstration, point to take-home materials, indicate follow-up and possibilities for further exchange. It also offers the option to solicit some initial feedback from visitors by hand raising or a phone-app. Visitors can also be encouraged to take part in a visitor survey to improve the next version of the demonstration (cf. Section 0 below).

Practice example

CH1: A Swiss example shows that the overall planning of the demonstration programme requires careful attention. Many of the organisers were engaged as speakers in the various sessions and could not help out with organisational issues during the event. As a result, people from the main organiser were rushing between different demonstration spots to solve issues. The group of organisers acted primarily as a body for exchanging and discussing the concept and focus of the event but were not sufficiently involved in carrying it out.

5.6.2 Variety of demonstration activities

In essence, demonstrations are about transferring knowledge to the visitors, i.e. it is about providing information. But the goal of a demonstration is not just to provide information, it is to achieve that visiting farmer actually learn from the demonstration and take various lessons home for further consideration whether or not to apply them on their own farm. To achieve this learning effect, various other aspects of demonstration activities are of key importance, including:

- Types of demonstration activity: e.g. indoor presentations, explanations or demonstrations in the field, field walks, etc.;

- Types of presenters: e.g. farmers, farming advisors, researchers, business people;

In preparing the demonstration, these aspects need to be carefully tuned to optimise the success of the demonstration. Some important considerations in achieving this are discussed below.

The **demonstration objectives** should **form the basis** for the demonstration programme. When building the programme, organisers should occasionally go back to the objectives to assess whether the right choices have been made to achieve the objectives. This process may also lead to refining or adjusting the objectives.

Concerning **presentations and explanations** to the demonstrated objects, various aspects should be taken into account that are discussed in further detail in section 6.2. These include:

- Tune presentations and explanations as much as possible to the **needs of the members of the group** that is addressed. It is therefore important to make an effort to know what visitors need (cf. section 6.2.2 below);
- People can only process a limited amount of new information. Make clear what the **key message** is and limit the number of key messages. Repetition of these key messages is important to make the new knowledge 'stick';
- **Interactivity** with the public is an important way to stimulate learning and let visitors make a connection between their needs and what is demonstrated;
- Interactivity works best in **smaller groups** of 10-15 people;
- **Trust** between the presenter and the audience is an important factor to stimulate learning (Section 4.6). Trust is higher when both the presenter and the listener have the same background, i.e. if both are farmers. Other types of presenters can gain trust by introducing themselves, explaining what they seek to achieve, and making clear that they understand the needs of the audience, especially the listening farmers.

Practice examples

CH2: The Swiss organic cattle day very much put the farmer at the centre of the programme. In total there were 14 thematic sessions and one "farmers' session" that provided insights from seven farms. The speakers of the farmer testimonials session were all farmers and about half of the thematic sessions were co-led by farmers. All moderators were also farmers.

LAT2: A Latvian case (Herbivorous project) shows a programme with various activities. It started with an in-door seminar with an introduction by the manager of the project, information on the demonstration farm, presentation of field trial results by the supervising advisor and scientific expert, additional information and recommendations on the trial topic by other invited (local or sometimes also foreign) specialists. After the theoretical part, participants were invited to an on-farm visit and demonstration at the trial farm where both the host farmer and advisors took the lead. The on-farm visits started with a practical demonstration in a designated place, either inside or outside a cattle-shed. Selected information materials were made freely available.

Furthermore, not all presenters will have the facilitation skills to conduct a fruitful interaction with the public. It is important to ensure that there are several **experienced facilitators** to stimulate discussions at the activities that are the most crucial for the success of the demonstration.

Photo 8: Researcher using photos and sheets with results in his presentation (NL1).



To make the messages stick, it can be helpful to prepare a **brochure and/or leaflets** on the key aspects of the demonstration that visitors can take home. This can also contain references for further details (e.g. to websites) and contact information for various relevant organisations.

Another option to make the demonstration message stick is to take **photos** or make **videos** of the demonstration and make these later available on a website. This might be done by an amateur photographer from the organising team. In case a school class takes part in the demonstration, there is a fair chance that one of the students or teachers has photography as a hobby and can be asked to do this.

A **business fair** or set of business stands can also be instrumental to make the demonstration messages stick. Visitors can establish contacts with these businesses, be informed and/or take home a leaflet or brochure. In some cases, it might also be possible to buy or order products directly.

The key target group for a demonstration are farmers but if a demonstration also targets other groups, it may be useful to dedicate some specific activities to these audiences, e.g.:

- **Advisors:** a brief session with the organisers and (some) demonstrators on further background information that advisors may need in their interaction with farmers;
- **Farming press:** a brief session with the organisers and (some) demonstrators to give them some further background information for their publications;
- **Teachers and students:** explore ways to engage them actively in the demonstration programme, e.g. in the form of presentations, facilitation, conducting monitoring and evaluation (including photo/video), general support;
- **Policy officials:** a session with the officials and farmers to discuss possible tensions between policy and what farmers need, and explore ways to improve policy support;
- **General public:** a session with the public and farmers to discuss possible tensions between them and explore ways to improve connections.

Dedicated activities to target these visitor groups can especially be an effective means to **increase the impact** of a demonstration.

Practice examples

Most cases : Although many demonstrations target different visitor groups, they typically do this in a 'one size fits all' fashion. In our cases, all visitor groups follow the same programme and there is usually little attention for the different needs of the different visitor groups.

5.7 OTHER ORGANISATIONAL ISSUES

Our cases show that there are some other organisational issues that are not always well addressed. One of these is the **sound quality**. This is usually not an issue indoors, but for outdoor activities speakers are often not well audible due to the background noise, including wind, machinery, etc. Even with an outdoor sound installation this can be problematic, especially when the public takes part in the discussion without the use of a microphone. In such a case, a pragmatic solution is when the person with the microphone (speaker or facilitator) repeats the question or gives the microphone to the person who reacts. Though this may seem trivial, this was not always adhered to in many of our case studies. A more fundamental solution is to make group sizes small enough so that audibility is not a problem.

Video (also on-screen presentation) quality can also be an issue, especially outdoors or in tents that should be properly addressed. One thing is to make sure that strong sunlight will not hamper visibility.

Toilet facilities are also not always sufficient or are of a low standard. This should be properly taken care of, with separate facilities for women, if possible. Women are already underrepresented in agriculture and it would be a real shame if such a trivial issue created a barrier for women to participate in demonstrations.

A final issue may be '**contingency planning**'. There are various factors beyond the control of the organisers that can have a huge impact on the success of a demonstration. The clearest example is the **weather** and it is advisable to have a 'plan B' for bad weather (rain, storm). This could be addressed by preparing for the option to move various activities indoors. A more drastic solution would be to postpone or even cancel the demonstration. In the latter case, it is important that (most) potential visitors can be reached which provides an additional argument in favour of a prior registration. Extremely warm weather can likewise become a problem. In such a case, people should not stand in the sun too long bare-headedly. Provision of caps could be (part of) a solution as well as ample provision of drinking water.

Another contingent factor can be the **number of visitors** in case it would either be far above or far below what was expected. It is recommended to prepare for what if either of these two scenarios take place. The risk that this happens can be reduced by asking for pre-registration. The number of people showing up will probably anyway deviate from the registrations but deviations are likely to be smaller.

Practice examples

UK3: The IFM field event in the UK was well prepared for bad weather. Tractor trailers were covered, and refreshments were provided indoors, enabling the event to continue, should the weather have been poor. However, the weather at the demonstration event was very sunny which caused the lunch venue to have too much light affecting the visibility of the video played during lunch as well as affecting the panel presentations.

FR3: In a French case, the weather also turned out to be 'too good'. It appeared to be very warm for the end of September and there was a lack of drinking water on the site. Another 'surprise' in the same case was that the number of participants was far larger than anticipated which created a problem for the workshops that had been planned.

5.8 ANNOUNCEMENT AND REGISTRATION

The organisers of demonstrations usually have a member or constituent base that they can easily reach to invite them to the demonstration. However, depending on the objective of the demonstration, they may also target audiences that are not in their regular contact lists. For these an extra effort may be needed to invite them. This may be achieved by inviting an additional partner to the team of organisers that represents this target group.

Practice example

NL1: The Dutch Leek Day was widely announced. All clients of the demonstrators and organisers received a personal invitation by ordinary mail and e-mail. The announcement was on 22 websites of participants of the demonstration: organisers, demonstrators and stand holders. The demonstration was mentioned in two agricultural agendas on the internet, and in four magazines (three with an article and one with an interview with the main organiser). Two Facebook pages also mentioned the event.

Whether people respond positively to **the invitation** will largely depend on how the invitation is framed. In our cases, it appeared that most invitations were rather 'supply-driven', i.e. they explained what would be shown and demonstrated. For a farmer, however, the key issue is whether this offer is relevant to her/him. To make this clear, an invitation should also be 'demand-driven', i.e. it should address the needs of the targeted visitors. If the demonstration targets different types of visitors, it should be made clear that the demonstration addresses the needs of these different groups. This could either be done by listing each of them in a single invitation or by producing different invitations for different visitor groups.

Both the content of the invitation and the targeted visitor groups should be derived from the demonstration objectives. The invitation should seek to specify why the demonstration is relevant to the different targeted audiences and what they can expect to take home from it (derived from the goals in the demonstration objectives).

Most demonstrations tend to work with 'open invitations' that do not ask for prior registration. However, as was discussed under the programme above, it is important that the form of the demonstration activities is somewhat tuned to the needs of the audience. To achieve this, invitees can be asked to **pre-register** and fill in a small number of simple questions. This should be done sufficiently in advance to allow for fine-tuning of the demonstration set-up to the needs of visitors, e.g. one month in advance.

A problem may be that a large number of farmers will only decide on whether they will attend only shortly before the demonstration. This can be taken into account by also asking a question concerning their planned attendance. To stimulate them to fill this in you can offer to send them further updates, even if they do not take part. Annex 2 provides an example of a registration form.

Practice examples

NOR1: A Norwegian demonstration organiser had created participant lists with contact information for all the participants, which they shared at the start of the event. This facilitates contact between participants and experts afterwards if they have questions or wish to discuss matters further. These lists can also be used by the participants' networks, and they can give advice to others who want more information on the topic.

ES2: In the Spanish case, participants could not only register via a website but also by phone or a phone text message. This service is very useful for older farmers who are not familiar with ICTs.

Photo 9: Visit to Jauregia Cheese factory (Photo: Isabel Gárriz; ES2).



5.9 MONITORING & EVALUATION

In our case studies, we collected a lot of information on demonstrations, including feedback from demonstration visitors via questionnaires and focus groups, for instance, on what they liked the most or the least, which other things they wanted to be informed on, etc. When we shared this type of feedback with the organisers after the demonstrations, virtually all of them found this very useful and indicated this could help them planning a later demonstration. It thus seems that investing a bit of effort in monitoring what actually happens at a demonstration can have considerable value in learning how to do it better.

Especially for organisations that hold demonstrations more frequently it is important that they make an effort to obtain an insight into the strengths and weaknesses of a demonstration. This can be done **using a set of simple tools to collect structured information on the demonstration** in a process that is called **monitoring**. The next step is to **evaluate the demonstration** after the event with the organising team **to learn what worked well and what worked not so well**. These two activities combined are called 'Monitoring & Evaluation' (M&E).

The objective of **monitoring** is to collect information on how the demonstration actually worked out in practice. Along with a participants' registration sheet, a very simple and effective **monitoring tool** is a brief questionnaire for demonstration participants that takes a few minutes to fill in (see Annex 3). Participants can be asked to fill this in themselves but response rates then tend to be low. The number of responses is far higher when some persons put the questionnaires on a clipboard and then interview visitors, e.g. during final drinks at the end of a demonstration.

The objective of the **evaluation** is to learn about the strong and weak points of the demonstration. This can be used to organise the next version of the demonstration better. It can also be used to inform the follow-up of the demonstration if the organisers have planned such. Some of the monitoring questions then also need to be informative

for such follow-up plans. Furthermore, the success of the demonstration can be established by relating the feedback from visitors with the initial demonstration objectives. This implies that some of the questions should be derived from the key aspects of the objectives.

Carrying out M&E may be an interesting task for an **agricultural school**. It can be made part of a teaching programme as students can learn a lot from doing this. It may also be interesting for a research organisation with expertise in social science research. If none of such assistance can be obtained, it is advisable that the organisers carry out a minimal form of M&E themselves, seeking to get at least a few dozen responses.

By involving **professional social science researchers**, the quality of the feedback and its analysis can be improved by using more advanced forms of M&E. For instance, such researchers may be present during the whole event to carry out 'participant observation' and have further, more in-depth interviews with various participants and demonstrators. They should subsequently share their findings with the organisers to evaluate them jointly.

Practice examples

Most cases: Our cases show that organisers typically do evaluate a past demonstration, but they tend to do that somewhat intuitively, based on their own impressions of what happened at the demonstration. PLAID partners did collect more structured data on the demonstrations that they studied and shared their results with the demonstration organisers. Most of the organisers found this feedback very useful which is a clear indication of the value of such monitoring activities to help improve demonstrations.

5.10 RAISING DEMO IMPACT – PLANNING FOLLOW-UP

Demonstrations are not an isolated event but take place in a situation where many factors and actors influence a farmer. For a demonstration to have impact, it should also address this wider context called AKIS (Agricultural Knowledge and Innovation System; cf. Section 4.2). A first important implication from this is that a demonstration should not only provide information related to the specific topic in a general way, but also address its application by various farmers, with clear explanations regarding their applicability ('readiness') and costs in different contexts. It is also important to provide information on benefits as well as on disadvantages (or possible negative effects) of an innovation. Giving a complete picture to the audience helps to create a climate of confidence between farmers and demo providers and will stimulate farmers to consider applying the innovation on their own farm.

However, after visiting a demonstration, a farmer may go through a long process before deciding whether or not to implement an innovation. The organisers of demonstrations can do various things to stimulate and provide input to that process, as was discussed in Section 4.7.

The first thing the organisers then need to do is to make a choice: do they see their task as ended at the closing of the demonstration or do they also want to be involved in trying to raise the impact of the demonstration? If they choose to do the latter, there are two general types of things they can do which is to provide further information (cf. Section 7.2) and to stimulate further learning and networking (cf. Section 7.3).

To **provide further information**, organisers can use their own website and/or mailing lists. This information can either relate directly to what was demonstrated or to the wider context in which the demonstrated innovations have to function. In providing information it should be noted that information is more likely to have an impact when it is more concrete and more targeted. For this, organisers should build on what they know about

their visitors, e.g. the information collected via the registration of visitors and M&E. This will allow them to target new information to farmers that have indicated specific needs or interests.

To **stimulate further learning and networking**, demonstration organisers can offer various platforms for exchange between farmers (P2P learning) and between farmers and other actors (advisors, farming businesses). They may, for instance, organise workshops or other meetings on topics that visitors have indicated as relevant to them via the M&E process at the demonstration. They can also offer virtual platforms for exchange via their own website or social media. These discussions in their turn may inspire organisers to take additional action on topics that emerge from the discussions on these platforms.

Although these activities take place after the demonstration, they already need to be planned as part of organising the demonstration day as various preparations are needed to be able to carry this out effectively.

Practice example

NL2: An example to keep visitors updated comes from the Dutch demonstration on the undersowing of maize with a catch crop. At the end of the demonstration, the organisers announced that they would keep the participants informed on the sowing results and the growth of the catch crop via a newsletter. Furthermore, if any unexpected interesting developments would take place in the field, the group would be invited to a new demonstration at the same location in autumn.

6 CARRYING OUT THE DEMONSTRATION

6.1 INTRODUCTION

Following the guidance in the previous chapter, the following topics have been addressed in the preparation of the demonstration: setting the demonstration objectives, selecting the host farm and timing, setting up the demonstration programme, announcement and registration of visitors, setting-up M&E, and planning the follow-up.

Concerning the demonstration programme, Section 5.6 distinguished and characterised a list of starting, core, and ending activities of the event. In this chapter, we will focus specifically on the various demonstration activities that form the core of the demonstration programme. The first section below discusses mediation and learning which has various subsections on the following topics: (1) types of mediation, (2) variety in demonstration visitors, (3) stimulating learning, (4) connecting with the audience, (5) active engagement, and (6) take home messages. The last section discusses the implementation of Monitoring & Evaluation.

Photo 10: Group discussing grazing approaches during trailer tour of livestock farm (UK5).



6.2 MEDIATION AND LEARNING

6.2.1 Using various types of mediation

An important aspect of a demonstration is not only which information is provided but, at least as important, how this information is provided to the visitors. This 'mediation' has a great influence in how well the visitors process the information provided, and how this helps them to assess to what extent it may be useful to them. Based on our case studies we distinguish the following general types of mediation:

- No mediation: farmers walk around and see for themselves;
- Presentation: one-way communication in which an instructor (farmer or other) tells or explains something;

- Presentation with a question-and-answer session: two-way communication: after (or during) a presentation the visitors ask questions to which the presenter answers;
- Presentation with a group discussion: visitors interact and react to the presenter as well as to each other;
- Demonstration: showing things in practice;
- 'Hands-on' activities: visitors trying things out themselves;
- Informal P2P discussions (between visiting farmers).

All of these types of mediation were present in our case studies and a demonstration typically combines several of these. These mediation types will be discussed in the following subsections and they all have their strong and weak points. These are summarised in the Table 3 below which includes a 'tips and tricks' column to use them in an optimal way.

Table 4: Various types of mediation at a demonstration

	Function	Disadvantages	Tips and tricks
No mediation	Give visitors freedom to see whatever they want, whenever they want.	No structured offering of information, leading to minimal learning.	Give some guidance in writing (incl. signposts, laminated factsheets at demonstration objects).
Presentation	Awareness raising, motivation and knowledge transfer. (Suited for larger groups)	'Absorption' by the listener is often limited, depending on the listeners' learning style and attitude.	Choose an engaged and committed speaker; Focus the presentation on a few key points; Repeat these key messages; Use supporting means (audio-visuals, posters); Use examples, including 'bad practice' or 'extraordinary' ones; Provide hand-outs; Address 'what' topics as well as 'why' topics; Use 'practical' language.
Presentation in a room with Q&A	All of the above + engage the listener. (Suited for larger groups)	'Shyness' of visitors in larger audience may hamper asking questions In larger groups only few can respond.	All of the above; Actively invoke responses from visitors; Use 'other' means: raising hands, voting boxes, group discussions; Use of engagement webtools (slido, mentimeter, etc.).
Presentation or explanation in the field with Q&A	All of the above. (More suited for smaller groups)	Audibility (noise; group size). Large number of visitors require many presenters / moderators to be able to break up the group.	All of the above Make smaller groups Portable sound installation Repeat questions
Presentation or explanation with group interaction	All of the above. P2P 'benchmarking' ideas to enhance connection with the visitors' needs and interests.	Large number of visitors require many presenters / moderators.	Use 'other' means: raising hands, voting boxes, group discussions.
Demonstration	Show how novelties work in practice.	Noise may make it difficult to communicate.	Explain what is being demonstrated; Ensure good audibility; Address possible drawbacks; Interact with visitors on what is demonstrated.

Hands-on activities	Get the real-life experience	Limited capacity; May require much preparation.	Interact with visitors on what is done and what is experienced.
Informal P2P discussions	P2P 'benchmarking' ideas to increase the visitors' self-confidence.	Beyond influence of demonstration organisers; No moderation to improve the quality of the exchange.	Provide 'free space' in the demonstration programme.

Practice example

NL1: The Dutch 'leek day' shows the importance of good mediation. Most of the groups in the guided tour dispersed after which they lacked a supervisor who would lead the conversation and stimulate people to ask questions. Groups that stayed together with a supervisor had better interaction and asked more questions. In particular, the group supervised by the farm manager complimented him for his enthusiasm, his passionate contribution in (triggering) the discussion and asking questions, and for his time-keeping.

The first sub-section below discusses how to take into account that the visitors of a demonstration can be quite varied. This is followed by several sub-sections on how to achieve that visitors learn the most from a demonstration.

6.2.2 Addressing the variety in demonstration visitors

As was discussed in Sections 5.2.3 and 5.8, visitors of demonstrations can vary considerably. The key visitors, of course, are the **farmers** for whom the objective is that they will be **inspired** and **informed** on new developments and consider these for application on their own farm. But these farmers are not one of a kind since there are important differences between them, e.g. in terms of:

- Attitude (e.g. 'passive', not inclined to change much, versus 'innovative', always looking for new opportunities);
- Motivation (networking, looking for specific information, interested in new developments in general, curiosity in 'what's new' and what other farmers are doing, etc.);
- Learning styles (e.g. by listening to presentations, discussing with others, hands-on experience, observing what happens, etc.);
- Farming background (e.g., type of farm system, size of the farm, role on the farm, experience in farming).

Photo 11: Smelling soil (Photo: Marit S. Haugen; NOR1).



Furthermore, there are other types of visitors of demonstrations. The two most important of these are farming **advisors** and the **farming press**, both of whom can act as '**multipliers of demonstrations**' because they can inform a wider audience of what they witnessed at a demonstration. **Other visitor groups** may include agricultural researchers and students, subcontractors (being often farmers themselves but sometimes specialised in subcontractor services), suppliers of farming equipment and materials (e.g. seeds, fertilisers, crop protection materials, etc.), buyers and processors of farming produce, policymakers, general public.

All these groups have different expectations and motivations, different learning styles and different information needs. Yet, demonstrations are usually organised in a 'one size fits all' fashion, in which the way the demonstration is organised addresses all these groups in the same way. Though it is impractical to address all visitors in an individual way, it is useful to bring some variety in the set-up of a demonstration, based on an assessment of specific needs of the key visitor groups.

The main distinction in addressing these target groups is that the demonstration objectives for these actor groups will differ.

- For **farmers**, the general objective is to motivate and inform them. But since they vary in motivations, learning styles and interests, it is useful to offer a certain range of demonstration activities to reach farmers with different attitudes.
- For **farming advisors**, the first objective is to inform them in the same way as the farmers to be able to convey the messages to other farmers. However, their advisory role implies that they face different challenges than the visiting farmers do. Hence, a second objective concerning visiting advisors is to offer them the opportunity to exchange on their advisory needs between them (which also constitutes a form of peer-to-peer learning). This may be done in the form of a **brief discussion session with advisors**, the organisers and (some of) the presenters or demonstrators.
- The objective concerning the **farming press** is to provide them with some further 'background' to what is demonstrated and provide further details on what they have witnessed. It is useful to **organise a brief session with the press** and the organisers (possibly also some presenters) to 'dig a bit deeper'. They are also usually interested in something 'exceptional' as a trigger for building a good story. Organising a special session for them also offers a chance of repeating the key messages so that they will feature in their articles.
- **Suppliers and buyers** of farming produce are to a large extent motivated by the goal of doing business and the objective of the demonstration can be to provide an opportunity for this. On the one hand, **this is also in the interest of visiting farmers** but the motivation to do business will also 'colour' the way these actors operate, putting more emphasis on what is favourable for their business than what is favourable for a farmer. To avoid introducing too much bias, information provided by businesses should be **balanced** by information provided by presentations **addressing other 'sustainability' aspects**, e.g. on the implications for the farmer, society at large, and the environment.
- **Students and teachers** of agricultural schools can play different roles, leading to different objectives. Firstly, a demonstration can have the objective to teach students certain aspects of farming. Secondly, the objective can be to involve teachers and students in providing knowledge at the demonstration and discuss this with the other participants. Thirdly, the objective can be to involve them in monitoring and evaluation (Section 0) which helps organisers to assess the weak and strong points of the demonstration. At the same time, this also strengthens the learning experience by the students.

- **Agricultural researchers** are usually present to inform farmers of new research findings. However, demonstrations are also an important learning environment for them to be better informed on what farmers need in practice. This helps to address a mismatch that is often found between what research offers and what farmers need.
- The main objective concerning the **general public** is to provide a space to discuss the tensions that exist between the farming community and the public on a lot of issues. This may concern general public concerns (CO₂ emissions, animal welfare) or direct nuisance (stench, health effects from emissions). This can best be addressed by a **direct interaction between farmers and members of the public**, and demonstrations can be a place where this can be organised. Since farmers and the public will have rather diverging interests, such a discussion needs to be well mediated.
- Concerning **policymakers**, there are many tensions between what policy seeks to achieve (partly driven by public concerns) and practical implications/barriers for farmers. A demonstration objective can therefore be to address these tensions by organising **direct interaction between farmers and visiting policymakers**. Such a discussion also needs to be well mediated.

To be able to tune the demonstration optimally to the needs of visitors, it is important to know what their needs are, especially for farmers who are the most important visitors. To achieve this, it is recommendable to let farmers register for the demonstration (e.g. on website) and let them answer some simple questions as was discussed in Section 5.8.

Practice example

BG1: A Bulgarian demonstration on 'renewable energy sources in milk production' shows the variety in needs of different visitor groups. Farmers came to learn about the novelties that were demonstrated. Advisors took the opportunity to meet farmers, other professionals and colleagues from other regional offices came to learn new things from the field process to expand their social networks. Students familiarised themselves with the theoretical knowledge that was provided and experienced its practical relevance. Representatives from local and national government agencies took the opportunity to meet farmers personally and to learn about the problems that the farmers faced.

6.2.3 Stimulating learning

Next to a targeted approach for different visitor groups, there are also a number of general good practice lessons that can be drawn from the case studies on how to stimulate learning. These are:

- Farmers need to make new knowledge 'their own', i.e. relate it to their own situation on their own farm. This requires not just 'sending objective information' but interaction with farmers to connect the information provided to their motivations and attitudes. This requires the use of facilitation skills to **make the demonstration interactive**.
- **Smaller groups** (up to 15 people) work better to achieve interaction between visitors. For field walks, this can be moderated by a guide who explains what is observed and who stimulates a discussion on this. If a speaker does not have any facilitation skills, it is advisable that a separate facilitator moderates the discussion.
- People can only process a limited amount of new information. Make clear what the key message is and **limit the number of key messages**.
- **Repetition of key messages** is important to make the new knowledge 'stick'. Give visitors **materials to take home** these key messages to encourage them to give it another look afterwards.

- **Failed examples** are a good way to stimulate learning and also help to raise the credibility of the presenter.
- Being able to **do business** at the demonstration is also a way to make the messages stick. This can take the form of directly buying or ordering products or establishing new relations with businesses to follow-up later.
- **Networking** between visitors and with demonstrators is important to stimulate reflection and to make messages stick. Provide '**open space**' in the programme to facilitate such networking.

Practice examples

UK3: In an English case, visitors were driven in a tractor trailer from one spot to another. The aim for each of these stops was to generate knowledge exchange and encourage discussion between the group, sharing their experiences and asking questions, rather than just presenting an innovation or approach to them. Additional speakers from the audience were called on if it was felt they would have additional information to bring to the topic or to the discussion. During one farm stop a 'show of hands' was used to find out how many attendees had adopted a practice in question.

FR3: In a French case, a specific 'drink and talk' event was organised and facilitated during the demonstration day to facilitate exchange between participants as well as identification by the participants of the main lessons learned and ideas to bring home. They were invited to write these down.

CRO3: In a Croatian case, references to failures were also part of the demonstration. The speaker presented some earlier mistakes, indicating "how not to" do some things. This speaker also encouraged the visitors (mostly students) to ask questions to stimulate active processing of the information provided. The visitors gained 'hands-on' experience by planting seedlings, operating a planting machine, doing glasshouse maintenance, and other activities.

Photo 12: Covered tractor trailer (UK3).



6.2.4 Establishing connection with the audience

It struck us that in quite a number of demonstrations presenters or demonstrators just start talking about the content with little or no introduction on who they are and what they try to convey. In any interaction, the issue of trust is important, and in a situation where people don't know each other this trust will largely be built on prejudices. To gain the trust of the audience, it is **important that a speaker introduces her/himself** adequately and tries to make a connection with the audience and explicitly address certain prejudices that might be expected. For instance, in case of a presentation by a business person farmers may easily think that the story is biased by the goal of selling stuff. The speaker can try to gain trust by making this explicit ("Yes, of course I want to sell you stuff. But I also want you to be a good farmer. Therefore, ...") and by also addressing possible negative points and/or discuss under which circumstances an innovation can be favourable to a farmer.

Presentations and explanations should preferably be in **plain language** (avoiding complicated academic terminology), tuned to the interests and needs of the audience. It is advisable that organisers interact with speakers on what they expect from the presentations.

In many of our cases there are examples where speakers do not adhere to the above type of good practice rules. It is therefore recommended that organisers give some basic instructions to speakers to ensure they connect well with the audience.

Practice examples

CH2: A good example is a Swiss case in which organisers provided a guideline to the speakers on how to structure and organise their sessions and asked them to send their planned approach prior to the event.

BE1: In a Belgian case, presenters who felt uncomfortable about moderating a discussion were offered assistance in this.

6.2.5 Engaging visitors

Organisers of many of the demonstrations from the case studies indicated that the level of interaction is one of the most important criteria for a successful demonstration. This is corroborated by the feedback from visitors who, in most of the cases, indicated that one of their main motives to attend a demonstration was the opportunity for networking. Interestingly, most of this interaction takes place in the non-organised part of the demonstration, when visitors talk to each other. During the organised parts (lectures, field visits) interactions tend to be relatively few.

It is of key importance that organisers of a demonstration also **stimulate interaction** in the organised parts of a demonstration by stimulating presenters to evoke discussions based on their presentation and/or provide facilitators to do this.

Practice examples

UK5: A good example of engaging visitors is the demo organised in Scotland on the Lothian Monitor Farm. The organisers contracted a team of independent facilitators to deliver and provide practical and organisational support and advice for the programme.

BE3: In a Belgian case, the facilitators made use of an interactive voting system (wireless ticking boxes) with triggering questions to stimulate participation and interaction in the discussion.

LAT2: An original way to engage visitors comes from the Farm days of the Herbivorous project in Latvia. In one of those, the organisers used the outdoor lunch at the end of the on-farm demonstration to carry out a small quiz while people were queuing up for the

food. The quiz served the function of both entertainment and knowledge sharing and included some basic questions about things important to be known by farmers working with beef cattle without a predefined set of possible answers. The first visitor to give the correct answer to each question received a small prize (e.g., a pen, a notebook with the organiser's logo).

6.2.6 Providing take-home messages

An important output of a demonstration is what visitors take home from it. This can either be in the form of what they remember or a material form. Concerning memorising, it is important to acknowledge that people can only remember a small number of new things. Therefore, it is important to stress a **limited number of key messages** that people can directly memorize and **repeat** these key messages a few times. Of course, more nuances can be presented but by repeating the key messages people will memorise that and also remember that there were further nuances, though they won't remember these in detail. But if the key messages are sufficiently important to them, they will inform themselves further after the demonstration.

An important aid to support their memory is if people can **take materials home**, e.g. in the form of prints from posters, powerpoint handouts, leaflets or brochures. These should also highlight the key messages. **Photos and videos** can also be a way to help remember what happened at the demonstration.

Practice examples

FR3&FR4: In both French cases, visitors were provided with brochures with a summary of all presentations and further information that was provided at the demonstrations.

ES2: In a Spanish case, videos were made of the event and made available to the visitors.

6.3 MONITORING AND EVALUATION

An important result from our case studies is that demonstration organisers found it very useful to get feedback from demonstration visitors that was collected by PLAID partners. Collecting this type of information and analyse it afterwards is referred to as 'Monitoring and Evaluation' (M&E). It is therefore good practice that organisers themselves also try to carry out M&E, as was discussed in Section 0.

A very simple and effective **monitoring tool** is a brief questionnaire for demonstration participants that takes a few minutes to fill in (an example is provided in Annex 3). Participants can be asked to fill this in themselves but response rates then tend to be low. The number of responses is far higher when some persons put the questionnaires on a clipboard and then interview visitors, e.g. during final drinks at the end of a demo. In half an hour, one person can thus collect around 10 responses from visitors.

The quality and effectiveness of M&E may be substantially increased by incorporating some **(semi-)skilled assistance**. For instance, monitoring may be carried out by students from an agricultural school or researchers with some basic social science skills. Working with students has the additional advantage that they will learn more about the role and effectiveness of demonstrations.

Demonstration organisers can use the information that is thus collected for various purposes:

- To obtain better knowledge of the **profile of visitors** (e.g. numbers, age, gender, farming profile);

- To get a better feel for **what motivates visiting farmers** and what they need:
- What do they find interesting (motivation);
- Barriers they face for implementation ('know-what' and 'know-how' needs);
- To better plan and shape **follow-up activities**;
- To improve the **next version of a demonstration**;
- Collect **contact details** of visiting farmers to be able to continue interaction with them which may help to increase the impact of the demonstration.

When **evaluating** the information thus collected, it is useful to relate this to the objective of the demonstration. Thus, the organisers can compare what they intended to achieve with what they have actually achieved. This will add reflexivity to the process or organising a demonstration and helps the organisers to learn in a more structured way on how to best do this. This can have substantial benefits for the organisers while collecting and processing this information only takes little time.

Practice examples

ES1: After the Spanish 'extensive crop trials' visit, all visitors went to the cooperative to carry out an evaluation. This was done in the form of a focus group by using a methodology that was provided by the PLAID project. In several other demonstrations PLAID partners assisted in setting up a focus group discussion with demonstration visitors.

UK5: Concerning the type of feedback that was obtained, a Scottish demonstration indicates that participants appreciate the opportunity to see and hear about the monitor farms and compare and think about how the topics being discussed relate to their own farms. The opportunity to informally benchmark their own practices and experiences against others helped build confidence if their yield was good in comparison to others. Participants also appreciated the opportunity to learn new things, tips and practices, and monitor farm meetings often gave participants the stimulus to act on things that they might otherwise put-off.

7 RAISING THE IMPACT OF DEMONSTRATIONS

7.1 INTRODUCTION: ACHIEVING IMPACT FROM DEMONSTRATIONS IN CONTEXT

As was discussed in Chapter 4, Farmers operate in an Agricultural Knowledge and Innovation System (AKIS) that forms the context within which demonstrations are held. This AKIS context is composed of a variety of actors and factors that influence a farmer's decision-making on innovation. Thus, the impact of a demonstration in terms of changing a farmer's behaviour is influenced by a variety of other factors than what happens at the demonstration itself. These factors are beyond the control of the organisers of demonstrations. Yet, demonstration organisers can do various things to stimulate that the AKIS context and what a visiting farmer takes home from a demonstration align better to actually change a farmer's behaviour.

To change behaviour, a farmer needs to be provided with new information and needs to assess the relevance of this information for the farmer's own situation. Farmers gather information from a broad variety of sources, including demonstrations, farmers' magazines, internet, newsletters, etc. In assessing the relevance of new information, farmers may interact with a variety of people, including farming advisors, businesses, other farmers, their family members. Our cases indicate that both the collection of information and its processing by farmers can partially be influenced by the organisers of demonstrations. How this can be achieved is discussed in the following two sections on 'providing information' and 'stimulating further learning and networking'.

Practice examples

IT1: An Italian case indicates that a demonstration may inspire farmers but that the application of what is learned requires further steps. The vast majority of visitors of the demonstration days on sustainable viticulture declared their interest in the things that they had witnessed and intended to implement part of this on their own farm, even if not in the near future. However, more than half of them found it difficult to specify which elements exactly they might use and how to apply this. It seemed that they were inspired in a sort of 'general sense' but that they would require further information to help them make concrete decisions.

CH2: At the 'Swiss organic cattle day', visitors were asked to indicate the main information sources that they used. The results revealed that these are most often other farmers and farmers' press, followed by demonstration events, and to a lesser extent by extension services and other source of information. While this is an example from only one case study, many other cases show comparable results.

POL2: A Polish case illustrates that the wider application of a demonstrated novelty may also be achieved via an 'indirect' route. In Poland, potato and onion value chain partners tested new potato varieties on a small scale and after demonstrating that these had extra value for them, they introduced them to the farmers they work with.

7.2 PROVIDING AFTER-DEMONSTRATION INFORMATION

Section 6.2.6 discussed that it is useful that demonstration organisers provide written materials that visiting farmers can take home from a demonstration. These materials can serve various functions and provide various types of information, including:

- Repeat the key messages from the demonstration;
- Provide references for further information (e.g. links to websites);
- Address 'know-how' or skills aspects: provide brief guidance with some key steps to implement an innovation;

- Contact information for various relevant aspects, e.g. demonstration organisers, advisors on various aspects, business information;
- Information on follow-up activities that are already planned.

These take-home materials only target the visitors of a demonstration. By using appropriate means, however, demonstration organisers can also reach wider audience, e.g. by providing information on the demonstration on their **website**. The usefulness of this information can be augmented by providing further links to other sites and/or contact information for further information. This information not only needs to address the demonstration itself but may also provide links to various other experiences in connection with the demonstration topics. It may also provide information on the wider context of the demonstrated topics, e.g. on relevant upcoming regulation.

Demonstration organisers can also use other means of communication, e.g. **video**. Videos allow a demonstration event to share the main findings of the day as well as promote the demonstrated approaches and describe how to use them on a farm. An increasing number of videos are produced by different organisations and shared across the agricultural sector through social media (Facebook, Twitter, Instagram) as well as YouTube and uploaded onto company websites. Videos often receive positive feedback from farmers although the level of impact that they have on innovation uptake has not been investigated in depth. The most likely impact of videos is awareness raising and motivation by sparking interest in a new approach. This can subsequently stimulate these farmers to search for additional information. Furthermore, there is an increasing number of videos produced by farmers, highlighting approaches they use on their farm that they want to share. These videos help to further share novel approaches to a wide range of farmers regardless of any previous geographical barriers, and demonstration organisers can make use of this.

In combination with video, **social media** can form another important impact pathway. Social media can provide short snapshots of an event or approach, as well as allowing for discussion between people through comments on some social media such as Facebook group pages. Social media are also a means to distribute general information on the context of a demonstration, in particular Twitter and Facebook. These channels also provide an option to involve advisors in the exchange, allowing them to bring in their experience and give guidance. WhatsApp is also increasingly used among farmers and advisors to form groups around specific topics of common interest.

Practice examples

UK3: The IFM Field Event used video, social media and internet to communicate on the demonstration. A short video was created to share the event and point to post-event materials such as a LEAF blog post. Local newspapers covered the event with articles featured in one newspaper with a reach of 51,000 people. The LEAF website was used to distribute online articles as well as to provide links to resources with more information and guidance on the demonstrated approaches.

ES1: In a Spanish case, the organisers used a weekly newsletter to provide information on a demonstration and any follow-up activities.

Another interesting means of communication is via the **farming press**. This includes a range of specialised and general magazines and papers for farmers. These publications provide another impact pathway for demonstrated approaches and innovations. Articles and news items can be published on the demonstration and provide a brief overview of the event, the approach and main outputs. This allows farmers to research further using other tools such as internet, videos and farmer-to-farmer exchange.

Although agricultural journalists may be invited to a demonstration, we have not found that they were given special attention at the demonstration itself. They were treated just

like the visiting farmers, having to listen to presentations and witnessing demonstrations by themselves and base their reports on that. In Section 6.2.2 above we already indicated that it may be useful to give specific attention to the farming press by presenting the key aspects to them and provide them with the opportunity to ask some further background and details on the demonstration object.

7.3 STIMULATING FURTHER LEARNING AND NETWORKING

An interesting finding in almost all of our case studies was that many visitors indicated that the possibility for networking was a key driver for them to attend demonstrations. It is evident that interaction with colleagues and others is of large interest to them during the demonstration but the discussion above suggests this may even be of larger importance to what happens after the demonstration, i.e. to raise the impact of a demonstration. Farmers do not change their behaviour easily by implementing an innovation and often interact with various others before making a decision to do so. Demonstration organisers can stimulate this type of interaction in various ways.

Photo 13: Brainstorm workshop on cover crops (FR4).



7.3.1 Stimulating after-demonstration interaction

Our cases show a number of impact pathways where demonstrated approaches can be shared with those who did not attend the event. The first is the farmer-to-farmer communication whereby farmers are able to see what their friends, neighbours or 'innovative farmers' are doing on their farm, including changes they have made that are based on what they learned at a demonstration. Likewise, hearing the opinions and experiences from other farmers either in a formal setting (such as a discussion group or meeting) or an informal setting is also likely to influence the uptake of a demonstrated approach.

Organisers of demonstrations can stimulate this form of peer exchange by organising or contributing to the following:

- Use the demonstration **visitor survey** as a source to identify farmers' needs;
- Place **posts on their website** addressing these needs with opportunity for farmers to react;

- **Create P2P groups** to discuss these needs in relation to the demonstrated topics. This can either be in the form of face-to-face meetings (workshops, study groups) or virtual platforms (WhatsApp group; other virtual media platforms);
- **Inform visitors** via e-mail (provided organisers have collected contact details and received a consent to using those) or newsletters that **new information** has become available.

Practice examples

ES1: In a Spanish case, the first part of a demonstration consisted of a field demonstration, allowing the visitors to see various innovations in a practical setting. A few weeks later, after the final results of the trial had been obtained, a meeting was held to discuss these results with the farmers. This meeting was more conclusive and allowed reaching conclusions with greater certainty. A specific WhatsApp group allowed communicating the result to a wider audience.

NL2: A Dutch case concerns a demonstration within the 'grounded maize cropping project'. Before and after the summer, demonstrations are held ('Grass and maize manifestation'). Both are aimed at transferring the experience gained and identifying important issues for further exploration. During a number of local winter meetings, the project team of farmers and agricultural contracting firms explore these issues further.

7.3.2 Enrolling advisors

Advisors can play an important role as 'multipliers' of a demonstration, i.e. to help spread the key messages from a demonstration to a wider group of farmers. Depending on the farmer they are talking to, they can act as an awareness raiser, motivator, or information provider. They can also act as a 'networker' by building links between farmers who applied the innovation and the ones who are interested, thus facilitating or fostering the P2P process.

As was already indicated in Section 6.2.2, this capacity of advisors to raise the impact of a demonstration makes it useful to **give them special attention** at the demonstration (e.g. a brief session especially for advisors). Next to that, they can also be given a specific role in the after-demonstration activities since they have a broad overview of how various types of farmers respond to the innovations. They can be asked to bring this in in various ways, e.g. on the demonstrator's website, via social media, at face-to-face meetings, etc.

Furthermore, demonstrators can stimulate the advisor-farmer interaction to already commence at the demonstration, e.g. by organising an '**advisor fair**' during which farmers can ask questions to advisors which may be followed-up by further exchange later. This would also form an interesting networking opportunity for advisors as a way to come into contact with farmers that they would not meet otherwise.

Practice examples

IT1: An Italian case illustrates the importance of advisors. Visitors were asked whether they had applied knowledge from earlier DEMOdays. Interestingly, all respondents affirming the implementation of the previous DEMOdays lessons were not classifying themselves as farmers, but as agricultural advisors. Obviously, advisors play a key role carrying the lessons from a demonstration further.

LAT2: In a Latvian case, advisors also were part of the audience of Farm days in animal husbandry and they often used the knowledge gained in these demonstrations to organise follow-up seminars for farmers on the given topic in their respective regions. The fact that each trial involved a designated advisor in the implementation stage also allowed these advisors to bring this personal experience-based knowledge to their other individual clients.

7.3.3 Conclusion

It is evident that demonstrations are only one of many influencing factors for farmers. They obtain information on innovations from a variety of different sources and often interact on these with various people before taking a decision on whether or not to apply it on their own farm. Yet, demonstrations are an important source of information and they also provide some room for the farmer to interact with others (including farmer-colleagues and advisors) on the relevance of the innovations for their own situation. Furthermore, organisers of demonstration can also initiate or take part in after-demonstration activities to further facilitate this decision-making process by farmers. Thus, demonstration organisers can play a significant role in raising the overall impact of demonstrations to make agriculture more 'integrally sustainable', i.e. good for farmers, animals, society and the environment.

8 CONCLUSION: REFLECTION ON P2P AND F2E LEARNING

The PLAID project was based on the assumption that peer-to-peer (P2P) is of key importance at on-farm demonstrations. This is indeed corroborated by what we found in our case studies, but it also appeared to be much more nuanced. Firstly, we found various forms of P2P that we had not anticipated. Secondly, P2P is only half of the story.

Concerning the forms of P2P, at the beginning of the project we saw this as the exchange between demonstrating farmers and the visiting farmers. This is indeed an important aspect and we saw many examples that the interaction between the presenter and the visiting farmers goes 'smoother' if the presenter is also a farmer than in the case of another type of presenter, e.g. researcher or commercial party. But we also saw another form of P2P exchange, notably between the visitors of a demonstration. Visitors themselves indicate this type of interaction is of key importance to them and we expect this is largely so because it allows the visitors to benchmark their own ideas with those of their peers. This helps the farmer to place the demonstrated innovation in her/his own context. Furthermore, there is a form of P2P when farmers go home and when they exchange with their neighbours, who may or may not have been at the demonstration, on what they learned at the demonstration.

Photo 14: Explanation on the working of a tank to process pesticide residue (BE3).



While we thus have seen various forms of P2P, our cases also teach us that there is much more going on at demonstrations than P2P learning. Visiting farmers at demonstrations also learn a lot from other types of presenters (e.g. researchers, commercial actors), which we call F2E (farmer to expert) exchange. Definitely, it makes a difference who makes a presentation, and in that sense P2P may be more effective than F2E. However, it seems that good moderation is equally important if not more important. Hence, a farmer may learn more from a well-moderated expert presentation than from a poorly moderated farmer presentation.

Practice examples

BE3: A Belgian case illustrates that other presenters and demonstrators, including commercial parties, can have a very positive role in a demonstration. From this case study, we learned that the combination of a commercial company like Bayer and a commercial farm can lead to effective demonstration activities. Visitors saw the newest innovative techniques on a real working farm in a real context and under real farming conditions. Moreover, visitors learned from the knowledge and experience of both the experts from Bayer and the host farmers.

BG2: A Bulgarian case offers another good example of the positive role of commercial companies in demonstration activities. It concerns the cooperation between a commercial company and an agricultural association who jointly demonstrated how crop protection can be achieved in a more sustainable way.

However, potential organisers of demonstration activities should be aware of the possible pitfalls of such a collaboration, i.e. the provision of very biased information. To avoid this, it is important to make good agreements between the (co-)organisers. One of the principles could be that commercial companies should not solely co-organise or attend the demonstration to make a sales pitch, but also contribute in terms of knowledge and information exchange. Involving more than one company or involving 'neutral' parties like non-commercial advisory services or researchers can contribute to the credibility of the demonstration event and thus the wider use of the demonstrated novelties. Having an experienced neutral facilitator in such a case of diverging interests can also be a good way to increase the credibility for the audience of what is presented.

9 ANNEX 1: CASE STUDY SUMMARIES

This Annex presents the demonstration summaries from all 24 PLAID case study reports. They are listed alphabetically according to the case ID in the list below.

1. BE1 Open Energy Day
2. BE3 Hof ten Bosch (potato)
3. BG1 Renewable energy sources in milk production
4. BG2 New plant protection technologies in grain crop production
5. CH1 Arenenberger Ackerbautreff (Arenenberg Arable Day)
6. CH2 PROVIEH: Organic cattle day
7. CRO1 Wheat & barley day
8. CRO3 Vegetable production Bais
9. ES1 Extensive Crops Trials Visit
10. ES2 Organic Cow Cheese Production
11. FR3 INOSYS: Réseaux d'élevage (Network of livestock farms)
12. FR4 SYPPRE: Platform for innovative crop systems
13. IT1 Demo days for sustainable viticulture
14. IT2 AIAB-APROBIO FVG - Organic farming
15. LAT1 Integrated fruit production
16. LAT2 Herbivorous Project: Network of demonstration farms in animal husbandry
17. NL1 National leek day
18. NL3 Grounded maize cropping
19. NOR1 Optimal soil culture
20. NOR2 Berry production in plastic tunnels
21. POL1 National potato day
22. POL2 Feast of Onions and potatoes
23. UK3 IFM Field Event
24. UK5 Lothian Monitor Farm Scotland

9.1 BE1: OPEN ENERGY DAY

Farms

During the last Open Energy Day in March 2016, 22 agricultural and horticultural businesses (of which three are practice and research farms), spread across the whole region of Flanders in Belgium, opened their doors to introduce other farmers to innovative energy techniques that they have implemented on their farm. There were several scheduled visits for each farm during the day, giving farmers the opportunity to visit multiple farms. The host farms were selected by the advisors and researchers of the Enerpedia consortium who were familiar with their local agricultural sectors.

Organisation of the demonstration activities

The Open Energy Days in 2012 and 2016 were organised by the Enerpedia consortium, which includes the Flemish practice and research farms as well as knowledge and research centres Innovatiesteunpunt of the farmer's organisation Boerenbond, Kenniscentrum Energie of the University college Thomas More and ILVO (a government-funded applied research institute).

The Enerpedia consortium sensitizes and gives information and advice in the field of energy efficiency and sustainable energy production on farms to all farmers in the region of Flanders in Belgium. All their knowledge, study days announcements and news about energy in agriculture is bundled in one website www.enerpedia.be.

What is the main problem that is addressed?

The main problem that is addressed is sustainable energy within agriculture: the sustainable use of energy (e.g. greater efficiency through smaller demand for energy) and the sustainable production of (renewable) energy.

What is demonstrated?

The implementation of innovative energy efficiency and renewable energy production technologies on the various farms, e.g.:

- Small scale digester with in-farm manure;
- Solar panels which rotate in the sun;
- Energy exchange between a tomato farm and fish cultivation farm;
- Burning of miscanthus;
- Cooling with ammonia;
- Thermal solar panels for calf feed preparation; and,
- Heat recovery by dehumidification in greenhouses.

What role does sustainability play?

Sustainability was the main driver for the demonstration activities. The demonstration activities concerned sharing good experiences with viable energy saving and energy production techniques on commercial farms (people, profit, planet). This will strengthen the farming community, mitigate climate change and enhance financial viability.

The EU 2030 "climate and energy framework" sets 3 key targets for the year 2030: at least 40% cuts in greenhouse gas emissions (from 1990 levels); at least 27% share for renewable energy; and, at least 27% improvement in energy efficiency. Therefore, innovation regarding measures for energy efficiency and renewable energy are also indispensable in agriculture. However, it is mainly rising energy bills that forces farmers to think about how best to handle energy on the farm.

What is the objective of the demonstration?

The main objective of the Open Energy Day is to share knowledge and experience on the implementation of innovative energy efficiency and sustainable energy production techniques on farms. Another goal was to inspire farmers, installers and policy makers with good practices, to show that it is possible to deploy the demonstrated techniques as viable methods to reduce GHG emissions and to reduce energy costs. Last but not least, another aim of the Open Energy Day was to raise awareness of sustainable energy in agriculture.

Who are the targeted visitors?

The targeted visitors are Flemish farmers and other interested stakeholders in the 'energy value chain' such as installers, providers of energy technology, advisors and regional and/or local policy makers.

What could be main lessons for the PLAID project?

The case provides an interesting example of an informal setup of demonstration. In 2016 there were few guidelines from the organizing consortium concerning the role of host farmers and supporting consultants when setting up a demonstration activity. Moreover, the visits were mostly held in smaller (though not limited) groups. As a result, there was a lot of opportunity for interactive discussions between the host farmer, the visitors, the Enerpedia consortium consultants or researchers and in some cases also the installer of a particular technique. This informal approach greatly stimulated the exchange of knowledge and experience with innovative energy techniques. In a few cases, consortium consultants arranged a daytrip for a group of farmers to visit and learn from host farms, during which these consultants acted as guides.

9.2 BE3: HOF TEN BOSCH (POTATO)

Farm

The farm where the demonstration is held, is a fourth-generation family farm (since 1890) that is located in a small village near Brussels in Belgium. The 150-hectare farm grows potatoes for the crisp industry in a four-year rotation across hilly fields on well drained and fertile sandy loam soil. Wheat, corn, sugar beet, oilseed rape and barley are the other crops grown on this farm. In addition, the farm cultivates three hectares of apples and pears, which are mainly sold directly from the farm.

In 2011 they began to participate in some sustainability and on farm-research projects. The first demonstration was on erosion measures. The next demonstration was a collaboration with the research farm PCFruit on a project that explored the use of mixed hedging around a pear plantation.

In 2014, they became the world's first Bayer Forward Farm. Bayer joined forces with the farmers to test a number of innovative and sustainable agricultural concepts. For example, the farm uses advanced weather stations to better estimate when disease pressure in the crops will increase. The tractors work with GPS-techniques to carry out the treatment of crops to a depth of 2cm. A system was also installed to process the cleaning water in an environmentally friendly way and with residues of crop protection agents. In addition, insects are used at Hof ten Bosch to strengthen resistance to harmful species, and grass and flower zones are created between the fields to stimulate biodiversity.

In May 2018, the farm opened an educational beekeeping centre in collaboration with the Beekeepers Association of Vlaams-Brabant and the Bayer Bee Care Centre. They placed six bee hives, laid flower borders and planted mixed hedges.

Organisation of the demonstration activities

Some of the farm demonstrations are organised and led by either Bayer advisors (within the Bayer Forward Farming program which is their knowledge platform on sustainable agricultural practices), or the farmers themselves. Projects and field tests are also undertaken in collaboration with public and private partners, such as the University of Ghent, John Deere or Yara.

What is the main problem that is addressed?

The objective of the demonstrations is the sharing of good practice on sustainable field practices (mainly crop protection, new cultivations, low-drift nozzles, weather station data, precision farming, water protection).

What is demonstrated?

The farmers as well as Bayer experts demonstrate innovative solutions for sustainable agriculture by field demonstrations, documentation, training sessions, etc.: crop protection; new cultivations; low-drift nozzles; weather station data; precision farming; and water protection, etc.

What role does sustainability play?

Sustainability is an integral part of the demonstrations. The host farm aims for a balance between raising productivity, and maintaining the fertility of the field and protecting biodiversity through responsible and correct use of crop protection products. In other words, the host farm aims to combine economic success with environmental and social responsibility.

What is the objective of the demonstration?

The objective of the demonstrations for farmers is the sharing of knowledge and good practice around sustainable agriculture. However, the demonstrations also show regulatory authorities what is possible with specialised technologies in terms of reducing the environmental impact of plant protection products.

Who are the targeted visitors?

The demonstrations bring together many stakeholders including farmers, consumers, universities and schools, machine builders, food chain representatives like food processing industry and retailers, politicians and regulatory authorities from all over Europe. About one third of the visitors are farmers, one third are food chain stakeholders and researchers and one third are administrations and policy makers.

What could be main lessons for the PLAID project?

The case provides an interesting example of a fruitful collaboration between farmers and a commercial supplier. Visitors can view the newest techniques in crop protection, smart farming, etc. on a real working farm. The diverse range of visitors to the demonstration farms is also important, with representations from food chain representatives, politicians and regulatory authorities, as well as farmers.

9.3 BG1: RENEWABLE ENERGY SOURCES IN MILK PRODUCTION

The history of agricultural demonstration activities in Bulgaria is split into two distinct periods. Firstly, until 1989 land in Bulgaria was state-owned and was the beginning of a period of socio-economic change in Eastern Europe. Secondly, after 1990 there is more input from private companies in Bulgarian agriculture. Private commercial companies for machinery, seeds, agricultural production preparation begin to emerge and introduce demonstrations into the sector. The main demonstration providers are individual farmers, NAAS, Agricultural Academy, Agrarian Universities, Foundation for Organic Agriculture BIOSELENA (on the environmental issues) and supply chain companies. Meanwhile, the

farmer associations rarely organise demonstrations. The majority of demonstrations are related to new fertilisers, plant protection products, new varieties, new machines, new technologies, new equipment, and demonstrations on specific topics such as organic farming innovations. Most demonstrations are led by non-farmers (experts from NAAS, researchers from the Agricultural Academy and agrarian universities and representatives of supply chain companies). The majority of participants in the demonstrations are farmers, students from agricultural universities and young farmers.

In this example the demonstrations are organised by Foundation for Organic Agriculture BIOSELENA (comprising farmers and advisors) and Trakia University in Stara Zagora (comprising students and researchers).

The demonstrations take place on a commercial dairy family farm. The farm is owned by the Matanski family and the whole family work on the farm. The farm is headed by the father, Georgi Matanski. The farm buildings and premises cover an area of 0.8 ha. The cultivated agricultural land is 150 ha and is mainly used to produce animal feed. The farm herd consists of 80 breeding cows, 20 heifers and 30 calves.

The demonstrations address common problems for farmers such as with non-effective energy use and big energy consumption costs, and with the milk quality and compliance with hygiene standards.

One particular demonstration was the use of renewable energy sources (RES) within milk production, specifically around the production of hot water for washing and cleaning. This demonstration comprised of a combined installation to produce hot water from solar panels and subsequent secondary use of the heat emitted from cooling the milk.

Sustainability underlies most of the demonstration activities as most of farmers attending the demonstrations could start to use similar RES to produce hot water for washing and cleaning, as well as for other farm activities. Furthermore the agrarian students who attended this demonstration will have learnt more about RES use in agriculture and hopefully use it in their work after graduating. These demonstrations are highlighting the importance of ecologically safer methods, minimising the use of non-renewable energy, and safeguarding the environment.

The objective of the demonstration was the dissemination of knowledge of the use of RES in milk production. The demo should stimulate increased dissemination of knowledge towards more environmentally friendly uses of energy in milk production. This could also contribute to improvements in the quality of the milk produced by Bulgarian small and medium-sized dairy farms.

The targeted visitors are other animal-breeding farmers from all regions, advisors and agrarian students.

This case study supports the PLAID project in lessons around:

- how to create an interesting demonstration program;
- what farmers learn from demonstrations, and how;
- what advisors and suppliers learn from demonstrations, and how;
- what agrarian speciality students learn from demonstrations, and how;
- how advisors and suppliers communicate their knowledge with the farmers;
- what participants find interesting from demonstrations.

Also, this case study demonstrates good practice for cooperation between farmers, researchers, representatives of non-governmental organisations and advisors for the

promotion of environmentally friendly practices. In the two years since this case study began information has been gathered on what knowledge farmers have applied in practice after participating in the demonstrations. Recommendations around good practice for application of the demonstrated innovations have been developed. This case study also offers the PLAID project lessons of good practice on the application of novel innovations to outside of those who attended demonstration events.

9.4 BG2: NEW PLANT PROTECTION TECHNOLOGIES IN GRAIN AND CROP PRODUCTION

The history of agricultural demonstration activities in Bulgaria is split into two distinct periods. Firstly, until 1989 land in Bulgaria was state-owned and was the beginning of a period of socio-economic change in Eastern Europe. Secondly, after 1990 there is more input from private companies in Bulgarian agriculture. Private commercial companies for machinery, seeds, agricultural production preparation begin to emerge and introduce demonstrations into the sector. The main demonstration providers are individual farmers, NAAS, Agricultural Academy, Agrarian Universities, Foundation for Organic Agriculture BIOSELENA (on the environmental issues) and supply chain companies. Meanwhile, the farmer associations rarely organise demonstrations. The majority of demonstrations are related to new fertilisers, plant protection products, new varieties, new machines, new technologies, new equipment, and demonstrations on specific topics such as organic farming innovations. Most demonstrations are led by non-farmers (experts from NAAS, researchers from the Agricultural Academy and agrarian universities and representatives of supply chain companies). The majority of participants in the demonstrations are farmers, students from agricultural universities and young farmers.

In this example, the demonstrations are mainly organised by suppliers and the Bulgarian Crop Protection Association. The Bulgarian Crop Protection Association was established to support the development of innovative plant protection products and technologies for sustainable agriculture.

The demonstrations take place on experimental and demonstration fields within a commercial farm, which specialises in crop production (wheat, rape, sunflower and maize). The farmer is called Svetla Stoyanova, and the farm is known as "HELGA" farm. The farm was established in 1998 as a small family farm business within the plant production sector. Over the years, the farm has grown and gradually expanding and now occupies over 3 000 ha. The demonstrations on new plant protection technologies in grain crop production have been held on the farm (one or twice a year) since 2015.

The demonstrations address a whole range of problems that the farmers face such as, human and environmental safety, use of plant protection products, ensuring pollination of crops and the protection of (wild) bees.

Innovative plant protection products, technologies and other tools (flowering buffer strips and "wooden hotels" for wild bees) are also demonstrated.

Sustainability is the motivation behind participant farmers starting to apply the demonstration activities on their farms. These include applying the principles of integrated plant protection on their farms and the protection of bees, including wild bees which pollinate plants. Through these activities the farmers are prioritising ecologically safer methods, minimising the undesirable side effects and use of agrochemicals, and safeguarding the environment and human health.

The aim of demonstration is to share knowledge and to promote the use of innovative plant protection products and technologies and other tools (flowering buffer strips and "wooden hotels" for wild bees) for more sustainable agriculture.

The target participants are other crop production farmers from all regions and advisors. This case study supports the PLAID project in lessons around:

- what farmers learn from demonstrations, and how;
- what advisors and suppliers learn from demonstrations, and how;
- what agrarian speciality students learn from demonstrations, and how;
- how advisors and suppliers communicate their knowledge with the farmers; and,
- what participants find interesting from demonstrations.

Also, this case study demonstrates good example for cooperation between farmers, advisors, suppliers and associations for the promotion of environmentally friendly practice. In the two years since this case study began information has been gathered on what knowledge farmers have applied in practice after participating in the demonstrations. Recommendations around good practice for application of the demonstrated innovations have been developed. This case study also offers the PLAID project lessons of good practice on the application of novel innovations to outside of those who attended demonstration events.

9.5 CH1: ARENENBERGER ACKERBAUTREFF

The Arenenberg Arable Day (*German: Arenenberger Ackerbautreff*) is a regional demonstration event on arable farming in the Canton of Thurgau. It has been organised annually since 2015. This year's event took place from 9.30am-12.30pm on June 8th 2018. The main organiser of the event is the agricultural centre of the Canton of Thurgau (BBZ Arenenberg). The event attracts around 100 visitors every summer (DMLA).

The main aim of the event is to demonstrate the experimental areas of the BBZ Arenenberg. The event occurs annually on a 5-hectare plot of a commercial farm which is used for experimental purposes. The trial plot belongs to a farm who manage these areas for, and in cooperation with, BBZ Arenenberg. The plot is used throughout the year for further training courses and demonstrations. At the Arenenberg Arable Day, varying crops are demonstrated depending on the crop rotation rules of the farm. The 2018 Arable Day focused on soil protecting cultivation techniques of sugar beet and on weed control within maize production. The target participants included farmers and advisors from the region who produce or are interested in producing these crops. The event is usually attended by local and regional producers who appreciate the networking potential and friendly nature of and within the group.

The topics were demonstrated across four different 30 minute sessions. The visitors were divided into four groups and followed a predefined schedule, visiting all four sessions; a guide was assigned to each group to ensure efficient time-keeping. One session focused on the demonstration of sugar beet plots with different sowing techniques (ploughing, mulching, direct sowing). This session was led by advisors from BBZ Arenenberg. Another session was on the organic sugar beet production focusing on sowing techniques (with and without foil) and the market situation for organic sugar beets. One of the speakers was an advisor for organic arable farming from the BBZ Arenenberg and the other was a representative from the sugar company. Furthermore, there were two sessions on maize production, one focusing on chemical weed control led by advisors from the BBZ Arenenberg and a final session on mechanical weed control led by the subsection on agricultural technology of the cantonal farmers' association in collaboration with a local agricultural contractor (DMLA; EAIO).

The event addressed various issues related to sustainability. In terms of weed control, the chemical (herbicides) and mechanical approach (tillage, split tillage) were presented.

In addition, sowing techniques involving different tillage intensities were demonstrated. For both crops, the organic cultivation was presented. In addition, economic aspects were included, including the number of hours worked. This is especially important in relation to the economic efficiency of organic sugar beet production. (DMLA)

9.6 CH2: PROVIEH: ORGANIC CATTLE DAY

The Organic Cattle Day (*German: Bioviehtag*) 2018 was organised by Bio Suisse (the association of organic farmers in Switzerland), and the FiBL Research Institute for Organic Agriculture, in collaboration with the agricultural centre of Lucerne and its organic agriculture advisors, the regional organic farmers association as well as the host farm. It was the first event of its kind and was held in Central Switzerland. It is embedded within the PROVIEH programme by Bio Suisse which aims to foster farmer-to-farmer learning within the realm of cattle and animal husbandry (EAIO).

The Organic Cattle Day 2018 took place on 12th June and it focussed on the exchange of good agricultural practice, extension and research on organic cattle husbandry. The event included sessions on cow breeds, fodder, husbandry conditions and milking process, parasites and veterinary medicine, cost accounting, as well as testimonies by farmers. The day was organised into 14 thematic topics and farmer testimonies which were hosted by more than 30 speakers. The sessions were held in seven defined time slots throughout the course of the day. Within each time slot, seven topical discussions ran in parallel and each topic was repeated three or four times during the day. A buffer of ten minutes was planned between each timeslot to allow time for changing between areas. As a result, farmers could create an individual program according to their interests and time; there were no guides to move groups of visitors from one area to another. (EAIO, PO).

The Organic Cattle Day is part of the PROVIEH programme. PROVIEH is a concept and approach based on farmer-to-farmer-learning around topics related to organic cattle husbandry. The concept consists of decentral farmers' working groups of limited size (about 10 members) and similarly decentralised stable visits of slightly larger groups of farmers who meet at one farm, accompanied by some input from advisers and/or researchers. The programme has been running since 2014 and was developed by Bio Suisse in close cooperation with FiBL, the cantonal agricultural centres and regional organic farmers associations (EAIO; EPIO). PROVIEH participants are farmers with livestock farms or mixed farms. So far, more than 2100 farmers have participated in 83 information events and stable visits throughout Switzerland. PROVIEH stable visits offer an insight into interesting farms and exchange of good practice experiences within organic livestock husbandry among colleagues as well as with veterinarians and consultants (EAIO; DMLA).

Homepage of the Organic Cattle Day 2018: <https://www.bioviehtag.org>

Homepage of the PROVIEH programme: <https://www.bio-suisse.ch/de/provieh.php>

9.7 CRO1: WHEAT & BARLEY DAY

The Wheat and barley Field day by AIO is an international demonstration event for arable farming in Osijek, Croatia. It has been organised annually for more than thirty years. This year's event took place from 9.30am-3pm on June 6th 2018. The main organiser of the event is the Agricultural Institute Osijek. The event attracts around 600 visitors every summer (DMLA).

With regards to the demonstrations, 22 varieties of wheat were shown on experimental fields (through field walks), as well as 22 varieties of winter barley and seven popular varieties of spring barley. The main aim of this demonstration was to ensure, and

develop, excellence in applied research and plant science, as well as to improve production of wheat and barley. The demo was institutionally led – commercial orientation and public-good orientation. The main demo methods were indoor lectures and field walks around experimental fields with guides (speakers). The target group were crop production farmers, advisors and all interested facilitators from the region and abroad (EAIO).

The event addressed various issues related to sustainability. In terms of seed selection, the importance of dry-resistant varieties were presented.

Programme of the Wheat and barley Field day by AIO, 2018

9.30 a.m.	Welcome and group assignments
10.00 -10.30 a.m.	A speech from the director for the guests
10.30 -13.00 p.m.	Presentation of the results of scientific research and expert work In breeding and production of wheat and barley Oral presentations Poster exhibition A joint tour of field trials
13.00 p.m.	Lunch

9.8 CRO3: VEGETABLE PRODUCTION BY BAIS

Family farm *Grunt* is led by Vladimir Bais, a young farmer who produces 4million vegetable seedlings (across many varieties) and 1000 tonnes of vegetables annually across 6hectares of open fields and 4000 m² of glasshouse production by following the principles of integrated production. The aim of the demonstration was to produce high quality seedlings in a short period of time. This was implemented using mechanisation, glasshouse specific production, sustainability in glasshouse production and the principles of integrating production and markets.

The main topics of demonstration were to introduce the seedling planting robotic system, the germination of seedlings in a germination chamber, seedlings “over nosediving” and glasshouse specific production. The exchanges of experiences and knowledge in integrated and glasshouse production were demonstrated in very educational and practical way (EAIO).

9.9 ES2: EXTENSIVE CROPS TRIALS VISIT

This demonstration was initiated by the cooperative and a group of farmers. Within the demonstration INTIA have a specific role, in collaboration with the Valdorba agrarian cooperative. It is mostly a farmer-led initiative, with innovative demonstrations on plots of their farms as well as in trials of INTIA. The demo objectives are: good practice around good variety maintenance and new pesticides products, herbicides and fungicides in cereals, as well as crop diversification. The main aim of the demonstration is the sharing of good practice between a group of innovative farmers and cooperative members to best deal with their common farming issues.

The main issue is the need for innovation to increase farm profitability and improve the impacts of poor sanitation. Improvements in genetics have led to increased productivity and environmental adaptation (sowing dates) and resistance to diseases (yellow rust). In addition, comparison trials of new varieties, herbicides and fungicides, and trials of wheat, barley, oats, peas, beans, and rapeseed were presented to the group.

The demonstration programme offers visits to demo sites and experimental trials, with an additional final meeting to discuss the experiences of the group (through a focus group).

Website: <https://farmdemo.eu/hub/app/inv/org.php?id=850>

To analyse the demo results and conclusions an online survey and focus groups were organised. This analysis found that the demonstration events have created an opportunity for clear identification of best practices to promote various innovations (e.g. new varieties, pesticides and techniques) as well as some common problems and future strategies to explore next year.

9.10 ES5: ORGANIC COW CHEESE PRODUCTION

This dairy cattle farm has been a partner of INTIA since its inception and it has received advice and ongoing training on aspects such as: livestock management, food, investments, environmental aspects, economic results, and transformation of products. The relationship between the farm (Jauregia) and INTIA is very close, and the farm receives advice on all aspects of organic production. The farmers are very active and engaged young people, collaborating frequently on research projects with INTIA. **INTIA's role** in this demonstration was to contact the farm, explain the project and enable them to participate as a case study.

The demonstration of organic cow cheese production is **organised** by a small dairy farmer family known as "Jauregia Esnekiak", located in Aniz, a town in the Valley of Baztán, north of Navarra (Spain), which has traditionally been dedicated to dairy production.

The farm has been owned for 15 years by two brothers and their wives. The brothers take care of the cows and the women take care of the cheese production. In addition, there is a rural house next to the cheese factory which can sleep 14 people. The farm was previously owned by his father who focussed on milk rather than cheese production. The milk was sold directly without processing.

Since 2004 they began to turn their milk into cheese and yogurt and sell them by direct market. In 2008 they installed the first milk vending machine in Spain. Currently the farm has approximately 56 animals comprising of calves, heifers and cows. Of these 56 animals, 29 cows are milked daily by the two brothers. By 2010, after a period of adaptation, they started to only produce organic products.

The demonstrations take place on the farm itself throughout the year (there were around 50 visits in 2017). The minimum number to ensure a visit goes ahead is 15 people, but normally visitor numbers varies between 25-30 on average per demonstration. The visits are a tourist attraction in the area, as well as an attraction for professional breeders who want to learn about this ecological production, and for the young farmers. The cost is 3 euros per person.

The demonstration was held on April 24, 2018, for a **group of 12 young farmers** who were training to work in the agricultural sector. **The objective of the visit** was to train young farmers on the possibilities offered by ecological production in milk cow, to understand the farm transformation and the process of direct farm product sales. During the 200 hours of training they receive before commencing work in the agricultural sector, 2-3 days are devoted to training visits to professional farms. After a short break with a sample tastings of the farm's products, the evaluative Focus Group is undertaken. After the demonstration, the attendees had to complete an on-line survey to evaluate their visit.

During the demonstration there was a tour of the cattle farm, a visit to the foraging meadows, and visits to the livestock shed, cheese factory, and farm shop. They also offer accommodation through two rural houses that are managed by the farm wives.

The demonstrations cover a wide range of topics related to dairy cattle farming in organic production such as fodder autonomy, grazing management, ecological management of pastures, extensive management and regenerative agriculture. The topics vary are the ones who vary based on the profile of the visitors.

The demonstrations are part of the commercial activity of the dairy which aims to inform participants on how to make healthier foods, recover and enhance genuine aromas and tastes, and promote animal welfare and sustainable rural development. In this context, the process does not begin with the milk or even the cows, but rather it starts with the pastures, where the feeding of the cows is key to obtain excellent milk, cheese and yogurt. The calves are raised so that they will start to produce milk when they reach adulthood. This necessitates a smaller number of animals per hectare, strict controls within the feeding process, and having the cows in the pasture for a greater number of days per year, etc.

This report is based on desk research and empirical work. The empirical work consisted of: individual interviews with the owners of the farm and the INTIA advisory technician, between January and October, 2018; interviews with 12 young participants; observations made during the demonstration; observations made during the Focus Group.

9.11 FR3: INOSYS: RÉSEAUX D'ÉLEVAGE

Demonstration summary

Each year between 50-100 farmers in INOSYS réseau d'élevage (network of livestock farms) open their doors to regional farmers to demonstrate innovative, or interesting farming practices, systems and performances.

This case study focuses on two demo days organised in two locations. The cases provide two interesting examples of the co-organisation of demo activities between farmers and advisers. The farm network is rather old and well-structured but the specific demo farms change on a regular basis. Each farm is very well documented with precise and up to date information regarding all the sustainability issues.

Demo-activity in Auvergne

This demo day has been organised in the centre of France, in Thomas Farm which is close to Clermont-Ferrand (Romagnat). The targeted visitors are agricultural students and potential new entrants.

The main aim was to show that the sheep sector is still active and can create employment. It is an opportunity to demonstrate the innovations of this sector to all the stakeholders involved in the sheep meat sector. The demo activity took place in March 2018 across a whole day.

Demo-activity in Bourgogne

This demo day was organised in Bourgogne, Samuel Farm close to Nevers. The aim of the demonstration was primarily to share ideas and knowledge on specific practices or equipment introduced on the farm, and to share experiences regarding the specific problems that farmers face. The farmer who opens his farm also presents very precise figures and information about the farm's performance and organisation. Practices can be connected to economic, social and environmental performances. In that case, the demonstration activity is entitled "Work serenely with ewes".

The target visitors were sheep farmers and advisers. The demo activity took place on a Thursday afternoon in September 2018. The afternoon was composed of 7 workshops led by various actors from the sheep meat sector.

9.12 FR4: SYPPRE: PLATFORM FOR INNOVATIVE CROP SYSTEMS

The collaborative SYPPRE platform was implemented by the French technical institutes on arable crops ARVALIS (cereals, maize, sorghum, potato and forage crops), and Terres Inovia (oilseed crops). It was based on 3 initiatives: an observation of current agricultural cropping systems and multicriteria performance; a long-term experimental platform based on the testing of co-designed and *ex-ante* assessment of innovative cropping systems; and a network of farmer groups to facilitate the (re)design of farming systems and to test innovations on their own farms.

Demonstration activities are jointly organised by ARVALIS and technical institutes, with a network of farmers and local advisors.

The platform was implemented in a location which is typical of South West France in terms of the arable crops produced and the humus-rich soils. It is located in Sendets (15 km from Pau) across a 3ha area.

The main issue for farmers in Bearn area with humus-rich soils is to adapt maize based systems to new technical and regulation constraints whilst still maintaining system profitability.

Local agricultural objectives can be summarised through a decrease of pesticides use and effective control of pests and weeds, in order to maintain or increase crop production and economic margin. New practices and cropping systems must also be aware of the potential reduction of environmental risks and impacts.

The demonstrations address the cropping system as a whole, with a large vision on technical, economic, environmental, and organisational / social issues.

9.13 IT1: DEMO DAYS FOR SUSTAINABLE VITICULTURE

The demo events highlighted here took place on a demonstration farm located in the Piacenza Hills wine region under the brand DEMOdays. DEMOdays are technical-demonstration days focused on innovation, safety and sustainability in agriculture. The initiative arose from the need to effectively highlight innovations on a large scale, by encouraging the participants to try to undertake the new solutions proposed by research and technical suppliers on their own farms.

Multiple technical proposals and integrated together within the innovation's production process. DEMOdays are targeted towards various stakeholders: farmers, public and private technicians, and national level consultants and regional officials.

Various topics of sustainable viticulture were covered during these demonstration events, including:

- all aspects of the SUS (Sustainable Use of Pesticides, based on Directive 128/2009/EC) through pilot installations;
- fertilization and fertirrigation through a pilot installation;
- vine canopy management;
- pest (arthropods, diseases and weed) control; and,
- security in agricultural operations.

The farm tests innovations so they can be appropriately transferred to the large-scale farm community on a vineyard scale (not in small plots, as more frequently occurs), across whole (e.g. not in one spot demo event) or even multiple seasons (e.g. to measure effects over the long run in a “real” farm settings). To illustrate, when testing new sprayer machinery for pesticides, the farm uses the new sprayer in one vineyard over a whole season to compare results with traditional methods in another farm. Data can then be collected on the distribution quality and efficacy over different vine growth stages, operation times and costs, etc. Subsequently the farm organises demonstrations with stakeholders (under the brand DEMOdays) in which the participants can see the sprayer, its innovative technologies and how it works in the vineyard, gather information on the weaknesses and strengths of the techniques in the day-to-day farm operations.

When necessary, the farm installs pilot facilities. For example, there is a pilot for the sustainable use of pesticides in which 7 different biobed technologies are installed and compared. Stakeholders can observe all these technologies working at the same time in the same place, and subsequently make better informed decisions over which technologies would be most appropriate on their farms.

The Vinidea case study occurred across 3 Demo events from May – June 2018.

Web-link (in Italian): <https://www.horta-srl.it/sito/servizi/demo-days/>

9.14 IT2: AIAB-APROBIO FVG - ORGANIC FARMING

The main topics of the demo activity offered by AIAB-APROBIO FVG are:

- soil management (including machinery, tests to assess/measure fertility, use of cover crops, crop rotations)
- pest & disease management (preventative measures and combined used of practices and products)
- new crops and new varieties (also variety mixtures, heritage varieties, evolutionary and participatory breeding).

The demo activities aim to offer examples of “good organic management” which can provide viable alternatives to conventional farming as well as improvements within the existing organic community.

The demos are attracting increasing numbers of conventional farmers which offers the opportunity for exchanges beyond the organic community.

In this specific case the demo day focused on soil quality and properties which result of organic management.

The main objective of the demo was to increase farmers’ awareness of how their management choices impact soil quality and fertility and, as a result, their productions.

The specific objectives were:

- to explain how to assess soil characteristics with tools and knowledge which was available on farm (no need of labs or complementary lab analysis);
- to share farming practices that help within a proper soil management strategy (no plowing, sod seeding, green manures etc.); and,
- to discuss more appropriate (from an agronomic but also an economic point of view) strategies in the different environments and farm situations.

Methods used: the whole demo day was held outside and included:

- an in the field presentation from a geologist who highlighted (with practical examples around the farm) the origin of soils, how to assess soil characteristics and how to identify management impacts;
- semi-structured discussions;
- lunch in the farm with informal discussions;
- guided observation of soil micro-vertebrates (in different areas of the farm which were characterised by different management styles); and,
- guided observation of spontaneous flora as an indicator of soil characteristics and problems.

The event invitation and description is available here: <http://www.aiab-aprobio.fvg.it/13-07-18-%E2%80%A2-seminario-sul-terreno/>

9.15 LAT1: INTEGRATED FRUIT PRODUCTION

This case study focuses on informally networked demonstration activities which have been organised annually by a fruit-growers' cooperative *Augļu nams*⁸ (Fruit House) on member farms since 2010. The cooperative unites 11 fruit farms and companies⁹ which grow apples and other varieties of fruit, apply integrated production methods and cooperate in production, primary processing, storage and marketing.

The case offers an interesting example of an informal (and therefore less structured) arrangement of demonstration activities that represent a bottom-up initiative by primary producers. Demonstration activities take place during collective farm visits on member farms. These visits usually take place once a year in tandem with the general meeting of the cooperative. The target visitors are mainly members of the cooperative.

The aim of the demonstrations is primarily to share knowledge on specific new practices that are introduced on the farms and to share experiences regarding the specific problems that farmers face during a particular given season such as the quality of fruit, annual yield, etc. New market channels for the produce and other ad hoc issues that relate to boosting the quality of the produce, productivity and overall competitiveness of the cooperative are also discussed.

The approach utilised for the mutual farm visits is related to a whole farm approach looking at multiple practices undertaken within the overall management of the farm rather than a focus on single practices. The visits include an on-farm walk, visits to the orchard area, storage and processing facilities (if applicable). The length of the event varies from a few hours to all-day visits.

The demonstrations are regarded by the organiser as 'knowledge and experience sharing activities'. These joint learning activities mainly concern production-related topics, such as: variety selection and cultivation; management of orchards; production technologies; fruit tree pruning; pest and disease control, storage, etc.

More generally, the case of *Augļu nams* serves as an example of how learning and exchange of knowledge can take place in an informal arrangement between colleagues with similar goals and challenges.

This report is based on desk research and empirical work carried out as part of the wider case study of the informal demonstration activities of the cooperative (see Section 9 for

⁸ <https://www.facebook.com/auglunams/>

⁹ Basic information (in Latvian) on the involved farms/companies is available at <https://auglunams.lv/biedri/>

details). The methods used included participant observation carried out at the annual farm visit held on 25th October 2017, followed by a focus group discussion with participants. In addition, several semi-structured interviews were conducted (over the phone or face-to-face) with the manager and members of the cooperative, as well as several experts in the field of fruit production.

9.16 LAT2: HERBIVOROUS PROJECT: NETWORK OF DEMONSTRATION FARMS IN ANIMAL HUSBANDRY

The network of demonstration farms in animal husbandry was launched in Latvia in 2012 within the framework of the Herbivorous project¹⁰ ("Measures for boosting economic efficiency of livestock production in agricultural holdings") headed by the Competence Centre in Animal Husbandry of the Latvian Rural Advisory and Training Centre (LRATC)¹¹. The Centre is the primary organiser of the set of field trials and consecutive on-farm demonstrations, but it also attracts researchers from Latvia University of Life Sciences and Technologies as scientific consultants. The project is funded by the Ministry of Agriculture through the "Implementation of sustainable pilot projects of agricultural production" which is managed by the National Rural network. The events are subsequently able to be free attendance events.

The main aim of these demonstrations is to facilitate sustainable development of the sector and competence-based implementation of field trials and demonstrations in animal husbandry. This aim is achieved by presenting systematically organised and thematically comprehensive lessons to the wider farming community at the Farm days related to improving the efficiency of production in the field of livestock-breeding. The target visitors are Latvian livestock farmers as well as advisors, researchers, and students.

The project is responding to farmers' needs for better and cheaper maintenance of cattle through the promotion of cost-effective methods of farming which will in turn improve the quality and volume of production and competitiveness of the farms. Problems to be addressed at the field trials and demonstrations are identified by the board of the Competence Centre in Animal Husbandry in cooperation with researchers, advisors and other professionals. The trial areas are selected based on an economic analysis of the sector, the forecasts of the future development of the various segments of this sector, the existing legal requirements, and feedback from participants at the trials and demonstrations. The main problems that have been identified include: the quality of animal feed; inappropriate feed rations; quality of calves; unproductive animals; mortality of young animals; quality of milk, etc.

Table 5. Key figures of the Herbivorous project

	2014	2015	2016	2017	2018	Total
Number of newly launched trials	13	1	8	3	0	25* (in 29 farms)
Number of Farm days	16	14	14	10	4	58
Number of Farm day attendants	825	808	1144	774	276	3827

Source: Data provided by the project coordinator (LRATC).

* The total number of trials is lower than the number of farms as several trials were carried out simultaneously or consecutively on two farms.

Field trials (25 in total) have been held on a set of commercial farms which specialise in animal production (cows, sheep, goats). On these farms individual thematic trials were

¹⁰ <https://www.youtube.com/watch?v=JagbXxGCLxI>; <http://new.llkc.lv/lv/nozares/lopkopiba/zaledaju-projekts>

¹¹ www.llkc.lv

generally carried out over 2-3 years (see Table above). Since 2013 when the programme was first established, 29 host farms working in animal husbandry all over Latvia have been involved in these field trials. Usually one trial is carried out per farm but so several farms have carried out more than one trial.

Each of the farms involved address a different problem. These problems include: the in-house production of animal feed of high quality; longevity of herds; production and breeding of young animals, whilst also addressing various health issues (incl. fertility); introduction of new breeds, etc. Significant efforts are devoted to undertaking an economic analysis of farms to assess their efficiency.

The host farms and field trial results are presented to interested farmers on special Farm days on the individual farms (between May and October each year). These events are usually held on each farm twice (one per year) with a slight change to the focus of the event each time (see Image 1). The programme of these Farm days (~4-5 hours) usually includes a theoretical and a practical part. The programme consists of an indoor seminar with an introduction by the head of the project, information on the host farm, a presentation of trial results by the supervising advisor and researcher, additional information and recommendations on the trial topic by other invited experts, and demonstrations on, and visit to, the host farm.

This report is based on desk research and empirical work carried out as part of the wider case study of the Herbivorous project (see Section 9 for details). Altogether 12 in-depth interviews with managers, advisors and host farmers from across Latvia involved in the project at different times were conducted between January and September, 2018. In addition, participant observations and exit surveys with participants (131 filled-out questionnaires) were carried out during the four Farm days held in 2018.

9.17 NL1: NATIONAL LEEK DAY

The National Leek Day is organized every 3 to 4 years to share current developments in research, where this year the day focussed on, four hectares of leek trials. The research topics in these trials were very diverse ranging from fertilisation, pesticide choice related to MRL (Multiple Residue Level on product) and system comparisons (leek in different systems) to variety choice. The umbrella theme for the day was green crop protection. The day was free to attend. Here is a link to more information on the event and invite ([Link to the announcement](#)).

Programme

The day started with introductory words from the chairman of LLTB which was followed by a lecture by Plant Health Cure. This lecture covered how, at the basis of healthy, resistant crops is a healthy, rich soil life and what Plant Health Cure can offer to leek growers.

After this lecture a continuous program with the following themes and demos could be visited via a guided tour, each hosted by either a commercial firm, a research organisation or an advisory organisation:

- Green crop protection – Residue-free at harvest.
Lead by Mertens and Bayer
- Demonstration of different varieties.
Lead by Bayer-Nunhems, Bejo, Hazera-Syngenta, Seminis, Enza and Takii
- Soil quality – including the importance of organic matter.
Lead by Wageningen Research - Applied Arable and Vegetable Research

- Hydroponic leek cultivation - Presentation of the results of 10 years of research into hydroponic cultivation.
Lead by Wageningen Research - Applied Arable and Vegetable Research
- Organic cultivation.
Lead by Wageningen Research - Applied Arable and Vegetable Research
- Precision agriculture:
 - Soil scans (Veris scan), drone images and location-specific compost spreading -
Lead by Agrifirm
 - Crop sensors:
Lead by Abemec
- Lifting demonstration.
Lead by Maesen Landbouwmecanisatie BV

At the end of the event networking opportunities were available at the company fair where food and drink were provided. The main demo methods were a lecture, a guided tour and a company fair with stand holders.

The main problem for leek producers is general sustainability and food safety in relation to market demands in particular. Sustainability played a very big role in the day and was present in every theme and demo of the guided tour. Two key issues addressed in the day were: pesticide use in relation to residues (spraying techniques and pesticide selection) and strategies to reduce and prevent nitrate leaching (fertilisation strategy, fertiliser use, precision agriculture, hydroponics, soil quality). Variety choice was a key topic for tackling issues with sustainability as well as for market development.

The objective of the demonstration was dissemination of knowledge about sustainable leek production. "As far as we are concerned, a trial is only truly successful if it finds its way into practice. This is the primary motivation behind National Leek Day", according to the main organiser of the event.

The targeted visitors were leek growers, advisors and suppliers. The previous National Leeks days have had about 400 visitors, 60% of which were leek grower and the remaining 40% suppliers and advisors.

Because this is a recurring demo (held for the 5th time in 12 years), the organizers have a lot of experience in organising demo events. They know what topics and components of the day are useful to visitors and how to run the day smoothly. Therefore, the National Leek Day is an excellent demo for the PLAID project to learn about:

- How to compose an interesting program;
- Improvements to the event over several years;
- What and how farmers learn (due to the variety of activities organised; from lectures to tours, demonstrations and company fair) looking at them:
 - ♦ individually;
 - ♦ as a Group;
- What and how advisers and suppliers learn;
- How advisors and suppliers use knowledge from their contacts with farmers;
- The exposure the knowledge demonstrated on the day which is included in national and regional farming press and, possibly, general media.

- Given the fact that it is recurring, we can ask farmers and advisers what they have learned AND USED from earlier meetings (though we still have to develop appropriate methods to analyse that).

9.18 NL3: GROUNDED MAIZE CROPPING

Demo title: 'Undersowing maize with grass'

The objective of the demo event according to the organiser was:

- To draw attention to the option of undersowing maize with grass as a means to comply to the new Dutch laws & regulations (under the Dutch Fertilization Act) in Drenthe. (By 2019 a catch crop has to be sown by 1st October at the latest. That can be done in several ways: before, via undersowing, or after harvest, in combination with an early maize variety. This demo focused on undersowing only).

The overarching objective was:

- To raise awareness about sustainable maize crop cultivation techniques (related to the application of a catch crop) which farmers can adopt on their own farm.

The motivations of the organiser were:

- To Show farmers who grow maize that undersowing can work in their own system and it can feasibly be used to to comply with new laws & regulations regarding nutrient and herbicide leaching in sandy soils in the Netherlands.

The Demo topic was to:

- Present the do's and dont's to undersowing maize with grass, and demonstrate the process of undersowing in a maize field (with maize at knee-height) with different undersowing machines.

The program consisted of an introductory lecture, demos in the field with (6) different under-sowing machines and ended with group discussion on what attendees learned and how they found the various activities throughout the day and networking.

9.19 NOR1: OPTIMAL SOIL CULTURE

The demonstration was held on a farm in the southern parts of Norway. The farm is owned by the agricultural company of this region – a private society that acts as an umbrella for 27 of the county's farming organisations. The farm has 10 acres dedicated to the organic production of fruit, vegetables and berries. The farm is the third cooperative farm established in Norway, with 200 stakeholders.

The demonstration event was in the form of a field day where experts demonstrated and conveyed knowledge about the soil, good soil management and the best possible ways to take care of the soil in order to optimise production. The approach involved a combination of theoretical presentations indoors and several practical demonstrations and field walks outside. The aim of the demonstration was to contribute to knowledge development and sharing between farmers/teachers/gardeners and advisors. A demo-day like this is a meeting place for farmers and others, with connections to, with interest in this theme, so they can obtain new knowledge and share their experiences and thoughts with other farmers. The main aim of the demo day is to raise the quality of production and products and increase the productiveness and competitiveness of farming in a sustainable way.

The day was organised by the agriculture department at the County Governor in cooperation with "Eco week" in the county with the southern branch of the Norwegian Agricultural Extension Service (NLR), the County Governor of the neighbouring county, and the agricultural company of this region. The event commenced in the afternoon and lasted four hours.

The researcher arrived at the farm a little earlier than the participants, and the event organiser gave them a quick tour of the farm and explained the plan for the demonstration day. Some practical preparations were carried out before the attendees arrived. Equipment was set up for demonstration of the new rainfall simulator. The event commenced in the meeting room in the converted barn with a small meal (hot soup) and coffee. Networking was lively, so it was evident that some attendees knew each other prior to the event. The main program started half an hour later and started with a welcome speech and introduction by the facilitator. They presented the two advisors/experts and informed the participants that one researcher from Ruralis also was participating. Each attendee then introduced themselves and their background in the sector. The researcher briefly informed the participants about the PLAID-project and had already talked to some of the participants and agreed on interviews during networking, but it was repeated that she was interested to talk to several of the attendees after the theme day. Attendees were also informed that pictures would be taken during the day.

After introductions, a male expert from the County Governor held a lecture about experiences from a project about topsoil: soil as a living organic organism, how to stimulate and rebuild the biodiversity and humus layer in the top soil. He gave a presentation where he first presented the main principles for keeping the soil healthy based on ecological principles. He also explained the important, but often neglected, role of the soil microorganisms. He showed several examples of how soil is destroyed by heavy machinery (packing soil with little oxygen), and various forms of soil cultivation. His main message was that - there are opportunities to correct what is wrong with soil management and rebuild the soil - the soil has a wonderful ability to restart. He gave examples of how to do this. After his lecture, several participants asked questions, gave comments and shared tips.

The next speaker was a female expert from the NLR who worked on a project on soil carbon - development and dissemination of carbon-binding agricultural practices in Norway. Mold content decreases with 1% annually in grain districts in Norway (problems with drainage). Climate change and environmental aspects were themes in focus, such as carbon binding in the soil. She spoke of five principles regarding soil management, and concrete advices and tips to the participants of how farming could contribute.

After the lectures, all attendees then went outside for a farm tour of various demonstrations. The first stop was a demonstration of a rain simulator, pouring water over five different soil samples. It was the first performance of such a simulator in Norway, and everyone was excited about the result. The female expert showed and explained the different degrees of soil erosion and the absorptive capacity of water in the samples. This illustrative exercise showed that freshly ploughed soil was the worst regarding soil drainage, of which "untouched" grassland was the best.

The second demo showed some examples of various plants which were planted three weeks before. They were planted in "window boxes" so attendees could see how they already had developed root systems. These plants could be used as cover crops to improve the texture of the soil due to the good gripping effect produced by the roots.

The third stop was at a piece of farmland where the male expert had prepared a demonstration of various soil qualities. The expert first talked about a health card for soil, and handed out a written mapping tool so attendees could do the mapping work in their

own fields. Then the expert specifically demonstrated how to conduct these soil samples, and the participants could learn how to study the quality of the soil, for instance by looking at the texture (hard lumps indicate mechanical damage by heavy machinery), counting earthworms, and smell of the soil. Several attendees got involved and smelled into the soil pit. The expert also demonstrated the use of a simple tool to measure how many centimetres it was with porous soil before coming to hard (packed) soil.

The attendees asked the expert many questions during and after the demonstration, but the weather was cold and probably limited the amount of questions that were asked. Many of the attendees left the farm before the end of the event. Some attendees and advisors continued conversations inside the meeting room, but the field day formally ended after the demo in the grassland. Inside the meeting room, one of the attendees showed pictures of their own land that had been destroyed by large machines (in connection with road construction) and asked the experts for advice on how to recover the damaged soil.

9.20 NOR2: BERRY PRODUCTION IN PLASTIC TUNNELS

The theme day was organised by the Trøndelag branch of the Norwegian Agricultural Extension Service (NLR). The NLR is an organisation that provides impartial advice to 3800 members in the Trøndelag region. The organisation has competences in, among other areas, soil and plant protection, agricultural economics, accounting and health and safety issues. Advice provided is based on research, local conditions and vast experience. The NLR organised the theme day, and while the NLR lead the event the host farmer contributed to the event and shared knowledge. Two local organisers and one external expert from the southern region, represented the NLR.

The theme day was held on a large farm in a municipality in the northern parts of Trøndelag. The demonstration and the theme day focused on berry production, mainly strawberries, and the use of polytunnels for cultivation. The initiator was the local advisory organisation for berries, which is a part of the NLR. According to the organiser the target group for the demo day was established berry producers, mainly strawberry producers, and those considering starting such production. The purpose of the theme day was to show the producers/farmers the opportunities they have, how berries can be produced in a more reliable (weather wise) and more cost-effective way by using polytunnels, and also give attendees the opportunity to ask questions and exchange experiences.

Regarding the PLAID-project, this case study will make an important contribution to PLAID by illustrating a typical method of demonstration in Norway. It provides a useful example of how to organise and facilitate high-quality knowledge dissemination between farmers in a country with large geographical distances, landscape and climate inequalities, and thus different regional challenges. Farmers are able to find an overview of field days in their local region on the NLR's website and can choose demonstrations that suit their own operations, knowledge and location. This approach seeks to minimise the long distances required to travel that Norway experiences – providing an example of how this issue is resolved in the Norwegian context.

At the theme day, the local organisers started with a short welcome in the farmyard. They introduced the host farmer and his farm and the external expert who is based in another region in Norway. Attendees were then asked to introduce themselves to the rest of the group, telling them where they are from and what production type/system they run. Researchers also participated in the day and introduced themselves and their role for the day (to learn about how such demonstrations take place, and what kind of information and knowledge is being exchanged).

The host farmer noted that he took over the farm in 1990, and shortly after taking over the farm started producing berries, firstly as open field cultivation, before gradually diversifying to polytunnels. During introductions he spoke about the various challenges he has encountered over the years, about cultivation in polytunnels, and the berries he produces. He has made the most progress in the field and has worked with strawberry-production in polytunnels for more than ten years. He is a large-scale producer, and a pioneer in polytunnel farming in Trøndelag.

It was noted that several of the attendees greeted each other when they arrived, and many of them in such a way that it appeared they had previously met. It emerged that several were part of the same berry / fruit-growing network.

After introductions the group was taken on a field walk which lasted a couple of hours to see and learn about how polytunnel production works, and learn about the characteristics of the different types of strawberries the host farmer produces. As well as visiting some of the different polytunnels crops grown in open fields were also visited. Both the visiting expert and the host farmer told us about the challenges with cultivating in tunnels, the pros and cons of the different types of strawberries and demonstrated the different varieties.

Other topics dealt with the use of fertilizers, the use of irrigation-systems, and which systems may be appropriate for different farm types. The importance of airing and keeping the right temperature in polytunnels, crop yields of the different strawberry varieties, what pests and insects can be challenging, production methods, economic aspects of such production, as well as tips and solutions for how this approach can be done at a smaller scale were also discussed. There was a lot of questions regarding the polytunnels, such as the cost of building polytunnels and practical details about the layout of the pipe construction and the plastic deck that has to be taken down every winter. The host farmer demonstrated how he had built and made his own "table-top" system in some of the polytunnels. The "table-tops" are expensive to purchase, which makes creating your own 'table-top' cost effective. On the tour it was also possible to taste the berries and there were some discussions about strawberry varieties, taste and quality.

One of the tour stops took a closer look at irrigation-systems. The last part of the field walk was raspberry production, mainly open field production. Most of the participants attended the theme day to learn about strawberries, but some were raspberries producers and therefore were mainly interested in learning about how the host farmer produces them, and gain tips for good fertilisation and irrigation of them.

The expert conveyed the various themes and aspects in an understandable manner to the participants. It was noted that attendees asked questions to both the host farmer and experts and also asked questions to each other, both during each stop, but also between the stops. They asked each other for tips and advices, exchanged experiences, and discussed practical approaches to different challenges. For instance, two of the farmers discussed the opportunities to cooperate when buying polytunnels and hiring a construction firm to build them in order to reduce costs. Both positive and negative experiences were shared. Discussion between attendees and questions to the host farmer and expert seemed very natural. Naturally, several smaller groups were established during the walk, where those with similar production systems found each other and discussed experiences. Here it was noted that women spoke mainly with other women and men with each other.

The last part of the demo day was indoors, in the farm lunchroom. The local organisers offered coffee, sandwiches, fruit and biscuits for all the participants, and many of the participants continued informal discussions from the field walk while eating. After lunch, one of the female advisors in NLR Trøndelag spoke before the visiting professional

advisor took over and spoke about strawberry production in polytunnels. The advisor showed pictures, film clips and shared experiences from similar production systems from other parts of the country. The attendees could ask questions during the presentation and afterwards. When the presentations were finished, the local advisors thanked participants for attending, and emphasized the importance of people attending events like these. Some of the participants continued to network after the event.

9.21 POL1: NATIONAL POTATO DAY

The national potato days¹² are focussed on field demonstrations of:

- New potato varieties: several stakeholders demonstrated small plots of different varieties they offer for the Polish market.
- Machine demonstrations: mainly potato harvesters and equipment needed for transporting potatoes from the harvester to the store.
- Demonstration field with fertilizer and plant protection strategies: different suppliers demonstrate their products.
- Several stands with product presentations and product tasting.

The main reason for organizing this event was the promotion of IHAR among farmers and companies in the potato value chain. IHAR aims to achieve increased recognition as an important research partner for the potato sector in Poland. National Potato Days were seen as a good opportunity to forward this goal with the ultimate aim of gaining a place in the organisation of the Potato Europe Event. This is a large annual potato promotion that 'travels' between Germany, France, Belgium and The Netherlands but currently does not include Poland.

The demonstration methods used are:

- Small fields, several fields next to each other, where companies show their products or strategies. The lack of guided tours around these fields may have reduced the attention the fields received (see pictures).
- Machine demonstrations with a focus on potato harvesters. Several companies showed different types of harvesters – self-propelled 4 row harvesters and tractor-pulled 2 row harvesters. There was only general information about the machines and no information about technical aspects (e.g. best setting in relation to the situation in the field, quality assessment of the performance of the different machines, etc.). The general information was provided at the head of the field where the audience remained – rather than moving into the field to see the results in more detail.
- Demonstration of the potato transport line from harvester to truck. There was a demonstration of very modern equipment for professional handling of potatoes. This created quite a bit of interest amongst the attendees, but its impact was hampered by the lack of an explanation of the technology.
- Drone-based video recording of the field operations. The real-time recording was visible on a big screen on the central platform. Through these videos the activities going on in the field could be watched but no detailed information could be obtained.
- Video recording in the field. Some companies made short videos of the demonstration fields in order to use them for other occasions.

¹² Weblink for the event: <http://krajowedniziemniaka-ihar.pl>

9.22 POL2: FEAST ONIONS AND POTATOES

These demonstration activities are held in middle Poland (Wielkopolska). Although people from across Poland come to the event, most of the visitors come from the Wielkopolska region. This demonstration was not held in 2018, in part due to a recent trend of declining visitor numbers as a protest at high participation costs.

On August 18th and 19th 2012 in Henrykowo near Środa Wielkopolska, on the holding of the farm of Monika and Michał Nowak, the 10th Festival of Onion, Potato and Soya took place. In two days, at least five thousand visitors (farmers, families with children) from across Poland attended the event. Topics covered were new products to enhance onion, potato and soy bean production.

The Nowak family farms over 90 ha, of which 85.5 ha is arable land. The owners grow cereals (c. 48 ha), onions (c. 24 ha) and potatoes (this year c. 11 ha). In addition, more than 3 ha of soybeans were experimentally planted this year.

On the demonstration field the visitors could see plots with 64 varieties of onions, 32 varieties of potatoes and 5 varieties of soybeans. The visitors could personally compare the properties of the different varieties, their resistance to pathogens, and yields in the conditions of Wielkopolska. The availability of different varieties ensured yields could be compared (as each variant reacts differently to extreme and/or changing weather conditions) and enabled farmers to judge which varieties meet consumers demand for different colours, juiciness and taste.

The interest in soy bean production was high due to its fodder value, but also because of the possibility of obtaining additional co-financing offered as part of the direct payments for legumes. A soil excavation was made to demonstrate the extensive soy root system. Visitors could get up-to-date information about the latest generation of potato harvesters and become acquainted with the latest offers on tractors and agricultural machinery: machines for harvesting, sorting and packing potatoes and vegetables.

The topics that were raised during the meeting include fertilization, agrotechnics, and crop protection of potatoes and onions. In addition, expert advice was provided by seed and fertilizer advisers, machine companies and advisers involved in agriculture. In the field it was possible to see how onion varieties coped with drought.

Film: https://www.youtube.com/watch?v=cCrv_hcTEeA&feature=youtu.be

58 onion varieties and several potato varieties were presented in the demonstration fields in Henrykowo. The crops were spread over a fairly large area (6 ha.). Representatives of fertilizer, machine, seed and chemical companies invited participants to their stands. There were lectures on onion foliar fertilization technology, very early potato varieties, threats to agro-vegetable rotation, and potassium as an important mineral component. During the event, the project "Improvement of fire safety in rural areas of the province Wielkopolska" was also presented.

Film: <https://www.youtube.com/watch?v=z3k4oIUkW6A>

<https://www.youtube.com/watch?v=795QUdt4xpc>

The demonstration methods used were:

- Small fields, several fields next to each other, where companies showed their products.
- In field demonstrations of machines and equipment.
- Youtube videos from earlier events to provide information about the methods used.

9.23 UK3: IFM FIELD EVENT

The IFM Field Event was hosted 16th May 2018 organised by LEAF. The host farm is a 9,100 ha farm located Norfolk, East of England and is a LEAF Demonstration Farm.

As a LEAF Demonstration Farm they host and organise a range of demonstration events throughout the year, from small independent visits to larger demonstration events. During events and visits they highlight LEAF's whole farm IFM approach to attendees. The primary role of these demonstration visits and events is farmer to farmer learning but they also host visits for advisors, researchers, university students, policy and school groups throughout the year. Throughout 2017 Elveden Farms hosted a total of 21 visits and events to 480 people.

The IFM Field Event focused on the practices and technologies farmers and researchers are trailing to harness and maximise the use of biodiversity on-farm. This is key to maintaining farm level natural capital. Practices and technologies demonstrated were broadly sectioned into three areas:

- Harnessing biodiversity for soil and water management;
- Using biodiversity in crop health and protection;
- Promoting biodiversity for human health.

The demonstration event was led by the host farm manager and there were also a range of speakers from throughout the value chain at various stops on the tour, illustrating a specific approach or research outcome in relation to the 3 areas of the day.

The case study provides an interesting example of farmer led demonstration covering a whole farm system, including best practice, and highlighting interesting and new innovations on farm, as well as bringing in other practices and innovations from external speakers across the value chain. An important aspect for PLAID is the vast experience of the host farm manager of hosting demonstration events. The host farm is able to carry out best practice IFM to deliver sustainable farming, communicate messages in a practical and engaging way and host well planned and timed events, offering a variety of well targeted messages. The host farm is also involved in a number of farm trials with different institutes and companies. He is actively involved in the running and demonstrating of the trials.

9.24 UK5: LOTHIAN MONITOR FARM SCOTLAND

Lothians Monitor Farm (LMF) comprises two independently-run farm enterprises, which work collaboratively over the course of three years in the Monitor Farm programme. The concept for the programme was taken from New Zealand and allows farmers to share experiences and observe how their peers tackle problems and adopt best practice. The emphasis is strongly on practical farming and good business decisions rather than theory. The programme includes bimonthly demonstration days attended by the local farming community.

Funding for the Monitor Farm programme is provided by the Scottish Government and the European Union's Knowledge Transfer and Innovation Fund (KTIF). Monitor Farms Scotland is jointly run by two national levy boards, who serve the arable and livestock sectors in Scotland: Agriculture and Horticulture Development Board (ADHB) Cereals and Oilseeds Division; and Quality Meat Scotland (QMS). A management group comprising the farm hosts and other local farmers and stakeholders determines the direction of the LMF programme, and a team of independent facilitators provide organisational support. There is a strong focus on the principle, 'farmer led, farmer driven'.

The collaborative approach taken at LMF is novel in Scotland and underpins a central theme of the LMF demonstration programme. In addition, collaboration between the two neighbouring farms provides for joint focus on both the arable and livestock farming sectors. Demonstrations and discussions address a diversity of topics ranging from soil testing and soil fertility management to drought and flooding, and from grazing to flock/herd health. Topics generally have an underlying focus on the efficiency of farm businesses and aim to demonstrate new innovations and best practice. Sustainability is also an underlying focus.

Demonstration days are aimed at farmers and other interested stakeholders in the Lothians area. As the main agricultural sectors in the region, arable and livestock farmers are the target group for demonstration. Typically, demonstration days attract around 30-50 attendees. Interaction across traditional boundaries, between arable and livestock farming approaches, is an important feature of LMF in terms of learning, networking, and collaboration between the different stakeholders involved. Eight additional Monitor Farms are currently in operation across Scotland, serving the regions in which they are located.

The information presented in this report was primarily gathered by means of in-depth interviews with organisers and attendees involved at LMF, researcher observations made at demonstration days during the first two years of the programme, and supplemented with publicly-available reports and information available online.

10 Annex 2: Registration form for a demonstration

Name: ...
 Email: ...
 Do you plan to attend the demonstration?
 Yes
 No
 I don't know yet
 Would you like to receive further updates on the programme:
 You can also receive updates if your do not intend to take part.
 Yes
 No
 What is your occupation?
 Farmer
 Farming advisor
 add question: would you be interested in attending a half-hour special session for advisors (see section 6.2.2 and 7.3.2 above)?
 Farming press
 add question: would you be interested in attending a half-hour information session for the press (see section 6.2.2 above)??
 Supplier or buyer of farming produce or equipment
 Student
 Teacher
 Researcher
 Policy maker
 Other (indicate which): ...
 Do you give permission to put your name and occupation on a contact list that will be handed out to all demonstration visitors:
 Yes
 No
 What are your main interests in connection with the demonstration?
 1) Receive **practice information** on:
 Note for organiser: list the topics that will be demonstrated.
 Topic 1
 Topic 2
 Topic 3
 2) Receive **background information** on:
 Note for organiser: list the topics that will be addressed in various presentations.
 Topic 1 (e.g. policy aspects)
 Topic 2 (e.g. sustainability issues)
 Topic 3
 3) **Talk to various people** at the demonstration, notably:
 Other farmers
 Farming advisors
 Businesses
 Other (indicate which): ...
 4) **Other reasons**
 (Indicate which): ...

11 Annex 3: Questionnaire for an exit survey among demonstration visitors

Note for organiser: Put these in paper on a clipboard and fill it in while interviewing farmers at the end of a demo. You may have to translate these questions into your local language. Some questions may have to be adapted in accordance with your own demo, notably 1 and 3.

Questionnaire for exit survey

1. How did you learn about this demonstration event (tick box)?

- Personal invitation
- Farming press
- Website
- Social media
- Other (indicate which):

2. Why were you interested to visit this demo event?

Open text

**3. How do you appreciate the various aspects of the demo event (tick boxes)
(Items to be filled in by the monitor depending on the activities during the event)**

	Very useful	Useful	neutral	Not useful
Lecture				
Field walk				
Workshop				
...				

4. How was the demo event organised?

Which aspects were well organised	Which aspects were not well organised
Open text	Open text
Why?	Why?

5. What was most interesting to you about this demo event?

Open text

6. Which aspects of the demonstration would be useful for your own farm and why?

Open text

**7. Do you have plans to apply what you witnessed today? Yes / No / Maybe
If you answered “Yes” or “Maybe”, what might you apply?**

Open text

8. What are barriers to apply what you learned or saw today?

Open text

9. Do you have any other suggestions?

Open text

Thank you very much, this survey will help us to improve the next demonstrations!

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CONTRIBUTORS

This synthesis is based on the 24 case study reports that have been produced by PLAID partners. Some sentences or paragraphs, often somewhat paraphrased, are taken from these reports, not as examples, but as part of the overall argument in this report. For that reason, we did not put these texts in quotes so as not to hamper the flow of the text. Furthermore, various examples have been quoted from these reports, although many of them have also been reformulated a bit. To acknowledge these contributions in a general way we list all case study authors below as 'contributors' to this report. The names are followed by the title of the case report and a case ID. Summaries of the case studies can be found in Annex 1.

Marleen Gysen and **Koen Symons**. "Open Energy Day" (BE1) and "Hof ten Bosch (potato)" (BE3).

Dimitar Vanev, **Galina Metodieva**, **Emanuela Dimitrova** and **Petya Kumanova**. "Renewable energy sources in milk production" (BG1) and "New plant protection technologies in grain crop production" (BG2).

Rebekka Frick with support from **Thomas Alföldi**, **Kathrin Huber** and **Heidrun Moschitz**. "Arenenberger Ackerbautreff" (CH1) and "PROVIEH - Organic cattle day" (CH2).

Kristijan Jelakovic, **Milan Husnjak**, **Aleksandar Horvatic** and **Matija Cabrajec**. "Wheat & barley day" (CRO1) and "Vegetable production Bais" (CRO3).

Alberto Lafarga and **Isabel Gárriz**. "Extensive Crops Trials Visit" (ES1) and "Organic Cow Cheese Production" (ES2).

Marina Cholton. "INOSYS - Réseaux d'élevage (Network of livestock farms)" (FR3).

Florence Leprince. "SYPPRE - Platform for innovative crop systems" (FR4).

Ekaterina Kleshcheva. "Demo days for sustainable viticulture" (IT1).

Cristina Micheloni. "AIAB-APROBIO FVG - Organic farming" (IT2).

Anda Adamsonė-Fiskovica, **Talis Tisenkopfs**, **Mikelis Grivins** and **Emils Kilis**. "Integrated fruit production" (LAT1) and "Herbivorous Project - Network of demonstration farms in animal husbandry" (LAT2).

Paulien van Asperen, **Maureen Schoutsen** and **Boelie Elzen**. "National leek day" (NL1) and "Grounded maize cropping" (NL3).



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Rita Moseng Sivertsvik and **Marit S. Haugen**. "Optimal soil culture" (NOR1) and "Berry production in plastic tunnels" (NOR2).

Harm Brinks, Emiel Kamminga and **Tomasz Krasowski**. "National potato day" (POL1) and "Feast of Onions and potatoes" (POL2).

Laura Tippin. "IFM Field Event" (UK3).

Sharon Flanigan. "Lothian Monitor Farm Scotland" (UK5).



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