

AGRIDEMO

Case study reports:

D3.2 Structural Characteristics

D4.2 Functional Characteristics

D5.3 Effectiveness

Part II: Greece, Ireland, Poland, Serbia

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Introduction

This document presents an overview of the in-depth analysis performed on a total of 35 case studies, carried out during the AgriDemo-F2F project.. These 35 cases represent a diverse array of demonstration approaches and activities, occurring throughout Europe. The process of case study selection, and a short overview of the cases, is given in D2.5.

The analysis focuses on 3 main aspects of on-farm demonstrations: **i) structural characteristics (corresponding to D3.2)**, involving characteristics related to the network, actors involved, roles of actors and governance; **ii) functional characteristics (corresponding to D4.2)**, describing mechanisms and tools that are being used for recruitment, interaction and learning during the demonstration; and **iii) peer learning characteristics (corresponding to D5.3)**, which aim to capture the effectiveness of demonstration approaches, by looking at both the extent and nature of learning that takes places during demonstration events.

Data was collected by all partners, following the methodological guidelines for data gathering and analysis (D3.1-4.1-5.2), after which analysis was done by the Case Study Work Package Team (AUA, CCRI and EVILVO). Draft versions of the reports were sent to partners for validation (during cases study workshops), after which the case study reports were finalized.

The content of this document is mainly descriptive, giving a detailed overview of the setting in which the demonstration is conducted, and about the processes taking place. This document however does not provide a cross-case analysis, which will be the focus of D3.3 (key structural characteristics for effective on-farm demonstrations) and D4.3 (key functional characteristics for effective on-farm demonstrations).

Greece Case Study 1

1. Background

Programme

The Hellenic Crop Protection Association (HCPA) was founded in 1970 in Athens and has as members all actors active in crop protection materials and related agrochemicals. HCPA runs a programme of demo activities in the last 10 years, aiming to cover the needs of farmers in the following three dimensions: a) farmer's safety and health; b) environmental impact; and c) food and production safety. It collaborates with Universities and Policy stakeholders to disseminate good practices on integrated pest management and correct application of spraying techniques.

Funding and Governance

The majority of demos organised by HCPA are self-financed. There are cases though in which the organisations team up with foundations in order to deliver demos in Greek rural areas. Demo topics and content are selected by HCPA, to meet local farmers' needs and interests and to match the structure of local production.

Actors and networks

The association is member of the European Crop Protection Association and of the respective global federation (CropLife International). HCPA collaborates with the respective EU organisations and networks to develop its activities and to adapt its training/demo initiatives to the sector's development. As the association is based in Athens, it regularly co-organises events with (mainly) public and private organisations in order to adapt its demo content and objectives to local needs, and to reach out to local farmers and farmer groups.

Event Farm and location

The specific event was hosted on a small side-field of the agricultural training centre (part of the Hellenic agricultural research organisation, ELGO Demeter) in Filiatra, Messinia, in southwest Peloponnese.

Event Date: 17/10/2018

2. Method

In line with the Methodological Guidelines, three main data sources are used: a background document and interviews at Programme and Farm level to analyse structural and functional characteristics, and event tools and surveys to analyse event level participation and learning, as follows:

1. A background document for every case study was completed by the AgriDemo-F2F partner who carried out the case study.
2. Interviews with representatives of programme/networks (level 1) and farm level interviews with demonstrators/hosts (Level 1) to reveal how the functional and structural characteristics enable learning. Analysis of these interviews is reported in Sections 3 and 4. Data is sourced from 2 interviews at the Programme Level. The analysis followed 5 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes, (4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.
3. Event tools and surveys (level 3) to reveal peer to peer learning processes. Event details and analysis is reported in Section 5. This data is sourced from 13 pre and 22 post-demonstration participant surveys, 1 pre-demonstration and 1 post-demonstration interview with the demonstrator and an event observation tool completed by an observing researcher. This data is mainly used for the analysis of learning processes and learning outcomes related to the specific event and overall comments on the effectiveness of the event.

Finally, partners reviewed the case study reports to prepare their workshops with different stakeholders related to the case studies. These workshops aimed at validating the data presented in the case study reports and to discuss on key characteristics related to effectiveness of demonstrations.

3. Structural Characteristics

T1: Programme/network level

1. The main organisations involved in the demonstration activities and their roles

Hellenic Crop Protection Association (HCPA)

The Hellenic Crop Protection Association (HCPA) actions have a national geographical coverage all over Greece and cover all types of crops, trees and glasshouse production. HCPA is member of the European Crop Protection Association and coordinates its overall actions (and accordingly its demo activities) jointly with its European counterparts. Within the HCPA, the main people involved in the development of demonstration activities are one coordinator (the Programme interviewee 1) and a committee of 3-5 people who manage these activities. The coordinator has the overall coordination and management of all demonstration activities around the country. An agronomist, member of the organisation and part of the management committee acts as lecturer and demonstrator. HCPA sometimes is the initiator of demo activities in different parts of Greece. This was also the case in the specific demo event, as HCPA was the main initiator who reached out to local co-organisers to host/work on the event.

The organisation's experience and know-how is on the safe and environmentally friendly use of plant protection products. HCPA supports and promotes the safe and effective use of plant protection products, and, at the same time, it advocates the implementation of the Good Agricultural Practices and Integrated Crop Management Codes. So the topics are selected following the HCPA's programmes and objectives. As the organisation is based in Athens, they always collaborate with local services, advisers, agronomists/practitioners in Greek rural areas in order to adapt the demo topics to local production and needs. HCPA relies to its interaction with, and feedback received by local experts and partners in order to adapt the content of the demos. HCPA employees undertake several tasks when they organise demo activities, such as the adaption of the content to attendees, organising and analysing feedback (about the demo itself and on probable adoption of practice), evaluation procedures and the continuous engagement of demo participants after the event. The HCPA demonstrators visit each region in advance in order to have some meetings and discussions with (representatives) of local farmers and be aware of the practices and machineries used in the region before the event. Then HCPA uses these observations and adapt the design, the techniques and the language to local farmers' characteristics and needs.

Moreover, HCPA uses a questionnaire in order to evaluate the demonstration activities and improve future demo's design and approaches. After any demo event, HCPA continues to engage participants and get in touch with them by using information newsletters on new demos and news on spraying techniques, regulations and applications. In the same line, they also try to assess if participants have engaged with the lessons of the demonstrations by running two surveys: a baseline survey and a progress survey. However, the progress survey is not run constantly in the last years, due to lack of funding.

The organisation is coordinating its actions with the relevant European crop protection association. (Programme interviewee 1)

Geographically we cover all Greece. We cover all crops/trees (as well as glasshouse production). (Programme interviewee 1)

There is one coordinator (the interviewee) and a committee of a few people (usually 3-5) which manages these activities of the organisation. (Programme interviewee 1)

Q: How are demonstration topics selected? R: As explained earlier the themes and topics are selected following the organisation's/programme's objectives. Still, we use feedback from local experts to skew and structure the demo as close to the participants needs as possible. (Programme interviewee 1)

The interviewee has the overall coordination and management; one additional member of the organisation (agronomist) as lecturer and demonstrator; Local public and private agronomists – as recruiters and demonstrator. (Programme interviewee 1)

However, this second time (this event), the proposal came from ESYF in cooperation with the Kapetan Vassilis Foundation. (Programme interviewee 2)

Q: How do you identify/select relevant topics that will interest farmers? R: Our organisation works on the topics mainly with local practitioners/agronomists. Farmers are rarely involved. (Programme interviewee 1)

Q: With reference to your programme, do you plan for the variation in learning capacities and learning styles of individual farmers and their diversity of knowledge and skills? R: Yes. We meet and talk with farmers before the event. Then we use our observations to design the demo and use techniques and language adapted to their profile and needs. (Programme interviewee 1)

Q: Do you request feedback from demo participants? R: Yes. We use a questionnaire with multiple choice questions. I would say that this is the least preferred part of the demonstrations for participants. (Programme interviewee 1)

Q: Do you evaluate the demonstration activities overall? R: Yes. Give Feedback and re-engaging with local farming communities; improving future demos (design, parts and approaches). (Programme interviewee 1)

Q: Do you - at the programme level - continue to engage participants after the demonstrations? R: We use a newsletter to inform participants on new demos and their results, new applications and news on spraying techniques and regulations. We also get in touch mainly with producer organisations to disseminate news. (Programme interviewee 1)

Q: Do you assess if participants have engaged with/acted on the lessons of the demonstrations? R: We run a baseline survey which is followed by a progress survey. However, in the last years we are not that consistent in our progress reports as they require additional funding. (Programme interviewee 1)

The demonstrator came a couple of days in advance, met with farmers in order to see the tools they are using, invited them to bring over their own tools...this has increased farmers' "confidence" toward him and acted as an ice-breaker (the demonstrator is not local - he travelled from Athens for the demo). (Observation tools)

DAEV (The Regional Directorate on Agricultural Economy and Veterinary services)

The Directorate of Agricultural Economics and Veterinary Services (DAEV), is a public service offering services to farmers and coordinating agri and rural development measures and programs. The region's DAEV department organises demonstrations for over 33 years now on farmers' fields or on any other relevant facilities. DAEV is either the main initiator of the demo activities or cooperates with several initiators (institutions, services, or people) who contact DAEV in order to co-organise demonstration events in the region. The main people involved in demonstration activities in the region, are DAEV's employees and any actor they cooperate for that purpose.

In organising demos, DAEV employees and the Director of DAEV (Agronomist and Programme interviewee 2) make use of their deep knowledge and experience on the problems, constraints, needs and interests of local people. At the same time, they rely on their extensive networking in the farming community and the long-term relations and personal contacts they keep with farmers, corporations, local agronomists, agricultural services staff etc. Finally, DAEV employees continuously search and get informed on the contemporary market needs, news on farming practices and innovations. DAEV and its

Directors have managed to build a very good reputation within the community through the years, which in turn employ to effectively organise, plan, design, and implement demonstration activities in the region. DAEV's extensive connections, collaborations and networking with the farming community help the organisation to accomplish several difficult tasks. More specifically, they are actively involved at demonstration topic selection. As farmers' needs are an absolute priority for them, they identify relevant topics that will interest farmers and they adapt demo's content to the local needs. Their role in that is instrumental especially when the demo initiator (institution/organisation/service) is not local or DAEV itself. In that case, when the demo initiator makes a proposal for cooperation with DAEV on a specific topic, DAEV adapts these topics in relation to the local crops and local needs. They also select the suitable local subarea in relation to each topic and they propose the appropriate host farmers that fit with the demo goals and purposes. DAEV's extensive connections result also to the effective advertisement of the event, securing at the same time farmers' participation. After the event they keep in touch with key participants for the dissemination of the demo results, as well as to follow up on their engagement in applying learnings. Being extensively active with regions farmers they can assess if participants have acted on the lessons of the demonstrations as well as to evaluate their own success/results of such interventions/demonstration activities. Based on the feedback received from farmers, the collaborating partners and other key actors in the area, they design and organise new interventions and demonstration activities in the region. Finally, they reach out to, and discuss with, those farmers who have never attended a demo event in order to inform and try to engage them.

There are two ways to work on it: The first one is to start from our own initiative (DAEV), because we detect from the very beginning, that there are already problems in some activities, and we want to give solutions in order to improve things as well as to change things. The second case is when the demo initiative is not ours, but we get informed from someone else (institution/or people) who deals with these issues, and propose to cooperate with us in promoting and targeting these demo activities. Through the cooperation with these people who communicate with us we will see what type of knowledge we can transfer and what we can promote. So it's their initiative on which we cooperate, we work together to organise. (Programme interviewee 2)

Those who are involved are us (DAEV), and then, there are always representatives of the actors we cooperate with. (Programme interviewee 2)

Q: How are demonstration topics selected? R: We live here and we know well the region and farmers. We have the knowledge and the experience but also direct/close communication with all the local actors and the farmers. It always depends on problems and local concerns. Even when other institutions/actors/initiators make us a proposal for cooperation on a specific topic, we always adapt these topics in relation to the local crops and local needs. (Programme interviewee 2)

So, we (DAEV) have proposed the area of application, because yes, you are addressing the primary sector, but here in this specific region we have a different structure of production (greenhouses and horticulture, while at the first event in Kiparissia we had olive trees). We were already aware that at this region there is intensive labour and extensive use of plant protection due to the special nature of the sectors here. (Programme interviewee 2)

Q: How do you target farmers to host demonstrations? R: We (DAEV), we do demonstrations 33 years now, we organise demo at farmers' fields. We know the region very well so the criteria are the issues/problems of agricultural practice in the area. These are our main criteria. Some other criteria have to do with the know-how of the host farmer, the initiative he takes on his own, how progressive he is, if he is well-connected with the market, how he is communicating with other people and to have a good cooperation with the services. (Programme interviewee 2)

If the organisers can effectively plan, design, prove and implement, then yes they will come to see. It has to do with the reputation you built within the community through the years, as an institution as well as a person. I am an expert in greenhouses and vegetables, I know these topics extremely well and I am here in the area for so many years, yes if they learn that I am going to organise an event i.e. in a greenhouse, they will come only for this reason, because I will organise it myself. In the area here I am very well -known, I love so much what I am doing and I also want to do it properly. (Programme interviewee 2)

The call is always open, we are not excluding anyone. As many farmers as possible learn about the up-coming event, the better for us. However, we have to define strategically the key farmers and actors who will be able to transfer to third parties (who may not attend the demonstration) the information and knowledge derived from the event. The call is always free. We always send a press release to everyone; we want everybody to come to the event. (Programme interviewee 2)

However, I know, that these 50 are going to come and they will diffuse to other farmers who won't attend, what they have seen here at the event.... if I talk to these people and have a conversation with them and tell them why we do the event, what is the purpose and what we want to show, it would be easier to convince them. I will be able to inform them on some of the issues we are going to show as well as to associate the topic with their own situation and interests (personal or of the area), because I am really aware of these. So, yes, with the farmers as well as with the key actors here in the region I have personal contacts, e.g. representatives of greenhouse corporations, local private agronomists who know well the region's farming situation. (Programme interviewee 2)

Q: How effective are you in recruiting in 'the hard to reach' or those who have never attended a demonstration event before? R: Especially for those farmers who have never attend, it is finally up to us to reach out to them, to find and talk to them, to show them that if today they are not taking part into current concerns, actions, the market, tomorrow they will be out of it. (Programme interviewee 2)

The topic we choose must be related to local problems. If the topic is not a (visible) problem for the area, they will not be interested. Secondly, if it is not related to a problem, it has to be something that will give perspectives in the area. Being aware of the problems of agricultural practice and the agricultural situation in the region, we choose those issues/topics that we can resolve quickly, but at the same time they must have a great importance for our region. (Programme interviewee 2)

Foundations

The HCPA teams up with additional local stakeholders willing and able to assist in organising demos. Foundations serve this role in many dimensions beyond their financial support. This is the case with Kapetan Vassilis, a well-grounded and highly respected foundation which is active (also) in the region where the demo event was organised. The Kapetan Vassilis foundation, supports among others the development of the primary sector in Messinia (region in south west Peloponnese) and the producers organisations of the region. In the specific event, the proposal/initiative for the demonstration came from HCPA and was adopted and embraced by the Kapetan Vassilis Foundation.

It is Costa Navarino which has created a foundation (Kapetan Vassilis) to support among others the development of the primary sector in Messinia (the region), and finally the organisations of the region's producers. (Programme interviewee 2)

However, this second time (this event), the proposal came from HCPA in cooperation with the Kapetan Vassilis Foundation. (Programme interviewee 2)

2. The main actors involved in the demonstration activities and their roles (each at program / farm/event level).

Initiators

While the HCPA is extensively active in initiating demo events, as already mentioned DAEV also takes the lead in organising relevant activities in the region. Moreover, many times several other initiators (institutions, services, or people) ask DAEV's cooperation in order to co-organise demonstration events at the region. These initiators make use of DAEV's experience and knowledge in the region and they are jointly plan and designs the demo activities. Some of these initiators which have cooperated with DAEV over the time were the Agricultural University of Athens and other universities, NAGREF - ELGO Dimitra (public agricultural research and education service), private companies related to new technologies, cooperatives –both primary coops and coop unions, large consumer organisations and producer organisations. In this specific case, DAEV responded to the initiative of HCPA and facilitated the co-organisation of the demo event.

There are two ways to work on it: The first one is to start from our own initiative (DAEV), because we detect from the very beginning, that there are already problems in some activities, and we want to give solutions in order to improve things as well as to change things. The second case is when the demo initiative is not ours, but we get informed from someone else (institution/or people) who deals with these issues, and propose to cooperate with us in promoting and targeting these demo activities. Through the cooperation with these people who communicate with us we will see what type of knowledge we can transfer and what we can promote. So it's their initiative on which we cooperate, we work together to organise. We have worked with the Agricultural University of Athens many times but also other universities, with NAGREF - ELGO Dimitra, with private companies related to new technologies, with cooperatives –both primary coops and coop unions, with large consumer organisations, and finally with producer organisations. With the abovementioned entities through time, both on our own initiative and in cooperation with them or with their own initiative in cooperation with us, we have organised demonstrations in the field. The latter is the case with HCPA, which we host here today... as you see it here today. (Programme interviewee 2)

Target Audience/type of participants

The intended audience of the demonstrations organised are people working in the primary sector such as executives, agronomists and advisers. Both Programme interviewees stressed that it is very important for people who work with farmers to keep watching developments and solutions concerning agricultural issues. At the same time, they focus on open-minded innovative farmers who have already adapted to market trends. Finally, they address to any interested entity such as farmers' organisations or anyone that needs technical support and solutions.

Q: Who is your intended audience? R: With regard to DAEV (The Regional Directorate on Agricultural Economy and Veterinary services) , we aim at executives, people working in the primary sector, and especially young people, those with open minds, who are interested in looking for new things, people that are already adapted to market trends, and in general with modern perceptions occurs on farming. That is, those that have already introduce new technologies and, moreover, they have embedded innovations in their farming practices. {Q: So, you focus more on the already innovative ones, who have already introduced innovation rather

than those that are not so innovative?}. R: Yes, that's correct ... We are also targeting agronomists and advisers as well as farmers organisations, because they also want support, either on technical issues or on some market issues. So these people who work with farmers should keep watching these developments so that they can find solutions through cooperation and synergies. (Programme interviewee 2)

Local agronomists (public or private)

As already mentioned HCPA is situated in Athens. Therefore, HCPA always collaborates with local services, advisers, agronomists/ practitioners in Greek rural regions in order to select and adapt the demo topics locally. Thus, HCPA works to select the appropriate local partners which they act as demonstrators and recruiters, and often as co-organisers too. Local agronomists (public or private) have a crucial role in demo advertisement and participant's engagement by using their regional connections and networks.

The interviewee (HCPA) has the overall coordination and management; One additional member of the organisation (agronomist) as lecturer and demonstrator; Local public and private agronomists – as recruiters and demonstrators; Representatives of commercial companies – as demonstrators of machinery and to react to specific technical questions; Farmers as demonstrators (not regularly). (Programme interviewee 1)

The role of local (public and private) agronomists and practitioners is instrumental. Our role is to select carefully the right local partners, who are then engaged in recruiting (more than targeting) farmers. (Programme interviewee 1)

To advertise events: We have seen that the least efficient is to use local newspapers. Radio and social networks, producer groups, local agronomists, even municipal services are more appropriate to reach out to farmers. (Programme interviewee 1)

Q: How do you identify/select relevant topics that will interest farmers? R: Our organisation works on the topics mainly with local practitioners/agronomists. Farmers are rarely involved. (Programme interviewee 1)

In your experience, what is the most effective way of attracting participants and advertising events? So, yes, with the farmers as well as with the key actors here in the region I have personal contacts, e.g. representatives of greenhouse corporations, local private agronomists who know well the region's farming situation. Some of them want to offer some help to our department DAEV, they ask me if we need anything i.e. personnel, finance etc. (Programme interviewee 2)

Q: How are demonstration topics selected? R: as explained earlier the themes and topics are selected following the organisation's/programme's objectives. Still, we use feedback from local experts to skew and structure the demo as close to the participants needs as possible. (Programme interviewee 1)

Representatives of commercial companies

According to the HCPA interviewee, representatives of commercial companies are sometimes involved in HCPA's demo activities as machinery demonstrators. These representatives offer their expert knowledge and answer to technical questions of demo participants. Such actors according to DAEV's interviewee intend to get involved also to demo activities organised locally by DAEV, by offering finance, personnel etc. Finally, representatives of commercial companies contribute to advertising demos and engage participants.

Q: Who are the main people involved in the demonstration activities and what are their roles?

R: The interviewee has the overall coordination and management; One additional member of the organisation (agronomist) as lecturer and demonstrator; Local public and private agronomists – as recruiters and demonstrators; Representatives of commercial companies – as demonstrators of machinery and to react to specific technical questions; Farmers as demonstrators (not regularly). (Programme interviewee 1)

In your experience, what is the most effective way of attracting participants and advertising events? So, yes, with the farmers as well as with the key actors here in the region I have personal contacts, e.g. representatives of greenhouse corporations, local private agronomists who know well the region's farming situation. Some of them want to offer some help to our department DAEV, they ask me if we need anything i.e. personnel, finance etc. They do not propose us such a things because they love us or because we are beautiful. It is just because they will gain from what we do, we create the wealth, because part of the wealth that we will create with our actions they will take it back. They will give a piece and they will get much more in return. What is the point, the goal is to have a multiplier, when managing these profits, so all are benefited through our actions. Our work is to co-ordinate all these processes. (Programme interviewee 2)

Farmers and "opinion leaders"

The HCPA interviewee indicated that it is not usual for farmers to act as a demonstrator when HCPA organises a demonstration event; however, sometimes this may happen as in the case of this specific event. HCPA works mainly with producer groups who contribute to host farmer selection, topic selection as well as the event's advertisement. In general, HCPA does not involve host farmers in the development of the overall demonstration programme; If/when needed HCPA works mainly with cooperatives and/or producer organisations. On the other hand, host farmers are sometimes involved in the development of the individual demonstration activities they organise. This is justified by the fact that host farmers bring their own machinery and participants to the demo event, and practice new spraying techniques and machinery during demonstrations. HCPA intends to make use in the future of some regional "opinion leaders" as participants, as their contribution would lead to more interesting and successful demonstrations.

As far as DAEV is concerned, the overall approach is to coordinate its actions with regional farmer's needs and situation. The Directorate makes systematic use of key farmers and actors who would be able to transfer to non-attending farmers, the information and knowledge derived from the demonstration event. Due to its extensive regional contacts, DAEV sometimes involve host farmers in the development of the overall demonstration programme i.e. at the topic selection. Moreover, host farmers are always involved in the development of the individual demonstration activities that DAEV organises, especially when a demo takes place on a farmer's farm.

Q: Who are the main people involved in the demonstration activities and what are their roles? A: "...". Farmers as demonstrators (not regularly). (Programme interviewee 1)

Q: Are participants targeted in demo recruitment? A: Never. We would have liked to have more "opinion leaders" as participants instead of hosts. We have seen that when this occurred, the demo was more interesting and successful for all of us (organisers and participants). (Programme interviewee 1)

The call is always open, we are not excluding anyone. As many farmers as possible learn about the up-coming event, the better for us. However, we have to define strategically the key farmers and actors who will be able to transfer to third parties (who may not attend the demonstration) the information and knowledge derived from the event. The call is always free. We always send

a press release to everyone; we want everybody to come to the event. (Programme interviewee 2)

One needs to work in 3 dimensions in order to attract participants: a) Offer compensation, gifts in kind, food etc.; b) Work with a local organisation/foundation to co-fund, co-advertise the demo; c) Work with producer groups to select host farmer and topics. (Programme interviewee 1)

To advertise events: We have seen that the least efficient is to use local newspapers. Radio and social networks, producer groups, local agronomists, even municipal services are more appropriate to reach out to farmers. (Programme interviewee 1)

Q: Are host farmers involved in the development of the overall demonstration programme? A: Never. If needed we mainly work with their cooperatives/producer organisations. (Programme interviewee 1)

Demonstrators

HCPAs agronomists are the main demonstrators during the events that the association organises. However many other actors are sometimes demonstrators, such as local public and private agronomists and representatives of commercial companies especially when the demo showcases new machinery and. As already, mentioned farmers rarely act as demonstrators at HCPA's demonstration events.

Q: Who are the main people involved in the demonstration activities and what are their roles? A: The interviewee has the overall coordination and management; One additional member of the organisation (agronomist) as lecturer and demonstrator; Local public and private agronomists – as recruiters and demonstrators; Representatives of commercial companies – as demonstrators of machinery and to react to specific technical questions; Farmers as demonstrators (not regularly). (Programme interviewee 1)

3. Networks

HCPA is in close cooperation with its European association in order to timely and efficiently adapt the national programme to the new norms and regulations that apply in the EU. At the same time, when it comes to the organisation of individual events, the association works with selected partners, in order to gain access to local community. They cooperate with local organisations/foundations and they jointly organise, finance and advertise the planned demonstration events.

DAEV has also developed important networks with which it cooperates over the years in organising demonstration activities. More specifically DAEV has organised demonstrations with the Agricultural University of Athens and other universities, NAGREF - ELGO Dimitra (public agricultural research and education services), private companies related to new technologies, cooperatives –both primary coops and coop unions, large consumer organisations and producer organisations. Besides demo activities, DAEV is connected to other networks/programmes as partner in several programmes, in which they work to engage local farmer groups. More specifically DAEV cooperate with universities (national such as Agricultural University of Athens or European such as Wageningen), NAGREF and other organisations as well as the private sector.

So it's their initiative on which we cooperate, we work together to organise. We have worked with the Agricultural University of Athens many times but also other universities, with NAGREF - ELGO Dimitra, with private companies related to new technologies, with cooperatives –both primary coops and coop unions, with large consumer organisations, and

finally with producer organisations. With the abovementioned entities through time, either on our own initiative or in cooperation with them or with their own initiative in cooperation with us, we have organised demonstrations in the field. The latter is the case with HCPA which we host here today... as you see it here today. (Programme interviewee 2)

As explained earlier (Q1) the organisation is in close cooperation with their European association/counterpart. This allows for the timely and efficient adaptation of the programme to the new norms and regulations. (Programme interviewee 1.

Either by our own, with the scientific staff of our service, or in cooperation with the universities (national or from abroad), NAGREF, the private sector. Let me tell you this time we have a program, with Wageningen, and another 40 universities across Europe and with Mr Fountas from the Agricultural University, with a budget of 300 million Euros, the biggest program we have ever had. We are partners, together with farmer groups here. At the same time, we have now submitted to the measure 16 (of the National rural development programme) for another 5 programs, here for the region, for the needs of the area. We always run these programs in cooperation with other organisations. And we evaluate their implementation. We (DEAV) are working with big partners, we are small, but they are counting on our cooperation. (Programme interviewee 2)

4. Resources, finances and incentives

The demonstrations organised by HCPA are mainly self-funded by the association's member contributions. In some cases regional funders with local references/interests, also support HCPA's demonstration activities. This support, however, is mainly related to some facilitation during demo activities such as the provision of a lecture or discussion room, and not with direct financial support. Furthermore, HCPA employees do not take any remuneration for organising and participating/delivering a demo. Surprisingly enough, according to the Programme interviewee, this allowed for the continuation of demonstration activities over the years, even when the association's funding was low.

There are not any economic benefits related to hosting a demonstration when a host farmer is involved. Nevertheless, when supply companies are involved, some kind of small "gifts" are given to host farmers.

The specific event in Filiatra on 17th October 2018 was a very well organised and at the same time low cost demonstration. The overall cost was about 300 euros, covered by HCPA, DAEV and the Kapetan Vassilis foundation. Expenses covered were the travel and food expenses of the HCPA's demonstrator, who came from Athens, as well as some food and refreshments for the event's attendees.

Q: What are the funding arrangements for your demo activities? A: How do these impact on the lifespan of the farm demo? It is mainly a Self-financed programme (members of the organisation/association pay through their contribution those demo activities as well as other activities of the association); There were cases where a foundation (usually with local references/interests) has supported those activities (not in cash though: mainly by providing a room for the lecture part of the demo or for the discussion and/or video demonstration). When a local/regional funder is involved, recruitment and participation is easier and wider. The members of the organisation do not take any remuneration for organising and participating/delivering a demo. This helps a lot, in years where funding is low, to continue offering those activities. (Programme interviewee 1)

This program and generally many programs do not want a lot of money, they just want open minds. The whole story that you will see, is HCPA with some little expenses, DAEV with very

little expenses, even a little less support from Costa Navarino (the foundation). The cost of this whole story is small, but all those who are interested in giving solutions and with our voluntary participation we will do this event, almost without money, with very little money. Let me tell you, all that you see has a cost altogether about 300 euros. We as DEAV we gave 100 Euros in order to cover the transport and food expenses for the HCPA's demonstrator (the demonstrator from the HCPA has come from Athens) and for a worker I used. All these actions do not need a lot of money. But we can do actions and take initiatives in order to organise such events without cost. (Programme interviewee 2)

Q: What do you think are the motivations/reasons for farmers to host demonstration activities?

A: There are not any economic benefits related to hosting a demonstration (apart from some/a few cases where they get in-kind "gifts" from participating companies). There are though indirect ones (hands-on experience, solving problems, reducing costs, compliance with directives, etc.). (Programme interviewee 1)

We cannot give incentives, we are a public service, and we usually do not have any of these possibilities. And the incentives are not many, they are small. If we have the possibility to give some incentives, we will do it, but this is the less important in the whole story. Generally we do not have this "luxury". (Programme interviewee 2)

5. Human Resources

The demonstrator stated that he would benefit from some extra training as a demonstrator (Post survey demonstrator). The demonstrator is not typically trained in order to be a demonstrator, and learned this role on the job. Recently he attended a 3 days intensive seminar abroad, on advanced spraying techniques/machines and relevant EU norms and regulations (Pre survey demonstrator).

6. Goal/ objectives

As already mentioned HCPA's overall goal is to support and promote the safe and effective use of plant protection products in the agricultural sector. HCPA's demonstration events are initiated in order to inform farmers (end-users) on new regulation and as well as new pesticides or machinery/tools.

DAEV's goals concerning the demonstration activities have to do with more "typical" extension goals. Demonstrations serve to make farmers aware of new developments in the agricultural sector and diffuse innovative practices and thus improve the agricultural production regionally. Demonstrations are also considered as an effective way for DAEV to be as close as possible to the needs of interested farmers/other regional actors. At the same time, DAEV intent to improve through the demonstration activities, their own institution and their own staff. Thus, demos are seen as an opportunity to strengthen and train regional advisers/practitioners (including DAEV stuff), in order to be up-to-date with the contemporary developments of the farming sector.

At the specific event, the demo was on spraying techniques. Its main objectives related to farmer's safety and health, the use of the appropriate machinery and pesticides and the management of post-application issues, which have an impact on environment. More specifically the demonstration had to do with the correct setting of the spray sets, as a wrong set of the spray sets, leads to a great waste of the spraying solution. Therefore, the main goal of the specific event was to showcase proper plant protection implementation, which reduces the quantity of the spraying solution used and consequently the production costs, mitigates the negative impact on the environment, and at the same time protects the health of the end-users.

The programme relates to spraying/spraying techniques. It has three objectives: a) safety and health of farmer; b) using the appropriate machinery, and pesticides (according to infection, time of day, environmental conditions); c) post-application issues/ environment (water and air pollution in case not applied appropriately, disposal of stock, container management). (Programme interviewee 1)

When there is new regulation, new directives we prioritise this info to reach farmers. Same goes when there are new pesticides or machinery/tools. In all demonstrations there is a rather permanent component which refers to farmers' safety and health protection as well as pre and post-spraying management and environmental issues. (Programme interviewee 1)

Our goals through this very special way (demo activities), is to enable as many as possible people who are interested to learn new things and how to improve their farming activities and production. Moreover, a goal for us is to be as close as possible to the needs of those interested people. The second is that in order for us (as public agronomists and advisers) to succeed that, we should have very good information and knowledge about these issues from the organisation that I work for (something which is currently missing), but also for each one of the staff that works at the organisation. So we have to understand very well what exactly we intend to show, how this connects to both the farmers' and the region's needs. By knowing the practical needs we have to make very good use of this information in order to improve things, to improve the situation in general. We work to improve our institution and also our work (as staff member), each one of us to improve our situation and make it more up-to-date and modern. (Programme interviewee 2)

So we should see how the proper use of plant protection products can be done, but proper use is not just about choosing the right product, the appropriate dosage or the good guidance by a technician. A very important parameter of this whole story is the correct setting of the spray sets where there is a great waste of the spraying solution which pollutes the environment, with serious public health implications, but which primarily affects the health of the farmer-users who are young people. These farmers often do not know the risks arising from the use of plant protection products. This is what we wanted to do today, by promoting actions in relation to the above-mentioned issues 1) Proper plant protection implementation, reducing the spraying solution, reducing the negative impact on the environment, reducing production costs, and protecting the health of users is at the centre of this whole story. And the most important thing is that with proper implementation we will have an effective response to plant protection problems for all different crops. (Programme interviewee 2)

T2: Farm (event) level

1. Event Farm location and layout

The specific event was held on 17th of October 2018 in Filiatra, and took place on the local facilities of NAGREF - ELGO Dimitra - a public agricultural research and education service. The demonstrator used a small side field, to demonstrate different tools/machines. There were no comparative layouts in the field. (Observation tool)

According to both Programme interviewees, the demonstrations organised in the frame of their organisations, are a mixture of exemplary and experimental approaches. Furthermore, they both agree that this mixture of exemplary and experimental approaches are more preferable. According to the HCPA's interviewee, this choice derives from their perceptions on farmer's preferences and interests as

well as HCPA's organisational experience and knowledge. According to DAEV's interviewee, the solutions and practices demonstrated are related to local experimentations and adaptations of several technologies. DAEV conduct experiments and showcase results through demonstrations. However, the demonstrator (HCPA's –employee), has classified the specific event as a showcase of existing practices. (Post survey demonstrator)

All and each one of the components/parameters of the demo: the topic, what farmers/participants seem to prefer/interests them more, our organisational experience and knowledge. (Programme interviewee 1)

We conduct experiments and showcase results. First we see what is proven by the experiments in order to be sure. Then we are experimenting in order to show that what we have chosen here is the right one. So first we evaluate, and then we do the pilot applications. These is because we do not move on, in a random way. (Programme interviewee 2)

2. Practice/technology demonstrated

The event included a theoretical/technical presentation and a practical part. The topic of the demonstration event, was on alternative spraying tools/equipment (use, calibrating, etc.); handling of pesticide containers; farmers' health protection measures and environmental protection (Observation tool). Some external equipment have been showcased to farmer attendees, such as machines/tools which are actually used in the everyday farming experience in the region. This working equipment has been demonstrated in order to highlight and visualise problems and discuss solutions on plant protection safety and environmental impacts. Furthermore real protection measures/equipment that farmers can use (suits, masks, helmets etc.) have been demonstrated as well. (Observation tool)

3. Actors' roles

Thirty participants have been present, when the specific demonstration event started. The demonstration event, ended up with over 50 attendees (Observation tool). All participants worked in the area where the event took place (Pre demonstration survey participant). The interviewed participants' were farmers (77%) and agronomists (23%) (Pre demonstration survey participant). Approximately 82% of participants felt actively or very actively involved during the whole demonstration process (Post participant's survey). According to the event's demonstrator, participants (farmers, advisers, researchers etc.) were involved in the overall development of the specific demonstration (Post survey demonstrator). This was supported by the fact that farmers shared what they are doing or using at their everyday experience and some of them tried the protection measures displayed (Post survey demonstrator). Only a couple of participants used the spraying machines/equipment during the demonstration. Solutions and problems have been discussed during the theoretical and practical part of the demonstration (Observation tool). Finally, it was possible for everyone who wanted to participate, to take part at the specific demonstration. (Pre survey demonstrator)

At the specific demonstration event, there was no host farmer involved as the event took place on agricultural public service facilities. There was one demonstrator who is a HCPA' employee. More specifically he is an agronomist (agricultural engineer) and adviser (Post survey demonstrator + Pre survey demonstrator). The demonstrator used a step-by-step approach, starting from the safety measures farmers should take and then turned to calibrating tools/machines. He used simple techniques to calculate the quantity needed and then he used different machines in order to show problems in practice. The demonstration ended up with what farmers should do when they finish their spraying applications i.e. safety measures; recycle containers etc. (Observation tool)

The Director of DAEV facilitated the event and guided questions and/or discussions. He is very much respected as he has worked with local farmers for some decades and farmers feel that they have someone to turn to when in problem. The Director was very active in disseminating the event and informing all possible interested farmers to participate. His role was to introduce the demo, encourage engagement, discussions and build consensus. He was instrumental in negotiating conflicts, as his deep knowledge of local farming community, made it very easy for him to understand what was behind emerging conflicting views and issues and offered efficient ways forward. He also kept track of time and encouraged participation in both theoretical and practical parts. Moreover, he connected the "messages" to farmers' obligations as well as to "rural life" concerning spraying and especially highlighted the mistakes in applications that impact upon life in rural areas and create conflicts with/among neighbouring households. (Observation tool)

The demonstrator and the facilitator, invited participants to share and question what they were doing in their farming lives and compare and challenge practice and advices shared. (Observation tool)

Q: Were participants (farmers, advisers, researchers etc.) involved in the overall development of this demonstration? A: Yes. Sharing what they are doing, using (a couple of them) their own tools/equipment, trying protection measures. (Post survey demonstrator)

The perspective of several demo events in the future has been discussed between participants and the facilitator-local organiser. More specifically some logistical/housekeeping issues were discussed e.g. where and when to hold the next meeting and the timings of the next event – before or after harvesting. The time of the day (10am or 2pm) has been also discussed. In that way farmers/participants had a good input concerning these arrangements and had the opportunity to shape or change things. (Observation tool)

4. Farm's infrastructures or arrangements

The Programme interviewee from HCPA, stated that several arrangements and preparations when hosting a demonstration event, are an important factor that would influence farmers' attendance. In his point of view, some preparations when hosting a demonstration event such as "gifts", food/refreshments or even a compensation for farmers' participation during demos, would facilitate a lot farmers' attendance. At the specific event some food and refreshments were available to participants.

When they do not get something such as a gift, food/refreshments during demos, or even a compensation for their participation. From our experience those elements of a demo facilitate a lot farmers' participation. (Programme interviewee 1)

5. Accessibility

The travel time of participants to reach the demo farm, ranged from 5 to 30 minutes, with an average time close to 13 minutes (Pre demonstration survey participant). All participants rated their travel effort to participate as very little effort. Approximately all participants stated that it was a local meeting so it was quite easy for them to attend. (Pre demonstration survey participant)

6. Fees for participation

Participants did not have to pay a fee to attend the demonstration. Moreover, none of the participants had received any financial compensation for its attendance. (Post participant's survey)

4. Functional characteristics

T1: Coordinating effective recruitment of host farmers and participants

1. Incentives

This is a self-financed programme (members of the organisation/association pay through their contribution to demo activities as well as other activities of the association). No financial incentives are offered to host farmers. The programme interviewee explained:

There are not any economic benefits related to hosting a demonstration (apart from some/a few cases where they get in-kind “gifts” from participating companies). (Programme Interviewee 1)

2. Motivations for host farmers

The Programme Interviewee 1 considered that the main motivations for hosting is to enhance respect from peers, and self-respect and so increase their social standing in the community. The host farmers “see their role as a ‘leader’ a ‘driver’ to change”.

3. Motivations for participants

Motivations for participants are varied, and include: compliance with directives and potential subsidies related to integrated pest management; acquire knowledge and learn about application of Codes of good agricultural practices; learn how to reduce costs related to spraying; learn about environmental concerns/issues. The first interviewee remarked that there are also:

“social standing’ motivations: ... often that farmers participate to demonstration activities they consider themselves as part of a pioneer/innovative team (Programme Interviewee 1)

4. Target audience

When asked about the target audience for demos the Programme Interviewee remarked that they cover the whole country and all arable, tree and horticulture sectors, saying:

Geographically we cover all Greece. We cover all crops/trees (as well as glasshouse production) (Programme Interviewee 1)

With respect to a future targeting strategy the Programme Interviewee example that they wanted to build on their experiences and include more opinion leaders as participants:

We would have liked to have more “opinion leaders” as participants instead of hosts. We have seen that when this occurred, the demo was more interesting and successful for all of us (organisers and participants) (Programme Interviewee 1)

In his opinion, a multi-pronged approach works best when it comes to recruiting participants, as follows:

One needs to work in three dimensions in order to attract participants: a) Offer compensation, gifts in kind, food etc.; b) Work with a local organisation/foundation to co-fund, co-advertise the demo; c) Work with producer groups to select host farmer and topics (Programme Interviewee 1)

5. Advertising and recruitment

According to the Programme interviewee they have found that the least efficient way is to use local newspapers. Instead radio and social networks, producer groups, local agronomists, even municipal services are more appropriate to reach out to farmers.

Notably he/she observed that involving local/regional funders helps with recruitment and is cost effective:

When a local/regional funder is involved, recruitment and participation is easier and wider. The members of the organisation do not take any remuneration for organising and participating/delivering a demo. This helps a lot, in years where funding is low, to continue offering those activities (Programme Interviewee 1)

T2: Appropriate demonstration and interaction approaches

1. The nature of interaction

The Programme Interviewee described the nature of interaction as Mostly top-down. He/she explained that this approach is most appropriate given the technical nature of the topics covered:

It is the nature of the topic/demo (spraying) that guides our decision. It is a difficult topic both in technical terms and with regard to the compliance rules, so it requires a top-down approach. On top of that, we have seen that there is a lack of understanding and knowledge among many farmers on the risks involved -but also on potential benefits when applying the right techniques (Programme Interviewee 1)

2. Involving farmers in the learning process and the demonstration programme

Due to the topics covered in the organisation's demos, farmers are not involved. Instead they mainly work with farmer cooperatives/producer organisations.

Regarding whether host farmers are involved in individual demonstrations, the first Programme Interviewee explained that they bring their own machinery; they bring over participants; and that they practise with the new spraying techniques and machinery. However, participating farmers are not involved in organising individual demonstrations.

Neither host nor participating farmers are involved in the network programme. This is because

Our organisation works on the topics mainly with local practitioners/agronomists. Farmers are rarely involved. (Programme Interviewee 1)

3. Focus

The Programme Interviewee described the network as 'In between' 'Whole farm', and 'Single focussed' and the approach as 'A mixture' of Experimental and Exemplary', expressing a preference for this approach and explaining that:

This is influenced by the components and aims of the demo: the topic, what farmers/participants seem to prefer/interests them more, our organisational experience and knowledge. (Programme Interviewee 1)

4. Ideal group size

With respect to the optimal size of the group at a demo the interviewee felt that there is not an ideal size or type that it depends heavily on whether it is for the crop/tree cultivation, or for a glasshouse.

T3: Enabling learning appropriate to purpose, audience, context

1. Facilitating interaction and learning: structure, content and techniques

When asked about the common structure of the day or what materials were used in the demonstration the interviewee explained that:

For me the most effective way is to bring flipcharts in the field. To start with a short theoretical/technical presentation and then go into practical demonstration activities. At the end ask participants to do what they have seen. (Programme Interviewee 1)

For assessment of whether a demo has been effective the Programme Interviewee selected 'Participants ask questions & talk openly' as the most important outcome saying that:

The most important thing/parameter is farmers to engage and express freely what they think/see (both positive and negative comments and questions are useful). Nothing works well if participants do not feel open to interact (Programme Interviewee 1)

2. Taking into account variation in learning

The Programme Interviewee said that they do take into account variation in learning mainly by meeting and talking with farmers before the event, this helps to design the demo as he/she explained:

Then we use our observations to design the demo and use techniques and language adapted to their profile and needs. (Programme Interviewee 1)

T4: Effective follow-up activities

1. Follow-up activities and materials

With respect to follow-up activities the programme uses a newsletter to inform participants about new demos and their results, new applications and news on spraying techniques and regulations. They also get in touch mainly with producer organisations to disseminate news.

In terms of providing any materials after the event, as well as the newsletters, they also have a YouTube channel where we share with participants and the general farming community short videos on spraying techniques, how to calibrate their machinery, container management etc.

2. Assessing impact

The programme sometimes assesses the impact of the event amongst participants. They run a baseline survey which is followed by a progress survey. However the interviewee notes that:

In the last years we are not that consistent in our progress reports as they require additional funding. (Programme Interviewee 1)

With respect to assessing the impact of the event in the wider farming community the interviewee responded that they do not have any dedicated activities, they:

Do not have a specific, permanent activity to follow this up. We have general discussions with local agronomists and get their feedback on that. (Programme Interviewee 1)

5. Event analysis: effective peer learning characteristics

Event details

The group consisted of about 50-60 participants, 13 of which filled in the pre demo survey and 22 the post survey.

All participants who filled in the pre survey worked in the local area.

	n° survey participants	agronomist	farmer	farmer and software dairy
<i>occupations</i>	13	2	10	1
<i>gender</i>	13			
male	10	1	9	
female	3	1	1	1
<i>age</i>	13			
18-30	2	1	1	
31-40	4	1	3	
41-50	5		5	
51-60	2		1	1
60+				

T1: Learning processes

1. Communication initiation by participants

When in the whole group, more than 50% of the participants had no problem sharing their knowledge and/or experiences related to the topic. There was a very open atmosphere and participants were happy to speak up. The participants were never broken up into smaller groups. There was a lot of time for questions. There was a natural flow of questions continuously during the day. However, there wasn't any time set aside specifically for questions. There were many questions and comments and most of the participants posed questions. There wasn't any particular reflection on the participants' points of view. The training was more focused on the specificities of care and maintenance of orchards than on getting the participants to formulate their own opinions.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I had the feeling that I could share my own knowledge as relevant information.	0	4/21	9/21	8/21	0
I asked at least one question during the demonstration .	8/22 yes				
I shared my own point of view at least once during the demonstration.	10/22 yes				
I felt encouraged to ask questions during the demonstration.	0	1/21	9/21	11/21	0
When there were any discussions, I felt comfortable sharing my opinion.	0	0	11/21	10/21	0

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I asked participants to share some of their own background knowledge during the demo.	1	0	0	0	0
I encouraged the participants to formulate their own point of view during the demonstration.	0	0	0	1	0
I encouraged the participants to formulate questions during the demonstration.	0	0	0	1	0

1. Interactive knowledge creation

Hands-on opportunities and other multi-sensorial experiences

More than one hands-on activity was demonstrated very clearly/ instructively. Participants could take part in multiple hands-on activities, and got some sort of feedback on their doing. They were outside in field; seeing different spraying applications; observing steps in calibrating different machines/tools; discussing on proper use of protection measures and actually wearing them (one of them) to observe proper use. They could also see pictures/videos from applications - on good and "less good" practices. Some of them were using their own equipment to demonstrate common farming practices and discuss on problems.

Discussion opportunities and negotiating conflicting points of view

The Director of the region's directorate on agriculture was facilitating the event. He is very much respected as he has worked with local farmers since some decades and farmers feel that they have someone to turn to when in problem (probably one of the few real agricultural extension workers active in Greece) The Director was very active in disseminating the event and informing all possible interested farmers to participate. His role was to introduce the demo, encourage engagement, discussions and build consensus, keep track of time, encourage participation in both theoretical and more practical part, and connect "messages" to farmers' obligations as well as to "rural life" as spraying and especially mistakes in applications impact upon life in rural areas and creates conflicts with/among neighbouring households.

Open discussions between a few participants were stimulated. This focused mainly on the environmental aspects of spraying, the need for a holistic approach in post-application handling and the impact especially spraying has in rural communities. Shared critical points of view were clarified/rephrased so more people could understand. The role of the facilitator was instrumental in that: his deep knowledge of local farming community, made it very easy for him to understand what was behind emerging conflicting views and issues, and offered efficient ways forward.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	0	12/22	10/22	0
If participants didn't agree with each other during discussions, somebody (demonstrator/other participant) tried to reach a consensus between them.	2/22	5/22	8/22	5/22	2/22

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	0	1	0	0
If participants didn't agree with each other during discussions , somebody (me or somebody else) tried to reach consensus between them.	0	0	1	0	0

2. Engagement during the event

Participants all seem to know each other well, but are not close friends. This was the third time that most of the participants met so they did seem to know each other and there was a good relationship between them and between the main demonstrator and them. Both demonstrators were approachable and seemed to be well-liked by the participants.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I felt actively involved during the whole demonstration process.	1/22	4/22	12/22	5/22	1/22
I felt like the demonstration increased my ability to rely on myself as a farmer.	0	2/22	11/22	8/22	1/22
I could relate well to other participants (because they have an agricultural background similar to mine).	0	1/22	11/22	8/22	2/22
A lot of the other participants are part of the same farmer network as me.	0	0	10/22	11/22	1/22
I felt like I could trust the knowledge of (most of) the other participants.	0	3/22	12/22	6/22	1/22
The demonstration felt like an informal activity to me.	0	2/22	9/22	4/22	7/22
I thought the host farm was comparable enough to my own farm.					
I had the feeling the demonstrator was like one of us.	1/22	2/22	9/22	9/22	1/22
I had the feeling I could trust the demonstrators knowledge.	0	0	13/22	9/22	0
I got along very well with the demonstrator.	0	0	11/22	10/22	1/22

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
Were participants (farmers, advisers, researchers etc.) involved in the overall development of this demonstration?	Yes, through sharing what they are doing, using (a couple of them) their own tools/equipment, trying protection measures				
Most of the participants were well known to me.	1	0	0	1/2	0
A lot of the participants are part of the same network as me.	0	0	0	0	1
The demonstration felt like an informal activity to me.	0	0	1	0	0
I think the host farm was well suited for this demo.	0	0	0	0	1
I got along well with the participants.	0	0	0	1	0

T2: Learning outcomes

The explained knowledge was very clearly understandable. The demonstrator used different tools/machines during the demo so he had the opportunity to revisit and adapt steps to each equipment used. Skills were sufficiently addressed to foster maximum uptake by participants. Only some of the participants used spraying machines/equipment. All participants saw clearly the results of a wrong calibration and measurement of tools.

There was an extensive discussion of problems and solutions, with pictures and videos to illustrate usual mistakes and wrong applications. There were also discussions on what went wrong when calibrating machines, and about what has happened in their farms when they sprayed in unfavourable weather conditions (and the reaction of neighbours).

	participant answers				
What would you ideally like to learn today?	Nothing specific, whenever one has the chance to learn something it is always good for his work; new things; how to apply the correct spraying technique; ideally something practical, not only theories; environmental friendly techniques, specific info on my crops/trees; update on new technologies; how to apply spraying properly (and save also money); personal health protection measures; state of the art in spraying; how to calibrate spraying equipment - improved handling to protect the environment.				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
The demonstration met my expectations regarding what I wanted to learn.	0	2/22	10/22	9/22	1/22
The demonstration exceeded my expectations.	0	5/22	10/22	5/22	2/22
I felt surprised at some point(s) during the demonstration.	2/22	3/22	10/22	6/22	1/22
I obtained a clearer understanding of the topic(s) demonstrated.	0	0	9/22	6/22	7/22
I have the feeling I learned something new (knowledge, skill, practice, etc.).	0	0	12/22	9/22	1/22
I thought about how I could implement some of the ideas and practices on my own farm.	0	0	14/22	6/22	2/22
I reflected on my own point of view at some point during the demonstration.	0	1/22	12/22	6/22	3/22
I learnt about the principles underlying a practice.	0	13/22	7/22	2/22	0
I thought about how we learn something new on demonstrations (e.g.: teaching methods).	0	1/22	14/22	6/22	1/22
I thought about why I want to learn about the topic(s) of this demonstration.	0	2/22	15/22	4/22	1/22

	demonstrator answers				
what do you intend for the participants to learn today?	To incentivise farmers to take care of their own health, their security, the environment (and lastly their "pocket" as pesticides cost a lot).				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I think participants have learnt what I intended them to learn.	0	0	0	1	0
I tried to surprise participants with uncommon/new knowledge/new skill.	0	0	0	1	0
I felt surprised at some point(s) myself during the demonstration (e.g. by a question or discussion).	0	1	0	0	0
I obtained a clearer understanding of the topic(s) myself.	1	0	0	0	0
I have the feeling I learned something new during this demo (from participants, discussion...).	1	0	0	0	0
I reflected on my own point of view myself at some point during the demo.	1	0	0	0	0
I encouraged participants to reflect on their own point of view during this demo.	0	0	0	1	0
I encouraged participants to reflect on their own situation sometime during this demo.	0	0	0	1	0
I encouraged participants to reflect on how we learn something new on demonstrations.	0	0	0	1	0
I encouraged participants to reflect on why we are trying to learn about the topic of this demonstration	0	0	0	1	0

T3: Overall comments on the effectiveness of the event

Participants:

With an average of 4,2 on 5, participants rated the event overall as very effective. 21/21 would recommend the demonstration. They stated as most effective characteristics of the event: practical/hands-on experiences/opportunities; learning something new; good catering; the demonstrators; quality of knowledge shared; practical knowledge/hands on experiences (bring your own spraying machines to calibrate them); experts knowledge on the demo topic/subject; excellent knowledge of demo topic/subject; good preparation; training skills.

Suggestions for improvement included: inform participants well in advance; appropriate farms; small groups; frequent demos; complaint form (or procedure) for those that do not handle according to the law containers; prior info share on the topic/event and well in advance; more tools/equipment; good preparation and more videos.

Demonstrator

The demonstrator reported on what made it effective: working with/calibrating a "real" (one of the farmers') equipment, which had its problems so we worked on real problems and discussed solutions. Regarding possible improvements he mentioned: learn more (and more frequently) on how new pesticides work (NB: the demonstrator is an agricultural engineer so he felt that his theoretical background on chemistry/pesticides could improve).

Observed main strong points of the event:

Very good knowledge of subject/topic. The facilitator was well known, trusted and respected. The farmers were convinced that the topic is important (both for quality and safety of production, as well as for their own health and the protection of environment and the community).

Observed main improvements:

It could have started a bit earlier. The demo was planned for 6 pm in the afternoon, so the demonstrator was forced to reverse the order of demonstration and started with the practical part in order to have good day light and then they passed to the theoretical part. Despite that, the demonstrator and the facilitator managed to have a coherent pass from one part to the other and link things observed in practice to the theoretical presentation.

General conclusions:

The steam and energy of the demonstrator met the experience and "validity" of a well-respected and trusted facilitator. It was quite a large group (some 50 - 60 farmers were attending) which in some cases created some difficulties especially for farmers that were late. It could had lasted some 30 min more (and it would had been much better if it has started earlier in the afternoon...but this was not possible as it was a busy period for all local farmers). Despite difficulties it was a well organised event.

Greece Case Study 2

1. Background

Programme

The Forest Research Institute of Athens (FRIA) is one of the oldest research institutes in Greece. It was established in Athens, Greece, in 1929 as the research arm of the Greek Forest Service. The Institute maintains close ties with operational organisations (Forest Service, Fire Service, General Secretariat for Civil Protection, local authorities) and with the private sector (forest industries, farmers, private citizens, etc.), and has contributed significantly in many aspects of forest management in Greece. It puts emphasis on solving practical problems and on transferring new scientific knowledge and technology to the operational world. FRIA has recently worked to consolidate and employ further demo activities as a learning device under its research initiatives. The specific demo events are developed under its EU Life Project "*FoROpenForest*".

Funding and Governance

Demo initiatives are funded by the research projects which either the institute develops or participates in (such as LIFE). In that sense, the demos are linked to specific local needs, as they are traced by the Institute's researchers who then work to adapt and validate approaches and disseminate good practices in forest management.

Actors and networks

FRIA is part of the network of research institutes of the Hellenic agricultural research organisation ELGO Demeter. Moreover, FRIA works intensively with Greek and European organisation in developing research projects and related activities. Moreover, the institute connects with local stakeholders, public organisations and private agronomists and experts in order to engage them into demo delivery, recruiting of participants and dissemination of demo learnings.

Event Farm and location

The demo event was planned to take place in Mount Oiti, in Central Greece.

Event Date: No demo event was planned within the research time frame

2. Method

In line with the Methodological Guidelines, three main data sources are used: a background document and interviews at Programme and Farm level to analyse structural and functional characteristics, and event tools and surveys to analyse event level participation and learning, as follows:

1. A background document for every case study was completed by the AgriDemo-F2F partner who carried out the case study.
2. Interviews with representatives of programme/networks (level 1) and farm level interviews with demonstrators/hosts (Level 1) to reveal how the functional and structural characteristics enable learning. Analysis of these interviews is reported in Sections 3 and 4. Data is sourced from 1 interview at the Programme Level. The analysis followed 5 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes,(4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.
3. No demo event was planned within the research time frame, thus there are no event tools and surveys (level 3) available for this case study.

Finally, partners reviewed the case study reports to prepare their workshops with different stakeholders related to the case studies. These workshops aimed at validating the data presented in the case study reports and to discuss on key characteristics related to effectiveness of demonstrations.

3. Structural Characteristics

T1: Programme/network level

1. The main organisations involved in the demonstration activities and their roles

The LIFE FoROpenForest programme

In this Case Study demonstration events are organised in the frame of an EU LIFE programme (*FoROpenForest*), which focus on the application and demonstration of project's developed methods on biodiversity conservation and sustainable grassland management. Demonstration topics are mainly steered by the project's objectives adapted to stakeholder's needs. The programme's activities are implemented in the Mount Oiti and Mount Kallidromo, in Central Greece (Region of Sterea Ellada).

Q: How are demonstration topics selected? R: The topics are steered by the programme or network theme/objectives and by the potential participants. (Programme interviewee)

2. The main actors involved in the demonstration activities and their roles

Programme's committee (FRIA & AUTH)

The LIFE *FoROpenForest* programme is managed by a committee made up mainly from research and academic staff of collaborating institutions. More specifically, the main institutions involved are Elgo Demeter-Forest Research Institute of Athens (FRIA) and the Department of Forest Science, Aristotle University of Thessaloniki (AUTH). This committee is also responsible for the overall demo organisation and management, which intend to demonstrate project's results to local producers and stakeholders.

Q: How is the programme/network managed? R: We have a committee made up of different people coming mainly from research and academic institutions (dept of forest science, AUTH). (Programme interviewee)

Q: Who are the main people involved in the demonstration activities and what are their roles? R: The main people involved in the demonstration activities are researchers and scientific staff who implement these activities in the Mount Oiti and Kallidromo of Sterea Ellada. Farmers are also involved, although marginally, on specific roles during demonstration (to use equipment, repeat actions, etc.). (Programme interviewee)

Farmers/participants

Farmers are not involved in the overall programme development. Moreover, they seem to be marginally involved in the individual/organised events as during demos they usually have a role in equipment use or repeat actions, etc. Sometimes, local farmers are involved in the preparation phase of individual demos, although only under researchers/advisers guidance. This interaction between local farmers and researchers, allows for the adaptation of demo topics to participants needs and interests. The intended audience of the demonstrations are mainly farmers, stockbreeders, beekeepers and other producers. In this programme there are no host farmers/farms involved due to the nature of the topic and related activities (forestry, grasslands etc.).

Q: Who is your intended audience? R: Farmers, stockbreeders, beekeepers and other producers. (Programme interviewee)

Q: Who are the main people involved in the demonstration activities and what are their roles? R: The main people involved in the demonstration activities are researchers and scientific staff who implement these activities in the Mount Oiti and Kallidromo of Sterea Ellada. Farmers are also

involved, although marginally, on specific roles during demonstration (to use equipment, repeat actions, etc.). (Programme interviewee)

Q: How do you target farmers to host demonstrations? R: We target farmers active in the study area. However they are mainly involved in the preparation phase and because of the nature of the activities they are not asked to “host” demonstrations. (Programme interviewee)

Q: How do you identify/select relevant topics that will interest farmers? R: The selection of relevant topics is done during the preparation phase based on the issues of interest to farmers. This impacts on the duration of the preparation phase of course but we see that it increases the effectiveness of activities. (Programme interviewee)

Q: Are host farmers involved in the development of the individual demonstration activities? R: Sometimes the farmers help in the development of individual demonstration activities according to the advices of researchers/advisers. (Programme interviewee)

Q: Are host farmers involved in the development of the overall demonstration programme? R: Never. (Programme interviewee)

Private and public agronomists

Local public and private agronomists contribute to the effective recruitment of participants as they use their networks to publicise events and send invitations.

Q: In your experience, what is the most effective way of attracting participants and advertising events? R: a) Sending invitations (using local private and public agronomists); b) Social networks. (Programme interviewee)

3. Networks

The demo programme is part of the educational and dissemination activities designed under the LIFE *FoROpenForest* programme. The programme itself and the demo activities included are not connected to other programmes or networks.

Q: To what extent is the network/programme connected to other networks/programmes in your country or even internationally? R: The programme is not connected to other programmes/networks in the country or internationally. (Programme interviewee)

4. Resources, finances and incentives

Demonstration activities are funded by the Life project. The programme’s initial duration was 3 years but an extension of 2 additional years has been granted.

Q: What are the funding arrangements for your demo activities? How do these impact on the lifespan of the farm demo? R: Activities are funded under a Life project. Its initial duration was 3 years but an extension of 2 additional years has been already granted. Thus, the lifespan of the programme is connected to the lifetime of the project. (Programme interviewee)

5. Goals and objectives

The overall objective of the Life project is the implementation of long-term biodiversity conservation and sustainability on Mt. Oiti and Mt. Kallidromo. Organised demos aim to showcase/disseminate good

forest management practices and to train farmers in alternative methods on sustainable grassland management, and through that to the wider application of methods developed under the project.

Q: What are the overall goals/objectives of the demo farm? R: This action includes education and training of stakeholders (producers) in sustainable grassland management in accordance to the aims and the results of the LIFE FoROpenForest. This action is necessary because it will provide to the stakeholders the skills required for the implementation of long-term conservation of the target species and habitats on Mt. Oiti and Mt. Kallidromo, as well as in other sites. Moreover, it will train farmers in the local communities in alternative methods of management which will be in line with the objectives of biodiversity conservation. Thus, the action will contribute to the long-term sustainability of the project results and also to the wider application of the methods developed. (Programme interviewee)

T2: Farm (event) level

No demo event was planned within the research time frame.

4. Functional characteristics

T1: Coordinating effective recruitment of host farmers and participants

1. Incentives

The Life project was initially funded for a three year period. An additional two years of funding was then granted, allowing the lifespan of the programme to be extended. Farmers are not paid or incentivised for taking part.

Activities are funded under a Life project. Its initial duration was 3 years but an extension of 2 additional years has been already granted. Thus, the lifespan of the programme is connected to the lifetime of the project. (Programme interviewee)

No incentives are offered to hosts. (Programme interviewee)

2. Motivations for participants/farmers

As indicated earlier, due to the nature of the activities/topics developed under the Life project there are not host farmers involved. For farmers-attendees, participation in the programme was an opportunity to implement new forestry management techniques to conserve biodiversity. The Programme interviewee suggested that this had economic benefits to farmers as well as its environmental significance.

The main reason is to implement management in forests and forest openings for the conservation of biodiversity at species, habitat, and landscape level. Thus mainly economic benefits as well as environmental conservation. (Programme interviewee)

Participants were motivated to attend demos by their personal interest in sustainable management of the area.

The interest in the sustainable management of Mount Oiti and Kallidromo. (Programme interviewee)

3. Target audience

The target audience included farmers, stockbreeders and beekeepers, as well as other producers.

4. Advertising and recruitment

Events were advertised using social networks as well as sending out invitations. The Programme Interviewee observed that it was easy to attract people to the demonstration as it was a new type of event in the area, so farmers' curiosity was high.

Sending invitations (using local private and public agronomists); Social networks. (Programme interviewee)

It is the first time that demonstrations are held in that area and topic. In that sense it was not difficult as no farmer has ever attended a demo before. (Programme interviewee)

T2: Appropriate demonstration and interaction approaches

1. The nature of interaction

The Programme Interviewee described the nature of interaction as 'mostly bottom-up', with farmers contributing to the selection of demo topics. Farmers offered the issues of interest to them, and topics for the events were based on these. It was considered that this approach helped to provide more effective activities.

The selection of relevant topics is done during the preparation phase based on the issues of interest to farmers. This impacts on the duration of the preparation phase of course but we see that it increases the effectiveness of activities. (Programme interviewee)

Because this approach is more associated with the topic and the needs and interests of farmers. (Programme interviewee)

2. Involving farmers in the learning process and the demonstration programme

Farmers were not involved in the network programme; however they were sometimes able to help the researchers and advisers to develop individual demonstrations.

Sometimes the farmers help in the development of individual demonstration activities according to the advices of researchers/advisers. (Programme Interviewee)

3. Focus

The Programme Interviewee described the network as operating 'in between' a whole farm and a single focus approach.

4. Design

The Programme Interviewee described the network as 'a mixture' between experimental and exemplary; this was considered the best approach as in was in accordance with the farmers' preferences and interests.

5. Ideal group size

Demonstration events are for the first time introduced as an element/activity under the Life projects implemented by the collaborating institutions. Due to their limited experience they did not comment on what they would suggest as the most appropriate group size of demo participants.

T3: Enabling learning appropriate to purpose, audience, context

1. Facilitating interaction and learning: structure, content and techniques

The most effective demonstration days took place in the field and consisted of a short presentation to cover the theory, followed by practical activities for participants to observe and partake in.

For me the most effective way is to bring flipcharts in the field. Start with a short theoretical/technical presentation and then go into practical demonstration activities. At the end ask participants to do what they have seen. (Programme interviewee)

A balance between a talk/lecture and practical activities. (Programme interviewee)

The Programme Interviewee cited 'Good quality expert advice & technical presentations' as the most important factor in delivering effective demos, but gave no additional comment as to why.

2. Taking into account variation in learning

The programme did not take in consideration variations in learning when developing demonstration events.

T4: Effective follow-up activities

1. Follow-up activities and materials

Continued engagement after the event was offered to participants under the Life Project work plan. The programme continued conversation regarding participants' problems, and helped to find solutions. Leaflets detailing the programme were provided at the end of the event, also as a way of continuing engagement.

2. Assessing impact

The programme made an effort to gauge the impact of the event amongst participants by providing a questionnaire and a follow-up phone call after the end of the event. This was not the case for the wider farming community; no assessment of impact was made in this regard, although the Programme Interviewee was keen to adopt this element in the future.

This sounds as a very good idea. We will try to introduce such an element in our future activities. (Programme interviewee)

5. Event analysis: effective peer learning characteristics

No demo event was planned within the research time frame.

Greece Case Study 3

1. Background

Programme

The American Farm School (AFS), is a private, non-profit organisation which was founded in 1904 in the outskirts of Thessaloniki. It offers several agricultural training programmes to interested farmers, and it is active in formal agricultural education (secondary school). It runs a fully operational farm with both plant and animal production. AFS has a long tradition and experience in hands-on learning and has been engaged in demonstration activities since many decades. It hosts demos on its premises, while it also organises demo events on farmers' farms.

Funding and Governance

AFS organises demos either in the context of a signed agreement/project between AFS, a sponsor and some farmers/farmers' groups, or upon a direct contact/request between AFS and farmers.

AFS is fully responsible for planning and delivering demos. When sponsors are engaged the demo topics and the attendees/area of intervention may be defined by them.

Actors and networks

While AFS is a well-connected organisation, both nationally and internationally, the organised demos are not part of any other network or programme. AFS relies mainly to its own resources and only occasionally they reach out to additional experts/scientists in order to engage them into demo delivery.

Event Farm and location

The event was held on the AFS farm. It is a 140 h farm, which comprises livestock, horticulture and food processing operations that produce products sold on the open market.

Event Date: 13/11/2018

2. Method

In line with the Methodological Guidelines, three main data sources are used: a background document and interviews at Programme and Farm level to analyse structural and functional characteristics, and event tools and surveys to analyse event level participation and learning, as follows:

1. A background document for every case study was completed by the AgriDemo-F2F partner who carried out the case study.
2. Interviews with representatives of programme/networks (level 1) and farm level interviews with demonstrators/hosts (Level 1) to reveal how the functional and structural characteristics enable learning. Analysis of these interviews is reported in Sections 3 and 4. Data is sourced from 1 interview at the Programme Level. The analysis followed 5 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes, (4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.
3. Event tools and surveys (level 3) to reveal peer to peer learning processes. Event details and analysis is reported in Section 5. This data is sourced from 7 pre and post-demonstration participant surveys, 1 pre-demonstration and 1 post-demonstration interview with the demonstrator and an event observation tool completed by an observing researcher. This data is mainly used for the analysis of learning processes and learning outcomes related to the specific event and overall comments on the effectiveness of the event.

Finally, partners reviewed the case study reports to prepare their workshops with different stakeholders related to the case studies. These workshops aimed at validating the data presented in the case study reports and to discuss on key characteristics related to effectiveness of demonstrations.

3. Structural Characteristics

T1: Programme/network level

1. The main organisations involved in the demonstration activities and their roles

American Farm school (AFS) specialists

AFS organises demos either in the context of a signed agreement/project between AFS, a sponsor and some farmers/farmers' groups, or upon a direct contact/request between AFS and a beneficiary. AFS is responsible for the project management, planning, design and delivery of the demos. The overall approach concerning demo planning has to do with a highly tailor-made topic selection and delivery. The design of the demo programme is tailored to meet the beneficiaries' needs. This is also achieved through meetings and thus the delivery method is adapted to current and future needs and capabilities. AFS monitors participants' post-demo engagement as well as the assessment of the extent of this engagement, provided that there is available funding for such activities. AFS systematically evaluates their demos and request feedback form participants in order to improve their future delivery. Finally sometimes AFS conduct a background research for demos (bibliography/experiments) in order to finalise specific solutions for beneficiaries. Thereafter, they organise demos to inform and train farmers on how to deal with specific problems.

Q: How is the programme/network managed? R: Each program is tailor made according to perspective cover needs of the beneficiaries. Project management is exclusively done by the source that provides the service via an agreement that contains all necessary analytical information in regards to organisation and execution within a certain time framework.

Q: Who are the main people involved in the demonstration activities and what are their roles? R: AFS certified and experienced specialists; External selected collaborators; Sponsors. Farmers (participant's) are rarely involved. Planning, design and delivery of the demos is in the hands of our organisation

Q: How do you identify/select relevant topics that will interest farmers? R: Meet and ask perspective beneficiaries first to identify current and future needs.

Q: How do the overarching goals/objectives of the programme translate down to individual demo activities? R: We got to see calf on the ground. Let me use an example: there was a case when farmers observed their crop was damaged by a new insect. We have done our background research (using both bibliography and experiments in our laboratories and farm plots) and we have come up with a way to treat this attack. Then we organised demos to inform and train farmers on how to deal with that problem and protect their produce.

Q: With reference to your programme, do you plan for the variation in learning capacities and learning styles of individual farmers and their diversity of knowledge and skills? R: Yes. As explained earlier we meet and talk to farmers before the event; this allow as us to work on a Delivery method adaptation.

Q: What are the funding arrangements for your demo activities? R: There are 2 general categories: a) There are signed agreements per project that contain time frameworks between AFS and sponsor organisations through CSR funding; There are demos which are Self-financed by the beneficiary (e.g.: farmer).

Q: Do you assess if participants have engaged with/acted on the lessons of the demonstrations? R: Yes. Check their presence in situ since programs are hands on; Programs are compulsory ever since they decide to participate; Continued observation of application methodologies via the

provider and sponsor; Information dissemination provided by the provider to current and passed beneficiaries in electronic and hard copy forms.

2. The main actors involved in the demonstration activities and their roles (each at program / farm/event level).

Host Farmers / Beneficiaries farmers

Host farmers are sometimes involved in the development of the individual demonstration activities or the overall demonstration programme. The extent of their involvement depends on each project's and farmer's characteristic (e.g.: needs, social profile, leadership etc.). It should be noted though that most demos are hosted on the AFS farms.

Q: Who are the main people involved in the demonstration activities and what are their roles? R: AFS certified and experienced specialists; External selected collaborators; Sponsors. Farmers (participants) are rarely involved. Planning, design and delivery of the demos is in the hands of our organisation.

Q: Are host farmers involved in the development of the individual demonstration activities? R: Sometimes. Depending of the project, needs, resources and farmer's social profile (e.g.: leadership).

Q: Are host farmers involved in the development of the overall demonstration programme? R: Sometimes. Same as before (Depending of the project, needs, resources and farmer's social profile (e.g.: leadership).

Audience

The intended audience of the demonstrations organised by AFS are farmers, sponsor organisations and trainers in Thessaly/Central Greece, northern Greece and Thrace. Farmers' participants do not have any specific roles at demo development. An interesting process for attracting participants and advertising events relates to the Alumni concept developed by AFS: AFS graduates keep some kind of contacts and relations with AFS, which help AFS to recruit/attract additional participants for their events.

Q: In your experience, what is the most effective way of attracting participants and advertising events? R: Quality services provision directly to beneficiaries without involving intermediaries; b) The brand name of the service provider; c) The Alumni concept development by the service provider.

Q: Who is your intended audience? R: Farmers, sponsor organisations, individuals who work in this field (trainers) in Thessaly, northern Greece and Thrace.

Q: Who are the main people involved in the demonstration activities and what are their roles? R: AFS certified and experienced specialists; External selected collaborators; Sponsors. Farmers (participant's) are rarely involved. Planning, design and delivery of the demos is in the hands of our organisation.

Sponsors i.e. companies

Sponsors are one of the main actors involved in the demonstration activities. They are in close contact with AFS in the frame of signed agreements, and finance demos delivered by AFS. In most of the cases, sponsors have their own targeted beneficiaries, host farmers as well as participants, and request AFS's involvement concerning the extension part. Sponsors also observe and assess beneficiaries' actions' on the lessons of the demonstrations.

Q: Who are the main people involved in the demonstration activities and what are their roles? R: AFS certified and experienced specialists; External selected collaborators; Sponsors. Farmers are rarely involved. Planning, design and delivery of the demos is in the hands of our organisation.

Q: How do you target farmers to host demonstrations? R: Via promotion and sponsor's input.

Q: Are participants targeted in demo recruitment? R: Always. The sponsor is directly responsible for it, meaning that there is a direct relationship between the sponsor and us in our case.

Q: How effective are you in recruiting in 'the hard to reach' or those who have never attended a demonstration event before? R: It depends on the individual's thinking and level of education that affects next move and initiatives taken, and how much he/she is framed by contract with the sponsor. Overall though, the brand name and the reputation of the service provider count, plus, how much the outcome is taken seriously by result to previous generation, unless there is compensation involved per individual to attend, which does not fall in our philosophy of getting things done.

Q: Do you assess if participants have engaged with/acted on the lessons of the demonstrations? R: Yes. Check their presence in situ since programs are hands on; Programs are compulsory ever since they decide to participate; Continued observation of application methodologies via the provider and sponsor; Information dissemination provided by the provider to current and passed beneficiaries in electronic and hard copy forms.

External selected collaborators

Depending on each demo project needs and special issues AFS collaborate with external collaborators and expert to contribute to demo processes.

Q: Who are the main people involved in the demonstration activities and what are their roles? R: AFS certified and experienced specialists; External selected collaborators; Sponsors. Farmers are rarely involved. Planning, design and delivery of the demos is in the hands of our organisation.

3. Networks

AFS is a well-connected organisation, with both international and national collaborations with universities, research institutes, manufacturers and commercial companies. Nevertheless, the Programme interviewee underlined that their demo initiatives are not part of or connected with any programme nationally or internationally.

Q: To what extent is the network/programme connected to other networks/programmes in your country or even internationally? R: The programme is not connected to other programmes/networks in the country or internationally. (Programme interviewee)

4. Funding

Demo event are funded in two different ways: Either through signed agreements /projects - CSR funding, between AFS and sponsor organisations or they are self-financed by the beneficiary (e.g.: farmer to AFS). No financial incentives/compensation is offered to host farmers.

Q: What are the funding arrangements for your demo activities? R: There are two general categories: a) There are signed agreements per project that contain time frameworks between AFS and sponsor organisations through CSR funding; There are demos which are Self-financed by the beneficiary (e.g.: farmer).

Do you offer any incentives to farmers to host demonstration activities? Certification of knowledge and skills (in cases hosts turn to opinion leaders).

5. Human Resources

The event's demonstrator is an AFS employee. He owns a professional (formal) training in commercial cheese manufacture. The demonstrator is not typically trained in order to be a demonstrator. He learned his role on the job (Pre survey demonstrator). The demonstrator stated that he would not benefit from some extra training as a demonstrator (Post survey demonstrator).

6. Goals/ objectives

AFS's goals concerning demo activities fall in typical extension objectives. More specifically AFS intend to inform and train farmers and speed up changes of farmers' attitudes and problem solving towards specific beneficiaries.

Q: What are the overall goals/objectives of the demo farm? R: Change attitudes to bring farmers up to speed in regards to new tech applications for producing quality products with environmental concerns. This is done after developing the appropriate com channels with beneficiaries and sponsors.

T2: Farm (event) level

1. Event Farm location and layout

The specific event was organised on 13 November 2018, and took place at the local facilities of AFS in Thessaloniki.

2. Practice / technology demonstrated

The topic of the demonstration event, had to do with cheese production (yellow cheese) (Observation tool). The event was part of a series of 4 similar ones that focus on dairy products (Greek feta cheese, yellow cheese, other traditional Greek cheeses, and yogurt). Participants were exposed to the theoretical part on the topics of safe products and quality production in a previous meeting of the group with experts and scientists (vet, food processing expert and chemist). In this specific event, participants were engaged in the production of a Greek traditional semi-hard cheese. The demonstration was held in the farms creamery (Observation tool). The demonstrator has classified the specific event as a showcase of existing practices (Post survey demonstrator).

3. Actor's role

There was only one demonstrator who was employee of the farm and professional expert in cheese production. The demonstrator and the participants used all tools needed to prepare and process the farm's milk to produce semi-hard yellow cheese (Observation tool + Pre survey demonstrator). The demonstrator used a step by step approach starting from the safety measures which should be taken when handling machines/equipment/tools, then when handling raw material and then in the processing

to produce milk. The demonstrator encouraged participants to share their own experiences with others and challenged/provoked them with questions (Observation tool).

Seven participants were present and interviewed at the specific demonstration event. Approximately 86 % of participants did not work in the area where the demonstration took place (Pre demonstration survey participant). The interviewed participants' occupations were farmers (50%) or other occupations not clarified (Pre survey participant). According to the event's demonstrator, participants were not involved in the overall development of the specific demonstration (Post survey demonstrator). Participants were free to ask any question on any different step of the process. All participants felt actively or very actively involved during the whole demonstration process (Post participant's survey). All participants were able to use available tools and equipment and all actually produced their own cheese as a team (Observation tool + Post survey demonstrator).

4. Duration

The event lasted for 4.5 hours (5 - 9.30 pm).

5. Frequency

AFS organises repeated as well as one-off events. This is an event which is held every year.

6. Farm's infrastructures or arrangements

The demonstration was held in the well-equipped creamery of AFS facilities.

7. Accessibility

The travel time of participants to reach the demo farm, ranged from 45 to 150 minutes, with an average time close to 87 minutes (Pre demonstration survey participant). Two out of seven participants (28%) rated their travel effort to participate as very little effort or little effort. Four out of seven participants (58%) rated their travel effort to participate as quite some effort or great effort. Finally one participant rated his travel effort to participate as greatest possible effort (Pre survey participant).

8. Fees for participation

All participants have to pay a fee in order to attend the demonstration. Moreover, none of the participants had received any financial compensation for its attendance (Post participant's survey).

4. Functional characteristics

T1: Coordinating effective recruitment of host farmers and participants

1. Incentives

With respect to funding the Programme interviewee identified 2 general categories as follows:

- 1) There are signed agreements per project that contain time frameworks between AFS and sponsor organisations through Sponsors (Corporate Social Responsibility) funding; (2) there are demos which are self-financed by the beneficiary (e.g. farmer/attendees). (Programme interviewee)

Host farmers do not receive financial incentives but they benefit from being considered opinion leaders.

2. Motivations for host farmers

The farmers' motivations for participating are the certification of knowledge and skills, provided by the American Farm School, to validate their knowledge. According to the interviewee "Both hosts and attendees react mainly to certification of knowledge and skills" (Programme Interviewee)

3. Motivations for participants

According to the interviewee, motivations for farmers participating in demos vary, he/she suggested that approximately 5% attend out of curiosity; 80% because they are entrepreneurs; 5% attend because of the social aspect; and 10% to improve their self-confidence.

4. Target audience/ Advertising and recruitment

The interviewee explained that the target audience includes: farmers, sponsor organisations, individuals who work in this field (trainers) in Thessaly, northern Greece and Thrace. Participants are targeted and typically the sponsor is directly responsible for this.

The interviewee felt that the most successful way of advertising/ attracting/ recruiting is through: "a) quality services provision directly to beneficiaries without involving intermediaries; b) using the brand name of the service provider; c) using the alumni concept development by the service provider (AFS). (Programme Interviewee)

T2: Appropriate demonstration and interaction approaches

1. The nature of interaction

The Programme Interviewee described the nature of interaction as Mostly bottom-up, taking account of farmers' different approaches, needs and capabilities. He/she explained that they:

Meet and ask perspective beneficiaries first to identify current and future needs. (Programme Interviewee)

2. Involving farmers in the learning process and the demonstration programme

With respect to host farmers' involvement in both individual demonstrations and the network programme, this does occur but will depend of the project, farmer needs, resources and farmer's social profile (for example whether they are leaders).

The content of the demo is not steered by the network. The demos are "highly tailor-made". According to the interviewee the following parameters are taken into consideration when deciding on the content: a) Needs; b) Resources; c) Availability; d) Conception; e) Budget.

3. Focus

The Programme Interviewee described the network approach as In between' 'Whole farm' and 'Single focussed'.

4. Design

The Programme Interviewee described the demo approach as 'Exemplary' rather than 'Experimental', he/she expressed a preference for 'Exemplary' as they considered that the benefits are long term.

5. Group size

Regarding the optimal size group for a demonstration, the interviewee observed that this:

Depends on the size of the group dealing with, and type of demo. The size is usually subjective against quality issues, cost effectiveness and management efficiency.
(Programme Interviewee)

T3: Enabling learning appropriate to purpose, audience, context

1. Facilitating interaction and learning: structure, content and techniques

With respect to the best approach to demo activity (structure/method etc.) the interviewee said that farmers "Learn by doing". He/she judged that the most important outcome from a demo is that Participants ask questions & talk openly', this is because:

Those who participate need a certain feedback. Usually they would spend time with the provider to learn something new by doing in respect to their current experience. (Programme Interviewee)

2. Taking into account variation in learning

The Programme Interviewee said that they do take into account variation in learning:

We meet and talk to farmers before the event; this allows us to work on a Delivery method adaptation (Programme Interviewee)

T4: Effective follow-up activities

1. Follow-up activities and materials

According to the interviewee they try to engage with participants after the event. They have an “open line” to respond to specific requests as an after service activity. They also provide material.

Visits of both sides (AFS to attendees farms and farmers to AFS), plus, electronic and hard copy info on specific issues. (Programme Interviewee)

2. Assessing impact

The interviewee reported that they assess the impact of the events amongst participants with “continued observation of application methodologies via the provider and sponsor”. (Programme Interviewee).

They do not assess the impact of the event in the wider farming community.

5. Event analysis: effective peer learning characteristics

Event details

The group consisted of 7 participants all of which filled in the pre and the post survey.

Six out of 7 participants do not work in the local area.

	n° survey participants	cheese production			
		production	farmer	other	unknown
<i>occupations</i>	7	1	3	2	1
<i>gender</i>	7				
male	6	1	2	2	1
female	1		1		
<i>age</i>	7				
18-30	3	1		1	1
31-40	2		1	1	
41-50	2		2		
51-60					
60+					

T1: Learning processes

1. Communication initiation by participants

When in the whole group, more than 50% of the participants had no problem sharing their knowledge and/or experiences related to the topic. The demonstrator encouraged them to share with others and challenged/provoked them with questions. It was a quite informal meeting. There was only one small group of 7 participants. There was a lot of time for questions and a lot of them were asked. Questions were popping up throughout the event. There were a few participants trying to formulate their own points of view regarding the topic.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I had the feeling that I could share my own knowledge as relevant information.	1/7	0	4/7	2/7	0
I asked at least one question during the demonstration .	5/7 yes				
I shared my own point of view at least once during the demonstration.	4/7 yes				
I felt encouraged to ask questions during the demonstration.	0	1/7	3/7	3/7	0
When there were any discussions, I felt comfortable sharing my opinion.	0	1/7	5/7	1/7	0

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I asked participants to share some of their own background knowledge during the demo.	0	0	0	1	0
I encouraged the participants to formulate their own point of view during the demonstration.	0	0	0	1	0
I encouraged the participants to formulate questions during the demonstration.	0	0	0	1	0

2. Interactive knowledge creation

Hands-on opportunities and other multisensorial experiences

More than one hands-on activity was demonstrated very clearly/ instructively. Participants could take part in multiple hands-on activities, and got some sort of feedback on their doing. They could engage in discussion: listening to each other and to the expert. They could use tools/equipment and machines. They could smell, taste and feel the temperature of milk/cheese/brine/etc. All participants used/engaged in all different phases and got feedback and asked questions on what is demonstrated and their own experience.

Discussion opportunities and negotiating conflicting points of view

Only the demonstrator was present. There was no specific time allocated to questions and discussion. Participants were free to ask any question on any different step of the process. The small size of the group and the duration of different steps (i.e., pasteurisation phase, brine, lactic acid producing bacteria, etc.) facilitated discussion in the group. Open discussions are stimulated and given a lot of time. Most participants are involved. Shared critical points of view were clarified/rephrased so more people could understand.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	1/7	0	3/7	3/7	0
If participants didn't agree with each other during discussions, somebody (demonstrator/other participant) tried to reach a consensus between them.	0	0	5/7	1/7	1/7

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	0	0	1	0
If participants didn't agree with each other during discussions , somebody (me or somebody else) tried to reach consensus between them.	0	0	1	0	0

3. Engagement during the event

Participants all seem to know each other well, but are not close friends. The demonstrator acts open and friendly, but not as close friends with the participants.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I felt actively involved during the whole demonstration process.	0	0	4/7	3/7	0
I felt like the demonstration increased my ability to rely on myself as a farmer.	0	0	4/7	3/7	1/7
I could relate well to other participants (because they have an agricultural background similar to mine).	0	1/7	5/7	1/7	0
A lot of the other participants are part of the same farmer network as me.	1/7	1/7	4/7	1/7	0
I felt like I could trust the knowledge of (most of) the other participants.	0	1/7	6/7	0	0
The demonstration felt like an informal activity to me.	0	1/7	3/7	1/7	2/7
I thought the host farm was comparable enough to my own farm.					
I had the feeling the demonstrator was like one of us.	0	0	2/7	5/7	0
I had the feeling I could trust the demonstrators knowledge.	0	0	3/7	4/7	0
I got along very well with the demonstrator.	0	1/7	3/7	3/7	0

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
Were participants (farmers, advisers, researchers etc.) involved in the overall development of this demonstration?	No.				
Most of the participants were well known to me.	1	0	0	0	0
A lot of the participants are part of the same network as me.	0	0	0	1	0
The demonstration felt like an informal activity to me.	0	0	0	1	0
I think the host farm was well suited for this demo.	0	0	0	1	0
I got along well with the participants.	0	0	0	1	0

T2: Learning outcomes

The explained knowledge was very clearly understandable. The demonstrator used different tools/machines during the demo so he had the opportunity to revisit and explain steps. Skills were very clearly addressed to foster maximum uptake by participants. All participants were able to use the tools and equipment. Especially in those phases were they felt they had less experience (PH measurement in different phases etc.). The demonstrators made subsequent rounds to allow them to become familiar with structures and steps. Common methods or ways of thinking on farming were questioned and alternatives were extensively elaborated on in group. There were extensive discussions of problems and solutions throughout the event.

	participant answers				
What would you ideally like to learn today?	How to produce better products; the maximum they could teach me (quality products, techniques, etc); the best approaches I can adopt; the right dairy/cheese production approaches and techniques especially with regard to safety and quality; to improve my knowledge on dairy/cheese production; experience and new techniques.				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
The demonstration met my expectations regarding what I wanted to learn.	0	1/7	2/7	4/7	0
The demonstration exceeded my expectations.	0	1/7	2/7	4/7	0
I felt surprised at some point(s) during the demonstration.	0	1/7	5/7	1/7	0
I obtained a clearer understanding of the topic(s) demonstrated.	0	0	5/7	1/7	1/7
I have the feeling I learned something new (knowledge, skill, practice, etc.).	1/7	0	1/7	5/7	0
I thought about how I could implement some of the ideas and practices on my own farm.	0	1/7	5/7	1/7	0
I reflected on my own point of view at some point during the demonstration.	1/7	0	4/7	2/7	0
I learnt about the principles underlying a practice.	1/7	1/7	2/7	3/7	0
I thought about how we learn something new on demonstrations (e.g.: teaching methods).	0	1/7	4/7	2/7	0
I thought about why I want to learn about the topic(s) of this demonstration.	0	1/7	6/7	0	0

	demonstrator answers				
what do you intend for the participants to learn today?	The dimensions of quality in dairy production and techniques to produce good quality products.				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I think participants have learnt what I intended them to learn.	0	0	1	0	0
I tried to surprise participants with uncommon/new knowledge/new skill.	0	0	0	1	0
I felt surprised at some point(s) myself during the demonstration (e.g. by a question or discussion).	0	0	1	0	0
I obtained a clearer understanding of the topic(s) myself.	0	0	0	1	0
I have the feeling I learned something new during this demo (from participants, discussion...).	0	0	1	0	0
I reflected on my own point of view myself at some point during the demo.	0	0	0	1	0
I encouraged participants to reflect on their own point of view during this demo.	0	0	0	1	0
I encouraged participants to reflect on their own situation sometime during this demo.	0	0	0	1	0
I encouraged participants to reflect on how we learn something new on demonstrations.	0	0	1	0	0
I encouraged participants to reflect on why we are trying to learn about the topic of this demonstration	0	0	0	1	0

T3: Overall comments on the effectiveness of the event

Participants:

With an average of 4,1 on 5, participants rated the event overall as very effective. 6/7 would recommend the demonstration. They stated as most effective characteristics of the event: how knowledgeable the demonstrator is and his ability to pass over new knowledge.

There were no suggestions for improvement.

Demonstrator:

The demonstrator reported on what made it effective: the active participation of participants. Regarding possible improvements he mentioned: each participant to prepare/work on his own cheese production (instead of one for all participants); and it could be good to have an automatic production line to compare with traditional practices.

Observed main strong points of the event:

It was led by a very knowledgeable and quite open and "approachable" demonstrator eager to simulate "real life" condition in cheese production. Different scenarios with mistakes, wrong handling and "savings" were presented (and appreciated by participants). There was a lot of time for questions and discussion throughout the event. Participants actually produced their own cheese as a team.

General conclusions:

IT was a well-structured event in a well-equipped creamery (which also gave a good idea on how participants can organise theirs without resorting to fancy solutions, but rather to practical ones).

Ireland Case Study 1

1. Background

Programme

This project was initiated through a joint venture between Teagasc and the Department of Agriculture, Food and Marine (DAFM). The project aims to focus attention on the organic sector in Ireland and to promote interest amongst potential stakeholders.

The Workman's Farm Walk is one of a series of 12 annual organic farm walks which takes place throughout Ireland. The aim is to cover a variety of farm enterprises, for example beef, cereal etc., within the organic sector.

The 12 farms are decided upon jointly between Teagasc and DAFM following applications from individual farms to act as hosts. DAFM decides the farms and Teagasc is responsible for walks.

The intended aim of this farm walk was to showcase farming and processing practices which have been implemented on the Workman's farm following its conversion to organic farming. The farm processes its own flour which is sold directly to the consumer.

Funding and Governance

The DAFM fund the demonstration Farm Walk Programme and cover the costs associated with national and local advertising. They also cover technical costs such as soil or manure sampling which may arise from demonstration activities.

Teagasc coordinate delivery of the programme.

They provide personnel to conduct the walks and cover the costs of booklets and information boards at the events.

The programme also receives support from PLAID and Agridemo.

Actors and Networks

The walks are coordinated by Teagasc.

Those attending the demonstration are, in the majority, landowners who are keen to gain knowledge and insight into organic practices. At this event there were also consumers of the flour produced on – farm and parties interested in the method of direct – selling.

Some certification bodies were present at the demonstration too as it provided an opportunity for them to disseminate their information. These included the Irish Organic Association and Organic Trust. There were also representatives of the DAFM and Teagasc.

There was considerable liaison with the farmer, A and LW, during organisation of the event.

Entry was free to the demonstration which broadened its accessibility.

The event was promoted via the Teagasc website, national farming media and at a local level.

In terms of network, the event is tailored towards the organic audience and those who farm.

How it works

- The farm walk aimed to showcase the farming and processing practices which have been implemented on W's farm. As well as acting as a showcase for organic farming, the walk was intended to showcase on – farm processing and to promote direct selling to the consumer.
- Initially, the demonstration was a top – down approach led by extensionists but open discussion was encouraged; those attending were encouraged to give input throughout. Demonstrations intended to engage a wide variety of farmers and to orchestrate their presentations to suit

varying levels of knowledge. There was also engagement with the general public who have an interest in organic farming and utilising short food – supply chains.

- The organic walk may differ slightly from conventional demonstration walks in that the adviser actively involves attendees who are known to have a considerable amount of prior knowledge within the organic sector. Usually, there are no more than 100 attendees at organic farm walks. This is due to the fact that the sector is currently quite small in Ireland, accounting for approximately 2% of land use.
- Topics covered during this demonstration event included organic crop rotation, weed control, different crop varieties, processing on – farm and direct selling.
- Topics are decided upon following liaison with the host farmer and this is very much a farm – led approach; demonstration activities are steered by the farm profile.
- A personal advocacy contribution from the farm owner was seen as an important part of the engagement process by the farm adviser.
- Host farmers are incentivised with a monetary reward of 3,000 euro per host farm.

Event Farm and Location

The farm belongs to A and LW and is a fourth generation holding. The farm began conversion to the organic system in 2004 and was granted full organic status of its land in 2006. Initially, the focus was on producing grain for animal feed but, due to market fluctuations, the farmer decided to investigate new enterprises.

The decision was subsequently made to produce wheat, rye and spelt which could be used in flour production. The grain is grown, dried, milled and packaged on the farm. The resulting flour is then sold directly to the consumer.

Event Date: 23 May 2018 (2pm)

2. Method

In line with the Methodological Guidelines, three main data sources are used: a background document and interviews at Programme and Farm level to analyse structural and functional characteristics, and event tools and surveys to analyse event level participation and learning, as follows:

1. A background document for every case study was completed by the AgriDemo-F2F partner who carried out the case study.
2. Interviews with representatives of programme/networks (level 1) and farm level interviews with demonstrators/hosts (Level 1) to reveal how the functional and structural characteristics enable learning. Analysis of these interviews is reported in Sections 3 and 4. Data is sourced from 1 interview at the programme level and 1 at the farm level. The analysis followed 4 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes,(4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.
3. Event tools and surveys (level 3) to reveal peer to peer learning processes. Event details and analysis is reported in Section 5. Data is sourced from 16 pre and 15 post-demonstration participant surveys, pre and post event surveys with 1 demonstrators, 1 post-demonstration host farmer interview and an event observation tool completed by an observing researcher. This data is mainly used for the analysis of learning processes and learning outcomes related to the specific event and overall comments on the effectiveness of the event. The analysis followed 5 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes,(4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.

Finally, partners reviewed the case study reports to prepare their workshops with different stakeholders related to the case studies. These workshops aimed at validating the data presented in the case study reports. The workshop for Ireland will be held in the beginning of 2019.

3. Structural Characteristics

T1: The Programme/Network Level

This project was initiated through a joint venture between Teagasc and the Department of Agriculture, Food and Marine (DAFM) and is already running for 13-14 years. The Irish organic farm demonstration from farm walk programme is an overall part of the Teagasc's organic programme. It is an annual programme. In the frame of the project several farm walks are organised each year in 12 organic farms linked to the programme. A variety of different collaborating farms/enterprises are represented within the programme, capturing different topics/ aspects or sectors of the organic farming i.e. beef, cereal etc., and spread over various seasons of the year.

Selection of host farms (in relation to the topics and the amount of each farm) is connected with the emerging market and farmers' demands. Thus, any important innovation which takes place on farm is intended to be showcased. The collaborating organic demonstration farmers are renewed every year upon new applications. However, the same host farmer is not excluded to apply for a consecutive year at the programme. Usually one farm walk is organised per collaborating farm each year.

It's renewed every year, it rolls from one year to the next and the farmers will change. What the farmer is signing up for is for one national demonstration during the year and if we're doing courses or something like that, or for example if we have a visiting group coming in from somewhere who might want to come in and see then we might come and ask them since they're open to that. But what they're signing up for is one national event a year. Farmers have to apply to the department where there is an application process to apply to become an organic demonstration farmer but they do have to apply again on an annual basis. They could be there again next year but they have to apply to the department. (Farmer)

We're always changing that so for instance when we see market opportunities we increase the amount of farm walks. For instance, we've doubled the amount of dairy farm walks from 1 to 2 because we see dairy opportunities. We're looking for more cereal and horticultural people as well so we adapt to market demands. Also as we see innovations happening on farms, for instance red clover or weed management, we endeavour to showcase farmers are innovative and willing to showcase these innovations. Because most of the farmers now are going through Teagasc courses we have a better connection with people going in to organics. (Programme interviewee)

Teagasc's role is to coordinate delivery of the programme. It's a joint programme with the organic unit of the Department of Agriculture and they pay the farmers for partaking in this programme. It's an annual programme, it's part of the annual programme at the moment and all indications are that it will be there again next year. (Farmer)

Because there are only 12 we try and get all enterprises; we have beef finishing, we have two cereals walks etc. We look at the various enterprises and we try to make sure that all enterprises are represented within the programme. (Farmer)

The programme is running now for 13 or 14 years and it has evolved but The Department of Agriculture and Teagasc have always been in the main organising committee and the series of farm walks have varied in numbers throughout the years but over the last 5 years we've settled on 12 large farm walks spread over various seasons of the year. (Programme interviewee)

1. The main organisations involved in the demonstration activities and their roles

Teagasc and the Department of Agriculture, Food and Marine (DAFM). The Department of Agriculture and Teagasc have always been in the main organising committee of the programme. Each year 12 collaborating farms are decided by Department's officials following applications from individual farms to act as hosts. Sometimes Teagasc's employees approach farmers that know they would have an interest as demonstration farmers. During the farm walk both Teagasc's and Department's employees are present.

Teagasc

Teagasc's role is the coordination and delivery of the programme. There are two Teagasc's employees who are the main coordinators of the programme. Teagasc's employees constantly evaluate, develop and try to improve the programme each year.

After the selection of the collaborative farms, a meeting is held, with the participation of all demo farmers. Thereafter the two main Teagasc coordinators take responsibility of the delivery of the farm walks and the running of the programme at each farm. They meet with each farmer individually and they agree on the dates of the walk. After this, they have a number of meetings on farm for the preparation of the farm visit. In those meetings, they design together with the farmer the farm walk i.e. what exactly to show, what aspects of the farm's operations etc. The planning and the design of the farm walk is strongly related to each specific farm's type and properties. Sometimes, local advisers are also involved in the processes. The programme of the day and all the preparations (who, how, what) are jointly designed in detail by the Teagasc's coordinator, the advisers and the host farmer. The farm walks are farmer led as host farmers are always demonstrators. Teagasc's employees are the main facilitators and leaders of the farm walk, and support the events with their expertise/knowledge in relation to the specific topic/operational aspects.

Teagasc is in close contact with farmer groups as well as with multiple stakeholders and local advisers through Ireland, so the farm walks are effectively advertised. The organisation's local offices employees and/or Teagasc's advisers also advertise the farm walk locally and nationally as part of the preparation of the event. Teagasc's employees are also responsible for on farm analyses such as soil samples, and they prepare the booklets for the walks. According to the Programme interviewee, feedback is sometimes requested from demo participants, through questionnaires, which they use to evaluate the demonstration activities of the programme. The Farmer stated that the workload of the overall coordination of the programme prevents the organisation from requesting a more systematic feedback from participants. However, after each farm walk, Teagasc's coordinators discuss and evaluate the event with the host farmers.

The farmers themselves because it's their farming enterprise and they're going to be demonstrators so when we're doing the farm walk we will have designated stops and the farmer will be at all our designated stops across the farm but we will bring in our own colleagues who have expertise in other areas but we also have the farmer there as well who can talk and that's the approach we take. Where possible we take whatever expertise we have in our own organisation with the farmer and our staff. (Farmer)

Q: How are the demo activities on the farm managed? R: Basically what is done is that at the very start of a demo-farm programme, the Irish organic farm demonstration programme, it runs this year from December 2017 to July 2018. Before we start the programme we bring the demonstration farms all together for a meeting and we go through the programme and all the rest. After that then on individual farm walks it's between myself and D, there are two of us, we coordinate the delivery of the farm walks. What we do then is we have 12 farmers this year and

we divide it up among ourselves, and then we each take responsibility for the running of each farm walk. We contact the farmers then individually and we sort out dates and get agreement when them as to when exactly we will have the farm walk. Once that is established then we would start doing preparation visits for the farm walk. We go out to the farm and look around the farm and we decide between ourselves and the farmer as to what topics we will do on the day. That will depend on the timing of the year, the type of enterprise that's on the farm. So we agree all of that with the farmer and then we work also where there are local advisers we can bring in them as well where they can have an active role. Between myself or {name} and the local adviser and the farmer as well we will put in place the programme for the day. We will do a number of visits and prop put all the information together so before the farm walk that the farmer knows we'll have designated what we're going to talk about and how we're going to deliver it and what props we're going to use on the day. (Farmer)

Well over the years it's been done on the basis of either farmers applying themselves or Teagasc approaching farmers to be demonstration farmers (Programme interviewee).

It's within our organic programme, so it's within Teagasc's business plan. It's an overall part of the programme. (Farmer)

Teagasc's role is to coordinate delivery of the programme. It's a joint programme with the organic unit of the Department of Agriculture and they pay the farmers for partaking in this programme. It's an annual programme, it's part of the annual programme at the moment and all indications are that it will be there again next year. (Farmer)

We just use the network and what we have in terms of local advisers and local radio. We're using all of those kinds of mediums and that's the way we're alerting people for these walks. People don't have to come to them; they're not that kind of programme. We're using all the methods we possibly can through the various stakeholders and our own colleagues within the organisation. (Farmer)

{Teagasc Adviser name} and myself are the main coordinators of the programme in terms of Teagasc participation. Teagasc coordinate and deliver the farm walk programme. The DAFM makes the decision each year regarding the selection of farmers for the programme. DAFM has one main person and two support people that would be involved on deciding on the nominees in the demonstration farms each year. In terms of the farm walk itself then we have Teagasc and the Department of Agriculture staff but Teagasc would be the main facilitators and leaders of the farm walk. (Programme interviewee)

Yes, at the end of each year and the start of each year we would sit down and talk with the organic department of Teagasc and go through how the programme has worked during the year. Each year we try and develop it further because let's say when we started it first the walks were each done over the summer months so we sat down and expanded them to all the various seasons of the year. Some people would want to go to one or two of them and see them in the various seasons. Also we now do on farm analyses like soil samples and everything so we brought that into it. We also do a booklet now for of the walks. So we're constantly trying to improve all the time and we're constantly reviewing it, it's changing all of the time. (Farmer)

Being from Teagasc they would be advertised in farming sections within the local papers, local media, and radio programs. We would link in with our own Teagasc advisers who have group members and they would send out messages and alert farmers in their area that this walk is coming up. (Farmer)

For instance, in terms of local Teagasc offices they would send out texts if it was a cereal farm walk then cereal clients would be texted out as opposed to beef clients. So there would be a certain amount of targeting. When we do advertise the talks locally and at a national level we do outline the enterprise and the topics for discussion so that is a certain amount of targeting. (Programme interviewee)

Q: Do you request feedback on the event day from participants? R: No. It's something that we've never done really. We're coordinating it and there is so much going on. We did it once but not normally. It's something that we should do and what I would take from this is that we should look into doing something like this. (Farmer)

Q: Do you request feedback on the event day from participants? R: From time to time. Because of resources, we cannot do it all the time but for bigger events we definitely do. We have a two-page questionnaire set up in a feedback forum. Generally students or the support staff go around. (Programme interviewee)

Q: Do you evaluate the demonstration activities overall? R: Yes. Yes, myself and {name}, there is the two of us and we always sit down and go through it and evaluate it and all of the rest. After the farm walk we'd always talk to the farmer and see how he felt about it and all the rest so yes we're constantly evaluating it. (Farmer)

Q: Do you evaluate the demonstration activities overall? R: No. Only through those questionnaires. I think that it's something that we need to work on. DAFM conduct their own feedback survey from organic demo farmers post walk. (Programme interviewee)

Department of Agriculture, Food and Marine (DAFM)

As noted earlier, the role of the Department of Agriculture has been instrumental in designing, supporting the consolidation and funding of the programme (the latter will be detailed in the relevant section below). DAFM is involved at host farmer's selection, and its employees are always present during the farm walk offering information.

The Department has one main person and two support people that would be involved on deciding on the nominees in the demonstration farms each year. (Programme interviewee)

In terms of the farm walk itself then we have Teagasc and the Department of Agriculture staff but Teagasc would be the main facilitators and leaders of the farm walk. (Programme interviewee)

If a farmer comes to a walk and wants to know about organic no matter what the enterprise they would learn because of the stakeholder involvement from the Organic Trust {and Irish Organic Association} and the Department who are there to give information to people. (Programme interviewee)

2. The main actors involved in the demonstration activities and their roles

The host farmer

The majority of the farm walks organised are farmer led in the sense that during the events, the farmers are the main demonstrator of her/his farm. Farmers have the leading role to communicate on farm operations and actually talk on all decided topics to the attendees, while advisers, facilitators or experts support the host farmers during the event. The host farmer and the organisers meet regularly before the farm walks. In those meetings the host farmers actually contributes to the design and the preparation of the farm walk. Apart from the farm walks, the collaborating farmers are committed to host some other visits which are also part of the programme, such as the organic FETAC {now QQI} courses, foreign

students or farmers or discussion groups. While host farmers are always involved in the development of the individual demonstration activities, their involvement at the programme level is not that evident.

One of the main features of the organic demonstration farm walk is that in the majority they're farm led. If we have three or four themes in a farm walk over 2 hours if at all possible we want the farmer at every stop because we know that farmers love listening to farmers. We will back up that farmer and we will embellish his message with some technical information. That's the most important feature of our farm walks. We would certainly like to feel that they are practical because of the fact that they're farmer lead. (Programme interviewee)

Q: Are host farmers involved in the development of the individual demonstration activities? R: Always. Most certainly, very much so. If you want the event to be successful you have to make sure that the main person involved who's the main person you're using to communicate so it's absolutely integral (Programme interviewee)

Q: Are host farmers involved in the development of the overall demonstration programme? R: Sometimes. In terms of the overall strategy for the organic industry in Ireland there is a stakeholder process and we do look for submissions from the public and we do get suggestions from the participants with regarding how the demonstration farm programme is run (Programme interviewee).

Once the farmer is involved there and a facilitator or adviser to run that event; that's the main thing (Programme interviewee).

The farmers themselves because it's their farming enterprise and they're going to be demonstrators so when we're doing the farm walk we will have designated stops and the farmer will be at all our designated stops across the farm but we will bring in our own colleagues who have expertise in other areas but we also have the farmer there as well who can talk and that's the approach we take. Where possible we take whatever expertise we have in our own organisation with the farmer and our staff (Farmer).

They receive 3,000 euro per year but they would also have to open up their farm for 2 or 3 other visits from organic FETAC {QQI} courses, or from foreign students or farmers coming, or discussion groups... (Programme interviewee).

Audience/type of participants

The farm walks are actually open to anyone interested and the extent of the advertisement is very wide (national and local). According to the Program Level Interviewee, the intended audience of the demonstration events is anyone interested on different aspects of organic farming. Conventional farmers who intend to convert their farms towards organic farming (60-70%) and those who are already organic farmers are the main participants. Except the main organisers (Teagasc, DAFM), local advisers, consumers/general public and many different stakeholders attend (certification bodies, processors etc). Local advisers are contributing to the overall local community engagement and attendance at the farm walks, as the theme/topic of each farm walk has an influence at the type of the attendees. In that way the farms which produce an end-product for the consumers i.e. horticultural enterprises, are more consumer focused while the rest are more farmer focused.

We have a broad range of people that we want to attract to farm walks. Because organic is just 2% of the land area in Ireland we certainly want to attract conventional farmers, we also want to attract organic farmers. One of the benefits that organic farmers get from the farm walks is the ability to talk to each other before and after the walk and to liaise with various stakeholders who have stands at the farm walks including ourselves Teagasc, the Department, and certification bodies. (Programme interviewee)

I would say that the network is quite packaged towards and organic audience. We would feel that there are already a lot of farm walks for the conventional sector so to that end because there is minimum organic input in those walks we feel that we need to have a very specialist organic walk. It's very much farmer focused in general as well. So we have limited connections with other demonstration farm programmes but we use the skills of local advisers in our farm walks so definitely we're open to the outside (Programme interviewee).

Over the years we have found that there is more organic farmers now pro rata coming to the programme. The majority, I would say 60-70% are conventional farmers, so in terms of dispelling myths that's meeting the goals there. I would say in terms of innovation and best practice I would say that we're certainly ticking that box. I would say that if we need to work on anything it's the market opportunities. Processors are very good in general at coming out to the walks if they have a product to sell. If there are areas of the value chain where there are difficulties in getting the product to market then it can be harder to get processors to go to the farm walks. In fairness though in the majority of the farm walks the processors do go. (Programme interviewee)

Across sectors it's the same, we try and have as many practical demonstrations as possible. I would say that for the horticultural walks we theme them more towards the consumer because from the consumer point of view fruit and veg is very visible in terms of how they perceive organics so the horticultural walks we would tailor them more towards the evening. We have a more consumer focus, talking about the benefits of organic food and why people should buy organic food. But the other enterprises because they are not direct selling, they are selling to the processor, it would be more farmer focused. (Programme interviewee)

We're aiming the walks first of all at farmers who are looking to convert to organic production and to see what exactly organic farming is about and to see it on-farm at a practical level. Secondly for those who are already in organic farming to see what organic farmers are doing and to see what some initiatives, or something they're doing on farm, and taking them home and putting it into practice at home. Then also they're aimed for anyone who is interested in organic farming, the general public, to come along and see organic production in practice. They're open to everyone and they're advertised locally and nationally and all are welcome on the farm walks. (Farmer)

There would be people who are organic farmers themselves; we would actually have people who are actually thinking about going organic. Also we have people that depending on what's going on the farms. So if we have someone who's involved in direct selling or doing processing on the farm as a business that's doing diversification, people who are looking for ideas in regards to changing something on their own farm or doing some diversification would come to it also. Depending on the walk we would have some students at it as well. (Farmer)

We use so many ways I don't really know which. I mean we do it locally, we do it nationally, and we do it within our own website. Certification bodies will put it up and they would also alert their organic members. With the organic walks we find that people are travelling so I wouldn't be able to tell you exactly which way (what works best) (Farmer).

We're trying to hit an awful lot of people so if we give the opportunity to ask questions and they're answered, whether they're an organic farmer or non-organic farmer, or just the general public that come to the walk, well you've got your question answered that you came with. (Farmer)

Researchers and advisers

As already explained the majority of the farm walks organised are farmer led in the sense that during the events, the farmers are the main on farm demonstrator. However, depending on the theme/topic of each farm walk, sometime researchers and specialists attend in order to offer more specialized technical knowledge. Teagasc's employees are the main facilitators of the farm walk supporting the farmer led process.

Local advisers are also involved at the preparation and the implementation of the farm walks. Moreover, local advisers actually contribute to the overall local community engagement and attendance at the farm walks as they are widely connected locally.

We want to keep messages as simple as possible and because they are farmer led as well I think that everyone benefits from simple messages. In a dairy walk for instance, we would probably up it and have more technical knowledge, we would bring in researchers because simply there is more of a need amongst dairy farmers for technical information because they see the benefit in it and they're not scheme led. (Programme interviewee)

So we have limited connections with other demonstration farm programmes but we use the skills of local advisers in our farm walks so definitely we're open to the outside. (Programme interviewee)

One of the main changes that we've had in the farm walk programme is the involvement of local advisers to the farm walks in terms of getting them involved in the organisation of the farm walk. (Programme interviewee)

That would take a lot of planning. We could have to maybe pre weigh cattle, take photographs, put them in the booklet, show before and afterwards. Health and safety is very important in terms of working with machinery as well. Once the farmer is involved there and a facilitator or adviser to run that event; that's the main thing. (Programme interviewee)

Once that is established then we would start doing preparation visits for the farm walk. So we agree all of that with the farmer and then we work also where there are local advisers we can bring in them as well where they can have an active role. Between myself or {Name} and the local adviser and the farmer as well we will put in place the programme for the day. We will do a number of visits and prop put all the information together so before the farm walk that the farmer knows we'll have designated what we're going to talk about and how we're going to deliver it and what props we're going to use on the day. (Farmer)

Being from Teagasc they would be advertised in farming sections within the local papers, local media, and radio programs. We would link in with our own Teagasc advisers who have group members and they would send out messages and alert farmers in their area that this walk is coming up. (Farmer)

Other Stakeholders

There are many different stakeholders in relation to organic farming attending the farm walks. Some of them are involved to a certain extent at the event's processes. Stakeholders like the certification bodies like Irish Organic Association, Organic Trust have stands at the farm walks. These stakeholders offer information to the participants, through leaflets and information packs during the farm walks, and sometimes they also give a talk during the event. They also advertise the farm walks by making use of their organic member's lists. Finally, it seems that students are also involved in some processes such as running the evaluation surveys during the farm walks.

We would also have a number of stakeholders involved that would have stands at the farm walks including certification bodies like Irish Organic Association, Organic Trust, and depending

on the farm walk we'd also invite organic processors to the farm walk as well. One of the main changes that we've had in the farm walk programme is the involvement of local advisers to the farm walks in terms of getting them involved in the organisation of the farm walk. (Programme interviewee)

If a farmer comes to a walk and wants to know about organic no matter what the enterprise they would learn because of the stakeholder involvement from the Organic Trust {and Irish Organic Association} and the Department who are there to give information to people. (Programme interviewee)

Sometimes. In terms of the overall strategy for the organic industry in Ireland there is a stakeholder process and we do look for submissions from the public and we do get suggestions from the public with regarding how the demonstration farm programme is run. (Programme interviewee)

Q: Do you request feedback on the event day from participants? From time to time. Because of resources, we cannot do it all the time but for bigger events we definitely do. We have a two-page questionnaire set up in a feedback forum. Generally students or the support staff go around. (Programme interviewee)

We also have on these farm walks, because it's organic and there is a whole regulation and certification involved, it is a joint programme with the organic unit in Johnstown Castle, an organic unit of DAFM, where the technical admin of organics is done. So they would come in on the day also and give a talk and each farm is certified by a certification body so on the day the certification bodies are there with a stand and whoever the farmer is registered with they would also talk at the walk. (Farmer)

Certification bodies will put it up and they would also alert their organic members. With the organic walks we find that people are travelling so I wouldn't be able to tell you exactly which way (what works best). (Farmer)

Well we usually put a booklet together which we have an overview of the farm and information so there is a farm booklet on the day. The organic certification bodies are there and they have information leaflets for people and information packs. The organic unit of DAFM is there and they would usually give a presentation and they would usually give information if anyone wanted to come up and ask a question. (Farmer)

3. Resources, finances and incentives

The Department of Agriculture (DAFM) funds the demonstration Farm Walk Programme and covers the costs associated with national and local advertising. They also cover technical costs such as soil or manure sampling which may arise from demonstration activities. Teagasc provides personnel to organise and deliver the programme and to conduct the walks. They also cover the costs of booklets and information boards at the events. The host farmers are financially compensated when they enter into the annual demonstration programme. More specifically they receive 3,000 euro per year.

Q: What are the funding arrangements for your demo activities? How do these impact on the lifespan of the farm demo? R: The Department of Agriculture have always funded the demonstration farm walk programme and that's to the tune of 3,000 euro per year. The Department of Agriculture in the last 4 or 5 years have also funded the advertising of the farm walks both at a national and local level. Teagasc then provide their own resources in terms of manpower to the walks. We also pay for the publication of boards and booklets. How the funding affects that lifespan of the programme, I suppose the main changes in the last 4 or 5

years has been the provision of funding for advertising the farm walks that we would hope would prolong the period of the farm walks into the medium and long term. The Department also fund the provision of technical information; that would be the funding of soil samples, manure samples, and slurry samples and again these are all tools that add to the quality of the farm walk. (Programme interviewee)

Q: Do you offer any incentives to farmers to host demonstration activities? R: They receive 3,000 euro per year but they would also have to open up their farm for 2 or 3 other visits from organic FETAC {now QQI} courses, or from foreign students or farmers coming, or discussion groups. They also get good advice from local advisers if they are a Teagasc client, or if not Teagasc advisers are more and more involved in farm walks. They also get free analysis in terms of animal feed and dung samples, animal manure, soil samples, that will help them make decisions on farm. (Programme interviewee)

4. Goal/objectives

The project aims to focus attention on the organic sector in Ireland and to promote interest amongst potential stakeholders by offering reliable knowledge and real-farm examples. They aim to diffuse and to showcase practical innovations and good practices and ideas on farm. In these farm walks, farmers have the opportunity to discuss with peers, benefit from direct contact with important stakeholders in the organic farming community (Irish certification bodies), as well as from the expertise of important institutions and organisations (DAFM, Teagasc).

The main objectives I suppose are to, because organics is only 2% of the population, we aim to dispel some of the myths that are out there amongst the conventional farming community regarding organic farming. We also want to showcase innovations and good ideas that are being practiced on organic farms in order to improve the performance of people farming organically. Also one of the aims is to relay market opportunities that are out there in order for people to make a good living from organic farms. (Programme interviewee)

One of the benefits that organic farmers get from the farm walks is the ability to talk to each other before and after the walk and to laise with various stakeholders who have stands at the farm walks including ourselves Teagasc, the Department, and certification bodies. (Programme interviewee)

The overall objectives of the demo-farm walk is for people to see organic farming in practice. (Farmer)

5. Timing

According to the Programme interviewee, the day and timing of a demonstration event are important, as a wrong timing could have a negative impact on attendance numbers. The good timing depends on the topic and its audience and the season. The topic also is adapted to the timing of each organised farm walk as different aspects of the farm's operations occurs throughout the seasons. The organisers have been decided some years before to extend the farm walks all over the seasons of the year.

I also think that the time of the day is a factor as well. So for instance for a dairy walk if you have that maybe in the morning time it's better because you get people after milking. Time of the year as well I think. For Spring and Winter walks if you have 11 or 12 o'clock that's a very good time for a walk because if you start at 2 o'clock the evening becomes very dark very soon once

4:00 comes along. Then for the summer 2:00 seems a good time for a walk. Undoubtedly weather impacts it as well. If you have a very wet day numbers would go down. (Programme interviewee)

Across sectors it's the same, we try and have as many practical demonstrations as possible. I would say that for the horticultural walks we theme them more towards the consumer because from the consumer point of view fruit and veg is very visible in terms of how they perceive organics so the horticultural walks we would tailor them more towards the evening. We have a more consumer focus, talking about the benefits of organic food and why people should buy organic food. But the other enterprises because they are not direct selling, they are selling to the processor, it would be more farmer focused. (Programme interviewee)

Q: How are demonstration topics selected? R: It depends on the time of year and will depend on what's going on at the farm during that time. At this time of year if you're going onto a cereal farm you're going to be looking at all the cereal crops. If you're on a cattle farm at this time of year you'd be looking at the grassland getting ready for silage and all the rest, whereas if you were talking to them at wintertime I'd be all about winter diet. So a lot of it would depend on the time of the year. (Farmer)

Each year we try and develop it further because let's say when we started it first the walks were each done over the summer months so we sat down and expanded them to all the various seasons of the year. Some people would want to go to one or two of them and see them in the various seasons. (Farmer)

T2. Farm (event level)

1. Event Farm

The Workman's Farm Walk took place on 23 May 2018. It is an average sized, organic cereal farm, with wheat and rye as main crops (Post host farmer interview). The farm entered organic conversion in 2004, with full organic status for the land and produce being achieved in 2006. Initially grain was grown and sold into the animal feed market. Thereafter they decided to grow wheat and then rye. The grain is grown, dried, milled and packaged on the farm. The resulting flour is then sold directly to the consumer. The farm walk is one of a series of 12 annual organic farm walks which takes place throughout Ireland.

2. Topic

Organic cereal production and showcasing the farming and on – farm processing practices implemented on the farm i.e. milling and packaging Some aspects of the topics covered during the farm walk was organic crop rotation, weed control, different crop varieties and direct selling (Observation tool + Poster).

3. Practice/technology demonstrated and farm's layout

The intended aim of this farm walk was to showcase farming and processing practices which have been implemented on the Workman's farm following its conversion to organic farming. More specifically farm processing in terms of milling and packaging was presented. The demonstration took place in a reasonably sized farm building that was used for milling, where the farm's equipment have been

showcased to attendees. There were also comparisons in between fields that had different crops growing, and discussions focused on weed control and yield (Observation tool).

Both programme and Farmers stated that the demonstrations organised by their organisation/or on the specific farm respectively are a mixture of exemplary and experimental approaches. Their views concerning the most preferable demo approach are also identical. They believe that a mixture of experimental and exemplary approaches are better. The specific event was also classified as a showcasing of the existing experience on farm (Post survey demonstrator).

4. Group size

There were some 50 participants in the event (Observation tool).

5. Actors' role

The host farmer / demonstrator

The host farmer is part of Boyne Valley Food Producers network, but he does not hold any elected or appointed roles in it (Post host farmer interview). The topics of the specific farm walk were decided with the host farmer, as demo activities are always steered by the farm profile.

During the event, the host farmer led the farm walk (Post survey demonstrator) and was the main demonstrator; additional input was provided by the Teagasc adviser (Observation tool). The host farmer presented the farming practices carried out and his reasons for implementing them (Observation tool).

Q: What farming networks and/or programmes are you participating in? R: Organics and that's it, there's not really anything outside of that. In the Organic Trust there is a network of organic people that you can look them up and you have all the phone numbers of all the organic people and yes it's definitely a network. We're part of Boyne Valley Food Producers. (Post host farmer interview)

We would have had at least one a year. We're part of Boyne Valley Food Producers and we're in their brochures for giving a farm walk and farm talk as well. (Post host farmer interview)

Adviser / demonstrator

The demonstrator of the farm walk was a Teagasc adviser. She participates in approximately 5-50 demonstrations/farm walks per year (Pre survey demonstrator). She introduced the context of each stop on the farm walk and invited farmers to speak on (Observation tool). The demonstrator of the case study has never received any training in order to become demonstrator. However, she strongly agreed that she could benefit from some extra training as a demonstrator (Post survey demonstrator).

Participants/ attendees

According to the post demonstrator survey, the attendees were predominately farmers. General public and consumers who have an interest in organic farming and utilising short food supply chains/direct selling, and in the flour produced on-farm were also present. According to the observation tool, 50 participants attended the event. It was possible for everyone who wanted to participate to take part in the demonstration. During the farm walk fifteen out of fifty participants were interviewed. Almost 35% of them worked in the local area (Pre demonstration survey participant). The event's participants had quite some different occupations such as farmers, legal secretariats, agricultural advisers, students, millers, housekeepers etc. (Pre participant's survey). There was also an interesting gender balance at this event, as 56% of attendees were women (Pre participant's survey). Eleven out of fifteen participants felt actively or very actively involved during the whole demonstration process (Post participant's

survey). However, as they did not seem to have specific roles/responsibilities in the whole process at the programme or farm level, their answer should be more related to the learning experience. Those who attended the farm walk were encouraged to offer their input at any point through (which seems to have been the main involvement of the attendees in the process, according to available data).

Other stakeholders

Certification bodies were present (Irish Organic Association and Organic Trust) at the demonstration and they were provided with an opportunity to disseminate their information. There were also representatives of the DAFM that offered additional info to participants.

6. Frequency

Usually a one-off farm walk is organised per collaborating farm each year.

I would say that from time to time we have one off events and I would say that is once a year. So one farm out of the 12 we would have maybe a specific theme. I would say that once per year we would have a very large specific event looking at a specific sector. (Programme interviewee)

7. Duration

There is not any data on the duration of the event.

8. Other farm's infrastructures or arrangements

The host farmer and the organisers had made some arrangements for hosting the specific event. They prepared bread and some tasters based on the farm's flour (Post host farmer interview).

Yes, we deck out the cleaning room as we call it and basically when the day happens we stop all work on the farm so it's full on. We don't do anything outside the farm on those days. We much prefer to walk people around now. We do make some bread and have some tasters of it and we set out a display of what we produce and people can buy it as well as a display of our grains and flour as well. We display the mills, they come out and occasionally we do run them just to see them working - just for demonstration purposes. (Post host farmer interview)

9. Accessibility

The travel time of participants to reach the demo farm, ranged from 10 to 240 minutes, with an average time close to 85 minutes (Pre demonstration survey participant). It is not quite clear if the effort rate is related only to the travel distance as the effort ratings were not proportional to the travel distance. Maybe other factors influence the effort rate i.e. participants' motivations, free time etc. (Pre demonstration survey participant).

10. Fees for participation

At the specific demonstration event, there were no fees for participation. Moreover, participants did not receive any financial compensation for their attendance (Post participant's survey)

4. Functional characteristics

T1: Coordinating effective recruitment of host farmers and participants

1. Incentives

The programme is funded by the Department of Agriculture, and coordinated by Teagasc. Funding from the Department of Agriculture includes 3000 euro per year for the host farmer. To receive this funding, host farmers have to open their farm for 2-3 other visits, either from FETAC courses, foreign students of discussion groups. The host farmer receives additional benefits for partaking, such as free analysis (e.g. soil tests) and advice from Teagasc advisers.

2. Motivations for host farmers

The Farmer felt the main objective of the day was for people to see organic farming in practice, and was motivated by the opportunity to dispel some myths about what takes place on the farm, as well to show the innovations that are taking place in organic agriculture.

The Programme interviewee felt it was the natural innovation of organic farmers that motivated them to share their ideas with others. Money was noted as another strong motivator.

The overall objectives of the demo-farm walk is for people to see organic farming in practice.
(Farmer)

Well I think from our point of view that it's practical and farmers by their nature like to see something practical. The whole practical aspect gets people to dispel some of the myths of what goes on in a farm. It just shows them exactly what organic farming is all about. It's also to show innovations and everything that can be seen in organic farming. Overall they get to see good farming practices in organic farming so it's showcasing organic farming from a practical point of view and giving people an understanding of it from the main primary producer that involved in the first stage; the organic producer themselves. (Farmer)

It varies really but I would say that in fairness that organic farmers are very innovative and they're willing to share their ideas and certainly that is a motivation that they want to share their own ideas and they see the benefit of them themselves visiting other farms. If they're approached very often they'll say yes. Now there is also the motivation of money. That certainly is a motivation for organic. But in the main part organic farmers see demonstrator status as a privilege and honour. It is a recognition that they are doing a good job farming (farmers)
(Programme interviewee)

3. Motivations for participants

It was considered that participating farmers had similar motivations to host farmers, in that they wanted to see organic farming in action and learn about the innovations directly from the farmer. The Programme interviewee observed that another motivation was the opportunity for farmers to meet each other and liaise with stakeholders, who have stalls on the day.

Well I think from our point of view that it's practical and farmers by their nature like to see something practical. The whole practical aspect gets people to dispel some of the myths of what goes on in a farm. It just shows them exactly what organic farming is all about. It's also to show innovations and everything that can be seen in organic farming. Overall they get to see good

farming practices in organic farming so it's showcasing organic farming from a practical point of view and giving people an understanding of it from the main primary producer that involved in the first stage; the organic producer themselves. (Farmer)

One of the benefits that organic farmers get from the farm walks is the ability to talk to each other before and after the walk and to liaise with various stakeholders who have stands at the farm walks including ourselves Teagasc, the Department, and certification bodies. (Programme Interviewee)

4. Target audience

Anyone was welcome to the farm walks as they were essentially aimed at anyone interested in organic farming, whether that is conventional farmers looking to convert, existing organic farmers or curious members of the public. The Programme interviewee commented on the different benefits for different audience member; conventional farmers were offered an insight into organic farming practices, while organic farmers were offered the opportunity to network with colleagues and stakeholders.

We're aiming the walks first of all at farmers who are looking to convert to organic production and to see what exactly organic farming is about and to see it on-farm at a practical level. Secondly for those who are already in organic farming to see what organic farmers are doing and to see what some initiatives, or something they're doing on farm, and taking them home and putting it into practice at home. Then also they're aimed for anyone who is interested in organic farming, the general public, to come along and see organic production in practice.

They're open to everyone and they're advertised locally and nationally and all are welcome on the farm walks. (Farmer)

We have a broad range of people that we want to attract to farm walks. Because organic is just 2% of the land area in Ireland we certainly want to attract conventional farmers, we also want to attract organic farmers. One of the benefits that organic farmers get from the farm walks is the ability to talk to each other before and after the walk and to liaise with various stakeholders who have stands at the farm walks including ourselves Teagasc, the Department, and certification bodies. (Programme interviewee)

5. Advertising and recruitment

Farm walks were circulated through Teagasc's network to alert farmers of the event. They were also advertised through local papers and radio. The Programme interviewee observed that recruitment was more successful for mainstream enterprises, such as beef or sheep, than for niche topics, such as hemp farming. Although niche topics still attracted people from a long distance because the innovation sparks interest. The Programme interviewee added that location was an important factor in recruitment; events in the south or south west attracted more participants than events in the east of the country.

T2: Appropriate demonstration and interaction approaches

1. The nature of interaction

The Farmer described the nature of interaction as 'mostly bottom-up', in that he talks to farmers in the run up to demonstrations.

The Programme interviewee described the nature of interaction as ‘mostly top-down’, although placed high value on the farmers’ contribution. In general it seems the farmers share their message then the programme will embellish it with technical information. The Programme interviewee felt that by keeping the walks farmer led it kept a practical element to the days.

It’s somewhere in the middle. If you had to pick one I’d say top down but I would like to think that we’re in the middle somewhere. One of the main features of the organic demonstration farm walk is that in the majority they’re farm led. If we have three or four themes in a farm walk over 2 hours if at all possible we want the farmer at every stop because we know that farmers love listening to farmers. We will back up that farmer and we will embellish his message with some technical information. That’s the most important feature of our farm walks. We would certainly like to feel that they are practical because of the fact that they’re farmer lead. (Programme interviewee)

2. Involving farmers in the learning process and the demonstration programme

The Programme received suggestions from the public on how the demonstration farm programme is run, as part of the stakeholder process and public consultation process (Receive Organic Strategy Plan 2018-2021).

Sometimes. In terms of the overall strategy for the organic industry in Ireland there is a stakeholder process and we do look for submissions from the public and we do get suggestions from the public with regarding how the demonstration farm programme is run. (Programme interviewee)

The Programme interviewee felt it was integral to involve the host farmers in individual demonstrations, as they are the main communicator on the day.

Most certainly, very much so. If you want the event to be successful you have to make sure that the main person involved who’s the main person you’re using to communicate so it’s absolutely integral. (Programme interviewee)

Participating farmers were not involved in the programme; and whilst there was also no formal process for involving participating farmers in individual demonstrations, the host farmer did appear to draw on the expertise of farmers in his own network.

It’s probably not a straight forward yes or no. Let’s say we go and decide on the farm walk and I know there is expertise within my own organisation that I can use. Well then when I talk on my initial visit to the farmer done then I know I can get someone in that would be able to help us out then. Step two then would getting the expertise. (Farmer)

3. Focus

Both the Farmer and the Programme interviewee described the network as ‘whole farm’.

4. Design

The Farmer described the network as ‘experimental’, but expressed a preference for ‘a mixture’ between experimental and exemplary, feeling this was a truer representation of the farm system. Likewise, the Programme interviewee described the network as ‘experimental’, but expressed a preference for ‘a mixture’, because it is good to combine innovation with relevant aspects of the farm.

We always showcase an innovation in every farm and if possible a live demonstration of an innovation but most of the stops would be focused on aspects of the farm rather than live demonstrations or innovations. (Programme interviewee)

5. Group size

The Programme interviewee felt that as long as the group size was below 100, it was small enough for people to be able to ask questions. The Farmer felt the group should be smaller (between 30-50) in order to keep everyone engaged and able to listen.

Ideally no more than 50, 30-50, after that you're getting into big numbers. The message is lost and then you might have some people in the background that start to talk and mutter and even trying to keep them quiet is...there are more distractions for people and trying to keep the group together and not wonder off and all the rest. (Farmer)

Usually there are less than 100 attending the walk so it's a small enough group that people can ask questions. (Programme interviewee)

T3: Enabling learning appropriate to purpose, audience, context

1. Facilitating interaction and learning: structure, content and techniques

Both the Farmer and the Programme interviewee emphasised the importance of having a practical demonstration. Although, as the Programme interviewee commented, this can take a lot of planning and requires a consideration of health and safety. The Farmer added that mixing demonstrations with technical information creates a balance of teaching styles, which means they are able to accommodate more people. The Farmer described the farm walk as combining the discussion with the tour of the farm, rather than discussing the topics and then seeing the farm.

I think a balance because some people like to get technical and some people like to get a demonstration so it's to suit your audience and how they like to learn. We would structure it in that the farm walk is actually a walk and we would have a number of designated stops and designated topics so we'd be looking at concentrating on moving so we would actually walk the farm and cover the topics rather than showing crops, and showing animals, and discussing the various aspects as we walk around the farm walk route. (Farmer)

Well to have it as practical as possible. They go down very very well. For instance, you could have a demonstration of weeding the crop; you could have a demonstration of weighing of cattle. It has to be visual. That would take a lot of planning. We could have to maybe pre weigh cattle, take photographs, but them in the booklet, show before and afterwards. Health and safety is very important in terms of working with machinery as well. Once the farmer is involved there and a facilitator or adviser to run that event; that's the main thing. (Programme interviewee)

There was a wealth of materials offered to participants on the day. The programme collated a booklet of information about the farm and its history. There were also leaflets and information packs from the organic certification bodies that have stands on the day.

Well we usually put a booklet together which we have an overview of the farm and information so there is a farm booklet on the day. The organic certification bodies are there and they have information leaflets for people and information packs. The organic unit is there and they would usually give a presentation and they would usually give information if anyone wanted to come up and ask a question. We go through the history of the farm in the booklet and let's say we did a beef walk we would go through the grassland management, the cattle performance, and we would look at the profitability through the e-profit monitor; the Teagasc tool. We'd hope from the very start to the very finish that whatever enterprise we're looking at that we've give an overall view of it all. (Farmer)

The Farmer cited 'Participants ask questions & talk openly', as the most important tool for engaging participants, especially if there are specific questions that the participants want answered, as this helps the farmer to feel the day was really worthwhile.

I just myself in the role of somebody that's coming to a walk. A lot of people would have a specific question. We all have questions and I think that over the two hours you get a lot of information and you won't retain it all but if you come with a specific question then the topic is dealt with and you get your question answered and I think that you'd feel good coming from the walk and it's a good experience. (Farmer)

The Programme interviewee cited 'Visualisation techniques, or other multi-sensorial experiences' as the most important, because 'People need to be able to see things'. The Programme interviewee seemed to feel strongly that the visual element to the day was central to learning and engagement.

They see the farmer, they see the grass, they look around, they're listening. Two things about a farm walk; people need to be able to listen and hear and it has to be farmer led. I suppose that's why visualization techniques and something practical and something tactile. It's looking at clover, it's looking at crops to see a live demonstration. (Programme interviewee)

2. Taking into account variation in learning

The information booklets disseminated at the start of a walk provided detailed information about what was covered on the walk, which allowed the farmer to keep the presentation simple. It was felt by both the Farmer and Programme interviewee that this method allowed them to accommodate for more learning styles and levels of knowledge. The Programme interviewee showed an attempt to try and assess the interests of the farmers on the day; if they were more technically minded, the farm walks would focus on this, but if not, then the focus would be on other aspects of organic farming, such as the social element. Furthermore, the Programme interviewee observed that certain topics have specific requirements; for example, a dairy demos require a greater degree of technical information.

It's very hard to do that because this is a programme that we're trying to hit a lot of bases so what we would try to do is that within the farm walk that we provide people with the booklet that would provide information on regulations and standards and all of the rest and we would try to focus on the farm walks on the technical side also. So we do try to do both yes. (Farmer)

We want to keep messages as simple as possible and because they are farmer led as well I think that everyone benefits from simple messages. In a dairy walk for instance, we would probably up it and have more technical knowledge, we would bring in researchers because simply there is more of a need amongst dairy farmers for technical information because they see the benefit in it and they're not scheme led. If the farmer is very technical efficient we would bring that out in him and we would have a more technical walk but it depends on the farmer. If the farmer isn't as technically efficient we would talk about other aspects about going to organic like social aspects

or lifestyle aspects but it's really down to the farmer. It's the type of farmer that drives that. One of the most common things that me and E would say in a farm walk is that we're not going to go into more detail in that but it's all in your book (the farm booklet disseminated before the event). (Programme interviewee)

T4: Effective follow-up activities

1. Follow-up activities and materials

Although there was no formal procedure for engaging participants after the event, the Farmer gave a couple of examples doing so. For example, the Farmer would alert participants of other events happening that are relevant to them. The Farmer also mentioned meeting the same people again at other events, and being able to engage with them in this informal setting.

Yes, not in all cases but in some cases. If I am giving a talk to a group of students and I need to bring them out to an organic farm if they're in the area that I'm doing it in then I will link in with them again and ask them. If we are doing courses again we would link in with them. Also some of the farmers would go to each other's organic demonstration walks so I'd see them after that so there would be some form of engagement yes. (Farmer)

Materials were provided by the organic certification bodies to take away, but the Farmer did not give any follow-up materials for the farm walk.

Yes we have handouts and the certification bodies have information. I don't give any follow-up material no. What they get they have leaving the farm walk. (Farmer)

2. Assessing impact

There was no formal means for assessing impact among participants, but again the Farmer mentioned the informal means of assessing impact through conversations with participants after the event.

Maybe if I knew some people and I met them after the walk I'd ask them what did they think and they might say that farmer is doing something and then is engaged in it. (Farmer)

There was also no attempt to assess the impact of events among the wider farming community. The Programme interviewee believed that 'farmers who go into organic generally they go to walks and we know that that's a very important part of their decision making', although admitted they had no evidence for this.

We don't have evidence of it but we know because there aren't too many organic walks throughout the country. (Programme interviewee)

5. Event analysis: effective peer learning characteristics

Event details

The group consisted of about 50 participants, of which 16 filled in the pre survey and 15 the post survey. Everyone who filled in the pre survey stated they worked in the local area.

	n° surveys	Ag Advisor + teacher	Councillor	Farmer	Farmer + advisor	Manufacture organic flour	House keeper	Legal secretary	Mechanic + hobby farmer	Miller	Retired	Science + farm assistance	Solicitor	Student	
Occupations	16	1	1	2	1	1	2	1	1	1	1	1	1	2	
working area	14														
local area	5		1	2			1				1				
not local area	9	1			1	1	1	1	1	1		1	1	2	
Gender	16														
Male	7			2	1				1	1			1	1	
Female	9	1	1			1	2	1			1	1		1	
Age	13														
18-30	2													2	
31-40	2					1				1					
41-50	3							1	1			1			
51-60	1						1								
60+	5		1	2							1		1		

T1: Learning processes

1. Communication initiation by participants

When in the whole group or in smaller groups, between 10% and 50% of the participants had no problem sharing their knowledge and/or experiences related to the topic. There was some time for questions and some (5-10) questions were asked. There were a few participants trying to formulate their own points of view regarding the topic.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I had the feeling that I could share my own knowledge as relevant information.	1/15	2/15	5/15	3/15	4/15
I asked at least one question during the demonstration .	3/15 yes				
I shared my own point of view at least once during the demonstration.	4/14 yes				
I felt encouraged to ask questions during the demonstration.	1/15	1/15	4/15	8/15	1/15
When there were any discussions, I felt comfortable sharing my opinion.	1/14	3/14	3/14	4/14	3/14

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I asked participants to share some of their own background knowledge during the demo.	0	0	1	0	0
I encouraged the participants to formulate their own point of view during the demonstration.	0	0	1	0	0
I encouraged the participants to formulate questions during the demonstration.	0	0	0	1	0

2. Interactive knowledge creation

Hands-on opportunities and other multi-sensorial experiences

There were no hands-on activities demonstrated or possible to be carried out by participants. Participants were invited to look at bags of grain at the end of the walk as well as the milling. Baked bread using the flour produced on the farm was also kindly provided to the audience. This allowed those who attended to gain an appreciation of the quality of the produce.

Discussion opportunities and negotiating conflicting points of view

There was a facilitator there who was a Teagasc Organic Adviser. The adviser would introduce the context of each stop on the farm walk and invite the farmer to speak on his experience. The adviser also asked the audience for input. Open discussions between a few participants were stimulated, but (almost) no critical points of view on the topic were shared.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	1/15	0	4/15	10/15	0
If participants didn't agree with each other during discussions, somebody (demonstrator/other participant) tried to reach a consensus between them.	0	2/15	1/15	6/15	6/15

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	0	0	1	0
If participants didn't agree with each other during discussions , somebody (me or somebody else) tried to reach consensus between them.	0	0	1	0	0

3. Engagement during the event

The demonstrator acted like friends with the participants.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I felt actively involved during the whole demonstration process.	0	2/15	7/15	4/15	2/15
I felt like the demonstration increased my ability to rely on myself as a farmer.	0	0	5/15	4/15	6/15
I could relate well to other participants (because they have an agricultural background similar to mine).	1/15	0	7/15	2/15	5/15
A lot of the other participants are part of the same farmer network as me.	2/15	1/15	5/15	2/15	5/15
I felt like I could trust the knowledge of (most of) the other participants.	0	2/15	4/15	7/15	2/15
The demonstration felt like an informal activity to me.	1/15	1/15	3/15	9/15	1/15
I thought the host farm was comparable enough to my own farm.	0	5/15	1/15	2/15	7/15
I had the feeling the demonstrator was like one of us.	1/15	1/15	4/15	8/15	1/15
I had the feeling I could trust the demonstrators knowledge.	1/15	0	2/15	12/15	0
I got along very well with the demonstrator.	0	0	4/15	10/15	1/15

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
Were participants (farmers, advisers, researchers etc.) involved in the overall development of this demonstration?	Yes, At the very start (the farmer was involved) in the input of the topics and the actual route of the walk.				
w	0	1	0	0	0
A lot of the participants are part of the same network as me.	1	0	0	0	0
The demonstration felt like an informal activity to me.	1	0	0	0	0
I think the host farm was well suited for this demo.	0	0	0	1	0
I got along well with the participants.	0	0	0	1	0

T2: Learning outcomes

Explained knowledge was very clearly understandable and sometimes the same thing was explained in different ways. Skills were carefully and effectively addressed and put into practice to foster maximum uptake by participants. Common methods or ways of thinking on farming and thinking on learning were questioned and alternatives were shortly elaborated on in group.

	participant answers				
What would you ideally like to learn today?	Grain production in Ireland and flour milling; Background to all stages of flour production; How to get by without roundup and wild oat spray; Knowledge of growing spelt/rye; How to explore niche food for organic oats; Greater understanding of where raw ingredients come from, farming practices etc.; How to combat weeds				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
The demonstration met my expectations regarding what I wanted to learn.	2/14	0	2/14	10/14	0
The demonstration exceeded my expectations.	0	3/15	6/15	6/15	0
I felt surprised at some point(s) during the demonstration.	0/15	4/15	5/15	6/15	0
I obtained a clearer understanding of the topic(s) demonstrated.	1/15	0	7/15	7/15	0
I have the feeling I learned something new (knowledge, skill, practice, etc.).	1/15	0	5/15	9/15	0
I thought about how I could implement some of the ideas and practices on my own farm.	0	1/15	3/15	5/15	6/15
I reflected on my own point of view at some point during the demonstration.	0	1/14	6/14	4/14	3/14
I learnt about the principles underlying a practice.	1/15	1/15	5/15	8/15	0
I thought about how we learn something new on demonstrations (e.g.: teaching methods).	1/15	1/15	7/15	5/15	1/15
I thought about why I want to learn about the topic(s) of this demonstration.	0	1/15	7/15	7/15	0

	demonstrator answers				
what do you intend for the participants to learn today?	I want them to see organic cereal production. I want them to see that in practice, to see the rotations that they use on-farm and how they add value to their product by processing on-farm. I want to get people to see on the production end to see value being added to the product. So it is divided into two, the agronomy and the processing side of it.				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I think participants have learnt what I intended them to learn.	0	0	0	1	0
I tried to surprise participants with uncommon/new knowledge/new skill.	0	0	1	0	0
I felt surprised at some point(s) myself during the demonstration (e.g. by a question or discussion).	0	0	1	0	0
I obtained a clearer understanding of the topic(s) myself.	0	0	1	0	0
I have the feeling I learned something new during this demo (from participants, discussion...).	0	0	1	0	0
I reflected on my own point of view myself at some point during the demo.	0	0	1	0	0
I encouraged participants to reflect on their own point of view during this demo.	0	0	0	1	0
I encouraged participants to reflect on their own situation sometime during this demo.	0	0	1	0	0
I encouraged participants to reflect on how we learn something new on demonstrations.	0	0	1	0	0
I encouraged participants to reflect on why we are trying to learn about the topic of this demonstration	0	0	0	1	0

T3: Overall comments on the effectiveness of the event

Participants:

With an average of 4,7 on 5, participants rated the event overall as very effective. 10 on 10 participants who answered the question would recommend the demonstration.

As main effective characteristics of the demo participants mentioned: Interested in organic cereal growing and flour milling; Very clear information from the farmer; Scenery and weather and location; All very relative and interesting. Shared all the details of the farm; Increased knowledge; I have a big interest in organic tillage (stockless) so it was just down my road; Gave me an insight into how the products I use are grown; I liked the growing/producing aspect - excellent to have both on the one area.

One participant mentioned following suggestion for improvement: Circulate the literature on the (ineligible) on the days before the so that it can be considered in advance. Also more consideration on the marketing of the product.

Demonstrators:

As main effective characteristics of the demo, the demonstrator said: 'I think hearing it from the farmer themselves. It was made up of predominately a farmer audience so it was peer to peer learning and I think that made it very effective.'

As suggestion for improvement the demonstrator mentioned: 'Maybe if we had more on farm demonstrations using pieces of equipment. '

6. Annex: Case study poster July 2018

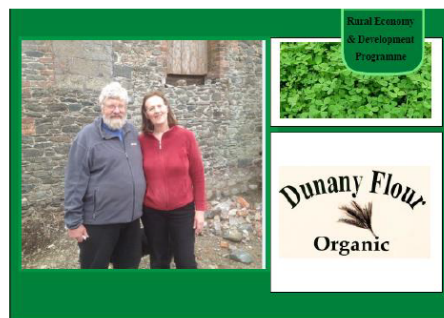


FarmDemo

CASE STUDY “Ireland”: Andrew Workman

Teagasc (Ireland)

The Workman’s cereal farm entered organic conversion in 2004, with full organic status for the land and produce being achieved in 2006. Initially grain was grown and sold into the animal feed market. With fluctuating grain prices, they looked at other ways of selling grain. They decided to grow wheat and then rye and spelt for flour and make their own flour to sell direct to consumers. The farm walk was used to showcase the farming and processing practices implemented on the Workman’s farm.



Objectives

- Initial objective: showcase organic farming.
- Secondary objective: showcase on-farm processing.
- Tertiary objective: promote direct selling.

Motivations

- Only 2% of the land area in Ireland is considered organic. Therefore, such organic walks are used to increase the uptake of organic agriculture.
- For the landowner, personal interest, pride and financial support are important drivers
- For the advisor, the open personality of the landowner and willingness to engage are essential tools in the extension effort

Topic selection

- Organic crop rotation, weed control, crop varieties, on-farm processing, direct selling.

Audience & participation

- Informing landowners of different organic practices.
- Consumers that have bought Dunany flour.
- Those interested in selling direct to consumers.
- No participation fee.

Demonstration set-up

- Initially top-down (led by extension), but open discussion encouraged.
- Advocacy contribution by the farm owner is considered the most important by advisor.
- Demonstrations for different levels of audience knowledge.
- Certification bodies provided with opportunity to disseminate information.

Evaluation peer-to-peer learning environment (23rd May, 2018 – Andrew Workman/Dunany Flour)

- Those who attended the farm walk were offered to offer their input at any point throughout.
- Attendees cited knowledge exchange as being a pivotal reason for attending the event.
- Participants would recommend the event to others

- This farm walk is part of a series of 12 annual organic farm walks that take place throughout Ireland.
- Demonstrates how to engage efficiently with farmers who vary in their experience, profession, and sector.
- Demonstrates how to engage with the general public who have an active interest in organic farming and short food supply chains.



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Ireland Case Study 2

1. Background

Programme

The Agroforestry: LB (ALB) project originated in the forestry programme of the Department of Agriculture, Food and the Marine (DAFM), and Teagasc. One of the objectives of this programme is to promote the afforestation of Irish farmland. ALB is a small multi-partner project. It is co-ordinated by the Teagasc Forestry Development Officer JC and EC from the Forest Service of the DAFM, in conjunction with part-time farmer LB on his 20-hectare beef farm. In 2011, a forestry company established a pilot agroforestry plantation on the farm. The farmers, other landowners, professional foresters and policymakers who attend the ALB public demonstration events are the other involved actors. ALB has been used to proof agroforestry establishment and management methodologies, and as a feasibility demonstration for farmers, other landowners, professional foresters and policymakers. Agroforestry is a new land use in Ireland. The initial objective of ALB is to test the feasibility of the plantation; the second objective is to utilise it as a demonstration plot; and the tertiary objective is to test management methodologies.

Funding and Governance

In addition to Teagasc, the Forest Service of the DAFM and LB as co-ordinators, ALB is recognised by PLAID and AGRIDEMO.

Teagasc and the Forest Service of the DAFM co-ordinate the public demonstration events but LB facilitates the knowledge transfer process extensively at these events.

Teagasc organises the events (dates and times), and it also formulates the topics that will be covered at the demonstration events. These are determined by the type of audience that is expected; for example, farmers, professional foresters or a mixed group.

The Forest Service of the DAFM provides the background to ALB at the demonstration events as it has overall responsibility for the wider forestry programme. It also responds to the administrative and technical questions.

In addition, the forestry company that established the ALB plantation relates its experience in this regard.

ALB receives no funding, although LB did receive grant-aid towards its establishment and he receives on-going and additional forestry premium.

Actors and Networks

Teagasc, the Forest Service of the DAFM and LB (3 people) co-ordinate and administer ALB. The public demonstration events take place as part of a series of forest walks that are used to promote the wider forestry programme.

Firstly, the events are used to inform farmers and other landowners of the benefits of afforestation. Secondly, they are used to develop relationships with professional foresters so as to maintain conversations around agroforestry management issues and to promote agroforestry. Thirdly, they are used to show policymakers how agroforestry can fit into agricultural planning.

Augmenting this network, LB has been interviewed several times about ALB and it has been profiled on television and radio, and in newspapers and magazines (<https://www.independent.ie/business/farming/potential-of-agroforestry-can-no-longer-be-ignored-34334472.html>).

Outside of these networks, and in the context of research, the coordinators consult with the Agri-Food and Biosciences Institute Loughgall, Northern Ireland. This involves both advice and site inspections.

In addition, in 2017 three secondary school pupils won the Teagasc Special Award at the BT Young Scientist & Technology Exhibition in Dublin for an agroforestry project that they had based on ALB, and on working with Teagasc, the Forest Service of the DAFM and LB (<https://www.irishexaminer.com/farming/news/teagasc-land-award-for-schull-school-students-439470.html>).

How It Works

- The public demonstration events are advertised on different media platforms: television, local radio, online and in local newspapers, as well as through the coordinators' networks of personal contacts (data protection legislation has rendered older databases of interested parties obsolete, however). Local radio and newspapers tend to be the most effective media platforms.
- At the public demonstration events, knowledge transfer is initially top-down in nature (as is to be expected when introducing a new type of farming). Subsequently, open discussions are encouraged.
- Typically, 15–20 people attend the events.
- The advocacy contributions of LB are considered the most important by the other coordinators and by any other advisers in attendance.
- Depending on the specific demonstration event, and the topics that have been formulated for it, events are either targeted at certain cohorts or integrated and generalised.
- A standard forestry plantation adjacent to the ALB plantation is used to illustrate the difference between the two.
- Printed handouts are distributed at the public demonstration events and email addresses are taken (with the permission of the participants) for the distribution of digital material relating to agroforestry.
- Demonstration events are complemented by follow-up meetings with attendees either involved already in agroforestry or diversifying into it.
- The public demonstration events are single elements of continuous dialogues around agroforestry, which are maintained on a one-to-one basis, in group contexts and through media.

Event Farm and Location

LB's beef and agroforestry farm is in Clonakilty, County Cork.

Event Date: April 30th 2018

2. Method

In line with the Methodological Guidelines, three main data sources are used: a background document and interviews at Programme and Farm level to analyse structural and functional characteristics, and event tools and surveys to analyse event level participation and learning, as follows:

1. A background document for every case study was completed by the AgriDemo-F2F partner who carried out the case study.
2. Interviews with representatives of programme/networks (level 1) and farm level interviews with demonstrators/hosts (Level 1) to reveal how the functional and structural characteristics enable learning. Analysis of these interviews is reported in Sections 3 and 4. Data is sourced from 2 interviews at the programme level and 1 at the farm level. The analysis followed 4 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes,(4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.
3. Event tools and surveys (level 3) to reveal peer to peer learning processes. Event details and analysis is reported in Section 5. Data is sourced from 5 pre and post-demonstration participant surveys, pre and post event surveys with 1 demonstrators, and an event observation tool completed by an observing researcher. This data is mainly used for the analysis of learning processes and learning outcomes related to the specific event and overall comments on the effectiveness of the event. The analysis followed 5 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes,(4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities .

Finally, partners reviewed the case study reports to prepare their workshops with different stakeholders related to the case studies. These workshops aimed at validating the data presented in the case study reports. The workshop for Ireland will be held in the beginning of 2019.

3. Structural Characteristics

T1: Programme/network level

1. The main organisations involved in the demonstration activities and their roles

The Afforestation Programme is designed to increase the amount of forestry in Ireland, as the country has got the lowest percentage of forestland in Europe. The Forest Service of the Department of Agriculture, Food and the Marine (DAFM) has the overall responsibility for the wider forestry programme nationally. In the frame of this overall programme, there is the ALB initiative which is a small multi-partner agroforestry project. One of the objectives of this project is to promote the afforestation of Irish farmland. A pilot agroforestry farm has been established in a farmer's farm, with the aim to be a demonstration plot promoting agroforestry. Teagasc, the Forest Service of the DAFM and the demo farmer coordinate and administer the ALB project.

Well it's the forestry programme and is basically designed to increase the amount of forestry in Ireland, it's got the lowest percentage in Europe and we want to rectify that. It's at eleven percent now, we're trying to get it up to seventeen percent, so we're trying to ensure that farmers are encouraged to plant through grant payment and trying to ensure that the estate isn't eroded by felling without replanting, so we coordinate the felling licenses as well which ensures that what is planted remains there - and we also monitor plant health as well and we (the Forest Service) would coordinate policy. In the particular case of the agroforestry demo plot, I mean he's got conventional forestry and he's got agroforestry – most of the attention I suppose in recent years has been on his agroforestry plot and largely it comes down to the local personnel as to how much of that is organised It's very much maybe a localised thing. (Programme interviewee 1)

So the overall program objective is the forestry programme, its origin is in the Department of Agriculture and Teagasc, one of the aspects of this is the promotion of a forestation that is planting new land. For this demonstration purposes, it is an agroforestry plot. So this agroforestry plot there are a number of objectives to it. The initial objective was a pilot feasibility plot, the secondary objective is a demonstration plot and then the third objective is proving new methodologies and establishing agroforestry plots. (Programme interviewee 2)

Well the, the demonstration plot was set up under the old Afforestation Programme. There's no onus on the owner to use it as a demonstration plot, it's totally voluntary, he gets nothing extra for, for doing it, other than the fact that he gets some media recognition I suppose and he would have the occasional appearance in papers and, and television as well from time to time, which sort of increased his profile I suppose. (Programme interviewee 1)

Well the demonstration farm I suppose is connected, it's part of the Afforestation Programme, so other aspects of the Afforestation Programme would tie in to it, but also we could see that other parts of agriculture could possibly end up being linked in more closely with it post 2020 where organic farming, for example, might be closer linked in with it. (Programme interviewee 1)

The Forest Service of the Department of Agriculture, Food and the Marine (DAFM)

At the very beginning, ALB was a pilot project for agroforestry as there was no other example implemented in an organised way. With DAFM's initiative, the results of the research plots of the Department of Agriculture were used as a model to set up the ALB project farm. Thereafter the state Forest Service inspector of DAFM together with a commercial forestry company representative,

approached the host farmer to initiate the project. They set the pilot agroforestry farm and since then the farm is used as a demonstration plot. The Forest Service of the DAFM and Teagasc organise the public demonstration events on the farm, during which agroforestry is always the topic covered, with various aspects of the topic each time presented, depending on the audience. During the demonstration events, the Forest Service of the DAFM provides the background information in relation to the ALB project as it has overall responsibility for the wider forestry programme. DAFM's employee also responds especially to administrative and technical questions emerging during the event. DAFM's role during the event is intentionally discreet in order to let free discussions and information sharing between attendees. Furthermore, the extent of involvement of DAFM during the event depends also on the type of audience attends. DAFM tends to answer more questions when other stakeholders than farmers attend i.e. Department's staff, forest industry representatives etc. DAFM also use its contacts to "advertise" the demonstration events on the specific farm (personal contacts, phone etc.). DAFM does not request feedback from demo participants in a formal way; it employs a rather informal exchange, with Department colleagues or other already known stakeholders, which they contact either in person or over the phone. A future objective for DAFM is to set up an agroforestry group organisation to reinforce communication and linkages between the agroforestry demo farms. At this moment there are not enough farms to build up a network. DAFM, also edits some kind of follow-up materials concerning agroforestry i.e. leaflets, brochures. These published materials are available to the participants at the demo events.

{state Forest Service inspector name} initially approached me along with Greenbelt (commercial forestry company) in relation to doing this agroforestry, I had never even heard of the word agroforestry prior to this. So when he ran the idea, when he gave me the idea I ran with it because it suited me because I was a little bit slow in giving over all my ground to forestry and just the idea seemed perfectly suited to me that I could still use the land and have forestry in it at the same time. (Farmer)

With the program itself or the demonstration plot generally what happens is there is myself as the Teagasc representative and there is a colleague of mine {name} from the forestry service, he is an inspector of the forest service. So normally we coordinate these events. Generally many of the public events are done in coordination with the forest service. (Programme interviewee 2)

My own role is pretty much to try and organise these, some of these meetings and to stand in the background basically and let the discussion take place. I would like to see the farmers and landowners interact and people within the industry interact without me really saying a huge amount, other, unless I'm asked.....I said before I would tend to try and sit back a bit in the discussions and let people ask questions directly to Liam and let the conversation develop. (Programme interviewee 1)

{state Forest Service inspector name}, the Forest Service inspector, normally would provide the background to the scheme and because he's in charge of the overall scheme on a nationwide basis he's also able to answer some of the technical questions or administration questions. (Programme interviewee 2)

JM and Loughgall, the research are the Department of Agriculture in the Northern Ireland and there's AFBI, Agriculture and Food Bioscience Institute in, up in Armagh. JM has set up research plots in Loughgall in the Eighties It's well established at this stage and usually with something like this you do research first and then you put it in to practice, in the Republic we, we didn't have any research so we used the research done in the North in order to set up our, our programme in Agroforestry, so we used, used their research. We do not have direct linkages with the Farm Woodland Forum, a largely UK network, although they've had meetings in the North and in Teagasc facilities in the south. They're conditions, climatic and environmental

conditions are very similar to ours and that's why they've taken an interest in what, what we are doing and, and vice versa. (Programme interviewee 1)

Well when we were setting up the site initially, I told him, he was the first, he was pioneer in this whole area and would he mind if we occasionally showed it to people and he said no problem at all and that has been the case ever since. (Programme interviewee 1)

Q: How do you target farmers to host demonstrations? R: Well I would say in this case it was lucky more than anything else. The farmer had applied, or had been encouraged by EC the Forest Service's Inspector, to go for the forestry option. He then proved very amenable afterwards. So because it was a feasibility pilot plot he was the only option. As it turned out he was also practically one of the best options we could have come up with. (Programme interviewee 2)

Direct contact, phoning them, talking to them and saying are you coming, and, and if not, and maybe sort of saying the benefits of what it is, directly talking to them, it's, it's a bit of an effort, it is a lot of an effort, it's a bit like when everybody is busy and taking that amount of time to talk to people, but I think it depends on who you're targeting, if you want to get people who are shaping policy, who are, who are in a good position to develop the business then it's time worth taking. (Programme interviewee 1)

Q: How are demonstration topics selected? R: Well usually when we go out to the agroforestry plot it's already understood and known that we're going to be talking about agroforestry, that's the topic, and around that you've environmental issues, you've got social issues, you've got landscaping issues, you've got forestry issues and you've got carbon sequestration, all sorts of, various different aspects going on, animal husbandry, animal welfare, potential of different crops and animals within the systems, so again, similar to previous questions, the, the, we don't want to stick to formally to an agenda, we kind of let the discussion take place and, and just show them and try and get them to appreciate what the concept is all about. Demonstration topics would vary, I mean again if farmers are there you'd let the farmer talk to the farmer, but yeah, if there are people from the Department or the forest industry, they're going to ask different sorts of questions, questions that perhaps Teagasc and ourselves in the forest service are in a better position to answer. (Programme interviewee 1)

Q: Do you plan and design activities differently for different topics? R: Well in this case I, again it's the audience, they do, if, if you have policy makers and people in the industry you're topics that you would select to discuss would be slightly different to those than if you've a large number of farmers in attendance, they want to know more about the financial side of things, whereas if there's somebody from the Department there they may be looking at maybe the policy side of things and maybe the administrative side of things, how easy is the thing to administer, those are the kind of issues that farmers wouldn't have, wouldn't be kind of, they wouldn't be foremost of their kind of priorities, where it would be for someone in the Department, so that would shape the topic discussed. (Programme interviewee 1)

Q: Do you request feedback from demo participants? R: I don't expect it. I, I, I see it as a very positive thing if they do – it depends on the people who are there, if for example people are from the Department and they're from let's say the organic section and they've come down to see what agroforestry is all about and I don't hear anything from them then I'll be, I'll be kind of amazed, whereas I would be expecting something back from them almost the next day, or even, even on the day itself. if it was somebody who I reckoned I needed to know whether it was, whether it was what they expected, I would phone them while they, while their information was still kind of fresh in their minds. I know people have busy lives and people have, you know, rushing around and people may even have tried to contact you and couldn't contact you and so

rather than kind of thinking have they been trying to contact me I would usually pick up the phone and, and try and contact them just in case. (Programme interviewee 1)

Q: Do you - at the programme level - continue to engage participants after the demonstrations?

R: very much so, for example, farmers who have established agroforestry plantations further up the Country, they will send me information or comments from time to time, so we stay in touch. I would be hoping that at some stage in the future when enough people are involved in agroforestry we might set up our own organisation, an agroforestry group organisation but at the moment - that would help the communication and the linkages, it would improve that big time - but at the moment, there aren't enough people at the moment to really warrant something like that just yet (Programme interviewee 1).

Q: Are follow-up materials made available to participants after demos? R: Usually, well up to now we've had these brochures that we publish for the agroforestry measure, the GPC 11, Grant Premium Category 11, which is agroforestry, we produced leaflets and sometimes we'd make those available to people, unfortunately they're out of date now with the figures in them are, are no longer up to date, so we'll probably have to have new ones, new copies of that, versions of that made, so that's about all we have at the moment to hand out to participants. We try to distribute them at agricultural shows or forestry shows or at evenings where there might be a Teagasc event or something like that, but yeah, it would be on the day pretty much. (Programme interviewee 1)

Teagasc

Teagasc engages in the programme through its Forestry Development Officer. Teagasc has more organisational and dispatching responsibilities than DAFM, as it organises the events (dates and times) and it also formulates the topics that will be covered. The topics are determined by the overall program objectives (promote agroforestry), the type of audience that is expected as well as by the work is carried out at that particular time of the year on the plot itself. The host farmer is actually involved at the selection of the aspects of the agroforestry topic they are going to focus each time. The host farmer is the main demonstrator during the event. Teagasc's and DAFM's stuff usually make an introduction before the farmer's presentation that gives some triggers for open discussion. Teagasc's role during the event, as DAFM's also, is intentionally discreet in order to let free discussions and information sharing between attendees. They usually enter to the discussions at some particular times when required. The public demonstration events are advertised on different media platforms as well as through Teagasc's databases or personal contacts. Teagasc has already run some surveys to participants in order to find the best way (media) to advertise the event. The host farmer has a direct/close contact with the responsible Teagasc adviser as well as indirectly with Teagasc's researchers. Moreover, Teagasc request feedback from demo participants at the farm walks, mainly through informal discussion. At the more formalized demonstration events, that welcome a large amount of people, feedback is requested in a more formal way (feedback forms). Teagasc use this feedback, to focus on emerging topics or aspects to be covered in future events. As far as the evaluation processes of the demonstration activities is concerned, Teagasc usually focuses on specific stakeholders, mainly companies' representatives, policy makers, researchers or Teagasc's own forestry staff. Teagasc prepare and provide also some kind of follow-up materials to the participants such as handouts and leaflets during the event or through email upon request. Teagasc stuff also attends demonstration events as audience.

I would view one of the main people as the farmer himself, {farmer's name}. So without him and his element of conversation and knowledge transfer it's not really applicable. Second of all there's myself, normally I organise the event, the date, what times it would be run. And I generally come up with the topics that would be covered on the day. (Programme interviewee 2)

We've had a few people there down from the Forest Service (Department of Agriculture). They'd have had a look at it, and we've had people from the organic side of things looking at it and we've I suppose people from Teagasc (state agency agricultural extension service) as well, from various different areas of Teagasc having a look and seeing, you know, where it possibly could further develop within the industry. (Programme interviewee 1)

With the program itself or the demonstration plot generally what happens is there is myself as the Teagasc representative and there is a colleague of mine {name} from the forestry service, he is an inspector of the forest service. So normally we coordinate these events. Generally many of the public events are done in coordination with the forest service. (Programme interviewee 2)

I think one of the main motivations is to a certain degree goodwill. They like to help us out. And certainly we would probably when I say we, I would say Teagasc and Forest Service would provide a higher level of engagement with them. And they are aware of this and therefore it helps. In terms of the farmer himself I would say social standing, he is very proud and happy of his plantation, and would like to show it to other people. So while he's not getting any economic benefit he is getting a benefit in kind in that he is probably receiving a high level of advice and training. (Programme interviewee 2)

We have carried out a number of surveys as to where people hear of events. Generally local newspapers work best. Local advertising whether it's on radio or local newspapers. And direct contact by letter and text are also very effective. (Programme interviewee 2)

Moderately effective I would think. First of all if you are not in contact with them beforehand it's hard to know what their motivation to come and therefore how do you target them? So this is why we normally use a multimedia platform in order to contact people. Other than just specific databases or systems that we have in place. (Programme interviewee 2)

Q: How do you identify/select relevant topics that will interest farmers? R: It would depend, certainly I would ask the host is there anything in particular that he's doing at the moment that is of interest or would be of interest to the landowners or other landowners. For example was he cutting silage at the time or was he putting sheep out on the land. So that is very useful because it's a useful hook. Outside of that then normally I would associate the topics in the demonstration outside of the overall agroforestry I would demonstrate work that would be carried out at that particular time of the year on the plot itself. So that it is actual relevant. (Programme interviewee 2)

In general agroforestry and overall forestry itself is a new land use for owners. Private participation and planting and growing crops has only been in the last thirty years, so you know the overall activities would be top down. However I would say that the event itself and once we (Teagasc or DAFM) get beyond the point where we introduce the topic, is mainly down to the host farmer. We want the host farmer to talk about his experiences. The knowledge transfer that's involved certainly it is my opinion that you can put experts up in front but farmers listen to other farmers voices. I think they are the most relevant. As I mentioned before it is more associated with the host farmer. (Programme interviewee 2)

Q: How are demonstration topics selected? R: In this case I would say by both program objectives and participants. There are certain key messages that we want to get across at each of these events. There would be the overall program messages, there would be individual topics that we want to address that are seasonal. And then of course once the discussion starts amongst the group we then tend to move onto different topics. So partly it is driven by the participants and what they are interested in. Generally, the policy is that we give the presentation start the discussion and then try to step back and allow the conversation to

develop introducing our own expertise at particular times when required. But it's better to have it as a conversational flow. (Programme interviewee 2)

Q: Do you request feedback from demo participants? R: Part of the reason is that in an informal manner you discuss with a number of people what they thought of it, how they got on, you ask the people that are presenting what they thought of it. But as you are progressing through the event you are asking people is there other topics that you want covered and every event I would do at the end you ask for some feedback what they thought of it and what topics they would like to cover in a subsequent demonstration. That would be for farm walks If it's a more formalised demonstration event with a large group of people we would also carry out a feedback form as well. (Programme interviewee 2)

Q: Do you evaluate the demonstration activities overall? R: Well if it's the companies or policy makers or researchers or Teagasc's own forestry staff then you need to evaluate what they thought of it. And what could be included in it later on. You also require their feedback to better refine the demonstrations. (Programme interviewee 2)

Q: Who are the main people involved in the demonstration activities and what are their roles? R: [...] the actual organising of the demo events is done by Teagasc. (Farmer)

Q: Are participants (farmers, advisers, researchers etc.) involved in the overall development of the demonstrations? R: Absolutely. Not one more than the other. If anything at the very start I was the least involved. Because I knew the least. I would be in touch with Teagasc research by email, mostly and directly with {name}, Forest Service and {name}, Teagasc adviser. (Farmer)

Generally the materials will be handouts. So there'll be information agroforestry or maybe about the topics that we cover on the day such as fertilisers, vegetation control, or maybe shaping. So we would demonstrate the shaping techniques, we would have got the farmers to practice it but we (Teagasc) would also send them a leaflet with pictures of the work that was being done. This would be given to them after the event rather than before because I feel that it's a distraction if you give it to them beforehand. But we would also on request send or email information to participants as well. (Programme interviewee 2)

[Department of Agriculture in the Northern Ireland and Agri Food and Biosciences Institute \(AFBI\)](#)

The Agri-Food & Biosciences Institute (AFBI) was created on 1st April 2006 by joining the Science Service of the then Department of Agriculture and Rural Development (DAERA) with the Agricultural Research Institute of Northern Ireland (ARINI). AFBI is a DAERA non-departmental public body. AFBI carries out high technology research and development, statutory, analytical, and diagnostic testing functions for (DAERA) and other Government departments, public bodies and commercial companies (AFBI website).

The specific farm is the oldest demonstration plot concerning agroforestry, so at the beginning it was a pilot farm. With DAFM's initiative, the results of the research plots in Loughgall of AFBI and the Department of Agriculture in the Northern, were used as a model to set up the agroforestry demo farm i.e. same species, same spacing, same specifications. The AFBI research work, has been used because the results had shown an actually workable/functional research plot. So, the AFBI and the Department of Agriculture in the Northern offered the initial set up of the demonstration plot. Secondly, the coordinators sought advices and consultation from the Agri-Food and Biosciences Institute Loughgall, Northern Ireland. AFBI owns a long term experience in agroforestry issues, so they are involved both for advices and frequent site inspections under coordinator's request.

Well the set-up of this particular plot was based on research done up in Loughgall by {researcher name} (Agri Food and Biosciences Institute, Loughgall, Co Armagh) and it's pretty

much using the same species, same spacing, same specifications that he had because it worked. {Host farmer name} is the oldest demonstration plot, so it's, it was the first one and we wanted to make sure that it was based on something that actually worked well. (Programme interviewee 1)

{Researcher name} and Loughgall, the research are the Department of Agriculture in the Northern Ireland and there's AFBI, Agriculture and Food Bioscience Institute in, up in Armagh. {Researcher name} has set up research plots in Loughgall in the Eighties It's well established at this stage and usually with something like this you do research first and then you put it in to practice, in the Republic we, we didn't have any research so we used the research done in the North in order to set up our, our programme in Agroforestry, so we used, used their research. (Programme interviewee 1)

The demonstration on the farm itself was part of a series of forest farm walks, which promote the overall afforestation program. So it's set within that. Outside of that networks that we use, the northern Ireland Agricultural Services in the Research, we've sought advice from them, they have a research station in Lough Gall. And we had them come down and look at this site a number of times and sought their advice because they've had experience of agroforestry for the last twenty/twenty-five years. (Programme interviewee 2)

Greenbelt - commercial forestry company

As already mentioned the initial set up of the demonstration plot was based on the model of the AFBI's research plot. With DAFM's initiative in 2011, the forestry company-Greenbelt, established the pilot agroforestry plantation on the farm. Thereafter it seems like the company is involved in demo activities or attend the demo events in order to offer some information on plot's establishment.

(state Forest Service inspector name) initially approached me along with Greenbelt (commercial forestry company) in relation to doing this agroforestry, I had never even heard of the word agroforestry prior to this. So when he ran the idea, when he gave me the idea I ran with it because it suited me because I was a little bit slow in giving over all my ground to forestry and just the idea seemed perfectly suited to me that I could still use the land and have forestry in it at the same time (Farmer)

Well there's three main groups of people, there's myself obviously, {name} from the Department. And the initial people who set up the forestry plantation for me Greenbelt. These are the three main groups involved in this here. (Farmer)

I suppose fourthly you would be looking at the forestry company that initially established it, there has been a lot of learnings from the establishment of it, and they are happy to share those. The other people I suppose that you could also mention are involved, the actual audience themselves. We try to encourage a discussion format rather than I talk to you, you listen format. (Programme interviewee 2)

there'd be {host farmer name} there would be Teagasc, there would be Green Belt, who actually established the site, and these would be the main people involved. (Programme interviewee 1)

2. The main actors involved in the demonstration activities and their roles

Host farmer

The host farmer is involved (always in consultation with Teagasc adviser) in the selection of the aspects of the agroforestry they are going to focus each time. The demo topics are strongly related to the individual activities and farm management which are driven by the farmer and what he is doing with his

land at that particular time of the year on the plot itself. While the host farmer's involvement in the development of the individual demonstration activities is quite evident, according to both the Programme interviewees and the Farmer, the host farmer is never involved in the development of the overall demonstration programme, as this is tied to the national forestry programme and the host farmer does not have any official role in it. So, it seems that the host farmer is less involved in organisational issues before the event but he facilitates the knowledge transfer process extensively during the events. He is the leader of the farm walk, he dominates the discussion concerning the what/how/why on his farm; he explains everything and answers most of the questions asked. A lot of that conversation is driven by his own experience. The host farmer keeps close contacts with the coordinators and any important actor concerning demo activities i.e. with Teagasc's research, advisory and forestry services, with Forest Service of the Department of Agriculture, Food and the Marine (DAFM). It seems also that the host farmer request some kind of feedback from demo participants. He is keen to make use of these feedbacks in order to improve his demonstration capabilities in future events. He also offers his feedback, recommendations or suggestions to the coordinators as to how they could improve the scheme.

Q: How do you identify/select relevant topics that will interest farmers? R: Well with the agroforestry plot, with {host farmer name} because it's so relatively new usually it dominates the discussion, what is agroforestry, what, why is it considered in the first place, what are the positives for, or the benefits for the landowner and what are the benefits for the industry and why are we doing it and what, what can be done and how is it established and, and by the time you've covered a lot of these subjects, topics, there's hardly any other time left to discuss any other stuff, but usually the, by the time the farmers discuss maybe some of the practicalities of getting machinery in or out or turning a the headlands and that kind of thing the questions can vary a lot from, from group to group, so it's very hard to predict. (Programme interviewee 1)

It would depend, certainly I would ask the host is there anything in particular that he's doing at the moment that is of interest or would be of interest to the landowners or other landowners. For example was he cutting silage at the time or was he putting sheep out on the land. So that is very useful because it's a useful hook. Outside of that then normally I would associate the topics in the demonstration outside of the overall agroforestry I would demonstrate work that would be carried out at that particular time of the year on the plot itself. So that it is actual relevant. (Programme interviewee 2)

Q: Are participants (farmers, advisers, researchers etc.) involved in the overall development of the demonstrations? R: Absolutely. Not one more than the other. If anything at the very start I was the least involved. Because I knew the least. I would be in touch with Teagasc research by email, mostly and directly with {name} of the Forest Service and {name}, Teagasc adviser. (Farmer)

Well the set-up of this particular plot was based on research done up in Loughgall by Dr. {researcher name} (Agri Food and Biosciences Institute, Loughgall, Co Armagh) and it's pretty much using the same species, same spacing, same specifications that he had because it worked. {Host farmer name} is the oldest demonstration plot in Ireland, so it's, it was the first one and we wanted to make sure that it was based on something that actually worked. (Programme interviewee 1)

I would view one of the main people as the farmer himself, {host farmer's name}. So without him and his element of conversation and knowledge transfer it's not really applicable. (Programme interviewee 2)

Well when we were setting up the site initially, I told him, he was the first, he was pioneer in this whole area and would he mind if we occasionally showed it to people and he said no problem at all and that has been the case ever since. (Programme interviewee 1)

In general agroforestry and overall forestry itself is a new land use for owners. Private participation and planting and growing crops has only been in the last thirty years, so you know the overall activities would be top down. However I would say that the event itself and once we get beyond the point where we introduce the topic, is mainly down to the host farmer. We want the host farmer to talk about his experiences. The knowledge transfer that's involved certainly it is my opinion that you can put experts up in front but farmers listen to other farmers voices. I think they are the most relevant. As I mentioned before it is more associated with the host farmer. (Programme interviewee 2)

Q: Are host farmers involved in the development of the individual demonstration activities? R: Well when I say sometimes, the individual activities are driven by the farmer and what he is doing with his land. So in this case the farmer is, he is cutting silage, he's putting sheep out, so the demonstration activities involved with the crop it is his crop, both the trees themselves and what he is also doing with the land underneath the trees. So of course he's involved in it. (Programme interviewee 2)

Q: Are host farmers involved in the development of the overall demonstration programme? R: Never. Well the overall demonstration program I suppose is tied to the national forestry program. So generally the on farm activities and the demonstration is the farmer involved in that, the overall program no. The farmer would I think feel that that is beyond his/her remit. (Programme interviewee 2)

Q: How are the demo activities on the farm managed? R: That really was dependent on me, and that is the one thing about agroforestry, prior to you starting you need to know what are you going to use the land for. (Farmer)

Q: Are you involved in the overall development of demos at the programme / network level? R: No. No, I'm on my own here, from that point of view. I have spoken at conferences and I have connected with people there but I wouldn't have an official role, no. (Farmer)

Q: How are demonstration topics selected? R: They are selected based on what is going on, on the plot at that particular time. If those trees were a lot bigger we would be talking about thinning them out, or you know what I mean the time of the year. It really does depend on the conditions on the site at the time, doesn't it really? Is there sheep here, is there not. Is there a lot of vegetation around the place? You know, is it time for pruning, is it not? The time of the year and the conditions depend on the topic I would think anyway. A lot of that conversation is driven my own experience and that kind of economics involved and the choice we had, the land use choice I made, these topics I am are particularly keen to cover. (Farmer)

Content is usually on a timeline basis for me. I start off with the historical side of things as to when I decided to do such a thing, how I decided to do such a thing and go from there. I cover the cost of establishment and management to a certain degree. The earning capacity, a certain amount. I don't tend to dwell on that too much myself because, well to be honest, it's a demonstration plot and my rate here is a bit different to what the others would be getting. I tend not to hang around on that one too much. Mind you I pay for it in a different way (laughing). With the groups from the Department I would make recommendations or suggestions as to how they could improve the scheme. (Farmer)

Do you request feedback on the event day from participants? Yes. I mean if I'm giving a presentation I like to know that people got something out of it. Or didn't get something out of it.

And that I can adjust my answers or my attitude or my techniques the next time I have a crowd in. I mean we are all learning, including myself. (Farmer)

Q: Do you continue to engage participants after the demonstrations? Yes. Absolutely, that would lead into the prior questions do I evaluate the demonstration activities overall or do I request feedback. That's pretty much the same thing. I would of course yes. What do the people think, what did you think of it, I would of course. I also feed into a certain amount (small) of the policy work, the scheme details. (Farmer)

Audience/type of participants

There are many different types of participants at the specific agroforestry farm. Farmers, other landowners, professional foresters, Teagasc's forestry staff, people from the organic section of the Department and policymakers attend the ALB public demonstration events. People within the industry and especially forestry companies' representatives also attend. Representatives from Greenbelt, the commercial forestry company, which had made the initial establishment of the plot and offer important information, are present at the demo events. The host's farmer neighbours that use his land and help him during the year also attend at the field days. More rarely some researchers attend the demonstrations. According to one Programme interviewee (Teagasc's adviser), the audience could be seen as an actor involved during the demonstration events. Extensive discussion and experience sharing occurs during the event and important feedback is earned by the coordinators and the host farmer. This feedback is used for several adaptations and improvement of the future demo events.

I suppose fourthly you would be looking at the forestry company that initially established it, there has been a lot of learnings from the establishment of it, and they are happy to share those. The other people I suppose that you could also mention are involved, the actual audience themselves. We try to encourage a discussion format rather than I talk to you, you listen format. (Programme interviewee 2)

I don't expect it. I, I, I see it as a very positive thing if they do – it depends on the people who are there, if for example people are from the Department and they're from let's say the organic section and they've come down to see what agroforestry is all about and I don't hear anything from them then I'll be, I'll be kind of amazed, whereas I would be expecting something back from them almost the next day, or even, even on the day itself. (Programme interviewee 1)

There would be also local neighbours of Liam's who, they would come along, some, some of them would use the land for sheep grazing, others would help him put silage from it and usually from time to time one or two, or all of those, would be present at a, at a field day. I would like to see the farmers and landowners interact and people within the industry interact without me really saying a huge amount, other, unless I'm asked. (Programme interviewee 1)

Q: Who is your intended audience? R: The forest industry and farmers, so what you're trying to do is you're trying to take mystery out of agroforestry in, in this particular case that {host farmer name} got, it's an agroforestry plot, so you're hoping, because it's a relatively new land use to this country a lot of people don't understand it, both foresters and farmers and rally what you're trying to do is bring both of them up to speed as to what it's about. We've had a few people there down from the Forest Service (Department of Agriculture). They'd have had a look at it, and we've had people from the organic side of things looking at it and we've I suppose people from Teagasc (state agency agricultural extension service) as well, from various different areas of Teagasc having a look and seeing, you know, where it possibly could further develop within the industry. (Programme interviewee 1)

There are a number of different people so informing landowners of the potential scheme benefits would be one. Secondly you would have the professional foresters, to discuss management issues as this is a new land use. And thirdly I suppose because of the feasibility objective we are looking at policy makers as well to show them how agroforestry can fit into whole farm planning. (Programme interviewee 2)

You will have landowners, some landowners who are interested in alternative land uses, but usually these farmers have off farm jobs and aren't usually dependent on, on the farm solely for their income. (Programme interviewee 1)

When I have a group of farmers coming in here to have a look at things I'm much more on a practical level talking to them regarding how I went about something, why I went about something and how that is working out for me. Purely on a practical level because I'm at their level so I can tell them why I done it and how it worked for me. If it worked for me. Whereas if you have a Department official coming in here, a bit more technical, you know they are going to be asking you more about issues regarding technical issues.... But it certainly would be a little bit more technical with the advisers and the Department officials there's no two ways about that. (Farmer)

Potential, obviously the first thing would be they would be land owners. Secondly that they would be farmers, which would be one in the same thing I suppose. And thirdly they have an interest in forestry. I would think one of the intended audience or intended people would be those young farmers who will be there for the lifetime of the plantation. Probably suits those kind of people best. In terms of policy makers, because it is a demonstration plot and the first of them in effect there wasn't any real policy there prior to that. (Farmer)

Q: Who typically attends your demonstrations activities? R: Generally people that are first already involved in forestry on some level or those that are thinking about getting involved in forestry. They would be almost 100% of the type of people that would be there, a mixture of both fulltime farmers and part-time farmers. People that come here from government agencies such as the Department and others, the policy makers, several times a year. (Farmer)

I have on average seven to eight maybe ten visits a year, at least I would think, but in all the various things between officials, between farmers, being Teagasc this sort of thing. Individual researchers, well I'm not really counting individuals I have quite a few of them as well from time to time, its open to everyone. So it varies a lot so I would have, I could have a dozen a year at least. (Farmer)

Industry representatives

Industry representatives can be seen as a distinct category from participants in relation to their involvement at the demo activities. As already mentioned many times they are present as an audience at the demo events. However it seems that sometimes they are present at the event upon request of the farmer attendees and/or the organisers in order to share their knowledge and experience. In that way sometimes they have a more formal role at the demonstrations. Finally, the companies are one of the important actors that coordinators intend to make use of their feedback for the events.

Well there would be a number of occasions when people have felt that they would like the forestry companies (industry representatives) to be there and to talk about their own experience and that's why we've included forestry companies in these events. I think it's very important that there are different representatives from different organisations and this has been requested as well by farmers. (Programme interviewee 2)

Well if it's the companies or policy makers or researchers or Teagasc's own forestry staff then you need to evaluate what they thought of it. And what could be included in it later on. You also require their feedback to better refine the demonstrations. (Programme interviewee 2)

3. Networks

At the beginning, the specific demo farm has not been connected to any other demo farm. However, currently there are also additional 2-3 agroforestry farms, with which the host farmers has some contacts. The specific farm is not part of any other programme or wider network. Finally, Teagasc make use of different local networks in order to "advertise" the upcoming events such as farmer's connections or Teagasc's databases and/or personal contacts.

So generally these demonstrations are advertised in a public network, different media platforms such as radio, local television and websites. And added to that then we try to utilise local networks whether it is the farmers own connections or my forest service colleague keeps a list of people that have expressed an interest in agroforestry. My own personal knowledge. (Programme interviewee 2)

So initially it wasn't connected to any of them. But since then we have another two or three in West Cork and that's the only connection I have. Teagasc, Greenbelt and the Forest Service have regularly used the demonstration plot. The gate is open to anyone welcome to anyone that wants to see it because it is a pilot scheme. And there isn't that m/any, one must be willing to, I mean if it's a demonstration plot it's a demonstration plot for whoever needs it for that purpose. (Farmer)

Q: Is your demonstration farm part of a programme or wider network? R: No.No, but I have attended a conference in France under the auspices of the UK-based Farm Woodland Forum. (Farmer)

4. Resources, finances and incentives

There are no economic incentives or compensation or any funding to the host farmer for the demonstration functioning and activities of the farm. The host farmer is involved at demo activities in an entirely voluntary manner. There is some financial aid to the farmer which is linked to the afforestation programme scheme. This financial aid related to the initial pilot on farm forestry establishment and to some additional forestry premium received because it was a pilot farm, but in general there are no financial incentives connected to demonstration events/activities.

Q: What are the funding arrangements for your demo activities? How do these impact on the lifespan of the farm demo? R: Well the, the demonstration plot was set up under the old Afforestation Programme. There's no onus on the owner to use it as a demonstration plot, it's totally voluntary, he gets nothing extra for, for doing it, other than the fact that he gets some media recognition I suppose and he would have the occasional appearance in papers and, and television as well from time to time, which sort of increased his profile I suppose. (Programme interviewee 1)

In the case of this demonstration farm there is no funding. We prevail on the goodwill of the landowner himself. Now the owner has been grant aided to establish forestry and at the time because there was a pilot scheme there was a slightly alternative financial arrangement made.

But overall in terms of demonstration or using his farm for demonstration no he's not remunerated for that. (Programme interviewee 2)

No financial incentives but, as a pilot agroforestry plot he received additional forestry premium. So this has been an incentive to be a demonstration area for this farmer and has proven to be rewarding to him. (Programme interviewee 2)

Q: What are the funding arrangements for your demo activities? How do these impact on the lifespan of the farm demo? R: None, outside of the enhanced forestry premiums. Because I was given the higher rate for the longer term I took it on myself to show goodwill. Well if they done that I must play my part. So I was willing in my own head to do whatever was required and asked of me. (Farmer)

5. Goals and objectives

The initial objective of ALB pilot farm was to test the feasibility of the forestry plantation in a real working farm out of AFBI research plots in Loughgall. Thereafter a second objective of ALB project was to utilise the agroforestry farm as a demonstration plot. A further objective is through its continuous working and consulting which occur on farm, to test management methodologies and improve the whole farm system. The demonstration activities are very important for the national goal of the promotion of forestry and agroforestry in Ireland. The agroforestry plot is used by the organisers as a hook to talk about other topics involved with forestry, the demon events are used to inform farmers and other landowners of the economic, social and environmental benefits of afforestation. They are used to develop relationships between interested stakeholders and to maintain conversations around agroforestry management issues. Finally, they are used to show policymakers how agroforestry can fit into agricultural planning.

Well I suppose with the agroforestry there's always a level of engagement because it's something new. And sometime we have used the agroforestry plot as a hook to talk about other topics involved with forestry as well. So novelty is one thing, I think. There would be a certain amount of background knowledge buy land owners in the area about this, there would have been talk about it, particularly as it is an agroforestry plot in the middle of a dairy area which would be unusual and there would be a curiosity there. (Programme interviewee 2)

So the overall program objective is the forestry program, its origin is in the Department of Agriculture and Teagasc, one of the aspects of this is the promotion of a forestation that is planting new land. For this demonstration purposes, it is an agroforestry plot. So this agroforestry plot there are a number of objectives to it. The initial objective was a pilot feasibility plot, the secondary objective is a demonstration plot and then the third objective is proving new methodologies and establishing agroforestry plots. (Programme interviewee 2)

Well in this case with the agroforestry plot we're trying to increase the amount of tree cover in the Country, so it's doing that. We're looking for carbon sequestration, it's doing that, we're looking to provide renewable energy, bio fuels, it's doing that, we're looking, the Department in general is looking for more animal welfare increased and it does that, research suggests they're happy, happier under trees, it also ticks the box for intercepting siltation run off, nutrient run off, increases biodiversity, enhances landscapes, it ticks a huge number of the boxes that the agricultural policy would be aiming for. (Programme interviewee 1)

It's the forestation program and it is promotion by demonstration purposes. What you are trying to do is engage with land owners, so that they might consider afforestation. And then once they

get beyond that point of planting how do they go about managing it effectively. (Programme interviewee 2)

6. Timing

The day and timing of a demonstration event are important. A demonstration event should be always related with seasonal factors that could influence the event's attendance. The events should be avoided to take place at daily or seasonal time, that regional farmer workload is hard. As already mentioned the timing of the event and the work is carried out at that particular time of the year on the plot determine the focus on specific aspects of the topic demonstrated.

I think the time of the year can be very important, and the weather. In the autumn it's a case of time is running out and if they haven't had all their silage in or they have jobs to do outdoors and there's a fine day, they're less likely to go to a field day if there's a fine day. Whereas maybe in the middle of the winter or the middle of the summer where they feel, particularly in the middle of the summer where they feel like this, there'll be plenty of opportunities for another fine day then there's a chance that they'll turn up, in the winter it's similar, particularly dairy farmers, maybe after Christmas, a lot of the dairy farmers I know go on holidays in January because it's a quiet time for them, maybe that's the time to attract farmers, but yeah, the timing, the weather is a big factor. (Programme interviewee 1)

For non-farmers, Work, during the week, if people have jobs nine to five and they're living some distance away from the demonstration plot, the amount of time it takes to travel down after work is finished, it's a big disincentive, so geographically the further, the more widespread you have of demonstration plots geographically make a big, big difference. (Programme interviewee 1)

And we try to organise the events so that they are in the evening time, so that you are looking at after 7 o'clock when many of the farm chores are already carried out. But sometimes that doesn't work for them. And similarly if we do it in the daytime we try and moderate the times as well. (Programme interviewee 2)

I'm interested and because {host farmer's name} is interested in showing it off it's, it's easy to do from time to time, but because time is limited some years I mightn't get to organise any then some years I've a couple going, you know, the spring and the autumn, but, as I said, maybe the summer is the better time to try and aim for. (Programme interviewee 1)

They are selected based on what is going on, on the plot at that particular time. If those trees were a lot bigger we would be talking about thinning them out, or you know what I mean the time of the year. It really does depend on the conditions on the site at the time, doesn't it really? Is there sheep here, is there not. Is there a lot of vegetation around the place? You know, is it time for pruning, is it not? The time of the year and the conditions depend on the topic I would think anyway. (Farmer)

I mean it all depends on the activity on the ground as well at the time. Sometimes you've been here and there's been nothing here. More times you come here and there's grass up to your knees and more times you come here and there's sheep here. So it does depend on the time of the year. (Farmer)

T2. Farm (event level)

The host farmer owns a 20-hectare beef and agroforestry farm in Clonakilty, County Cork. He is a pioneer part-time farmer, as the farm is the oldest agroforestry demonstration plot. The farm owns a conventional forestry land adjacent to the ALB plantation - agroforestry plot which is also used for demo activities. These different plots are used to illustrate the difference between them. Teagasc, Greenbelt and the Forest Service have regularly used the agroforestry plot for demonstration events. The demo day usually includes a farm/forest walk and a farmer's presentation that initiates an extensive discussion on multiple aspects of forestry and agroforestry.

In the particular case of the agroforestry demo plot, I mean he's got conventional forestry and he's got agroforestry – most of the attention I suppose in recent years has been on his agroforestry plot and largely it comes down to the local personnel as to how much of that is organised. It's very much maybe a localised thing. (Programme interviewee 1)

According to one of the Programme Interviewees (Teagasc adviser), the demonstrations are a mixture of exemplary and experimental approaches, indicating also that these mixed approaches are more preferable. The other Programme interviewee (Forest Services – DAFM) stated that the demonstrations are experimental indicating also that these experimental approaches are more preferable. On the other hand, the Farmer considers that the demo is mainly exemplary indicating also that the exemplary approach is more preferable. No matter the difference in the characterization of the demo approaches, we can conclude that all interviewees agree that the farm is a pilot/trial farm at this specific moment. It was the first farm implementing an agroforestry management so it is still experimenting on the best practices. At the same time all responsible actors work in order to settle down the best practices through the different management options they implement on farm. So the aim is to show an exemplary farm in the future.

I would say a mixture, there is a bit of a trial and error involved in this plot itself. Simply because it wasn't put in before. And both the farmer and the forestry company and ourselves are trying to make the best example of it, and I would feel that they probably have gone above and beyond what they would normally do with other plots. (Programme interviewee 2)

I suppose experimental. It's a trial, its demonstration plot to try out a system that had been tried in the North and worked but we wanted to see if we could replicate it. I suppose, then the next one would be kind of a mixture, exemplary would mean this is it, we've reached our pinnacle of best practice, but it's too early for us to be able to say that so, you know, it wouldn't be exemplary. We're, we've had problems and we're quite, quite willing to discuss those problems and issues as well as all the good stuff. A mixture would be kind of I suppose the more pragmatic way of looking at because exemplary means there's no flexibility and you're not going to be looking to explore and find out new things. Experimental, you can't be completely experimental all the time, you want to have a kind of a pragmatic and economic focus as well, so you don't want the farmer to be, you know, planting banana trees when you know it's not going to grow, so you want him to grow something that you think has a reasonable chance of success while at the same time knowing you're going to learn stuff from it, you know. (Programme interviewee 2)

It's certainly experimental because it is a trial plot, I'd like to think that it's exemplary, we try to do our best practice here. From that point of view I'm going to say a mixture. (Farmer)

1. Event's participants

According to available data, 9 participants attended the event of 30th April, of which 5 responded to the pre and post demo surveys. Those interviewed were farmers, horticulturalists, forestry consultants and local authorities' people (Pre demonstration survey participant). All participants worked at the local area where the meeting took place. Four out of five of the interviewed participants agreed or strongly agreed that they have actively been involved during the whole demonstration process except one participant who disagreed with that statement (Post participant's survey).

2. Frequency

The demonstration events take place as part of a series of forest walks that are used to promote the wider forestry programme. Every year 7-10 demonstration events are organised on the farm.

I have on average seven to eight maybe ten visits a year, at least I would think, but in all the various things between officials, between farmers, being Teagasc this sort of thing. Individual researchers, well I'm not really counting individuals I have quite a few of them as well from time to time, its open to everyone. So it varies a lot so I would have, I could have a dozen a year at least. (Farmer)

3. Accessibility

The travel time of participants to reach the demo farm, ranged from 20 to 45 minutes, with an average time close to 29 minutes (Pre demonstration survey participant). Four out of five participants rated their travel effort to participate as very little effort. Only one participant rated his travel effort to participate as great effort. This can be justified by the fact that he had the longest travel time (45min) and he was the oldest interviewed participant (81years old).

4. Fees for participation

Participants did not have to pay a fee to attend the demonstration. Moreover, none of the participants had received any financial compensation for its attendance (Post participant's survey).

4. Functional characteristics

T1: Coordinating effective recruitment of host farmers and participants

1. Incentives

Both the Farmer and Programme participants revealed how there was no significant body of funding available to farmers hosting. Despite initial funding to set up the plots from the Afforestation Programme, the Programme interviewee noted how “there’s no onus on the owner to use it” and asserted how “it’s totally voluntary”.

None, outside of the enhanced forestry premiums. Because I was given the higher rate for the longer term I took it on myself to show goodwill. Well if they done that I must play my part. So I was willing in my own head to do whatever was required and asked of me. (Farmer)

Well the, the demonstration plot was set up under the old Afforestation Programme. There’s no onus on the owner to use it as a demonstration plot, it’s totally voluntary, he gets nothing extra for, for doing it, other than the fact that he gets some media recognition I suppose and he would have the occasional appearance in papers and, and television as well from time to time, which sort of increased his profile I suppose. (Programme interviewee)

2. Motivations for host farmers

The Farmer cited a number of motivations, including his environmental objectives and a desire to be innovative. He also cited that he wanted to promote agroforestry, which he felt was sometimes overlooked or seen as an option for older or failing farmers.

I have a good few reasons really. But my main reason is, if I put on my forestry hat, every acre of ground that’s planted in Ireland is an acre of ground that is out of the system that is no longer available for planting. So with tighter rules and planning regarding where you can plant and what you can do we must always try and find new and innovative ways of introducing more trees to the country and how we can do it. All the time it seems particularly in this area where as you can see it’s a rather intensive dairy area, forestry was always seen as somebody who is retiring or getting out of farming, or in some way almost failed at farming therefore he’s going to go into forestry. Which is the wrong way to think of it but that’s you know, it’s still in the back of people’s minds. Whereas as you can see this is a much more active hands on, you are still participating, you are still involved in agriculture and I think from that point of view I like to promote that. (Farmer)

According to the Programme interviewee, hosts were largely driven by a desire to show off and demonstrate something they are proud of. He noted how these individuals were naturally keen and enthusiastic. Financial motivations were also a motivation in some cases.

I think very often a farmer will be interested in showing off something he’s proud of, that he has an interest in the thing and that he wants to show it off. There are individuals who are very enthusiastic and they’re ideal because that enthusiasm comes across. I think that’s the main motivator. Obviously if you have some financial incentive it might get, attract more people, but whether they the better people for demonstration purposes is another thing. (Programme interviewee)

3. Motivations for participants

The Farmer saw curiosity as the main motivator for participants, explaining that most haven't seen an agroforestry system before and are 'genuinely interested in finding new ways of doing things'. The Farmer also observed that the on-farm, farmer led element was another key motivator. The Programme interviewee, however, felt that participants were more financially motivated, and attended events with a view to make their business more profitable, adding that those who attended purely out of curiosity tended to be landowners who were not financially dependent on their land.

Hmm...because it's such an unusual activity out of business or something I don't know what, it's just an unusual activity. People are forever seeing green fields, and at this stage people know what a forestry is but they don't know what an agroforestry is. As you can see there isn't that many of them, so a sense of curiosity I think brings a certain amount of them. And people are genuinely interested in finding new ways of doing things. And I think that's what brings them. For farmers, I think so, absolutely, because one of their own is doing it (Farmer)

Financial incentives are usually one of the strongest, if there's some sort of angle that makes their business more profitable one way or another, whether it's income from, from the timber or maybe it's a grant that they hadn't thought about it or hadn't seen or wanted, were curious about, they would be the prime motivators for the majority, I would say, of farmers. You will have landowners, some landowners who are interested in alternative land uses, but usually these farmers have off farm jobs and aren't usually dependent on, on the farm solely for their income. (Programme interviewee)

Participants themselves stated as main motivators to attend the demonstration: To learn about forestry; Early forest management - crop is 8 years old; I have 10 year old nature plantation and am considering trying to rent/buy neighbouring 17 year old nature; 70:30 mix woodland; Knowledge.

4. Target audience

The Farmer's primary focus was on landowners who were also farmers, and had an interest in forestry. Similarly, the Programme interviewee cited foresters and farmers as their target audience, adding that they had had participants from government bodies and Teagasc as well.

Potential, obviously the first thing would be they would be land owners. Secondly that they would be farmers, which would be one in the same thing I suppose. And thirdly they have an interest in forestry. (Farmer)

The forest industry and farmers, so what you're trying to do is you're trying to take mystery out of agroforestry in, in this particular case that LBs got, it's an agroforestry plot, so you're hoping, because it's a relatively new land use to this country a lot of people don't understand it, both foresters and farmers and really what you're trying to do is bring both of them up to speed as to what it's about. We've had a few people there down from the Forest Service (Department of Agriculture). They'd have had a look at it, and we've had people from the organic side of things looking at it and we've I suppose people from Teagasc (state agency agricultural extension service) as well, from various different areas of Teagasc having a look and seeing, you know, where it possibly could further develop within the industry. (Programme interviewee)

5. Advertising and recruitment

The Programme interviewee took a very hands-on approach to recruitment for the events, involving phoning people directly to check if they were coming, and to explain the benefits of the event. This was

acknowledged as an effort on the part of the programme, but was felt to be worthwhile, especially for targeting key governmental and industry stakeholders.

Direct contact, phoning them, talking to them and saying are you coming, and, and if not, and maybe sort of saying the benefits of what it is, directly talking to them, it's, it's a bit of an effort, it is a lot of an effort, it's a bit like when everybody is busy and taking that amount of time to talk to people, but I think it depends on who you're targeting, if you want to get people who are shaping policy, who are, who are in a good position to develop the business then it's time worth taking. (Programme interviewee)

The Farmer's approach was focused much more at the farm level, and appears to have been a case of ensuring that those who have already been recruited were suitable impressed by the event. In terms of recruitment, the Farmer did invite neighbours to the event.

I don't know how to answer that now. Are they targeted? Well I mean everyone that comes in the gate that hasn't been here before we like to put our best foot forward and show them what can be done. And how to go about it. So are they targeted, in that respect they are of course. Because we are always trying to promote what can be done. So are they targeted yes I would think to a certain amount. I would have invited neighbours to come along here at the same time. (Farmer)

T2: Appropriate demonstration and interaction approaches

1. The nature of interaction

The Farmer described the nature of the interaction as 'Entirely top-down'. This was due to the nature of the information in question; agroforestry is relatively new so information will be coming from those few who have an expert understanding of the subject.

Conversely, the Programme interviewee described the nature of the interaction as 'Mostly bottom-up'.

2. Involving farmers in the learning process and the demonstration programme

The Programme interviewee commented on the logistical difficulties of involving the host farmer in individual demonstrations. Often the Farmer has something they would like to show at the event, but fitting this in with both what is best for the demonstration and what is best from a farm management perspective is a challenge.

It's an interesting question in that we've never really sat down with him and sort of said, on a field day or demonstration day, is there something we can show them - now he has said to me I'm cutting silage, do you want to take a couple of photographs - now the thing is it would be fascinating for, for a group of people to see that happening, but to, to actually time it when the weather is fine and when you get farmers out they're probably wanting to cut the silage as well at the same time, so it's a tricky one, and so, the only thing is you could, what you could do is maybe have a small area where you could cut silage, you know, on the day, but you'd have to, he'd be kind of keen and sure to bring in his silage in one go rather than keep the machines around, so it's a tricky one. (Programme interviewee)

The host farmer was not directly involved in the network programme, although it was clear that the programme learned from the farmer and from the demonstration plot, and allowed this learning to feed into the network.

Not directly. He, indirectly he, what we've learned from his demonstration plot we've taken away and we've used it to upgrade and to modify our previous specifications in order to adjust them in such a way that makes them more robust because that's the lessons we've learnt from his experience. Well usually when we have a, go out to the agroforestry plot it's already understood and known that we're going to be talking about agroforestry, that's the topic, and around that you've environmental issues, you've got social issues, you've got landscaping issues, you've got forestry issues and you've got carbon sequestration, all sorts of, various different aspects going on, animal husbandry, animal welfare, potential of different crops and animals within the systems, so again, similar to previous questions, the, the, we don't want to stick to formally to an agenda, we kind of let the discussion take place and, and just show them and try and get them to appreciate what the concept is all about. (Programme interviewee)

3. Focus

The Farmer described the network as 'in between' whole farm and single focused, while the Programme interviewee described it as 'whole farm'.

4. Design

The Farmer described the network as 'exemplary', rather than experimental. The Farmer expressed a preference for exemplary practices as these are a better reflection of what is actually occurring on the plot.

Conversely, the Programme Interviewee described the network as 'experimental', and expressed a preference to this approach as it gave a greater opportunity for learning. The Programme interviewee emphasised that experimentation should not come at the cost of a pragmatic and economic focus.

Experimental, you can't be completely experimental all the time, you want to have a kind of a pragmatic and economic focus as well, so you don't want the farmer to be, you know, planting banana trees when you know it's not going to grow, so you want him to grow something that you think has a reasonable chance of success while at the same time knowing you're going to learn stuff from it, you know. (Programme interviewee)

5. Ideal group size

Both Farmer and Programme interviewee expressed a preference for a smallish group. For the Farmer, this meant 15-20 people, and was preferable because it was enough to ensure audience participation and a wide range of experiences, without being unmanageably large. For the Programme interviewee, the ideal size was 20-30 people; this was considered small enough to organise easily and to maintain a level of intimacy.

Small groups are fine, but very small groups are no good then because you need questions coming from the audience and participation and the smaller group the less participation there is to be honest with you. But you don't need it to be completely unmanageable as well. A dozen to fifteen maybe twenty would be a lovely group to be dealing with. Because fifteen / twenty

people brings a wide experience of people you know, who can add to the discussion. Because I learn as well. (Farmer)

I think if you've a smallish group, and when I say smallish, about thirty people, twenty to thirty people, it's, it's easier to get, it's easier for people to hear, it's easier for people to ask questions, it becomes more intimate and it, it's easier to organise and to, to coordinate. If the numbers get too big then some people, there'll be discussions going on in the background and there'll be little groups of people drifting off in various different directions and not really listening to what's going on, whereas it's harder to do that if there's a small group, you know, the people tend to listen more closely. (Programme interviewee)

T3: Enabling learning appropriate to purpose, audience, context

1. Facilitating interaction and learning: structure, content and techniques

The Farmer was clear that the easiest way to engage the audience was to deliver the presentation on site, so as to show people directly what is being done and why. In regards to content, the Farmer preferred to present developments chronologically.

I've always found it's best to be on the site when I talk, because it's easier for me to explain. You could almost say with a visual aid (laughing) you know what I mean, it's easier to talk about things when we are here and show them what I'm doing and why I'm doing something you know. So I find that's the easiest. (Farmer)

Content is usually on a timeline basis for me. I start off with the historical side of things as to when I decided to do such a thing, how I decided to do such a thing and go from there. (Programme interviewee)

The Farmer mentioned leaflets that were available to participants, but suggested they were provided by the network/programme.

The leaflets and that not provided by myself. (Farmer)

2. Taking into account variation in learning

Both Farmer and Programme interviewee felt that they took into account variations in learning, although for both this was predominantly in relation to prior knowledge and experience of the audience. Even so, there appeared to be considerable effort to tailor the content of the presentation to suit the interests and knowledge of the audience.

Without a shadow of a doubt. Because you have like you were asking me earlier on what kind of clients come in are they mostly foresters, now a lot of them are foresters but bar the one or two or three most of them are not agroforestry. So you know some of them will, you know a lot of them will have forestry but they won't have any idea about this. And then of course you have some foresters that come in that are very, very knowledgeable and they would have started off agroforestry who would be well knowledgeable on it as well. So yeah there's a variety in experience and knowledge. My answers really does depend on the question the audience ask me. (Farmer)

Yeah, again the audience is there, it's foresters, they'll have a large knowledge about trees, extensive knowledge about trees, so you, you find that you don't have to really talk to them too

much about the ins and outs of forestry, but farmers, you know, if, if it's largely a farming community, they mightn't know a whole lot about trees and you're trying to tell them how trees work and how you envisage trees are going to contribute to their farm in such a system, so it really would depend on the knowledge base of the people you've got, if you have a mixture you have to make sure that you don't forget one and concentrate on the other. (Programme interviewee)

T4: Effective follow-up activities

1. Follow-up activities and materials

The Farmer did try to engage with participants after the event in order to gather feedback and opinions about the day, and mentioned that occasionally these comments feed into bits of policy work that he contributes to.

Absolutely, that would lead into the prior questions do I evaluate the demonstration activities overall or do I request feedback. That's pretty much the same thing. I would of course yes. What do the people think, what did you think of it, I would of course. I also feed into a certain amount (small) of the policy work, the scheme details. (Farmer)

The Programme interviewee appeared to stay in touch personally with several participants who have gone on to establish their own agroforestry plantations. This was with a view to set up an agroforestry network once there were enough to warrant such an organisation.

Very much so, for example, farmers who have established agroforestry plantations further up the Country, they will send me information or comments from time to time, so we stay in touch. I would be hoping that at some stage in the future when enough people are involved in agroforestry we might set up our own organisation, an agroforestry group organisation but at the moment - that would help the communication and the linkages, it would improve that big time - but at the moment, there aren't enough people at the moment to really warrant something like that just yet. (Programme interviewee)

The Farmer was not involved in providing supplementary material, but the Programme interviewee detailed several brochures that are produced for participants. These provide information on grant schemes and the agroforestry measure. These materials are also distributed at other events, such as agricultural or forestry shows.

Again that's not my side of things, Teagasc provide more of that than I do. (Farmer)

Usually, well up to now we've had these brochures that we publish for the agroforestry measure, the GPC 11, Grant Premium Category 11, which is agroforestry, we produced leaflets and sometimes we'd make those available to people, unfortunately they're out of date now with the figures in them are, are no longer up to date, so we'll probably have to have new ones, new copies of that, versions of that made, so that's about all we have at the moment to hand out to participants. We try to distribute them at agricultural shows or forestry shows or at evenings where there might be a Teagasc event or something like that, but yeah, it would be on the day pretty much. (Programme interviewee)

2. Assessing impact

The Farmer cited the occasional time he was able to discuss the impact of an event with participants, although it appears this was on a relatively informal and sporadic basis. The Programme Interviewee, on the other hand, described the use of indicators to assess impact, such as the submission of an application to the agroforestry scheme.

The very odd time, I mean we are still you know agroforestry is in its infancy. On the odd occasion a number of people that have attended these demonstrations have come back to talk to me again. So the few that have I have helped yes in West Cork. (Farmer)

Very often people will say that they're interested and they will go off and they might even submit an application form to enter the agroforestry scheme. This is the clearest indicator that they've listened and that they are going ahead with what they see as something that has potential for them, that's the clearest indicator that we've had. (Programme interviewee)

Both Farmer and Programme interviewee responded negatively to the question of assessing impact amongst the wider farming community. The Farmer was of the opinion that it would be difficult, nearing on impossible, to do this, although he did mention the rare occasion when he has been contacted by someone who heard about the event a previous attendee. The Programme interviewee, on the other hand, appeared to have several examples of members of the wider farming community hearing about the events and contacting the programme for further information. While there were some examples of the event having an impact on the wider community, there was clearly no framework for assessing this impact.

It's very hard to assess somebody that hasn't been here. I don't know how to answer that question. If you are not here, they don't know. How can they know? It's a very straight forward question in that point of view. It's almost a non-question if you like. I have found that people have contacted me because a friend of theirs had been at a demonstration event. Rarely, but it has happened maybe twice. (Farmer)

Sometimes people would have heard about the agroforestry demo site, either maybe an article in the paper, maybe a television programme, maybe a Teagasc adviser talking to them, maybe the forest inspector talking to them, maybe a forest company, a forester talking to them and that they want further information. They, they would, sometimes they would contact the Forest Services' admin HQ in Wexford and they would then forward my number to them and then they would contact me for further information. (Programme interviewee)

5. Event analysis: effective peer learning characteristics

Event details

The group consisted of about 9 participants, of which 5 filled in the pre and post survey. Everyone who filled in the pre survey stated they worked in the local area.

	n° survey participants	Chinese medicine practitioner & developing retreat centre on 60 acre farm	Foreman, local authority	Forestry consultant	Horticulturalist	Retired farmer
<i>occupations</i>	5	1	1	1	1	1
<i>gender</i>	5					
male			1	1		1
female	1	1				
<i>age</i>	5					
18-30	1				1	
31-40						
41-50	2	1	1			
51-60				1		
60+	2					1

T1: Learning processes

1. Communication initiation by participants

It was a small group of 9 so this encouraged engagement. However, a low knowledge base and unfamiliarity with other participants may have limited some. Between 10% and 50% of the participants had no problem sharing their knowledge and/or experiences related to the topic. There was some time for questions, about 40 percent, and some (5-10) questions were asked.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I had the feeling that I could share my own knowledge as relevant information.	1/5	0	1/5	3/5	0
I asked at least one question during the demonstration.	4/5 yes				
I shared my own point of view at least once during the demonstration.	4/5 yes				
I felt encouraged to ask questions during the demonstration.	0	0	1/5	4/5	0
When there were any discussions, I felt comfortable sharing my opinion.	1/5	0	1/5	3/5	0

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I asked participants to share some of their own background knowledge during the demo.	0	0	0	1	0
I encouraged the participants to formulate their own point of view during the demonstration.	0	0	1	0	0
I encouraged the participants to formulate questions during the demonstration.	0	0	1	0	0

2. Interactive knowledge creation

Hands-on opportunities and other multi-sensorial experiences

Attendees were offered the opportunity to shape the trees with a secateurs, engaging motor skills, requiring critical assessment, etc. As it was an outdoor event, it placed the agroforestry scheme within an overall landscape context, and allowing direct visual comparison with nearby forestry & farming enterprises.

There was one hands-on activity demonstrated or possible to be carried out by participants. Assessing tree form and demonstrating the need for shaping of the trees. Attendees were offered the opportunity to shape the trees with a secateurs, engaging motor skills, requiring critical assessment, etc. Their subsequent work was then lightly critiqued.

Discussion opportunities and negotiating conflicting points of view

There was a facilitator there, a Teagasc forestry development officer. He introduced the farm owner and other forestry experts and outlined the structure of the demo. He chaired the discussion and initially demonstrated management techniques. He aided attendees in practicing above mentioned techniques and drew out all participants' opinions/ experiences. Open discussions between a few participants were stimulated and took up about 10% of the time. Issues related to the permanency of the change to forestry were discussed. Shared critical points of view were clarified/rephrased so more people could understand.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	1/5	2/5	2/5	0
If participants didn't agree with each other during discussions, somebody (demonstrator/other participant) tried to reach a consensus between them.	0	0	1/4	2/4	1/4

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	0	1	0	0
If participants didn't agree with each other during discussions , somebody (me or somebody else) tried to reach consensus between them.	0	1	0	0	0

3. Engagement during the event

Some participants were very familiar with each other, more had never met before. This meant participants acted more distant than open. The demonstrator acts open and friendly, but not as close friends with the participants.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I felt actively involved during the whole demonstration process.	0	1/5	3/5	1/5	0
I felt like the demonstration increased my ability to rely on myself as a farmer.	0	0	2/5	2/5	1/5
I could relate well to other participants (because they have an agricultural background similar to mine).	1/5	0	1/5	3/5	0
A lot of the other participants are part of the same farmer network as me.	1/5	0	0	3/5	1/5
I felt like I could trust the knowledge of (most of) the other participants.	0	0	2/5	3/5	0
The demonstration felt like an informal activity to me.	0	0	2/5	3/5	0
I thought the host farm was comparable enough to my own farm.	1/5	0	3/5	0	1/5
I had the feeling the demonstrator was like one of us.	0	0	2/5	3/5	0
I had the feeling I could trust the demonstrators knowledge.	0	0	1/5	4/5	0
I got along very well with the demonstrator.	0	0	1/5	4/5	0

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
Were participants (farmers, advisers, researchers etc.) involved in the overall development of this demonstration?	No				
Most of the participants were well known to me.	0	1	0	0	0
A lot of the participants are part of the same network as me.	0	1	0	0	0
The demonstration felt like an informal activity to me.	0	0	0	1	0
I think the host farm was well suited for this demo.	0	0	1	0	0
I got along well with the participants.	0	0	1	0	0

T2: Learning outcomes

According to the observing researcher, greater engagement through hands-on- work should have been organised. Skills were in that sense not sufficiently addressed and put into practice to foster maximum uptake by participants. Common methods or ways of thinking on farming were questioned, but alternatives were not addressed. Generalized statements by attendees were challenged and they were asked to explain further. Common methods or ways of thinking on learning were not addressed.

	participant answers				
What would you ideally like to learn today?	About forestry; What to do about the emerging deer problem; About appropriate management for older woodland, hedgerow management, coppicing skills or at least to find out where I can learn				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
The demonstration met my expectations regarding what I wanted to learn.	1/5	0	1/5	3/5	0
The demonstration exceeded my expectations.	0	0	2/5	3/5	0
I felt surprised at some point(s) during the demonstration.	0	0	0	4/4	0
I obtained a clearer understanding of the topic(s) demonstrated.	0	0	2/5	3/5	0
I have the feeling I learned something new (knowledge, skill, practice, etc.).	0	0	2/5	3/5	0
I thought about how I could implement some of the ideas and practices on my own farm.	0	0	0	4/5	1/5
I reflected on my own point of view at some point during the demonstration.	0	0	1/5	4/5	0
I learnt about the principles underlying a practice.	0	0	3/5	2/5	0
I thought about how we learn something new on demonstrations (e.g.: teaching methods).	1/3	0	2/3	0	0
I thought about why I want to learn about the topic(s) of this demonstration.	0	1/5	4/5	0	0

	demonstrator answers				
what do you intend for the participants to learn today?	That they would have basic knowledge of the scheme itself, that they would be able to compare it with other farming enterprises, if they actually had forestry themselves they would also know what activities need to be carried out in say the spring period for example.				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I think participants have learnt what I intended them to learn.	0	1	0	0	0
I tried to surprise participants with uncommon/new knowledge/new skill.	0	1	0	0	0
I felt surprised at some point(s) myself during the demonstration (e.g. by a question or discussion).	0	0	1	0	0
I obtained a clearer understanding of the topic(s) myself.	0	0	1	0	0
I have the feeling I learned something new during this demo (from participants, discussion...).	0	0	1	0	0
I reflected on my own point of view myself at some point during the demo.	0	0	1	0	0
I encouraged participants to reflect on their own point of view during this demo.	0	0	1	0	0
I encouraged participants to reflect on their own situation sometime during this demo.	0	0	1	0	0
I encouraged participants to reflect on how we learn something new on demonstrations.	0	0	1	0	0
I encouraged participants to reflect on why we are trying to learn about the topic of this demonstration	0	1	0	0	0

T3: Overall comments on the effectiveness of the event

Participants:

With an average of 4,6 on 5, participants rated the event overall as very effective. 5 on 5 participants who answered the question would recommend the demonstration.

As main effective characteristics of the demo participants mentioned: Learned more; Getting advice on what I can do to my own plantation in the future; Eugene was a delight to listen to in particular and hear his passion for trees and habitat came across; The Demonstration and discussion

None of the participants had any suggestions for improvement.

Demonstrator:

As main effective characteristics of the demo, the demonstrator said: 'The landowner was the most important part. The forest service inspector, the other demonstrator is highly invested in it, a representative of the company that established it was there to talk about it and how they established it and some of the issues that arose but I would say in the main it's down to the landowner. He's particularly well-informed. He's comfortable speaking publicly and he's quite engaged so he does make a considerable difference, and he's very open. He will talk money which is not what a lot of farmers are willing to do. They like to talk about other people's money but not their own.

As suggestion for improvement the demonstrator mentioned: 'It's a little difficult, I mean being able to track the people afterwards would be very useful but this GDPR thing is going to be a problem. A clear pathway, how do you engage with people and get them to sign up? We've got sheets now that everyone who is at our demos if they're willing they can sign them and we'll contact them later. I think his farm is useful because it's set in a pastoral setting and there's other forestry and farming enterprises nearby. They can visually compare, they can see it straight in front of them and I think if there was a number of demonstration farms where this kind of integrated approach was on view it would work a lot better. Our normal forestry approach is looking at forests but we want to show it as a compliment to farming rather than competition. It is an integrated thing.'

General summary:

The demonstration was good but could have been better. A more deliberate approach by the organiser would have been more beneficial.

The main strong aspects of the demonstration included: The well informed and engaging landowner; The highly invested Forest Service demonstrator and the experienced Teagasc facilitator.

Main improvements included: Greater hands- on experience by attendees and greater attendance.

6. Annex: Case study poster July 2018



FarmDemo

CASE STUDY "Ireland": Liam Beechinor

Teagasc, Forest Service (Ireland)

A pilot agroforestry plantation was established in 2011 on part-time farmer Liam Beechinor's 20 hectare (ha) beef farm in Co. Cork. The pilot plantation has been used to proof agroforestry establishment/ management methodologies and as a feasibility demonstration for farmers, professional foresters and policy makers.



Objectives

- Initial objective: pilot feasibility plot
- Secondary objective: demonstration plot
- Tertiary objective: proofing methodologies

Motivations

- As a new land use in ROI, a practical demonstration of successful agroforestry establishment is required
- For the landowner, personal interest, pride and financial support are important drivers
- For the advisor, the open personality of the landowner and willingness to engage are essential tools in the extension effort

Topic selection

- Selected to cover land use rationale, establishment options and early management

Evaluation peer-to-peer learning environment (30th April, 2018- Liam Beechinor)

- All participants asked at least one question and shared their points of view, one participant who perceived themselves to be an observer.
- Issue of gender cited as a factor impacting participation
- All participants would recommend the event to others

Audience & participation

- Informing landowners as potential scheme participants
- Professional foresters to discuss management issues
- Policy makers to view feasibility, with a view to whole farm planning
- No participation fee

Demonstration set-up

- Initially top-down (led by extension), but open discussion encouraged.
- Advocacy contribution by the farm owner is considered the most important by advisors
- Demonstrations for different audiences have been both targeted and integrated, with mixed results
- An adjacent standard forestry plantation is used as a contrast

- This demonstration plot is the first state aid-supported afforestation plantation in ROI
- Demonstrates how to engage multi-actors successfully in afforestation promotion & extension
- Points to the potential of a lead forest owner/ master farmer advocacy initiative



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Ireland Case Study 3

1. Background

The Newford Farm in Athenry, Galway (Ireland) is a suckler beef demonstration farm which has been established between several industry stakeholders.

The Programme partners are Dawn Meats, Teagasc, McDonald's and the Irish Farmers Journal (IFJ).

Dawn Meats is the owner of the herd, whilst Teagasc owns the land and the facility the farm operates from. McDonald's (the fast food chain), is supplied by Dawn Meats. The Irish Farmer's Journal, a national farming publication, lends support and backing to the project also.

Representatives of Dawn Meats work closely with the farm manager who is responsible for daily tasks such as machinery work, general labour, spreading fertiliser and silage feeding.

Teagasc involvement is led by advisory staff and technicians who are responsible for collecting and collating data from the farm. There is also a presence from the Irish Farmer's Journal on the management team.

The project receives support from PLAID and Agridemo.

The progress of the farm is made public through a variety of forums including the Teagasc website, Newford Farm website and blog and the Irish Farmer's Journal, both in print and on – line.

The farm is open for the farming community and interested parties to view on specified open days which are widely advertised through the above means and via local channels, such as road signage.

Funding and Governance

Dawn Meats provide the funding to pay the farm manager and any other employment costs. They were also responsible for outlay of capital to set up the farm, such as stock.

During the demonstration day in question, Dawn Meats provided complimentary catering to those in attendance.

Teagasc provides the land and covers costs incurred in this regard, such as land rental. Teagasc advisory staff are supplied for the purpose of the demonstrations.

Backing is also provided from McDonalds and IFJ.

Actors and Networks

Dawn Meats and Teagasc are responsible for the bulk of the organisational tasks involved in organising the Newford Farm Walk. Teagasc is responsible for coordination of their advisory staff participating in the demonstrations whilst Dawn deal with their own representatives. Together, they are responsible for the overall administration of the demonstration.

The demonstration event was open to all types of farmers but it is likely that there was a particularly strong cohort from beef enterprises in this case, due to the focus of the walk. Other actors included Agricultural advisers and planners, industry representatives and technicians.

The demonstration was designed to be informal, with groups of roughly 20 or so attending each information station at a time and interaction and exchange encouraged.

Newford Farm is well publicised through the Teagasc website, Newford Farm website and blog, social media platforms and through the national farming press by the IFJ.

How it works

- The Newford Farm National Open Day was a demonstration event open to members of the farming community and related stakeholders to attend. This latter group included technicians,

agricultural students, farm advisers, representatives of McDonald's UK & Ireland as well as industry stakeholders including ICBF (Irish Cattle Breeding Federation), Bord Bia (Food Board), Department of Agriculture, Food and Marine and Agri-Aware (Agri Food Education Body).

- The farm walk incorporated 5 separate information stands or boards. Each of these was manned by a demonstrator. Groups of attendees were moved from Stand 1 to Stand 2 and so on until the last demonstration stand had been visited. A presentation was given by the demonstrator and audience participation and questions were encouraged and welcomed. Representatives from programme partners were in attendance and available to answer questions also.
- The aim of the farm walk was to showcase best practice in terms of suckler beef production, with emphasis placed on breeding, production data, measurement and management. Those in attendance were privy to the physical and financial performance of the farm. The stock were a visible presence as they were at grass and available for all attendees to view and judge for themselves.
- The event was also a registered Knowledge Transfer (KT) event which means that some of those attending were doing so in their capacity as participants of the KT programme which is run by the Department of Agriculture, Food and the Marine (as part of the CAP - funded KT Groups scheme)
- There was also an indoor exhibition area which included information stands on agricultural topics and businesses and a display which high-lighted farm safety. This was available for perusal following completion of the farm walk, as were complementary refreshments.

Event farm and location

Newford Farm is located in Athenry, Co. Galway, Ireland.

The farm aims to showcase sustainable suckler beef production. The farm is run on a fully commercial basis and aims to showcase the potential of a moderately large suckler beef farm to generate a viable family farm income, when operated to the highest level of technical efficiency and best practice. The system aims to finish steers and heifers for beef at 20 – 24 months of age.

The farm comprises of 3 separate lots of land contained within 3 distinct parcels. These are Newford Home farm (26.13 Ha), Gort na hAbhainn (13.50 Ha) and Tuohy's (13.03 Ha), respectively. The total land area is just over 55 Ha. The land is mixed in quality with some of it heavy in nature and prone to waterlogging in heavy rainfall.

The herd consists of 100 Angus and Hereford cross Freisian cows, which originated from a dairy herd. Replacement stock is also sourced from a dairy herd. There is a stocking rate of 2.7 L.U / Ha on the farm.

The herd has clearly defined targets such as;

- 365 day calving interval
- 8-10 week calving spread
- 80% cows calved within 8 weeks
- Weaning a calf at >50% of their own body weight
- Calf mortality up to 28 days < 2%

Breeding within the herd is a combination of A.I (Artificial Insemination) and natural service, with emphasis on the former. The chosen sires are from 5 star terminal lines and include Limousin, Simmental and Charolais. The terminology '5 star' means that a high rating has been achieved by these bulls across different assessment criteria within the Eurostar Breeding Index. Traits selected for aim to achieve;

- <6% calving difficulty

- >25 kg carcass growth

The farm is run on a day – to day basis by a farm manager who is responsible for carrying out on – farm tasks.

Event date Wednesday, 5 September 2018 (2-6pm)

2. Method

In line with the Methodological Guidelines, three main data sources are used: a background document and interviews at Programme and Farm level to analyse structural and functional characteristics, and event tools and surveys to analyse event level participation and learning, as follows:

1. A background document for every case study was completed by the AgriDemo-F2F partner who carried out the case study.
2. Interviews with representatives of programme/networks (level 1) and farm level interviews with demonstrators/hosts (Level 1) to reveal how the functional and structural characteristics enable learning. Analysis of these interviews is reported in Sections 3 and 4. Data is sourced from 76 pre and 27 post-demonstration participant surveys, 3 pre and 3 post event surveys with demonstrators, and an event observation tool completed by an observing researcher. This data is mainly used for the analysis of learning processes and learning outcomes related to the specific event and overall comments on the effectiveness of the event. The analysis followed 5 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes, (4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.
3. Event tools and surveys (Level 3) to reveal peer to peer learning processes. Event details and analysis is reported in Section 5. This data is sourced from 76 pre and 27 post demonstration surveys for participants, 3 pre surveys and post surveys for demonstrators, a post host farmer interview and an event observation tool completed by an observing researcher. This data is mainly used for the analysis of learning processes and learning outcomes related to the specific event and overall comments on the effectiveness of the event.

Finally, partners reviewed the case study reports to prepare their workshops with different stakeholders related to the case studies. These workshops aimed at validating the data presented in the case study reports. The workshop for Ireland will be held in the beginning of 2019.

3. Structural Characteristics

T1: Farm (event level)

1. Size and design of the event

The event took place on 5 September 2018 with demonstrated topics on beef production and cross breeding. There was a high number of attendees at the event, estimated to around 700 people. Five stands were placed in the fields with big posters and two demonstrators per stand. Each stand explained a topic concerning beef production with specific data. There was a focus on, and explanations of, how breeding could become more profitable.

At every stand there were about two facilitators/demonstrators who were mainly Teagasc advisers. Demonstrators presented the financial and breeding aspects of the farm as well as dimensions of good grassland management (Post survey demonstrator). They introduced the context of each stand and explained the data provided by the posters (figures and the statistics included) and guided the short amount of time for questions at the end of their presentation at every stand (Observation tool).

In addition, A whole field was shown where the cattle was grazing; there were no typical comparative layouts on the field (Observation tool). A farm walk booklet was also disseminated to those who attended with detailed information on the farm and each of the elements of the walk.

2. Actor's role and characteristics

Demonstrators and facilitators

The demonstrator was a 46 years old adviser who did not work in the same area where the event took place. The interviewee participates to over 50 events per year as a demonstrator. Finally he does not hold any elected or appointed roles on farming networks or boards (Pre survey demonstrator). Three demonstrators filled out the post survey questionnaire. Two out of three demonstrators have classified the demonstration as a showcasing of existing experience. However the last of them mentioned that the specific demonstration would be better classified as a mixture of experimental and exemplary approaches. All demonstrators mentioned that participants were not known to them (Post survey demonstrator).

Two out of three demonstrators agreed or strongly agreed that they would benefit from some extra training to better act as a demonstrator. The last demonstrator found the question as not applicable to his/her situation (Post survey demonstrator).

The demonstrators were reported to be very open to the critical points of farmers/attendees and acknowledged the problems stated (Observation tool).

Participants/attendees

There were some 700 people attending the demonstration event

Approximately 1/10 of participants (70 out 700 participants) filled out the pre participant's survey which is the basis of the analysis below. Almost 45% of respondents worked in the local area (Pre demonstration survey participant). The vast majority were farmers (78%) while some other occupations were also mentioned (carpenters, technician, accountants, students, engineers, advisers etc) (Pre demonstration survey participant).

Twenty-eight (28) attendees filled out the post participant's survey. Eight out of ten respondents (79%) mentioned that participants were part of the same farmer network as them. Furthermore, more than three out of four (78%) agreed or strongly agreed that they felt actively involved during the whole demonstration process (Post participant's survey).

According to the pre survey demonstrators' survey, it was possible for everyone who wanted to participate to take part in the demonstration (Pre survey demonstrator). Participants were offered the opportunity to meet the farm manager and the advisers and researchers who work on the Programme. All demonstrators interviewed agreed that participants were not involved in the overall development of the specific demonstration (Post demonstrator survey).

When a group of about 50 people was formed, the field walk began. A Teagasc adviser provided each group some input (Observation tool). Attendees walked around the field in groups, stopped at each stand to listen to different demonstrators, and then asked questions. After the explanations of the demonstrators at the different stands, some farmers were not shy to open a critical discussion about the 'innovation' presented. The big constraint of the event seemed to have been the amount of people as it was hard to get the same level of interaction within groups (Observation tool).

The host farmer

The Newford beef demonstration farm is run by a 36 years old farm manager. He has reported that less than 5 demonstration events are hosted on the farm each year.

The host farmer presented the farm to the audience. More specifically his role was to give the audience some context on the farming practices that he carried out on farm and his reasons for implementing them (Observation tool).

3. Farm's infrastructures and arrangements

After the field walk, some food and drinks were offered to participants provided by the fast food chain (McDonalds) who are programme partners (Observation tool).

4. Duration

The event was held at 5th of September for 4 hours, between 2 and 6 pm. Five stands were planned where farmers had some 30 minutes to discuss on topic presented. Ten of those thirty minutes were devoted to questions/discussion with each group. Thus, the total duration for a farmer to go through the 5 stands of the field walk was about 2h30.

5. Accessibility

The travel time of interviewed participants to reach the demo farm, ranged from 2 to 240 minutes, with an average time of 57 minutes (Pre demonstration survey participant). Approximately 39% of participants rated their travel effort to participate as very little effort and 16% as little effort; 23% rated their travel effort to participate as quite some effort and 22% as great effort/or greatest possible effort (Pre demonstration survey participant). We cannot draw any clear conclusion in relation to the organisation of the specific event and the farm location. Some participants, who travelled for 150 or 180 minutes, rated their travel effort to participate as very little effort while other participants who travelled for 30 or 45 minutes rated their travel effort to participate as great effort/or greatest possible effort (Pre demonstration survey participant).

4. Functional characteristics

T1: Coordinating effective recruitment of host farmers and participants

1. Incentives

The costs of the demonstration were covered by Teagasc, who provided materials, land and infrastructure needed. While there were no costs incurred on the farm, it appears that host farmers were not paid for running the demonstrations. Farmer 2 expressed some uncertainty as to whether Teagasc will continue to fund the project beyond 2022.

Ok, so the costs of the demonstrations are covered by Teagasc, so be it boards / information or sound systems, whatever structural things had to be put in place for the demo farm. So, it wasn't impacting... none of the cost was carried by the farm. (Farmer 1)

That project is funded up to 2022. Teagasc supply some of the expertise and we supply the technician so many days a week. Dawn supply the stock and carry a lot of the cost around running the farm, so they pay the farm manager. Teagasc, for example, we lost a chunk of land there, so it's up for debate at the moment are Teagasc going to commit to take on a five-year lease to take on an extra sixteen hectares which, seemingly, was Teagasc's role, so Teagasc have to make a decision now whether they will have to commit to that. Teagasc is responsible for supplying the buildings, the land and the infrastructure and then the actual and the running of it all comes under the jurisdiction of Dawn Meats. (Farmer 2)

2. Motivations for host farmers

Farmers 1 and 2 cited knowledge transfer, and the desire to share best practice, as the main motivation for host farmers.

The Programme interviewee observed three different types of host farmers: those who were motivated by financial incentives; those who were motivated by the opportunity to share the work they are doing; and those that fell somewhere in between, who were apparently motivated by the chance to have other farmers observe and criticise their project.

To demonstrate best practice. (Farmer 1)

For Knowledge Transfer reasons really. We want to get as much of the knowledge that we have generated on the farms to our target audiences. (Farmer 2)

I think farmers hosting things really fit in to one of three categories. One, they've got a financial incentive to do it and I know we find if we want a farmer to host a meeting for any sort of thing if you give them an extra few pence per kilo it works wonders, so you've got cold hard cash. The other end of the spectrum is where they're very proud of what they're doing and they want to share it which is actually harder to get them to believe that they are doing a good job, we pick out the farmers who are doing a good job and they're like no, no so they're very precious about - they don't like putting themselves on a pedestal. When it comes to doing stuff they need a lot of convincing even when you do show them that they are good, however that may be with profit monitors or stats from ICBF for example and they can see they're good and there's almost like an 'alright I think I've done a good job but there's someone else proving it I'm quite happy to stand up and shout about it. And then you've got the others who are somewhere in the middle I think and almost like other farmers coming to be nosy and critical of what they're doing so that's how I see farmers fitting in to those three camps. (Programme interviewee)

3. Motivations for participants

Both Farmer 1 and 3 saw that participants were motivated by the chance to see something new in terms of best practice and management with a view to improve their own farms. Farmer 3 and the Programme interviewee both referred to an element of nosiness and curiosity about a less traditional farm system. Farmer 3 also mentioned the possibility to gain credit by attending a KT-approved national event.

The Programme interviewee felt it was possible to motivate participants to attend by providing lunch. As well as this, the Programme interviewee observed the challenge in motivating the key influencers in a farm business to attend, as these were generally the farmers that could not be persuaded to leave the farm for a day.

They're looking for something new. They're looking for answers. They want to see is there something different that they can do on their own farm that they can learn from on an open day like Newford, that they can bring back to and implement on their own farms. (Farmer 1)

Food! It seemed quite popular last month. All joking aside if we provide a beef sandwich or something like that it's a sure - fire way of getting them to something, and even if we're having a meeting, an off - farm meeting if you get somewhere that you're giving them a bit of grub as well you can see the turn out will be higher than if you didn't. Sometimes it is the sheer nosiness of farmers but I think the big challenge is, generally the farmers who can be away from the farm for attending an event are probably not really the farmers you want to influence and that's what we've found with some events and depending on the time of day the event is, you're getting numbers on the ground but you're not really getting influencers in the farm business. (Programme interviewee)

Somewhere like Newford, the system is slightly different to what some farmers in the west would be used to because it's a different cow type and they're bringing all their cattle to finish, a lot of western farmers bring them to weanling or store stage. They want to see how these Angus cross or Hereford cross cows are actually [performing]. [They want know] is there anything new in terms of best practice, whether it's in health or whether it's to do with markets or grassland. The other thing is, it was a KT-approved national event, so some farmers would actually get credit for attending the event. (Farmer 3)

4. Target audience

The target audience was suckler beef producers running unprofitable businesses.

They are suckler beef producers, farmers who are probably not making a profit at the moment. (Programme interviewee)

5. Advertising and recruitment

It appears the project had a well-developed approach to advertising and recruitment, involving sending out personal text invites and reminders, as well as advertising in national newspapers, giving radio interviews and detailing it in Teagasc's newsletters. Roadside boards also advertised the event as far as 60 miles away from the demo site in order to attract those in surrounding counties. It is clear that there were many streams through which farmers could learn about the event.

We find the biggest way of getting people to come is through text messaging so they'll get a text message maybe two weeks out from an event to say there is an event, to hold the date in their diary. Then they'll get another text message probably a few days before, so maybe a week

to ten days out they'll get a message and then a few days before they'll get a reminder text message. We run ads in the national newspapers, depending on how big the event is but the ad in the national papers would be running for one or two weeks. We may run radio adverts, we put staff, organising staff committee members will try their best to get on agricultural programmes on the radio and do an interview and we'll explain what's coming up on the open day. Then letters sometimes, it'll be put in our newsletter which goes out to all farmers, in Today's Farm farm magazine, in boards. So in recent years we've put up roadside boards along motorways and that in surrounding counties so people can see these adverts on the side of the road advertising the open day which is taking part in a couple of months which might not be in the locality, maybe 50-60 miles away we put up road-side boards advertising the event. (Farmer 1)

T2: Appropriate demonstration and interaction approaches

1. The nature of interaction

Farmer 1 described the nature of interaction as 'mostly bottom-up'. This was in relation to the content of the demonstrations; the Farmer focused on offering practical information that others could implement immediately at farm level.

Mostly bottom-up in that it's as interactive as possible and I try to keep the demonstration as practical as possible and as relevant to farmers at a practical level, rather than at a scientific or theoretical level, it's very much what can they take from this and use on their own farm almost immediately if they want to. (Farmer 1)

Likewise, the Programme interviewee described the nature of interaction as 'mostly bottom-up', explaining that the farmer to farmer approach had evolved naturally as it had proven to be the best way to communicate to farmers

I don't think there's really a programme around it, I think it's just as a business we have always demonstrated things to farmers. We can stand on platforms and tell farmers what to do and advise them and just because the processor says something we're the big bad ugly people and yeah it's another opportunity to throw stones but if we get farmers to communicate messages to other farmers it's a good way to communicate it and get more traction so it's more of that culture rather than any planned programme (Programme interviewee)

Conversely, Farmer 2 and Farmer 3 described the nature of interactions as 'mostly top-down'. For Farmer 2, this was because of the host farmers had developed their own format for delivering the demonstration through experience of other events and farms. Farmer 3 felt this approach occurred more as a result of the nature of the content. The information is factual material that has been gathered on the demo site, so this had to be delivered from the top down. Farmer 3 did acknowledge a certain amount of bottom-up interaction in that participants were encouraged to ask questions and input their opinions.

I suppose we have a format for delivering these because we have so many of them done before and we have experience of other farms and have been involved in multiple events. You learn from the experience of one and bring it to the next one. (Farmer 2)

The information that we present at a demo like Newford is stuff that has been gathered and it's factual and it is as it is, so other than listening to our stakeholders as to what they want and try and incorporate it in the likes of Newford or in the programme; yes, it's bottom-up in terms of that approach, but in terms of disseminating the information on the day, it's predominantly top-

down in that we present what we've found but then we are encouraging the likes of the questions to see to suss what farmers are thinking or to suss out what changes we should make for the future. (Farmer 3)

2. Involving farmers in the learning process and the demonstration programme

In general topics for events were decided by the programme, without input from the host farmer. However, after the initial decision had been made, the farmer had the chance to be involved in how the event was actually run.

Generally we have a topic that we want to do and then we talk to the farmer so they don't get a choice in the topic as such but then they'll have a chance to input into actually how it runs, so if we want to see say if we're talking about ventilation and pneumonia and health type things, we will work with the farmer and see what animals he's got that would be the best to display, which shed would be best to do any practical demos in. So they'll be involved once a decision is actually made in terms of the topic. We very rarely get farmers coming to us and saying oh can I host an event. (Programme interviewee)

The host farmers had no formal involvement in the network programme, although occasionally event topics would arise from discussions that members of the programme had with farmers.

Generally as I said we don't get farmers wanting to host things so we usually have a topic and then we find the farm to host it, so it's not that they don't get a choice. They get a choice whether they want to host it or not but they don't get a choice in the overall topic. I mean sometimes we will get a topic come out of a discussion with a group of farmers saying oh I'd really like to hear about this or I'd love to know more about that. But to say it shapes the programme is probably wrong or a bit formal. (Programme interviewee)

Participating farmers were able to be involved in individual demonstrations through a stakeholder group, which consisted of a researcher, industry personnel, farmers and advisers.

3. Focus

Farmer 1 described the network as whole farm, whereas Farmers 2 and 3, and the Programme interviewee, described the network as 'in between' whole farm and single focused.

4. Design

All farmers and the Programme interviewee described the network as 'exemplary' as opposed to 'experimental'. Both Farmer 1 and the Programme interviewee expressed a preference to this approach because they both felt it had a greater impact on the participating farmers, as it is rooted in practice and experience rather than in theory.

Because again it gets back to that farmer to farmer demonstration that if they're seeing examples of problems that have occurred on the farm or areas where they've improved and have the farmer himself or herself make those improvements and what their experience was of it, it's much better than theoretical or experimental. (Farmer 1)

Research is all very well but it's not in positions that are real, if you tell the farmer you found something through research it's all very well but it might only work in that scenario whereas showing something that is best practice you can generally take home well that's the way they've done it and I could do it this way because we know it works whereas research is always

got this sort of uncertainty around it, will it work won't it work. It's nice to see people trying things but I wouldn't say many people come away from a research type event going I'm going to do that, they sort of wait and see. (Programme interviewee)

Farmer 2 saw the value of both exemplary and experimental demonstrations, and showed an understanding that while experimentation generated new knowledge, there was a challenge to achieve best practice at the same time as running an experiment site.

Both have their merits I think. With research and trials you know you are generating new knowledge but maybe not demonstrating best practice. It's difficult to achieve a perfect demonstration farm when you're trying to experiment on it, whereas on the other hand the demonstration farm you can demonstrate best practice all of the time, or you should anyway. (Farmer 2)

Farmer 3 also expressed a preference for a mixture between experimental and exemplary, but when asked to elaborate it appeared he in fact preferred events that cover a specific area.

I, in a way, personally, prefer focused because you get into the nuts and bolts of a specific issue whereas with the bigger events you get a little bit of different areas without being able to drill into much detail ... It's probably a bit of a mix ... I personally like events that cover a specific area. (Farmer 3)

5. Ideal group size

Farmers 1 and 3 and the Programme interviewee all expressed a preference for group sizes between 10 and 25 participants. It was felt that this size group generated the most amounts of questions and meaningful discussion. It seems this was the optimal size in terms of balance between being big enough to get the message out to a decent amount of people (Programme interviewee), but small enough that the day can still run at a smooth pace (Farmer 3).

15-20 farmers. Because you're getting much better interaction within that group of farmers. You'll find that within a group of 15-20 you get a lot more questions from them, you get a lot better discussion whereas if you've a very big group of 100, 200 you get one or two people who will ask a question but the rest will shy away from asking it and then you won't get the same discussion and interaction around it then. (Farmer 1)

Again it depends on the topic but somewhere ideally if you could have a group of 15 - 25 because you'll always get one or two in the group who are vocal and who will kick start discussions but with 15 - 20 in terms of resource time you can get the message over to more in a short space of time so I mean a group of two or three is probably ideal if you want to go into detail but I think ideally if we're hosting things, 15 - 20 as a group size works really well because as I say you get one or two vocal ones who start discussing or maybe even fighting between themselves, you're always going to get others who won't say a word they just want to have a look and listen. (Programme interviewee)

I like discussion groups. I like ten to twenty farmers in a group and you can take them out and thrash out stuff, and talk through. And actually rather than them ask you the questions all the time you throw some of the questions back at them. One of the things that bugs the crap out of me to be honest with you, you get a lad and there's something being discussed and he comes away with some generalised statement, you know, I really love then to go back and ask specific questions of somebody that does that because oftentimes when there's somebody that does that there's no substance behind them. (Farmer 3)

T3: Enabling learning appropriate to purpose, audience, context

1. Facilitating interaction and learning: structure, content and techniques

On the whole it was felt that the best structure for a demonstration involved a mixture of activities. Farmer 1 emphasised the importance for using props and visual demonstrations to explain certain points. Farmer 3 and the Programme interviewee felt that it was best to start the day with a background talk to explain the theory before taking a walk around the farm. The Programme interviewee added that after this they might have a practical activity related to a specific topic and a talk from a visiting expert, adding that it was best for an external adviser to deliver this part of the day rather than a member of the programme network, as the farmers were more likely to trust this source. The event rounded off with a social discussion.

What we'd find most effective is that you'd have a talk but you'd have props as well for what you're talking about. It might be cattle, it might be grass, it might be something to do with maybe soils fertility but if you have a combination of a small amount of talking, props if you have them and there's a use for them and then visually seeing what you're talking about in the background is actually happening. (Farmer)

Yeah the ideal scenario really is you start off with a bit of theory, a bit of background, a bit of introduction, scene setting which is a bit more classroom based. And then you go for a bit of a walk so that farmers feel comfortable and they're not chaperoned as such, one they start going in one direction they start talking amongst themselves about what they've seen, they might come back and do something that is specific about a particular topic, so poking livers or letting smoke bombs off for example. You then get people that have started engaging with each other and then you can get them turned on. Generally there's an expert so we try to get someone outside of us so whether it's a Teagasc adviser or whether it's a vet to give that expert view on a particular topic. I think farmers warm to that because yeah, again if we tell them anything we're lying. And then round off with a bit of a social discussion afterwards. (Programme interviewee)

I like if you can have a talk and then you can follow it up with practical. It's all about giving the farmers the confidence to say well, look, I've seen that and I think this can work for me and give them the confidence and the reassurance that it can be done and that it does work. (Farmer 3)

Materials provided for participants consisted of the data and costs to support what has been discussed during the event, as well as information booklets to take away from larger events.

Yeah data and costs, all of those. It might be maybe if you're showing them something on the animal health side, animal products or veterinary health products that are being used on the farm and why they are being used. It could be around grassland management, it could be around how it's actually done. (Farmer 1)

Most of our big demonstrations would all have some sort of a booklet that you can take home. So a lot of the main ... on each of the stands, they're actually included and they can go back and reflect on what they've heard. Then, obviously you've got, if there's some practical stuff that they can visually see on the day, and will register on their minds. (Farmer 3)

Farmer 1 cited 'visualisation techniques, or other multi-sensorial experiences' as the most important tool for engaging farmers because seeing something in action enables the farmer to retain the information better.

It goes back to this whole idea that what you see you'll know or retain a lot quicker in your brain than what you just hear, or doing something will actually help you retain it. It's very hard getting people to do something whereas if they can see it being done it will stay in their brain that bit longer (Farmer 1)

Farmer 3 cited 'Problem solving - farmers feel they know how to solve a problem' as the most important, and appeared to feel that this was best achieved through a visual demonstration.

If I'm trying to show good grassland management, the visual effect of that is much better than bringing an expert in to talk about it. (Farmer 3)

Farmer 2 and the Programme interviewee both cited 'Participants ask questions & talk openly' as the most important, because this was considered the best way for farmers to internalise the information. The Programme interviewee emphasised that for this technique to be effective participants had to come with an open mind.

If participants are asking questions it means they are engaged with the message and they're much, much more likely than to internalise the message if they discuss it and ask questions about it rather than if they just hear an expert talking about. (Farmer 2)

Because there's no way in my view that people are actually going to take anything home unless they've questioned it. I don't think anyone goes to anything and takes everything at face value without questioning it and thinks that's wonderful. If people come with an open mind to an event there's always something you can learn and I think asking questions and talking openly is fundamental to making these groups work. Even Newford, we haven't got things perfectly and if you come with an open mind and ask questions it helps everybody. (Programme interviewee)

2. Taking into account variation in learning

Farmer 1 did not think that different learning styles were considered, whereas Farmers 2 and 3 and the Programme Interviewee all felt that they did. Of these, Farmer 2 had the most sophisticated understanding of how this was achieved, explaining that they did not so much cater to different learning abilities but to different learning techniques, by creating environments that allows people to listen, read or discuss, depending on how they most prefer to learn and engage. The Programme interviewee also detailed the variety of ways they offer for farmers to engage, from presentations to printed material and practical demonstrations.

By having a range of different ..it is not really about learning ability but learning technique. So some farmers will learn by listening, some farmers will learn by reading, some farmers will learn by seeing and some farmers will learn by discussing. You have to create environments for all of those to happen and that's why we write stuff up on boards so that some will read, we have talks about it so that they can talk to someone about it and we have it in books that they can take it away and we have it there on the demonstration farm so that they can see it. So it's not their learning ability it's just their technique of learning. (Farmer 2)

You take the likes of Newford, Newford would allow an individual discussion group to come in. [...] We have to be conscious of trying to spread the message across the industry, so therefore that's why we have big demo days, but then we get down more specifically to discussion group level and then the fact that we try and keep our advisers up to date, they can do one-to-one with farmer on what's happened there, if the questions, or if a show's a good example: look we were able to achieve this at Newford and this how we [do it]. The information is available at all different levels and it's out there in the media as well. (Farmer 3)

Anything from printed presentations, or presentations and screen images and printed documents that people can read through to practical hands - on demonstrations, things like poking livers and finding liver fluke and letting smoke bombs off in houses to actually see - so there's yeah, depending on what people are interested in there's different things. (Programme interviewee)

T4: Effective follow-up activities

1. Follow-up activities and materials

Farmer 1 and the Programme interviewee felt there was no effort from the programme to engage with participants after the event, while Farmer 2 cited the public media as a possible means to continue engagement. Farmer 3 gave the example of contacting particular participants after the event to offer answers to questions that he couldn't answer on the day, and added that in these conversations he will ask for feedback on the event. It is possible that this was carried out on more of an informal basis, rather than as programme protocol.

Somebody could ask you a specific question at the end, and you might not just have the answer there and then or somebody will have asked you a question that will have bugged you for the rest of the evening and you'll go back and research it and you'll say look, that point you made yesterday, this is exact ... or the question you asked me yesterday, this is how you would go about, or this is the information that you were looking for and if somebody said would you follow up on that. But I use it - you would do that anyway - but I also use it to find out people's reaction and what they thought of it. (Farmer 3)

The programme provided both physical handouts to take away from the event, be it presentation print-out of leaflets from the vet, as well as having all the information from Teagasc available online.

They're usually available on the internet so if there's boards that's used on the open day we usually put them up on the Teagasc public website for people and the open day booklet, so if people want to go in and download those they can. (Farmer 1)

We give hand - outs if we've done a presentation we give handouts that they can take away. If the vet's done something they might bring a leaflet, it depends on the topic. If it's Animal Health Ireland there's generally a leaflet there on BVD or something that we give farmers to take away. (Programme interviewee)

2. Assessing impact

There was little effort to assess the impact of the event either amongst participants or amongst the wider farming community, although Farmer 3 did refer to a previous study that was carried out on the activities of discussion groups, adding that it was difficult to follow up people that have never attended a demo.

We did a study a couple of years ago on discussion groups, for example, and we looked at activities of discussion groups [...] it's very hard to follow up somebody that didn't attend a demo, if they're a non-client for example because you don't know what they're at but we do know from working with groups, that definitely if they're engaged with you and you're trying to demonstrate something, they're familiar with the language, the terminology and the concept whereas the lads that don't come and engage may not necessarily be - they're not all like that because they may have other information sources. (Farmer 3)

5. Event analysis: effective peer learning characteristics

Event details

The group consisted of about 700 participants, of which 76 filled in the pre survey and 27 the post survey.

	n° survey participants	Accountant	Adviser	Carpenter	Engineer	Farmer	Office work	Retired farmer	Retired teacher	Solicitor	Student	Student/Farmer	Technician	unknown
<i>occupations</i>	76	3	2	3	1	49	1	2	1	1	2	1	1	9
<i>working area</i>	71													
local area	41	2		2		31			1				1	4
not local area	30	1	2	1	1	15	1	2		1	2	1		3
<i>gender</i>	73													
male	68	3	2	3	1	46		2	1		1	1	1	7
female	5					1	1			1	1			1
<i>age</i>	68													
18-30	7	1				2					1	1		2
31-40	8	2		1		3								2
41-50	23		2	1	1	15				1	1		1	1
51-60	11					10								1
60+	19			1		13		2						3

T1: Learning processes

1. Communication initiation by participants

When in the whole group not more than 10% of the participants hesitated but shared their knowledge and/or experiences related to the topic. More participants sharing their knowledge would have been practically very hard since there were so many people at the same time listening to the demonstrators. Between 10% and 50% of the participants had no problem sharing when in smaller groups. Informally after the field walk, people shared over food and drinks.

There was room for questions, but not a lot, even though you felt that participants were ready and wanted to ask questions, there was only time for a few questions after every stand. Despite this, a lot of questions were asked. Because of the separation in stands, the demonstrators had to repeat their part a couple of times, which enabled more people to ask questions at different stands. There were only a few participants trying to formulate their own points of view regarding the topic. Again, the biggest constraint here was the large amount of people.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I had the feeling that I could share my own knowledge as relevant information.	0	6/27	15/27	5/27	1/27
I asked at least one question during the demonstration .	6/25 yes				
I shared my own point of view at least once during the demonstration.	7/25 yes				
I felt encouraged to ask questions during the demonstration.	1/27	3/27	16/27	6/27	1/27
When there were any discussions, I felt comfortable sharing my opinion.	1/27	5/27	15/27	4/27	2/27

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I asked participants to share some of their own background knowledge during the demo.	2/3	1/3	0	0	0
I encouraged the participants to formulate their own point of view during the demonstration.	0	2/3	1/3	0	0
I encouraged the participants to formulate questions during the demonstration.	0	0	2/3	1/3	0

2. Interactive knowledge creation

Hands-on opportunities and other multi-sensorial experiences

There were no hands-on experiences demonstrated or possible to be carried out by the participants. The participants could walk through the meadows and see the crossbreed cattle. Furthermore there were not really additional multi-sensorial experiences provided.

Discussion opportunities and negotiating conflicting points of view

Yes there was at every stand a facilitator/demonstrator there who was a Teagasc Adviser. The adviser would introduce the context of each stand on the farm walk and guide the short amount of time for questions at the end of the explanation at every stand. Every stand included 10 of their 30 minutes for questions/discussion. There were 5 stands so going through the field walk took a farmer about 2h30. Open discussions between a few participants were thus stimulated. Shared critical points of view were clarified/rephrased so more people could understand. Demonstrators repeated the questions asked by farmers through the microphone before trying to answer them.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	2/27	15/27	10/27	0
If participants didn't agree with each other during discussions, somebody (demonstrator/other participant) tried to reach a consensus between them.	0	4/24	13/24	2/24	5/24

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	0	2/3	1/3	0
If participants didn't agree with each other during discussions , somebody (me or somebody else) tried to reach consensus between them.	1/3	0	1/3	0	1/3

3. Engagement during the event

Participants acted more distant than open. Although they clearly respected each other as a colleague, even if they didn't know each other beforehand. The demonstrators acted open and friendly, but not as close friends with the participants. They were very open to the critical points of view of the farmers and acknowledged these problems.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I felt actively involved during the whole demonstration process.	0	5/27	17/27	5/27	0
I felt like the demonstration increased my ability to rely on myself as a farmer.	0	3/27	14/27	8/27	2/27
I could relate well to other participants (because they have an agricultural background similar to mine).	0	0	15/27	10/27	2/27
A lot of the other participants are part of the same farmer network as me.	0	3/27	19/27	3/27	2/27
I felt like I could trust the knowledge of (most of) the other participants .	0	2/27	17/27	7/27	1/27
The demonstration felt like an informal activity to me.	0	2/27	18/27	7/27	0
I thought the host farm was comparable enough to my own farm .	4/27	13/27	8/27	1/27	1/27
I had the feeling the demonstrator was like one of us .	1/27	10/27	14/27	2/27	0
I had the feeling I could trust the demonstrators knowledge .	0	1/27	14/27	12/27	0
I got along very well with the demonstrator .	0	2/27	17/27	7/27	1/27

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
Were participants (farmers, advisers, researchers etc.) involved in the overall development of this demonstration?	No (3/3)				
Most of the participants were well known to me .	0	3/3	0	0	0
A lot of the participants are part of the same network as me .	0	1/3	1/3	1/3	0
The demonstration felt like an informal activity to me.	0	2/3	1/3	0	0
I think the host farm was well suited for this demo.	0	0	1/3	2/3	0
I got along well with the participants.	0	0	3/3	0	0

T2: Learning outcomes

Explained knowledge was very clearly understandable. The use of the microphones, giant posters with data split into different stands made the message very clear. The booklets distributed also contributed to that. Practical skills were not a focus of the demo day. More the explanation of how breeding could become more profitable. Common methods or ways of thinking on farming were questioned and alternatives were extensively elaborated on in group. After the explanations of the demonstrators on the different stands, some farmers were not shy to open a critical discussion about the 'innovation' presented. Some even got applauded by other farmers for sharing their critical points of view. Common methods or ways of thinking on learning questioned, but no elaboration on alternatives. The AgriDemo researchers overheard some farmers saying 'why did I come here today? This was not worth it for me'. This didn't really happen in group formation as far as we know.

	participant answers				
What would you ideally like to learn today?	<p>to see if there's profit in sucklers; grass growth and prep; best breed for suckler; learn about grazing infrastructure; feeding animals; prices in beef industry for 2019 and beyond; how best to manage my enterprise; how to make more money; open to all farming knowledge; farming knowledge tools; animal vaccination and herd health; Is beef farming finished in the west of Ireland, Hobby now only?;</p> <p>How to farm better; grass managemnet and measurement and fodder usage; best practice and future proof farm; to be more efficient; the price of beef and quality; key performance parameters</p>				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
The demonstration met my expectations regarding what I wanted to learn.	0	3/27	18/27	6/27	0
The demonstration exceeded my expectations.	0	8/27	13/27	3/27	0
I felt surprised at some point(s) during the demonstration.	0	10/27	13/27	3/27	0
I obtained a clearer understanding of the topic(s) demonstrated.	1/27	2/27	15/27	9/27	0
I have the feeling I learned something new (knowledge, skill, practice, etc.).	0	2/25	15/25	8/25	0
I thought about how I could implement some of the ideas and practices on my own farm.	0	3/27	16/27	8/27	0
I reflected on my own point of view at some point during the demonstration.	0	6/27	13/27	7/27	1/27
I learnt about the principles underlying a practice.	0	4/25	15/25	6/25	0
I thought about how we learn something new on demonstrations (e.g.: teaching methods).	0	6/26	15/26	5/26	0
I thought about why I want to learn about the topic(s) of this demonstration.	0	3/27	17/27	7/27	0

	demonstrator answers				
what do you intend for the participants to learn today?	<p>To show a high level of performance in all those areas and how it's achieved, and how it's achievable by most farmers if they put their mind to it. There's nothing on that farm that's not achievable to some level or degree on most other farms. To learn of the technologies that we have adopted on the farm and the impact that they've had on the farm and to adopt those technologies on their own farms; Every farmer is going to take something different home. Somebody could already be pretty efficient at breeding but they could pick up something on grassland, or on the planning process regarding animal health, or to benchmark themselves against the financial performance that Newford is achieving.</p>				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I think participants have learnt what I intended them to learn.	0	0	3/3	0	0
I tried to surprise participants with uncommon/new knowledge/new skill.	0	0	2/3	0	1/3
I felt surprised at some point(s) myself during the demonstration (e.g. by a question or discussion).	0	0	3/3	0	0
I obtained a clearer understanding of the topic(s) myself.	0	1/3	1/3	1/3	0
I have the feeling I learned something new during this demo (from participants, discussion...).	0	1/3	1/3	1/3	0
I reflected on my own point of view myself at some point during the demo.	0	0	3/3	0	0
I encouraged participants to reflect on their own point of view during this demo.	0	1/3	1/3	0	1/3
I encouraged participants to reflect on their own situation sometime during this demo.	0	0	2/3	1/3	0
I encouraged participants to reflect on how we learn something new on demonstrations.	0	2/3	1/3	0	0
I encouraged participants to reflect on why we are trying to learn about the topic of this demonstration	0	0	3/3	0	0

T3: Overall comments on the effectiveness of the event

Participants:

With an average of 3.7 on 5, participants rated the event overall as effective. 24 on 24 participants who answered the question would recommend the demonstration.

Main effective characteristics of the demo- participants mentioned; only relates to farming beef; farm set up and presentations; layout of demo and competence of demonstrators; backdrop of info provided with speakers; the billboards; grass growth; relevant topics, eg fodder shortage; they are good as they are; good clear speakers; all stands were very clear; seeing the stock.

A few participants had suggestions for improvement: talk more about cost / income;; more A.I; more effective PA to hear audio; slightly larger size.

Demonstrator:

Main effective characteristics of the demo - the demonstrators said: Everything was on show, nothing was hidden; we showed the financial and the breeding and good grassland management. There was opportunity for people to ask questions, meet the farm manager that was working there, meet the advisers and researchers who work on the programme as well; We had a good attendance, its geographically located where the majority of the suckler farmers are, it's one of the few suckler demo farms in this region. It's got a high public profile, its economically challenged because of the structure that we have and there's significant differences between it and the average farm. It has to deal with all of the challenges associated with general farming. The fact that it was a mixture, you could see it on the ground but you had the figures and the statistics to back it up; it wasn't all theoretical, the practice was there in front of you as well as the hardcore information.

As suggestions for improvement the demonstrator mentioned: 'Ideally, you would like to bring the people around in smaller groups, it's very hard to do that when you have a big, big crowd coming. This way you are just not going to get the same learning from people when there's 200 - 300 maybe 400 in a group going around. It's hard to get the same level of interaction in a group like that; That type of demonstration, if you wanted to teach some more, the day would be even more focused, so you would have a day, for example, for breeding and you could pick four or five areas within the breeding that you could focus on ... you could make it more focused ... so it could be exclusively animal health or it could be exclusively breeding, the time constraint allows you to do twenty minutes, to talk about the achievements within the breeding or the animal health ... and then people are asked to move on, so in order to be able to do your practical demonstration on condition scoring or anything like that, for example, you just couldn't do it because you wouldn't have the time, so I think you would be looking at having the days even more focused than they are.

General summary:

Very well organised for a big group (uncertain about actual figures at the start), but very top-down, with luckily some understanding compassionate demonstrators. Efforts to make the demo somehow a little bit more bottom-up would be an improvement.

The main strong aspects of the demonstration included: Giant clear posters, some time for questions and acknowledgement by the demonstrators of the problems in the sector. Clear farm walk. Well organised and aimed a very large public. Nice informative well designed booklet to take home for everybody.

The main improvements included: Structured group discussion to brainstorm about possibilities in the sector could have been nice. Some farmers arrived after 4, while it was advertised that it ran until 6, but

after 4 registration was closed. Registration for a certain amount of field days provides farmers with an extra compensation. Since it was not clearly advertised the registration would close at 4, some farmers were disappointed upon arrival between 4 and 6.

Poland Case Study 1

1. Background

The National Centre for Practical Training is a relatively new institution. It was established as a result of the agreement between the Institute of Soil Science and Plant Cultivation in Puławy (IUNG PIB) and Agriculture Advisory Centre in Brwinów (CDR).

The Institute of Soil Science and Plant Cultivation (IUNG) was founded in 1950. A tradition of agricultural research in Pulawy, however, goes back to the year 1862, when the Polytechnic Institute of Agriculture and Forestry was here established. The IUNG is also heir to the State Research Institute of Rural Husbandry (PINGW) that was seated in Pulawy in the years 1917-1950. The Institute of Soil Science and Plant Cultivation is the largest and the oldest research-development centre in Poland, conducting agricultural studies under the supervision of the Ministry of Agriculture and Rural Development. The broad range of activities comprises crop production, soil science and fertilisation, as well as recognition and protection of agricultural areas against various forms of degradation.

The Agricultural Advisory Centre in Brwinów, with Branch Offices in Kraków, Poznań and Radom, is a government institution subordinated to the Ministry of Agriculture and Rural Development. The Centre is an operator that cooperates with agricultural advisory organisations, government and self-government administration institutions, professional associations, research and development units, as well as other entities working for the development of agriculture and rural areas in Poland. The purpose of current activities is the improvement of knowledge and qualifications of advisory staff as well as increase and unification of standards of services provided by advisers for farmers and other rural dwellers.

The purpose of established Centre for Practical Training (CPT) is aimed to the practical training of farmers, students and pupils as well as advisers. The Centre is based on the Institute's experimental stations' fields and the Centre for Practical Training in the area of Small Processing run by CDR Radom Branch. It was decided that science experience - including variety trials, research into the impact of cultivation on the soil, adaptation to climate change, new cultivation technologies including conservation farming, reduction of pesticide use, and deliberately set up demonstration plots will be served for the transfer of knowledge from science to the practice. Representatives of agricultural science and agricultural advisory will cooperate in the Centre as presenters. This allows to present, apart from scientific knowledge, practical aspects in the environment of functioning farms.

Programme

The assumptions of the program are the practical training of advisory staff, pupils and students and the dissemination of new solutions among farmers who provide the feedback. A part of the farm is managed by using the organic method, some are science experience, the Grabów farm has 111 ha of land, a milk cowshed and is profitable. The remaining 10 experimental farms of IUNG have over 4,500 hectares.

The Advisory Centre has a headquarter and four branches located in central and southern Poland. Each branch is an integral training unit dealing with a slightly different subjects. The Poznań branch deals with the economics of farms and the dissemination of knowledge. The branch in Krakow is dealing mainly with the development of rural areas, the branch in Radom deals with the agricultural production systems, organic farming and processing as well as the marketing of agricultural products. The Warsaw branch deals with the implementation of projects under the NRN.

Funding and Governance

Funds for conducting trainings come mainly from the own funds of both institutions. In addition, RDP funds and relatively small funds of sponsors are used.

Actors and Networks

The CPT Center is aimed toward to the training of practical skills of advisers, farmers and students. A functioning farm and a processing plant are necessary for this purpose. The farm is located in Grabów and the Institute's experimental plants (farms). In the future farms of farmers with whom currently science experiences are conducted will also be joined to the network.

Training in the field of agricultural processing takes place in **the Centre for Practical Training in the field of Small Processing at CDR Radom branch** which has been existing and operating since 2010. It was established at the initiative of the Ministry of Agriculture and Rural Development.

CDR Radom branch has undertook to create and to run a centre that would provide the opportunity for both theoretical and practical training of those who are willing to learn the ins and outs of processing at farm level.

The following premises spoke behind the creation of the Centre:

- The food supply chain combines of three important sectors of the economy: agriculture, food processing and distribution. The position of the farmer - the producer is the weakest link in this chain.
- Expectations of farmers who, running farms, also want to produce products for which demand arises, mainly on the local market, to show practical opportunities.
- The ability to conduct this type of activity, while maintaining standards that guarantee the safety of food produced.
- Possibility of traditional and regional products production on a small scale, using specific technologies and skills.
- An opportunity to prevent or at least to limit the capture of a significant part of the value added by large producers and distributors.
- **The CPT consists of:**
- **Juice production line.** The hall area is 92.5 m².
- **Butcher.** A small meat processing plant registered as small, local and limited production (MLO). The plant has an area of 173 m².
- **Dairy.** It's also a MLO plant. The surface of the production hall and rooms (including cheese ripening room with temperature and humidity control) is 109 m².
- **The mill,** originally located in the Ecological Show Farm in Chwałowice currently located in Radom, is an object with an area of 62 m².

How It Works

In the farm various fields training are conducted: plant production - with a division into conventional and ecological, animal production (dairy cattle), environmental protection and climate in the farm. The farm hosts both the field trials for groups, as well as complementary thematic visits that are part of training programs.

In CPT training on processing on the small scale in which farmers actively participate are organised. During the training, juices, cheeses, cold meats and cereal products are produced. Under supervision of trained CDR employees, participants work on the whole production line, passing all stages of production.

Event Farm and Location

The farm in Grabów is located in central-eastern Poland, in the southern part of the Masovia voivodship. It is a farm with dairy cattle and field production (corn, grass, cereals, potatoes, rape, lentils). The farm has experimental fields for organic production (about 11 ha). The ecological part is certified by the appropriate certification body, it's products are sold as organic products. The main task of the organic

part (supervised and maintained by AAC in Radom) are variety trials for organic farming. About 120 varieties are tested annually. The experimental part of the Institute runs plots with strict experience regarding, among others changes, cultivation of mixtures, plants, the impact of cultivation on soil fertility, drought prevention, fertilisation. During the farming season, the group of high school students, students, agricultural advisers, young farmers and farmers are trained in the farm.

In CPT from two day to one week-long courses are organised. Participants will learn about sanitary, legal regulations, processing technology, and marketing of processed products. Raw materials for processing come from a farm in Grabów (cereals, milk) and farmers farms (meat, fruit).

Event Date: April 15th 2018

2. Method

In line with the Methodological Guidelines, three main data sources are used: a background document and interviews at Programme and Farm level to analyse structural and functional characteristics, and event tools and surveys to analyse event level participation and learning, as follows:

1. A background document for every case study was completed by the AgriDemo-F2F partner who carried out the case study.
2. Interviews with representatives of programme/networks (level 1) and farm level interviews with demonstrators/hosts (Level 1) to reveal how the functional and structural characteristics enable learning. Analysis of these interviews is reported in Sections 3 and 4. Data is sourced from 1 interview at the programme level and 1 at the farm level. The analysis followed 4 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes, (4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.
3. Event tools and surveys (level 3) to reveal peer to peer learning processes. Event details and analysis is reported in Section 5. Data is sourced from 18 pre and post-demonstration participant surveys, pre and post event surveys with 1 demonstrator, 1 post event interview with the host farmer and an event observation tool completed by an observing researcher. This data is mainly used for the analysis of learning processes and learning outcomes related to the specific event and overall comments on the effectiveness of the event.

Finally, partners reviewed the case study reports to prepare their workshops with different stakeholders related to the case studies. These workshops aimed at validating the data presented in the case study reports and to discuss on key characteristics related to effectiveness of demonstrations.

3. Structural Characteristics

T1: Programme/network level

1. The main organisations and actors involved in the demonstration activities and their roles

The programme

The main organisations/institutes involved in the demo activities are the Institute for Soil Science and Plant Cultivation and the Agricultural Advisory Centre (Poster). It is also mentioned that trials under an H2020 project (ReMIX) have been set up on the farm, whilst no further details are mentioned on the project. It seems also that a private (seeds) company is also involved in the organisation of the demo activities, but there were not any detailed information shared.

Advisers and advisory centres

The main actors involved in the process:

- a) advisers from AAC (Agricultural Advisory Centre),
- b) scientist from IUNG (Institute of Plant Cultivation and Soil Science in Puławy),
- c) advisers from the Mazovian Agricultural Advisory Centre,
- d) advisers from other 15 voivodship agricultural advisory centres.

The Polish public agricultural advisory system operates through:

- a) the Agricultural Advisory Centre acting as a framework organisation responsible for development of methodologies and training material for regional advisory centres/advisers,
- b) 16 voivodship regional advisory centres covering area of 16 Polish voivodships according to administrative division of Poland.

The programme/network is managed by an advisory branch belonging to National Agriculture Advisory System, consisted of representatives of farmers, scientists from Institute of Plant Cultivation and Soil Science in Puławy and advisers from AAC. The main actors involved in the demonstration activities are the AAC manager of demo farm, local office manager from the Mazovian Agricultural Advisory Centre and adviser from given village. The role of AAC manager of demo farm is to coordinate all activities (including tasks for IUNG scientists), while representatives of the Mazovian Agricultural Advisory Centre is to promote events and making all logistic arrangements (i.e. travel etc.). The same role is shared by other 15 voivodship agricultural advisory centres regarding visitors/farmers from their areas of activities. The network /programme is also connected to other programmes (i.e. funded within the framework multiannual agreements between IUNG and the Polish Ministry of Agriculture and Rural Development regarding scope of cooperation between IUNG and representative of public advisory system - AAC or any other voivodship agricultural advisory centres) with the participation of advisers from other voivodship advisory centres, and farmers from different regions and training centres. The advisory centres from all 16 voivodships also contribute to the advertisement of the demo event, while they disseminate technical/published material after demos to participants. The demonstration event on the specific farm has been organised after contact with advisory system and local (Zwoleń) agriculture college with the demo topics being selected by advisers and farmers (poster).

Q: Topic: Selected to cover main aspect of conventional and organic production. Determined by advisers and farmers together (Poster)

Q: How is the programme/network managed? R: Advisory branch including social council consisted of representatives of farmers, scientists, advisers. (Programme interviewee)

Q: Who are the main people involved in the demonstration activities and what are their roles? R: Branch manager, lock office manager and adviser from given village. (Programme interviewee)

Q: To what extent is the network / programme connected to other networks/programmes in your country or even internationally? R: Participation of advisers and farmers from different regions/ specialized training, e.g. horticulture, cattle breeding. (Programme interviewee)

Q: In your experience, what is the most effective way of attracting participants and advertising events? R: 1. Through neighbours, local leaders, 2. Internet, press, local public advisory centres. (Programme interviewee)

Q: Are follow-up materials made available to participants after demos? R: Yes. Publishing of advisory centre, description of variants, plant protection products. (Programme interviewee)

Q: How are most demonstration event on the farm organised? R: Contact with advisory system and schools. (Post host farmer interview)

2. Other actors involved in the demonstration activities

The organisers (AAC demo farm manager)

The demonstration activities and topics are based on the organisers' knowledge and experience concerning farmers' needs and preferences.. The organisers sometimes target collaborating farmers to host demo activities, after consultation with local authorities and leaders. The organisers request feedback from participants and carry out evaluations of the overall demo activities through evaluation sheets. They also invite demo participants to additional training initiatives (workshops, conferences, training, and missions) in order to engage them after the demonstration event.

Q: Are participants targeted in demo recruitment? R: Sometimes, IUNG disseminates information about demo event through rural self-government offices, local leaders and agricultural advisers operating at local level. (Programme interviewee)

Q: As an organisation, how would you describe your general approach to providing demonstration activities? R: Mostly top down. Firstly, on the basis of multiannual programme of AAC demo farms created and approved by the Council of AAC, branch in Radom. The board consists of, inter alia, research institutes and farmers organisations. Moreve, IUNG operates within the framework of specific programmes funded, inter alia, by the Ministry of Agriculture and Rural Development. Both programmes (AAC and IUNG) mirror farmers preferences identified by needs analyses. Subsequently, dissemination channels concerning any specific event are selected to reach the appropriate target group. (Programme interviewee).

Q: Do you request feedback from demo participants? R: Yes. Evaluation sheet. (Programme interviewee)

Q: Do you evaluate the demonstration activities overall? A: Yes. Evaluation sheet. (Programme interviewee)

Q: Do you - at the programme level - continue to engage participants after the demonstrations? A: Yes. Often our Centre of Practical Training invite for winter trainings, missions. (Programme interviewee)

Q: What, in your opinion, is the most effective way to encourage engagement after specific events? A: Next event - workshop, conference. (Programme interviewee)

Scientists

The programme/network is managed by an advisory branch which consists of representatives of farmers, scientists and advisers. Scientists from IUNG are one of the main actors involved in the demonstration activities. Their role is to develop field assumptions for field experiments in order to solve the problems of central Poland's agriculture. They relate their assumption on mainly two reference points:

- a) Results of IUNG own researches evaluated as a relevant for farmers/advisers needs,
- b) Topics indicated in other programmes (i.e. multiannual agreements with the Ministry of Agriculture and Rural Development).

Q: How is the programme/network managed? R: Advisory branch including social council consisted of representatives of farmers, scientists, advisers. (Programme interviewee)

Q: Who are the main people involved in the demonstration activities and what are their roles?

R: Me (AAC demo farm manager), a local adviser, teachers of a local secondary agricultural school, adviser to the Practical Training Centre, scientists from IUNG institute.

Experts

At the specific farm, experiments and presentations of the technology developed on farm are demonstrated. These goals are decided by experts of IUNG and IUNG Council (representative of Ministry, FAS, farmers organisations, other institutes). Key experts are present during demo events and they have an important role, as they offer their expert knowledge to participants.

Q: What are the overall goals/objectives of the demo farm? How are these decided? R: Presentation of technology development in production. Decided on the experts meeting. (Programme interviewee)

Q: What tools and techniques do you find are effective for engaging participants? A: 1. Demo in field 2. Machinery 3. Expert answers.(Farmer)

Farmers

As already noted farmers' organisations representatives participate in the advisory branch. Representatives of different farmers' organisations (i.e. chambers of agriculture, sectoral farmers associations) participate in work of social council operating in AAC and each of 16 agricultural advisory centres. The role of each council is to review overall strategic goals for any unit of advisory services and approve annual working programme, including scope of activities in area of demo farm. The network / programme is also connected to other networks/programmes of the country with the participation of advisers and farmers from different regions and training centres.

Q: How is the programme/network managed? R: Advisory branch including social council consisted of representatives of farmers, scientists, advisers. (Programme interviewee)

Q: To what extent is the network / programme connected to other networks/programmes in your country or even internationally? R: Participation of advisers and farmers from different regions/ specialized training e.g. horticulture, cattle breeding. (Programme interviewee)

Local leaders

Sometimes, local leaders assist the organisers in targeting the demo participants. In general, local farmer leaders contribute also to the advertisement of the demo event. By local leader is meant the most active members of local rural communities. They are farmers themselves in most cases. However,

sometimes other people, not directly related to farming, act as a local leaders (i.e. retired/current employees of local self-governmental offices, other widely recognised as active leaders people).

Q: Are participants targeted in demo recruitment? R: Sometimes yes. Through network of rural leaders and local offices of self-governmental units – gmina/commune). (Programme interviewee)

Q: In your experience, what is the most effective way of attracting participants and advertising events? R: 1. Through neighbours, local leaders, 2. Internet, press, adviser centres. (Programme interviewee)

Companies

The Farm level interviewee (AAC demo farm manager) cooperates with a seed's company for the organisation of demo activities. The AAC demo farm manager cooperates with the company's representatives and that the company funds the demo activities. The company's representative/provider must be one of the main organisers of the demo activities and they decide on the demo topic in conjunction with the AAC representatives. The topics suggested by commercial companies representatives have to be approved by relevant decision makers (AAC demo farm manager and his supervisors from AAC, branch Radom) as relevant to farmers' needs and overall multiannual programmes of AAC demo farms activities.

Q: What are the overall goals/objectives of the demo farm? How are these decided? A Cooperation with seed company. I'm active member of farmers organisation. (Farmer)

Q: How are the demo activities on the farm managed? A No committee, during the contact with company we agreed about demonstration . They organised money for field day. (Farmer)

Q: Who are the main people involved in the demonstration activities and what are their roles?

R: AAC demo farm manager, Company representatives, scientist. (Farmer)

Q: How are demonstration topics selected? A: Driven be needs suggested by providers & farmers. (Farmer)

Q: Topic: Selected to cover main aspect of conventional and organic production. Determined by advisers and farmers together via the process described above. (Poster)

The host farmer

The Programme interviewee indicated that host farmers are sometimes involved in the development of the individual demonstration activities, as they offer their farm and labor/field work for the demonstrations. The Farm level Interviewee, who is the manager of the experimental farm (post demo host farmer interview) is actively involved in the demonstration activities, together with his family (Farmer). According to him participants (farmers, advisers, and researchers) are not involved in the overall development of the demonstrations as host farmers are mainly responsible for those issues. However the Programme interviewee was not able to confirm if host farmers are involved in the development of the overall demonstration programme. Clearer is the host farmers' role in the selection of the demo topics, as both the programme and the farm level interviewee acknowledged their active engagement in that. Nevertheless, while the Programme interviewee and the poster, indicated that farmers are involved in selecting the demo topic selection together with advisers, the farm level Interviewee, stressed that demonstration topics are selected jointly by providers and farmers. The demo topics cover the main aspects of conventional and organic production and they are strongly related to local specialization. It seems that the farm level interviewee has a role during the demonstration as

he provides recommendations to the participants. He also requests some kind of feedback, mainly informally through questions and discussions.

Q: Who are the main people involved in the demonstration activities and what are their roles?

R: Me and my son + wife. Company representatives, scientist. (Farmer)

Q: How are most demonstration event on the farm organised? A: Contact with advisory system and schools. (Post host farmer interview)

3. Topic

Selected to cover main aspect of conventional and organic production. Determined by advisers and farmers together. (Poster)

Q: What are the funding arrangements for your demo activities? How do these impact on the lifespan of the farm demo? R: Mainly statutory funds plus fund given by sponsors. Farmer gives field and field work. (Programme interviewee)

Q: How do you identify/select relevant topics that will interest farmers? R: Feedback from farmers. We are consulting and choose the topics. (Programme interviewee).

Q: Are host farmers involved in the development of the individual demonstration activities? R: Sometimes. Sometimes we continue demo. (Programme interviewee)

Q: Are host farmers involved in the development of the overall demonstration programme? R: Don't know. (Programme interviewee)

Q: How are demonstration topics selected? R: Predominately connected to local specialization. (Programme interviewee)

Q: Are you involved in the overall development of demos at the prog / network level? R: No. There much work in my farm (organic). (Farmer)

Q: Are participants (farmers, advisers, researchers etc.) involved in the overall development of the demonstrations? R: No. It's my job. (Farmer)

Q: How are demonstration topics selected? R: Steered by providers & farmers. (Farmer)

Q: What content do you usually provide during demonstrations? R: Recommendation. (Farmer)

Q: Do you request feedback on the event day from participants? R: Yes. Participants questions, discussion. (Farmer)

4. Audience/type of participants

The intended audience of the demonstrations according to the Programme and the farm level Interviewees are mainly farmers, advisers, providers, pupils and students. Young farmers and organic farmers are also highlighted as intended participants. According to both the Farm level Interviewee and the post demonstrator survey, participants (farmers, advisers, researchers) are not involved in the overall development of the demonstrations.

Q: Who is your intended audience? R: Framers, young farmers, pupils and students. (Programme interviewee)

Q: Do you plan and design demonstration activities differently for different audiences? R: Rather no - generally they are addressed to farmers. (Programme interviewee)

Q: Who is your intended audience? R: Farmers, - mostly organic, some students, advisers, providers. (Farmer)

Q: Are participants (farmers, advisers, researchers etc.) involved in the overall development of the demonstrations? R: No. It's my job. (Farmer)

Q: Were participants (farmers, advisers, researchers etc.) involved in the overall development of this demonstration? R: No. (Post survey demonstrator)

5. Networks

The specific demonstration programme is managed through an advisory branch including a social council consisted of representatives of farmers, scientists, advisers. Thus the specific programme is connected to other networks/programmes, through the participation of advisers and farmers from different regions and farming sectors.

The demo farm is part of a network of six other experimental farms which are part of the programme. The host farmer is an active member of farmer's organisation. However he does not hold any elected or appointed roles on farming networks or boards.

Q: How is the programme/network managed? A Advisory branch including social council consisted of representatives of farmers, scientists, advisers. (Programme interviewee)

Q: To what extent is the network / programme connected to other networks/programmes in your country or even internationally? R: Participation of advisers and farmers from different regions/ specialized training eg. horticulture, cattle breeding. (Programme interviewee)

Q: What are the overall goals/objectives of the demo farm? How are these decided? A Cooperation with seed company. I'm active member of farmers organisation. (Farmer)

Q: To what extent is the demo farm connected to other demo farms and/or other knowledge exchange organisations? A Others, company demo farm. (Farmer)

Q: Is your demonstration farm part of a programme or wider network? A Yes. (Farmer)

Q: What farming networks and/or programmes are you participating in? A Other experimental farm (6 about 3000 ha). (Post host farmer interview)

Q: Do you hold any elected or appointed roles on farming networks/boards? A No. (Post host farmer interview)

6. Resources, finances and incentives

In the frame of the programme the demo activities are mainly funded by some statutory funds and sponsors.

By statutory funds is meant:

- a) AAC budget provided by the Ministry of Agriculture and Rural Development for overall Centre activities or specific projects,
- b) Resources of IUNG to carry out multiannual programmes of knowledge transfer for agricultural advisory service,
- c) Other, specifically related to individual projects funded by other public funds.

By sponsors is meant all demo activities implemented and funded by commercial companies, identified and approved by the AAC management as relevant for farmers communities and AAC strategic objectives.

The programme covers the expenses for seeds, plant protection products and fertilisers to the host farmers, which is considered as a kind of incentive for hosting demonstration activities. According to the farm level interviewee it seems also that the collaborating company/providers covers (all/part?) of the expenses of the annual field day.

Q: What are the funding arrangements for your demo activities? How do these impacts on the lifespan of the farm demo? A: Mainly statutory funds plus fund given by sponsors. Farmer gives field and field work. (Programme interviewee)

Q: Do you offer any incentives to farmers to host demonstration activities? A: Yes. Eg. Seeds, plant protection products, fertiliser. (Programme interviewee)

Q: How are the demo activities on the farm managed? A: No committee, during the contact with company we agreed about demonstration. They organised money for field day. Field day are usually arranged over weekend (once a year) and involve substantial number of farmers. Apart of presentation of the AAC demo farm capacities other commercial companies are invited to present/promote i.e. agricultural equipment, new technologies, new seed material etc. All costs related to exhibition not related directly to the AAC is covered by companies themselves. (Farmer)

Q: What are the funding arrangements for your demo activities? How do these impact on the lifespan of the farm demo? A: Three options. 1. Public funding provide long term strategic funds for multiannual activities. 2. Commercial contract for specific objective, i.e. testing new type of fertilisers on selected area. 3. Commercial sources funds also one-off events i.e. during field day. (Farmer)

7. Human Resources

The demonstrator stated that s/he would benefit from some extra training as a demonstrator. (Post survey demonstrator)

8. Goal/ objectives

The main goal of the demo activities is the presentation of technology developments in a productive system. Moreover the demo activities intend to improve the collaboration with research institutes and the advisory system as well as to improve transfer of knowledge and training advisers and farmers. (Poster)

What are the overall goals/objectives of the demo farm? How are these decided? Presentation of technology development in production. Decided on the experts meeting. (Programme interviewee)

T2: Farm (event level)

The event took place on 15th April at Grabów NCPT, a commercial/experimental large sized farm, which focuses on arable crop production (i.e. cereals, leguminous, maize, potato, feed plants) and livestock (milk cows). It has been an experimental farm since over 60 years (Post host farmer interview). The farm owns 120 ha arable land and milking cows husbandry with more than 120 cows. There is 10.8 hectares of organic farming. Trials and field experiments take place in the conventional part (about 3500 plots) and on organic production (500 plots) (Poster + Post host farmer interview + Observation tool).

1. Event Farm location and layout

The experimental farm hosts several trials and especially comparisons between organic and conventional production systems. These comparisons take place in multiple fields, in which many different varieties, density of sowing, crop mixtures, plant protection and drought prevention trials are presented (Poster + Observation tool).

According to both the Programme and Farm Level Interviewees, demonstrations are exemplary, while they both mentioned that a mixture of experimental and exemplary approaches are more preferable. However the demonstrator, has classified the specific event as experimental (Post survey demonstrator).

2. Actor's role

The host farmer was also a demonstrator. At the beginning he shared the farm's background to the participants, and then, he guided the trip on the farm- animal production, machinery, building and the experimental part (Observation tool). At the specific event there was a representative of the advisory unit, who acted as a facilitator. He guided questions and encouraged the participants to make technological comparisons between their own farm and the demo farm (Observation tool and Pre survey demonstrator). Finally, some evaluation surveys have been made by the organisers (Poster)

Twenty participants attended the demo event on 15th April (Observation tool) of which 18 were interviewed. Almost 17 % of participants worked in the local area (Pre demonstration survey participant). The event's participants had quite different occupations such as farmers of different sectors (apiary, orchards), advisers, traders, administrators and other occupations related to agriculture (Pre demonstration survey). Participants observed organic production in the field and then asked questions about the cultivation techniques used, prohibited production resources, efficiency, profitability, problems, etc. Participants had also the opportunity to engage into practical training on the evaluation of weeds and soil quality such as examination of soil samples, species and density of weeds (Observation tool). Seventeen out of eighteen participants felt actively or very actively involved during the whole demonstration process (Post participant's survey).

3. Practice/technology demonstrated-Topic

The main topic was the use of mixtures of cereals and pulses. Trials of the ReMIX H2020 project have been presented and explained to the participants. The second topic focused on the differences between the organic and the conventional production systems. Soil quality and structure in organic and conventional farming have been examined and evaluated (weeds frame, determination of the botanical composition, count amount and mass of weeds etc) (Observation tool). During the specific event some oral presentations were given and maize plants, cobs and techniques were presented (Observation tool).

4. Frequency

According to the Farm level Interviewee, one or maximum two events per year take place on his farm.

Mostly from providers It's set term funding. Once a year filed day. (Farmer)

One event per year, maximally two (two stages of growth of vegetables). (Farmer)

5. Farm's infrastructures or arrangements

According to Farm level Interviewee, an effective arrangement for attracting participants for the demo event is the organisation of a BBQ or relative arrangements. For this event though the host farmer had only prepared a lecture room for presentations and discussions among participants.

Interesting, new topics, some special social activity (BBQ, other). (Farmer)

Q: Did you make specific arrangements to host the event? A: Lecture room. (Post host farmer interview)

6. Accessibility

The Programme interviewee stated that the travel time is an important factor that would discourage people from attending a demonstration. The travel time of participants to reach the demo farm, ranged from 30 to 210 minutes, with an average time close to 122 minutes (Pre demonstration survey participant). Fourteen out of seventeen participants rated their travel effort to participate as very little or little effort; the remaining three rated their travel effort to participate as quite some effort. It is not quite clear if the effort rate is related only to the travel distance as the effort ratings were not proportional to the travel distance. Maybe other factors influence the effort rate i.e participant's motivations, free time etc (Pre demonstration survey participant).

7. Fees for participation

Participants did not have to pay a fee to attend the demonstration according to the poster. Finally, none of the participants received any financial compensation for its attendance (Post participant's survey).

8. Time

Both programme and farm level interviewees stated that participants' available time is an important factor that would influence rates of attendance. Time is crucial factor that influence the extend of farmer's preparation for a demo event, as s/he does not have enough time i.e to design activities differently for different topics etc.

Q: What do you think discourages people from attending demonstrations? A: Distance, no time, wrong topic. (Programme interviewee)

Q: What do you think discourages people from attending demonstrations? A: Time, at farm always is work, bad topics, no adjustment to farm needs. (Farmer)

Q: Do you plan and design activities differently for different topics? e.g. do you have a one off events for new technologies but a series of events for practices related to long-term sustainable agriculture? R: No, I have no time for it. (Farmer)

4. Functional characteristics

T1: Coordinating effective recruitment of host farmers and participants

1. Incentives

The project was financed by statutory funds and external sponsors. Host farmers provide the field and the field work, although there was no mention as to whether or not they were paid for this work.

Mainly statutory funds plus fund given by sponsors. Farmer gives field and fieldwork. (Farmer)

Mostly from providers It's set term funding. Once a year fixed day. (Programme interviewee)

2. Motivations for host farmers

The Farmer cited a desire for cooperation and the opportunity to increase their production profile as the host farmers' motivations, while the Programme interviewee felt the main motivator was curiosity about new technologies.

3. Motivations for participants

The Farmer observed that the possibility to solve problems was a motivator for participants, while the Programme interviewee expanded on this by mentioning participants' interest in future proofing by being innovative on their farms. The Farmer also mentioned that the events were a change to purchase new machinery and fertilisers.

Need to be ready for future, innovative modernized farm. (Programme interviewee)

4. Target audience

The target audience was farmers (especially organic or young farmers), students, advisers and providers.

5. Advertising and recruitment

The events were advertised locally through local leaders and between neighbours, as well as through the internet, press and advice centres.

1. Through neighbours, local leaders, 2. Internet, press, adviser centres. (Farmer)

T2: Appropriate demonstration and interaction approaches

1. The nature of interaction

Both the Farmer and Programme interviewee described the nature of interaction as 'Mostly top-down'. The Programme interviewee felt that they do take into consideration the farmers' preferences while setting the event topics.

2. Involving farmers in the learning process and the demonstration programme

Neither the Farmer nor Programme interviewee made any comment on the way in which farmers are involved in the learning process and demonstration programme.

3. Focus

Both the Farmer and Programme interviewee described the network as 'Single focussed'

4. Design

The Farmer described the network as 'Exemplary', rather than experimental, but expressed a preference for 'A mixture'. This appears to have been purely a personal preference.

It's fits for my mind. (Farmer)

The Programme Interviewee also described the network as 'Exemplary' but expressed a preference for 'A mixture', because the experiments should be based on the ground level solutions arising on the farm.

We like experiments based on the new solutions. (Programme interviewee)

5. Group size

The Programme interviewee felt 15-25 participants was the optimal number to ensure everyone was able to listen, without the group getting too small. The Farmer felt that a more intimate group of 8-12 was necessary to ensure everyone remained engaged.

15-25 persons - capable to listen and the number of them is sufficient. (Programme interviewee)

Group 8-12 persons - all interested. (Farmer)

T3: Enabling learning appropriate to purpose, audience, context

1. Facilitating interaction and learning: structure, content and techniques

Both the Programme interviewee and Farmer recommended delivering the presentation in the field, either through farm walks or machinery demonstrations.

Farm walking. (Farmer)

Usually presentation of specialized solution in the field (plots) and in the cowsheds, presentation of machineries work and results of their operations. (Programme interviewee)

The Farmer provided leaflets and a demonstration plan for participants.

The Farmer cited 'Good quality expert advice & technical presentations' as the most important technique for engaging participants as the type of production being demonstrated was highly specialised. Conversely, the Programme interviewee cited 'Participants ask questions & talk openly' as the most important because it was felt to be the best way of exchanging knowledge.

2. Taking into account variation in learning

There was apparently no consideration for variation in learning from either Farmer or Programme interviewee.

T4: Effective follow-up activities

1. Follow-up activities and materials

The Farmer did not engage with participants after the event, and felt there was no need to do so. However, the Programme interviewee did give examples of continued engagement with participants, mainly in the form of invites to other events. No follow-up material was provided to participants after the event.

2. Assessing impact

There was little evidence of either Programme interviewee or Farmer assessing the impact of the event among participants or among the wider farming community.

5. Event analysis: effective peer learning characteristics

Event details

The group consisted of about 20 participants, of which 18 filled in the pre and the post survey.

	n° survey participants	agricultural adviser	apiary farmer	construction	Design of interiors and green areas	farmer	implementation projects in mobile networks	orchardery	shop owner	trade	unknwon	public administration + agriculture	civil servant + agriculture
<i>occupations</i>	18	2	1	1	1	3	1	3	1	1	2	1	1
<i>working area</i>	18												
local area	3	1	1			1							
not local area	15	1		1	1	2	1	3	1	1	2	1	1
<i>gender</i>	18												
male	11	1		1		3	1	3	1	1			
female	7	1	1		1						2	1	1
<i>age</i>	13												
18-30	3	1						2					
31-40	5		1			1		1	1				1
41-50	5	1			1	1	1			1			
51-60													
60+													

T1: Learning processes

1. Communication initiation by participants

More than 50% of the participants had no problem sharing their knowledge and/or experiences related to the topic. More specifically, about 12 participants presented their ideas for the development of farms, for example: production of natural cosmetics based on herbs, free-range poultry production, the production of edible oils, etc. They were in small groups during the practical exercises, and surprisingly the participants were rather closed and didn't share their knowledge willingly during these practical exercises in small groups.

There was a lot of time for questions, about 25 percent of the total time during the first part, and at the end. A lot of questions were asked and there were a lot of participants formulating their points of view regarding the topic, especially in assessing the profitability of organic production and market opportunities.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I had the feeling that I could share my own knowledge as relevant information.	1/17	3/17	8/17	2/17	3/17
I asked at least one question during the demonstration .	15/18 yes				
I shared my own point of view at least once during the demonstration.	10/18 yes				
I felt encouraged to ask questions during the demonstration.	1/18	0	7/18	9/18	1/18
When there were any discussions, I felt comfortable sharing my opinion.	1/18	3/18	7/18	7/18	0

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I asked participants to share some of their own background knowledge during the demo.	0	0	1	0	0
I encouraged the participants to formulate their own point of view during the demonstration.	0	0	0	1	0
I encouraged the participants to formulate questions during the demonstration.	0	0	0	1	0

2. Interactive knowledge creation

Hands-on opportunities and other multi-sensorial experiences

More than one hands-on activity was demonstrated very instructively and participants could take part in multiple hands-on activities, and got some sort of feedback on their doing. These activities related to (1) the examination of soil quality and structure in organic and conventional farming; (2) The usages of weeds frame and the determination of the botanical composition: counting amount and mass of weeds; (3) The evaluation of the condition of plants in the organic part, explaining characteristics of the growth and development stages of cereals.

Discussion opportunities and negotiating conflicting points of view

There was a facilitator who was a representative of the advisory unit. He asked participants about technological comparison with their own farm. Open discussions are stimulated and given a lot of time. Most participants are involved, more than 25 percent. They wanted to discuss and were very interested. Shared critical points of view were clarified/rephrased so more people could understand.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	2/18	9/18	7/18	0
If participants didn't agree with each other during discussions, somebody (demonstrator/other participant) tried to reach a consensus between them.	1/17	2/17	6/17	5/17	3/17

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	0	0	1	0
If participants didn't agree with each other during discussions , somebody (me or somebody else) tried to reach consensus between them.	1	0	0	0	0

3. Engagement during the event

All participants seemed to know each other well, but are not close friends. They all came from a postgraduate study. The demonstrator acts like friends with the participants. He had an open work style with anecdotes and stimulating curiosity about the topic.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I felt actively involved during the whole demonstration process.	0	1/17	6/17	11/17	0
I felt like the demonstration increased my ability to rely on myself as a farmer.	1/18	1/18	10/18	4/18	2/18
I could relate well to other participants (because they have an agricultural background similar to mine).	0	2/18	9/18	5/18	2/18
A lot of the other participants are part of the same farmer network as me.	1/18	5/18	4/18	3/18	5/18
I felt like I could trust the knowledge of (most of) the other participants .	0	4/18	10/18	2/18	2/18
The demonstration felt like an informal activity to me.	4/14	2/14	6/14	0	2/14
I thought the host farm was comparable enough to my own farm .	4/18	5/18	3/18	0	6/18
I had the feeling the demonstrator was like one of us .	1/18	0	6/18	11/18	0
I had the feeling I could trust the demonstrators knowledge .	0	0	3/18	15/18	0
I got along very well with the demonstrator .	0	0	4/18	14/18	0

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
Were participants (farmers, advisers, researchers etc.) involved in the overall development of this demonstration?	No				
Most of the participants were well known to me .	1	0	0	0	0
A lot of the participants are part of the same network as me .	1	0	0	0	0
The demonstration felt like an informal activity to me.	0	0	0	1	0
I think the host farm was well suited for this demo.	0	0	0	1	0
I got along well with the participants.	0	0	0	1	0

T2: Learning outcomes

Explained knowledge and practical skills was sufficiently addressed to foster maximum uptake by participants. Practical exercises were exemplary, lasting about an hour. To acquire proficiency, several days of practical exercises would be necessary. Common methods or ways of thinking on farming were questioned and alternatives were extensively elaborated on in group. The awareness that not only chemicals help maintain a good amount and quality of crops began to sprout. Common methods or ways of thinking on learning were not questioned.

	participant answers				
What would you ideally like to learn today?	everything I can learn in this place; fertilization; principles of cultivation of plants; what organic farm looks like and how it's organized; plant protection products; to find out what I don't know; practices related to integrated agricultural systems; ecological production; weed control; functioning and history of the center.				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
The demonstration met my expectations regarding what I wanted to learn.	0	1/18	4/18	13/18	0
The demonstration exceeded my expectations.	1/18	0	12/18	4/18	1/18
I felt surprised at some point(s) during the demonstration.	1/18	3/18	10/18	3/18	1/18
I obtained a clearer understanding of the topic(s) demonstrated.	0	1/17	7/17	9/17	0
I have the feeling I learned something new (knowledge, skill, practice, etc.).	0	1/17	6/17	10/17	0
I thought about how I could implement some of the ideas and practices on my own farm.	1/18	1/18	7/18	5/18	4/18
I reflected on my own point of view at some point during the demonstration.	1/18	1/18	10/18	5/18	1/18
I learnt about the principles underlying a practice.	0	1/18	7/18	9/18	1/18
I thought about how we learn something new on demonstrations (e.g.: teaching methods).	0	0	0	0	18/18
I thought about why I want to learn about the topic(s) of this demonstration.	0	0	0	0	18/18

	demonstrator answers				
what do you intend for the participants to learn today?					
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I think participants have learnt what I intended them to learn.	1	0	0	0	0
I tried to surprise participants with uncommon/new knowledge/new skill.	0	0	0	1	0
I felt surprised at some point(s) myself during the demonstration (e.g. by a question or discussion).	0	0	1	0	0
I obtained a clearer understanding of the topic(s) myself.	0	1	0	0	0
I have the feeling I learned something new during this demo (from participants, discussion...).	0	0	0	1	0
I reflected on my own point of view myself at some point during the demo.	0	0	1	0	0
I encouraged participants to reflect on their own point of view during this demo.	0	0	1	0	0
I encouraged participants to reflect on their own situation sometime during this demo.	0	0	1	0	0
I encouraged participants to reflect on how we learn something new on demonstrations.	0	0	1	0	0
I encouraged participants to reflect on why we are trying to learn about the topic of this demonstration	0	0	1	0	0

T3: Overall comments on the effectiveness of the event

Participants:

With an average of 4,5 on 5, participants rated the event overall as very effective. 15 on 15 participants who answered the question would recommend the demonstration.

As main effective characteristics of the demo participants mentioned: answers on many questions; broadened my knowledge; understanding the scope of conducted researches in agricultural sector; selection of fertilisation for the soil class, organic fertilisation, dairy cows breeding; understanding of type of milk production; understanding of plant cultivation.

None of the participants had suggestions for improvement.

Demonstrator:

As main effective characteristics of the demo, the demonstrators listed: a holistic approach to the farm; selected practical exercises; the comparison of two production systems.

As suggestion for improvement the demonstrator mentioned: prepare the practical tasks better, eg related to the soil excavations.

General summary:

The host and demonstrator sounded trustworthy: they did not hide mistakes, but participants honestly believed what they were saying. Participants were interested in starting or continuing agriculture. They were really enthusiastic. In general, participants got a very good and realistic holistic view about this way of farming. It was very instructive for participants to see two production systems at one farm.

Ideas for improvement could be to make the demonstration last for more time than 5 hours, or to divide participants during a second part in thematic groups.

6. Annex: Case study poster July 2018



FarmDemo

Case Study Poland: Grabów National Center for Practical Training

Marek Krysztoforski, Agricultural Advisory Centre Brwinów

Grabów NCPT is focused on arable crop production (i.e. cereals, leguminous, maize, potato, feed plants) and livestock (milk cows). The new Center was established this year in an agreement between the Institute for Soil Science and Plant Cultivation and the Agricultural Advisory Center. The main goals are to improve transfer of knowledge and training advisers and farmers. The farm owns 142 ha arable land and milking cows husbandry with more 120 cows. There is 10,8 hectares of organic farming. Trials and field experiments in conventional part about 3500 plots and about 500 plots in organic production.



Objectives

- Improve the collaboration with research institutes and advisory system
- building a practical training system for advisers and farmers.

Motivations

- Building relationships between researchers and advisors: continuous improvement of organic and conventional production system.
- Improving advisory and practical training system.

Topic selection

- Selected to cover main aspect of conventional and organic production
- Determined by advisors and farmers together

Evaluation peer-to-peer learning environment

- 18 participants, farmers, postgraduate students, data: 15 of April
- Main topic was using mixtures cereals and pulses. Trials ReMIX H2020 project.
- Second topic: comparison organic and conventional production systems.
- Practical training: examination of soil samples, species and density of weeds
- Further learning outcome: extension of training for the small-scale processing on the farm

Audience & participation

- Audience: effort is made to involve regional farmers, young farmers and postgraduate students.
- No participation fee.

Demonstration set-up

- Initially top-down, presentation of whole farm problems, differences between production systems. Explanation of trials.
- Presentation of the case study about single crop productions.
- Practical training on the evaluation of weeds and soil quality. Discussion on drought prevention
- Evaluation: surveys, group discussion (45 min.) about main and additional topics.

- **Host farmer (manager of the farm): open to cooperation with farmers and advisors**
- **Participants emphasized holistic view on farm: milk production, arable and feed crops, new machinery. Comparison of two production systems: organic and conventional. Presented trials with many varieties, density of sowing, crop mixtures, plant protection, drought prevention.**
- **Very good contact, honesty, openness between host manager of the farm, organizer and participants.**



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Poland Case Study 2

1. Background

Polish Union of Cereal Grain Producers (PZPRZ) is a branch organisation of farmers cultivating mainly cereals. The organisation was established in order to improve cereal production, monitoring of the grain market, expressing farmers' opinions regarding economic conditions of cereal production and giving opinions on the creation of the law. The Association consists of farmers from large (as per Polish conditions) farms with an area of over 100 ha. (from 120 to 2500 ha).

Programme

In accordance with the assumptions of the program, the Association conducts trainings for members and farmers, representing mostly high-income farms located near members' farms. The biggest event organised periodically are "Days of Corn" in Skrzelew (<http://kukurydza.home.pl/>). They are held in 2018 for the twentieth time. They are organised on the fields of the association member of the board, Mr. T. Szymańczyk's and the neighbouring ones.

Funding and governance

Funds for conducting training come mainly from the Association's statutory funds. National and European funds are also used, among others, from the funds of the Fund for Promotion of Cereal Grains and Cereals Products, RDP funds 2014-2010. For organising thematic events, e.g. concerning cereals, corn and rape, the funds are obtained from producers of seeds, fertilisers and plant protection products. For organising events on regional level, funds are also obtained from local self-governments.

The Association is managed by a Management Board composed of 6 people (the president of the vice president, spokesperson and 3 members).

The second statutory body is the Council of Experts, consisting of 17 people. It consists mainly of research workers (7 professors, 4 doctors, MEPs) and the trade union representatives. Council of Experts consists of four teams: for breeding and seeding, agrotechnics, storage, as well as economics and the cereals market.

The Council together with expert teams sets up a plan of action for the term of office. An integral part of the action plan is the training program and field visits program.

Actors and networks

There are stationary trainings are organised in rented local motels or in conference rooms of Municipal Offices. Field shows are carried out on the farms of Board members.

How it Works

The field trainings are carried out in the farm specializing in the corn production, Corn days and pest monitoring as well, mainly of the corn borer (Euro pean corn borer) is also carried out there. Trainings are also conducted during the vegetation period, which end with Corn Days.

On the farms of other members of PZPRZ, trainings on other topics are conducted.

On Mr. W. Grynia's farm, trainings and demonstrations regarding the belt cultivation are conducted. Using the RDP funds, a modern didactic room for 100 people with multimedia equipment was built. Demonstrations of machines for direct and belt cultivation of cereals and rape are also organised there. On the farm of Mr. S. Kacperczyk, trainings on plant protection are conducted.

Event Farm and location

The farm in Skrzelew is located in central part of Poland, in the Masovian voivodships. It is a farm with field production (corn, cereals, rape). There are separate fields on the farm, conveniently located near the road, on which experimental fields are located. During the Corn Days in October, the harvest of corn,

weighted yields of individual varieties is carried out in the presence of participants. Lectures and demonstrations of machines, among others maintenance-free GPS-controlled tractor, observation drones, corn sprayers, signal traps are organised there.

Event date: as part of the Case study, the training took place on July 30, 2018 (CS2)

2. Method

In line with the Methodological Guidelines, three main data sources are used: a background document and interviews at Programme and Farm level to analyse structural and functional characteristics, and event tools and surveys to analyse event level participation and learning, as follows:

1. A background document for every case study was completed by the AgriDemo-F2F partner who carried out the case study.
2. Interviews with representatives of programme/networks (level 1) and farm level interviews with demonstrators/hosts (Level 1) to reveal how the functional and structural characteristics enable learning. Analysis of these interviews is reported in Sections 3 and 4. Data is sourced from 1 interview at the programme level and 1 at the farm level. The analysis followed 4 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes, (4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.
3. Event tools and surveys (level 3) to reveal peer to peer learning processes. Event details and analysis is reported in Section 5. Data is sourced from 12 pre and post-demonstration participant surveys, pre and post event surveys with 1 demonstrator, 1 post event interview with the host farmer and an event observation tool completed by an observing researcher. This data is mainly used for the analysis of learning processes and learning outcomes related to the specific event and overall comments on the effectiveness of the event.

Finally, partners reviewed the case study reports to prepare their workshops with different stakeholders related to the case studies. These workshops aimed at validating the data presented in the case study reports and to discuss on key characteristics related to effectiveness of demonstrations.

3. Structural Characteristics

T1: Programme/network level

1. The main organisations involved in the demonstration activities and their roles

The demonstration programme, is managed by the board of Polish Union of Cereal Grain Producers (PZPRZ) of which consists of farmers and other actors (representatives of research institutes carrying out research in area of cereal grain production). Approximately five to ten people are the active members of the association who are involved at the demo activities. The association is in close contact with industry representatives and they jointly select the demo topics.

Q: How is the programme/network managed? A Programme is managed by association, its Board, also framers - members. In contact with the industry, they determine topics (Programme interviewee).

Q: Who are the main people involved in the demonstration activities and what are their roles? A The most active members of association. 5-10 persons (Programme interviewee).

2. The main actors involved in the demonstration activities and their roles

Host farmer

The host farmers are always involved in the development of the individual demonstration activities. Moreover depending on the topic the host farmers are sometimes involved in the development of the overall demonstration programme. The Farm level Interviewee manages the demo activities on the farm together with his family and industry providers. Main people involved in the demonstration activities is the farm level interviewee/host farmer together with his family and a specialists (i.e. researchers from research institute Plant Breeding and Acclimatization Institute – National Research Institute carrying out on the host farm commercially funded researchers or representative of any seed company involved in topic covered at any given demo event). However, the farm level Interviewee is not involved in the overall development of demos at the programme / network level. The farm level Interviewee advertise the demo event to his neighbours in order to reach those who have never attended a demonstration event before. The farm level Interviewee is actively involved at the demo topic selection, as he is aware of farmers' interests. He also requests feedback informally on the event day from participants through questions. The event's host farmer is strongly involved at demo farm organisation together with other actors such as seed companies, institutes etc (Post host farmer interview).

Q: Are host farmers involved in the development of the individual demonstration activities? A: Always. He must to agree and earn. (Programme interviewee).

Q: Are host farmers involved in the development of the overall demonstration programme? R: Sometimes. Depending on topics (Programme interviewee).

Q: How are the demo activities on the farm managed? R: Me, my son and providers/researchers. No special committee (Farmer).

Q: Who are the main people involved in the demonstration activities and what are their roles? R: Me, son, specialists/researchers my wife (social parts) (Farmer).

Q: Are you involved in the overall development of demos at the prog / network level? R:No. Demo activities are arranged as an additional activities of the network, based on each farm level, not coordinated at network level. Farm level Interviewee).

Q: How effective are you in recruiting in 'the hard to reach' or those who have never attended a demonstration event before? R: Referring by neighbours (Farmer).

Q: Are participants (farmers, advisers, researchers etc.) involved in the overall development of the demonstrations? R: No. as a result discussion during my previous demo/discussion held in other formal and formal meetings with farmers I know which topics are most interested for them. (Farmer).

Q: How are demonstration topics selected? R: During my previous demo/using opportunities of other formal/informal meetings I collect information which topics are most interested for my audience. (Farmer).

Q: Do you request feedback on the event day from participants? R: Yes. Question, doubts. (Farmer).

Q: How are most demonstration event on the farm organised? R: Tight contact with seed companies, institutes, local volunteers fire brigade (providing some technical and organisational support), self-governmental local office (i.e. dissemination information on demo event) etc (Post host farmer interview).

Target Audience/type of participants

The intended audience of the demonstrations according to the Programme and the farm level Interviewees are mainly farmers and specialists in several plant production sectors. According to the farm level interviewee, farmers, advisors and specialists typically attend the demonstrations activities on his farm. Furthermore, it seems that participants (farmers, advisers, researchers etc.) are not involved in the overall development of the demonstrations on his farm.

Q: Who is your intended audience? R: Farmers - specialists in the plant production - cereals, rape, beets, corn (Programme interviewee).

Q: Who is your intended audience? R: Farmers - specialists. (Farmer).

Q: Who typically attends your demonstrations activities? R: Farmers, advisors, specialists (Farmer).

Q: Are participants (farmers, advisers, researchers etc.) involved in the overall development of the demonstrations? R: No. During my previous demo I know which topics are most interested (Farmer).

Industry

Industry representatives and providers are actively involved in demo activities management. Industry representatives determine the demo topics jointly with hosting farmer and members of the board of the Polish Union of Cereal Grain Producers (PZPRZ) having advisory voice. They offer the company's leaflets as a follow-up material to participants after the demo event. According to the post host farmer interview demonstration events on the case study farm are organised in tight contact between the host farmer and seed companies.

Q: How is the programme/network managed? R: Programme is managed by association, its Board, also farmers - members. In contact with the industry, they determine topics (Programme interviewee).

Q: Are follow-up materials made available to participants after demos? Company's leaflets, own farmers description. (Programme interviewee).

Q: How are the demo activities on the farm managed? R: Me, my son and providers. No special committee (Farmer).

Q: How are most demonstration event on the farm organised? R: Tight contact with seed companies, institutes, local volunteers fire brigade (providing some technical and organisational support), self-governmental local office (i.e. dissemination information on demo event) . (Post host farmer interview)

Organisers

There are several actions undertaken by the Programme interviewee himself or the organisation he belongs to (Polish Union of Cereal Grain Producers (PZPRZ). The Programme interviewee is involved at the topic selection. He identifies relevant topics because his organisation has contacts and gets feedback from farmers, from the study tours and conferences. In that way they are aware of farmers' preferences and thereafter the topics are tested and demonstrated. He also assesses if participants have engaged with the lessons of the demonstrations through questions and discussion.

Q: How do you identify/select relevant topics that will interest farmers? R: We, board of Polish Union of Cereal Grain Producers (PZPRZ), know farmers preferences (Programme interviewee).

Q: How are demonstration topics selected? R: We set the subjects together, as members of board of Polish Union of Cereal Grain Producers (PZPRZ). (Programme interviewee).

Q: How do the overarching goals/objectives of the programme translate down to individual demo activities? A: During the study tours, conferences we get to know news, what are new seeds/technologies tested at farms of members of Polish Union of Cereal Grain Producers (PZPRZ) (Programme interviewee).

Q: Do you assess if participants have engaged with/acted on the lessons of the demonstrations? R: Yes. Questions, discussions held during and after demo event, Polish Union of Cereal Grain Producers formal and informal meetings, while taking part on various public meeting at national, regional and local level (e.g. conferences, trainings arranged by relevant research institutes. (Programme interviewee).

Experts

Experts and specialists are the main people involved in the demonstration activities jointly with the host farmer and his family. The experts' presentations, advices and consultation are strongly referred as important factors for good demos.

Q: Please explain why you have selected your number 1 ranked factor: A; Good quality of expert advice and tech presentations. On the certain level the best experts are required as participants of our demo event/s are leading producers in area of their specialization. (Programme interviewee).

Q: Who are the main people involved in the demonstration activities and what are their roles? R: Me, son, specialists/researchers, my wife (social parts) (Farmer).

Q: What are the most important characteristics of a demonstrator (host or facilitator)? 1. Specialist – expert's knowledge. 2. Good communicator, telling good stories 3. Introducing good atmosphere (Farmer).

Institutes

According to the post host farmer interview the demonstration events on the farm are organised in tight contact between the host farmer and institute among others. In his case this is the Plant Breeding and Acclimatization Institute, National Research Institute. Team of researchers of this institute carry our research activities funded by commercial company on part of host farmer land.

Q: How are most demonstration event on the farm organised? A: Tight contact with seed companies, institutes, local volunteers fire brigade (providing some technical and organisational support), self-governmental local office (i.e. dissemination information on demo event). (Post host farmer interview)

3. Networks

The programme is mainly connected to the network of firms providing agricultural production means. The host farmer of the specific event is member of the Polish Union of Cereal Grain Producers and of the social council of the Agricultural Advisory Center in Brwinów. He hold elected or appointed roles as a spokesman and member of the board of the Polish Union of Cereal Grain Producers. This association create an informal network of farms cooperating with providers of agricultural production means. So effectively there are two informal networks cooperating on long term basis – farmers, members of the Polish Union of Cereal Grain Producers and providers of agricultural production means

Q: To what extent is the network/programme connected to other networks/programmes in your country or even internationally? R: Connections to the informal network of firms presenting production of agricultural production means (Programme interviewee).

Q: To what extent is the demo farm connected to other demo farms and/or other knowledge exchange organisations? R: To other corm producers and trial fields. Relationship is based on long term informal network between leading cereal producers across Poland, partly formalized by the Polish Union of Cereal Grain Producers. (Farmer).

Q: Is your demonstration farm part of a programme or wider network? R: No, there in no formal network. (Farmer).

Q: What farming networks and/or programmes are you participating in? R: Polish Union of Cereal Grain Producers, a member of the social council of the Agricultural Advisory Centre in Brwinów (Post host farmer interview).

Q: Do you hold any elected or appointed roles on farming networks/boards? R: Yes. Spokesman, member of board (Post host farmer interview).

4. Resources, finances and incentives

The demonstration activities are funded by the members of the association who manages the programme (10%) and suppliers/providers of production means (90%). According to the Programme interviewee, incentives are offered to farmers in order to host demonstration activities, such as funds for social events during demos. However, there are no typical financial benefits concerning demo activities (Farmer).

Q: What are the funding arrangements for your demo activities? R: How do these impact on the lifespan of the farm demo? R: Own members funds, suppliers of production means. Different sources (Programme interviewee).

Q: Do you offer any incentives to farmers to host demonstration activities? R: Yes. Funds for socializing events (Programme interviewee).

Q: What are the funding arrangements for your demo activities? How do these impact on the lifespan of the farm demo? R: 90% - providers, 10% - me (Farmer).

Q: What are your motivations / reasons for coordinating / hosting / delivering demo activities? R: I like share my knowledge/ opinion. I have not (received any) financial benefits (some seeds) (Farmer).

5. Human Resources

There is no reference to whether host farmers and/or other demonstrators have received any training to deliver demos. However, the case study demonstrator stated that he would not benefit from some extra training as a demonstrator (Post survey demonstrator).

6. Goal/ objectives

The overall goals/objectives of the demo programme is to test the new developments in production and the knowledge exchange between farmers (observation tool).

T2. Farm (event) level

The demo farm is a commercial, large sized farm (110 hectare) which is highly specialized in maize grain production (Post host farmer interview + Observation tool). Part of the farm is devoted to demonstration activities where various corn varieties (500-600 sq m each) are cultivated and compared in the field (Observation tool). The host farmer of the specific event is member of the Polish Union of Cereal Grain Producer as well as of the social council of the Agricultural Advisory Centre in Brwinów. The farmer hosts the maize field day (MFD) during the last 20 years (Post host farmer interview).

The demonstrations organised in the programme are a mixture of exemplary and experimental approaches according to the Programme interviewee. However, the farm level interviewee mentioned that the demonstrations organised in his farms are mainly exemplary. Both the farm and Programme interviewee, believe that a mixture of exemplary and experimental approaches are more preferable. The event's demonstrator has also classified the specific demo event as a mixture of exemplary and experimental approaches (Post survey demonstrator).

1. Practice/technology demonstrated

The overall topic of the demonstration event, was maize production and the decision support system concerning plant protection. Computer, GPS control of tractor, drone filming of the field, pest traps and agricultural machinery have been shown in the frame of the overall topic (Observation tool). Some oral presentations while showing the maize plants, cobs and techniques, have been given at the demonstration event (Observation tool).

2. Actors' roles

At the specific event, three high-class specialists of a major seed company acted as demonstrators. The host farmer was also demonstrator, presenting tractor's equipment. Machines controlled by a computer program and GPS have been demonstrated. At some point, the host walked beside the tractor with sprayer and the cabin was empty. There was not a facilitator to guide questions and/or discussions during the specific event (Observation tool).

Twenty-five participants attended the specific demonstration event, 12 of which were interviewed. Almost 75% of them, worked in the area where the event took place (Pre demonstration survey participant), and were farmers (mainly corn producers) and advisors (Pre demonstration survey participant + Observation tool). Over 90% of participants felt actively or very actively involved during the whole demonstration process (Post participant's survey). Participants asked questions related to the new machinery and the digital control techniques (Observation tool). According to one of the event's demonstrators, participants (farmers, advisers, researchers etc.) were involved in the overall development of the specific demonstration (Post survey demonstrator). However, their exact role is not clarified.

3. Frequency

Once per year, the Maize Field Days are organised on the farm once a year. It seems that in total two events are organised each year on the farm one during the vegetation period and one on harvesting stage when the overall effects can be estimated (Farmer). During the year many field visits take place on his farm (Post host farmer interview)

4. Other farms infrastructures or arrangements

During the specific demonstration event, a barbecue meeting took place (Observation tool).

5. Accessibility

Both the programme and farm level interviewees stated that the travel time is an important factor that would discourage people from attending a demonstration. The travel time of participants to reach the demo farm, ranged from 5 to 210 minutes, with an average time close to 50 minutes (Pre demonstration survey participant). Approximately 84 % of participants rated their travel effort to participate no effort or very little effort, with the rest rating their travel effort as little or quite some effort. It is not quite clear if the effort rate is related only to the travel distance, as the effort ratings were not proportional to the travel distance. Maybe other factors influence the effort rate i.e. participant's motivations, free time etc (Pre demonstration survey participant).

6. Fees for participation

Participants did not have to pay a fee to attend the demonstration. Moreover, none of the participants had received any financial compensation for its attendance (Post participant's survey).

7. Time

Both the programme and farm level interviewees stated that participant's lack of time is an important factor that would discourage them from attending a demonstration

Q: What do you think discourages people from attending demonstrations? R: No time, wrong topic, distance (Programme interviewee).

Q: What do you think discourages people from attending demonstrations? R: To far, time. (Farmer).

4. Functional characteristics

T1: Coordinating effective recruitment of host farmers and participants

1. Incentives

Funding came from a variety of sources. The bulk of the funding came from providers and suppliers of production means, and the rest came from the farmers themselves.

90% - providers. 10% - me (Farmer)

Own members funds, suppliers of production means. Different sources (Programme)

2. Motivations for host farmers

Host Farmers were motivated by the desire to share their knowledge and learn about the newest trends. The Farmer also mentioned the financial benefit from selling some seeds at the events.

I like share my knowledge/ opinion. I haven't financed benefits (some seeds) (Farmer)

Interest, willingness to know the news trends, willingness to show off proficiency in production (Programme)

3. Motivations for participants

The main motivation for participants was the chance to learn from and talk to fellow farmers.

Opportunity to get to know the news presented by similar farmers. Conversation like a farmer with a farmer (Programme)

4. Target audience

The target audience was farmers, specifically specialists in the production of cereals, rape, beets or corn.

5. Advertising and recruitment

Both Farmer and Programme Interviewee felt the most successful way of advertising and recruitment was ensuring that the events were offering something interesting. The Programme Interviewee added that farmers learned about the events through the internet or through word of mouth.

Interesting topics, good atmosphere (Farmer)

Interesting topic, practical information in internet, grapevine (Programme)

T2: Appropriate demonstration and interaction approaches

1. The nature of interaction

Both the Farmer and Programme Interviewee described the nature of interaction as 'Mostly top-down'. The Farmer gave no further detail on this; however the Programme Interviewee explained that topics were selected at the programme level based on knowledge or news and missions.

We select topics based on knowledge of news, missions (Programme)

2. Involving farmers in the learning process and the demonstration programme

There was no evidence of farmers being involved in the learning process or the demonstration programme.

3. Focus

The Farmer described the network as 'In between' whole farm and single focused, while the Programme interviewee described it as 'Single focused'.

4. Design

- The Farmer described the network as 'Exemplary', while expressing a personal preference for 'A mixture'.
- The Programme Interviewee described the network as 'A mixture' and expressed a preference for 'A mixture' as this incorporated the latest news and farmers' profiles.

5. Group size

The Farmer and Programme interviewee had vastly different ideas of optimal group size. The Programme Interviewee felt that 10-20 participants was enough to make the event worthwhile, without being so large that communication became difficult. The Farmer, on the other hand, cited the much larger group size of 40-80 people as optimal.

T3: Enabling learning appropriate to purpose, audience, context

1. Facilitating interaction and learning: structure, content and techniques

The Programme Interviewee felt that presentations and practical demonstrations as important for the event, while the Farmer put greater emphasis on practical activities and on-farm demonstrations.

Practical activities on the field - between plants and machineries. Show actions (Farmer)

General farm presentation, presentation of topic by presenters. Practical demonstration (Programme)

There was no mention of additional materials provided to participants on the day.

The Farmer cited 'Participants ask questions & talk openly' as the most important tool for engaging participants, because 'it's the best way to hit consciousness.' (Farmer)

The Programme Interviewee cited 'Good quality expert advice & technical presentations' as the most important because there are certain cases where 'the best experts are required.' (Programme)

2. Taking into account variation in learning

There was no attempt to take into account variation in learning among participants.

T4: Effective follow-up activities

1. Follow-up activities and materials

Neither Farmer nor Programme Interviewee tried to engage with participants after the event; although the Programme Interviewee did mention that sometimes participants would contact the programme.

They sometimes contact themselves (Programme)

Company leaflets and descriptions from the host farmer were provided as follow-up material for participants.

Company's leaflets, own farmers description (Programme)

2. Assessing impact

The Farmer mentioned that they sometimes assess the impact of the event among participants by following up their activity; the Programme Interviewee expanded on this by explaining that this was done through questions and discussions.

The Farmer did not feel there was any attempt to assess the impact among the wider farming community. The Programme interviewee felt that there was, although did not detail how this was done.

5. Event analysis: effective peer learning characteristics

Event details

The group consisted of about 25 participants, of which 12 filled in the pre and the post survey.

local area - gender - age	Farme r	Advise r	Farmer/Advise r	Othe r	total
works in local area	3	2	3	1	9
male	3	1	2	1	7
29			1		1
32			1		1
42	1				1
46	1				1
50	1				1
58		1			1
67				1	1
female		1	1		2
59		1			1
62			1		1
doesn't work in local area	1	1		1	3
male	1			1	2
51	1				1
59				1	1
female		1			1
46		1			1
total	4	3	3	2	12

T1: Learning processes

1. Communication initiation by participants

Between 10% and 50% of the participants (+/- 5) had no problem sharing their knowledge and/or experiences related to the topic. They mainly asked for technological details. Participants were never placed in smaller groups. A little time was made for questions, about 5-10 percent during the first part, and at the barbecue. Some questions were asked. There were a few participants trying to formulate their own points of view regarding the topic, especially in assessing the costs of digital techniques and resistance of corn against drought.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I had the feeling that I could share my own knowledge as relevant information.	0	5/12	2/12	5/12	0
I asked at least one question during the demonstration .	10/12 yes				
I shared my own point of view at least once during the demonstration.	11/12 yes				
I felt encouraged to ask questions during the demonstration.	0	1/12	7/12	4/12	0
When there were any discussions, I felt comfortable sharing my opinion.	1/10	2/10	4/10	3/10	0

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I asked participants to share some of their own background knowledge during the demo.	0	0	1	0	0
I encouraged the participants to formulate their own point of view during the demonstration.	0	0	0	0	0
I encouraged the participants to formulate questions during the demonstration.	1	0	0	0	0

2. Interactive knowledge creation

Hands-on opportunities and other multi-sensorial experiences

A hands-on activity was demonstrated, but only very shortly. Participants could take part in a hands-on activity, but didn't get any feedback on their doing. More specifically, participants examined the condition of corn plants and they determined the number of seeds in the corn cob.

Discussion opportunities and negotiating conflicting points of view

There was no facilitator. Open discussions between a few participants were stimulated and took up about 10 percent of the time. Participants really wanted to discuss and were very interested. There was however no elaboration/further explanation on shared critical points of view.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	1/11	2/11	6/11	2/11	0
If participants didn't agree with each other during discussions, somebody (demonstrator/other participant) tried to reach a consensus between them.	4/6	2/6	0	0	0

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	0	1	0	0
If participants didn't agree with each other during discussions , somebody (me or somebody else) tried to reach consensus between them.	1	0	0	0	0

3. Engagement during the event

Participants all seemed to know each other well, but are not close friends. A barbecue meeting took place at the end. The demonstrator acted more distant than open.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I felt actively involved during the whole demonstration process.	0	1/12	5/12	6/12	0
I felt like the demonstration increased my ability to rely on myself as a farmer.	1/9	2/9	1/9	5/9	0
I could relate well to other participants (because they have an agricultural background similar to mine).	0	0	5/11	6/11	0
A lot of the other participants are part of the same farmer network as me.	1/6	0	1/6	4/6	0
I felt like I could trust the knowledge of (most of) the other participants.	0	4/12	4/12	4/12	0
The demonstration felt like an informal activity to me.	7/12	2/12	2/12	1/12	0
I thought the host farm was comparable enough to my own farm.	2/8	2/8	4/8	0	0
I had the feeling the demonstrator was like one of us.	0	6/11	3/11	2/11	0
I had the feeling I could trust the demonstrators knowledge.	0	1/12	7/12	4/12	0
I got along very well with the demonstrator.	0	2/12	7/12	3/12	0

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
Were participants (farmers, advisers, researchers etc.) involved in the overall development of this demonstration?	Yes (no elaboration)				
Most of the participants were well known to me.	0	1	0	0	0
A lot of the participants are part of the same network as me.	0	1	0	0	0
The demonstration felt like an informal activity to me.	0	0	1	0	0
I think the host farm was well suited for this demo.	0	0	0	1	0
I got along well with the participants.	0	0	1	0	0

T2: Learning outcomes

Explained knowledge was sufficiently understandable. There was a lot of specialized information about corn production shared. Practical skills were not sufficiently addressed to foster maximum uptake by participants, mainly due to a lack of time. Common methods or ways of thinking on farming were questioned and alternatives were extensively elaborated on in group. Especially about digital techniques: they commented that digitalization is the future of agriculture. Common methods or ways of thinking on learning were not questioned.

What would you ideally like to learn today?	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
corn protection; corn and technologies; interest of the market; how to better earn money; eradication of the corn tree.					
The demonstration met my expectations regarding what I wanted to learn.	0	4/12	5/12	3/12	0
The demonstration exceeded my expectations.	4/8	4/8	0	0	0
I felt surprised at some point(s) during the demonstration.	1/10	3/10	2/10	4/10	0
I obtained a clearer understanding of the topic(s) demonstrated.	0	1/12	8/12	3/12	0
I have the feeling I learned something new (knowledge, skill, practice, etc.).	0	1/11	5/11	5/11	0
I thought about how I could implement some of the ideas and practices on my own farm.	0	1/7	1/7	5/7	0
I reflected on my own point of view at some point during the demonstration.	1/9	1/9	1/9	6/9	0
I learnt about the principles underlying a practice.	2/10	0	3/10	5/10	0
I thought about how we learn something new on demonstrations (e.g.: teaching methods).	0	0	0	0	12/12 (error)
I thought about why I want to learn about the topic(s) of this demonstration.	0	0	0	0	12/12 (error)

what do you intend for the participants to learn today?	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I think participants have learnt what I intended them to learn.	0	0	1	0	0
I tried to surprise participants with uncommon/new knowledge/new skill.	0	0	1	0	0
I felt surprised at some point(s) myself during the demonstration (e.g. by a question or discussion).	0	1	0	0	0
I obtained a clearer understanding of the topic(s) myself.	0	0	1	0	0
I have the feeling I learned something new during this demo (from participants, discussion...).	0	0	1	0	0
I reflected on my own point of view myself at some point during the demo.	0	0	1	0	0
I encouraged participants to reflect on their own point of view during this demo.	0	0	1	0	0
I encouraged participants to reflect on their own situation sometime during this demo.	0	0	0	0	0
I encouraged participants to reflect on how we learn something new on demonstrations.	0	1	0	0	0
I encouraged participants to reflect on why we are trying to learn about the topic of this demonstration	0	0	1	0	0

T3: Overall comments on the effectiveness of the event

Participants:

With an average of 4,1 on 5, participants rated the event overall as very effective. 12 on 12 participants who answered the question would recommend the demonstration.

Demonstrator:

As main effective characteristics of the demo, the demonstrators listed: the possibility to compare varieties and technologies; the high knowledge of all demonstrators; the good atmosphere.

As suggestion for improvement the demonstrator mentioned: more practical tasks.

General summary:

It was a surprisingly interesting presentation of machines controlled by a computer program and GPS. At some point, the host walked beside the tractor with sprayer, and the cabin was empty! The host had was very comfortable with transferring knowledge. The demonstrators were high-class specialists of a major seed company. Participants were mainly larger corn producers.

The main problem aspect that could be improved was the timing: good for maize observation, but not too much participants because it was harvest time.

Poland Case Study 3

1. Background

The agricultural advisory system in Poland currently consists of 16 provincial (voivodships) agricultural advisory centers (ODR) and the Agricultural Advisory Center in Brwinów (CDR). The Center is acting as a state legal entity and reports directly to the Minister of Agriculture. Currently, 4.2 thousand persons are employed in ODR, of whom approx. 3.5 thousand are agricultural advisors. In the municipality (the lowest unit of territorial division in Poland) usually one adviser works. The basic task of agricultural advisory services is to carry out mainly advisory activities and, in addition as a supplementary activity, activities in the field of education, information and dissemination.

In the Lubelskie voivodship there are around 290,000 farms covering an area of 1 584 643 ha of agricultural land. The Lublin Agricultural Advisory Centre employs 360 people in a network of 23 Poviats Agricultural Advisory Teams covering of cooperation of 213 communes in the province.

The Polish Society of Organic Farmers (PTRE) is a nationwide association associates agricultural producers holding certified organic farms. PTRE actively participates in popularizing the idea of organic farming, cooperates with organisations and competent authorities in terms of development of organic agricultural production, makes efforts to create favourable legal conditions for organic farming, represents its members and protects their professional needs.

Programme

In accordance with the assumptions of the program, trainings in the field of organic farming are conducted, covering: legal regulations, fundraising and economics, production technologies, processing and marketing of ecological products. Practical trainings takes place on organic farms and on the ODR experimental field.

Funding and governance

Funds for conducting trainings come mainly from hosting farms resources and commercial companies presenting results of their researches and products. For organising thematic events such as field's days, funds are obtained from producers of seeds, fertilisers and plant protection products which are allowed in organic farming. For Regional events, promoting organic farming, funds are also raised from local governments. The company is managed by a 3-person Board.

Agricultural advisory is financed from public funds. Directions of action are set in cooperation with Social Agricultural Advisory Councils, which consist mainly of social and professional organisations activists, trade unions and agricultural self-governments, however at least 80% of members should be farmers. Participation of farmers' representative organisations in the Council of agricultural advisory centres is aimed on including farmers in the process of identifying advisory needs, defining priorities of advisory tasks to be consistent with the expectations of the farming community.

Actors and networks

On PTRE farms, trainings are conducted by the owners with the assistance of PTRE Ekogwarancja, advisors and external experts. The Department of Organic Agriculture and Environmental Protection of the Lublin Agricultural Advisory Centre cooperates with over 50 agri-environmental advisors who work for organic farmers. In the database of ecological demonstration farms there are currently 5 farms the Lubelskie voivodship. Thematic trainings are also takes place at other cooperating farms.

How it Works

The farm is presented in the CDR/AAC Base and Catalogue of ecological farms as an organic demonstration farm. As part of the CDR/AAC's cooperation with ecological farms, the Database of Demonstrative Ecological Farms was established, where 95 organic farms interested in demonstrating their activities are included. The farms catalogue contains characteristics of farms, photos and other

information. Both files are available for download by users from the following location: (database of farms www.cdr.gov.pl/pol/o_radom/DGE_baza.xls;

catalogue www.cdr.gov.pl/pol/o_radom/DGE_katalog.pdf)

The Lublin Agricultural Advisory Center has within its structure Department of Organic Farming and Environmental Protection, which supervises network of environmental advisors and also cooperates directly with organic farms. The statutory tasks of the department include, among others, promotion of organic farming and environmental protection through trainings, organisation and participation in fairs, exhibitions, competitions, disseminates knowledge in the field of organic farming, implements innovative solutions in organic production; draw up plans and applications for agri-environmental-climate programs, organic farming and provides assistance in completing other documents necessary to apply for financial aid or co-financing from EU funds and other domestic and foreign institutions.

Event Farm and location

- The farm in Wola Skromowska, powiat Kock is located in eastern part of Poland, in the Lublin voivodship. It is a farm with organic field vegetables production. The owner is also the president of PTRE. Twice he was awarded the title of the National Master of Organic Production.
- On the demonstration farm, specializing in the production of organic vegetables, field trainings on organic vegetable production take place. Every year, in autumn, there is also an open day for 120-150 participants is organised.

Event date: as part of Case study, the training took place on September 20, 2018 (CS3)

2. Method

In line with the Methodological Guidelines, three main data sources are used: a background document and interviews at Programme and Farm level to analyse structural and functional characteristics, and event tools and surveys to analyse event level participation and learning, as follows:

1. A background document for every case study was completed by the AgriDemo-F2F partner who carried out the case study.
2. Interviews with representatives of programme/networks (level 1) and farm level interviews with demonstrators/hosts (Level 1) to reveal how the functional and structural characteristics enable learning. Analysis of these interviews is reported in Sections 3 and 4. Data is sourced from 1 interview at the programme level and 1 at the farm level. The analysis followed 4 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes, (4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.
3. Event tools and surveys (level 3) to reveal peer to peer learning processes. Event details and analysis is reported in Section 5. Data is sourced from 13 pre and post-demonstration participant surveys, pre and post event surveys with 1 demonstrator, 1 post event interview with the host farmer and an event observation tool completed by an observing researcher. This data is mainly used for the analysis of learning processes and learning outcomes related to the specific event and overall comments on the effectiveness of the event.

Finally, partners reviewed the case study reports to prepare their workshops with different stakeholders related to the case studies. These workshops aimed at validating the data presented in the case study reports and to discuss on key characteristics related to effectiveness of demonstrations.

3. Structural Characteristics

T1. Programme/network level

1. The main organisations involved in the demonstration activities and their roles

The demonstration programme is managed by a social council consisting of scientists working in the field of organic farming, both from research institutes and from agricultural universities, farmers, members of agricultural organisations – Chambers of agriculture, sectoral associations, like PTRE.

We will set up a social council consisted with scientists, farmers, members of agricultural organisations, which set a date (Programme level Interviewee).

Q: Who are the main people involved in the demonstration activities and what are their roles? R: Farmers, members of PTRE, representatives of commercial companies. They are main demonstrators during demo events. (Programme interviewee).

Q: How are demonstration topics selected? A: By board of PTRE and with consultation with scientists from research institutes cooperating with PTRE. (Farmer).

2. The main actors involved in the demonstration activities and their roles (each at program / farm/event level).

Farmers

Farmers are members of the social council of the Polish Society of Organic Farmers (PTRE). Moreover, according to the post host farmer interview, most demonstration events on his farm are organised in consultation with other organic farmers, mostly regionally based, from lubelskie and mazowieckie voivodships, specializing in organic vegetable producers. The meeting was also attended by many highly specialized farmers from all over Poland who are members or supporters of PTRE and companies producing seeds, seedlings, fertilisers and organic plant protection like Beyo Zaden.

Q: How is the programme/network managed? R: We will set up a social council consisted of scientists, farmers, members of agricultural organisations. (Programme level Interviewee).

Q: How are most demonstration event on the farm organised? A: Contacts with other farmers and companies like Beyo Zaden (Post host farmer interview).

Host farmer

The farm level interviewee (host farmer) mentioned that he is one of the main people involved in the demonstration activities. The demo activities on the farm are managed by him. He takes decision regarding scope of demo activities together with the board of PTRE. The host farmer does not request feedback nor does he evaluate the demo activities in a formal way. However, informally he gets some feedback during the event's day from participants through discussion.

Q: Are host farmers involved in the development of the individual demonstration activities? A: Yes, they are, as members of PTRE, some of them of as members of board of PTRE. (Programme interviewee).

Q: Are host farmers involved in the development of the overall demonstration programme? A: Only to some extent, at very general level, unless they are member of PTRE board (when they can have more influence of PTRE programme) (Programme level Interviewee.)

Q: How are the demo activities on the farm managed? A: By our own management – schools and high schools provide requests regarding arranging demo activities (Farm level Interviewee).

Q: Who are the main people involved in the demonstration activities and what are their roles? A: I am a farm manager, scientists and advisers conducting scientific experiments presents their results (Farm level Interviewee).

Q: Are you involved in the overall development of demos at the prog / network level? A: Only to some extent, as the member of PTRE board. (Farm level Interviewee).

Q: Are participants (farmers, advisers, researchers etc.) involved in the overall development of the demonstrations? A: No. First we , members of the PTRE association select topics then demo is organised (Farm level Interviewee).

Q: Do you request feedback on the event day from participants? A: No. This comes out during the discussion (Farm level Interviewee).

Q: Do you evaluate the demonstration activities overall? A: No. I know whether demo was effective (Farm level Interviewee).

Audience/type of participants

The intended audience of the demonstrations according to the programme and the farm level Interviewees are mainly farmers, advisers, students of agricultural universities and agricultural schools, while the farm level interviewee referred also to local government representatives. Finally, it seems that participants (farmers, advisers, researchers etc.) are not involved in the overall development of the demonstrations on the farm.

Q: Who is your intended audience? A: Advisers (mainly), farmers (Programme level Interviewee).

Q: Who is your intended audience? A: Farmers, students of agricultural universities and agricultural schools, advisers (Farm level Interviewee)

Q: Who typically attends your demonstrations activities? A: Different groups - farmers, students, pupils, advisers, local government representatives. (Farm level Interviewee)

Q: Are participants (farmers, advisers, researchers etc.) involved in the overall development of the demonstrations? A: No. First we select topics then demo is organised (Farmer)

Q: Could you describe the short history of the demonstrations held on the farm? A: I have been organising Organic vegetable Field Day for seven years, I have been organising visits of a group of farmers, advisers, universities and agricultural schools students for 20 years (Post host farmer interview).

Scientists

Scientists are involved in the demonstration activities, as they conduct and present the results of the scientific experiments that take place on the farm.

Q: How is the programme/network managed? A: We are considering establishment a social council consisted of scientists, farmers, members of agricultural organisations. (Programme level Interviewee).

Q: Who are the main people involved in the demonstration activities and what are their roles? A: I am a farm manager, scientists and advisers conducting scientific experiments presents their results (Farm level Interviewee).

Organisers (Programme interviewee- host farmer, president of PTRE

There are several actions undertaken by the Programme interviewee himself and the organisation he belongs to. He and his organisation are involved in the topic selection of the demonstration activities. The same applies to the farm level Interviewee who is also involved at the topic selection of the demonstration activities. The demo topics are identified during the sections meetings, and are based on the organisers knowledge of the most recent/relevant topics as well as on new technologies from which some interesting elements are chosen. The organisers also request feedback from participants and carry out evaluations of the overall demo activities through evaluation sheets. They also keep contact with the demo participants in order to engage them after the demonstration event. This is also achieved through meetings during conferences.

Q: How do you identify/select relevant topics that will interest farmers? R: Set during the PTRE sections meetings (Programme level Interviewee).

Q: How are demonstration topics selected? A: We, society board members determine the most relevant topics. (Programme level Interviewee).

Q: How do the overarching goals/objectives of the programme translate down to individual demo activities? A: New technologies from which interesting elements are chosen (Programme level Interviewee).

Q: Do you request feedback from demo participants? R: Yes. Evaluation sheet (Programme level Interviewee).

Q: Do you evaluate the demonstration activities overall? R: Yes. Evaluation sheet (Programme level Interviewee).

Q: Do you - at the programme level - continue to engage participants after the demonstrations? R: Yes. We are staying in touch with the part of participants. They would like to know how demonstrations continue. Meetings are arranged during local and national organic conferences. (Programme level Interviewee).

Q: Are participants (farmers, advisers, researchers etc.) involved in the overall development of the demonstrations? No. First we, the PTRE board members, select topics then demo is organised (Farm level Interviewee).

Advisors

Advisors are involved in the demonstration activities along with the farm level interviewee's family and other scientists. Advisors and scientists conduct and present the results of the scientific experiments take place on the demo farm. Advisors have also an active contribution to the advertisement of the demo event. Finally, advisors contribute to the assessment of the extent of influence from the demonstration events organised to non-participants.

Q: In your experience, what is the most effective way of attracting participants and advertising events? R: Via agricultural advisors, public and private providing services to farmers at local level, internet (Programme interviewee).

Q: Who are the main people involved in the demonstration activities and what are their roles? R: I am a farm manager, scientists and advisers (e.g. advisers from Beyo or a company buying organic products conducting scientific experiments presenting their results (Farm level Interviewee).

Q: Do you try to assess the extent of influence (diffusion) from your demonstration to non-participants (those who have not attended demo events)? R: Yes. I talk to directors of schools and public and private agricultural advisors (Farm level Interviewee).

Specialists

There are the same specialist already indicated above - specialists presenting results of their researches, agricultural advisors specializing in organic production. These specialists have an active role as demonstrators during the event where they present the content of the scientific experiments.

Q: Please rank the following factors by their importance to effective demonstration activities; R: Good quality expert advice and tech presentations. Presentations by specialists help in the best way to understand the content of scientific experiments (Farmer).

Schools directors and schools

As already mentioned the demo activities on the farm are managed by the Farm level Interviewee. It seems also that schools' directors contribute to the assessment of the extent of influence from the demonstration events organised, to non-participants.

Q: Do you try to assess the extent of influence (diffusion) from your demonstration to non-participants (those who have not attended demo events)? R: Yes. I talk to directors of regional agricultural colleges and advisors. They base their opinions on their discussion with teachers, students (in case of directors) and farmers (as regards advisors). Moreover, we organise some thematic field trips, when we have opportunity to communicate with people who did not attend our events. (Farmer).

Q: How are the demo activities on the farm managed? A: By our own management - schools and high schools representatives are in contact with PTRE, myself and other organic farmers personally. (Farm level Interviewee).

Companies

According to the post host farmer interview, most demonstration events on his farm are jointly organised with other farmers and companies like Beyo Zaden, Symbio, .

Q: How are most demonstration event on the farm organised? (e.g.: field days) A: Contacts with other farmers and companies like Beyo Zaden. The involved companies suggest topics/new technologies/approaches to be presented during demo events. Subsequently board of PTRE take decision concerning topic for demo events and makes all appropriate organisational arrangements involving all relevant actors (i.e. host farmer, company in question, interested scientist, agricultural advisors). (Post host farmer interview).

3. Follow up material

According to the Programme interviewee, follow up materials such as thematic brochures, plans of scientific experiments and/or description of demonstrations are offered to participants after the demo event.

Q: Are follow-up materials made available to participants after demos? R: Yes. Thematical brochures, sometimes description of demonstrations (Programme level Interviewee)

Q: What materials are provided during demonstrations? R: Brochures printed and provided by i.e. companies, scientists - about new technology, varieties, seeds and seedlings, cultivation methods, a plan of scientific experiments in the PTRE members farms (Farm level Interviewee)

4. Networks

According to the Programme interviewee the specific network/programme is mainly connected to regional advisory centres and chambers of agriculture. The farm level interviewee, seems to be connected to an advisory network and schools, and participates in the Polish Organic Board and the Polish Society of Organic Farming networks. He also holds elected or appointed roles as a chairman at Polish Society of Organic Farming (PSOF), network (Post host farmer interview).

Q: To what extent is the network/programme connected to other networks/programmes in your country or even internationally? R: Connections to the voivodship agricultural advisory centres, chamber of agriculture. Voivodship agricultural advisory centres and chambers of agriculture are directly involved in dissemination of results demo events throughout their training and dissemination activities. (Programme level Interviewee).

Q: To what extent is the demo farm connected to other demo farms and/or other knowledge exchange organisations? R: Through network of 16 voivodship agricultural advisory centres, agricultural schools and agricultural universities (Farm level Interviewee).

Q: Is your demonstration farm part of a programme or wider network (e.g. LEAF)? R: No (Farm level Interviewee).

Q: What farming networks and/or programmes are you participating in? R: Polish Organic Board; Polish Society of Organic Farming (Post host farmer interview).

Q: Do you hold any elected or appointed roles on farming networks/boards? R: Yes. PSOF, chairman (Post host farmer interview).

5. Resources, finances and incentives

The demonstration activities are funded by:

- a) the Programme interviewee's own funds. He invests his own resources to carry out his own research useful for his farm activity and members of PTRE,
- b) Commercial companies presenting results of their researches,
- c) Apart of that host farmer and members of PTRE occasionally make use of European project's funds such as H2020 and Interreg for the demo activities. These type of projects cover the expenses of agricultural production means to for participating host farmers. However, according to the farm level Interviewee demo activities are mainly funded by his own funds as well as by some companies which produce plant protection products.

Q: What are the funding arrangements for your demo activities? How do these impact on the lifespan of the farm demo? R: Host farmers own funds. International projects (H2020, Interreg). The driving force behind demo activities is personal involvement of host farmer, This is the best guarantee for long term impact of demo activities for host farmer and member of PTRE, having the same strong personal incentives. (Programme level Interviewee).

Q: Do you offer any incentives to farmers to host demonstration activities? R:

Yes. Funding of agricultural production means, scope of funding depends on rule of cooperation with company in question. (Programme level Interviewee).

Q: What are the funding arrangements for your demo activities? How do these impact on the lifespan of the farm demo? R: Mostly own funds, sometimes companies producing plant protection products (Farm level Interviewee)

6. Human Resources

The case study demonstrator stated that he would not benefit from some extra training as a demonstrator (Post survey demonstrator). No reference is made to whether demonstrators have received any training to improve demo organisation and delivery.

7. Goal/ objectives

According to the Programme interviewee, the main goal of the demo activities is the promotion of new technologies and approaches on agriculture to demo participants. Moreover according to the farm level interviewee, the demo activities goal is to apply scientific research and experiments on his working farm.

Q: What are the overall goals/objectives of the demo farm? How are these decided? R: Promotion of the new technologies and approaches on agriculture (Programme level Interviewee)

Q: What are the overall goals/objectives of the demo farm? How are these decided? R: Modern farm with the scientific research, scientific experiments are conducted in the conditions of a functioning farm (Farm level Interviewee).

T2. Farm (event) level

1. Event's farm and layout

The host farmer is member of the Polish Organic Board and chairman/ president of the Polish Society of Organic Farming PSOF network (Post host farmer interview). He owns a commercial, large sized farm with over 60 hectares of organic vegetable production. On the farm there are over 100 varieties of 18 vegetable species cultivated and presented to demo attendees (Observation tool + Post host farmer interview). Several comparisons of varieties and methods of vegetable cultivations take place in multiple fields on the specific farm (Observation tool).

The demonstrations organised in the programme are a mixture of exemplary and experimental approaches according to Programme interviewee. However, the farm level interviewee mentioned that the demonstrations organised in his farms are mainly experimental. Both farm and Programme interviewee, believe that a mixture of exemplary and experimental approaches are more preferable. The event's demonstrator has also classified the specific demo event as mixture of exemplary and experimental approaches (Post survey demonstrator).

2. Practice/technology demonstrated-Topic

The overall topic of the specific demonstration event was specialized organic vegetable production (Observation tool). The event was a classical field day. At the beginning of the demo event, a

presentation with multimedia shows, lectures and films was given concerning the cultivation and technologies used on the specific farm. Thereafter participants visited the field (Observation tool).

3. Actor's role

Eight-teen participants attended at the specific demonstration event. Of which 13 were interviewed. Almost 77% of participants did not work in the area where the event took place (Pre demonstration survey participant). Ten of them were farmers, while the remaining three interviewed did not disclose their occupation. (Pre demonstration survey participant). Approximately 85% of respondents felt actively or very actively involved during the whole demonstration process (Post participant's survey). According to one of the event's demonstrators, participants (farmers, advisers, researchers etc.) were not involved in the overall development of the specific demonstration (Post survey demonstrator).

At the specific event there was a representative of the farmer's family, who acted as a facilitator (Observation tool). The host farmer was also demonstrator, presenting the arm's background, machinery and buildings (Observation tool).

There were also a group of demonstrators with different styles who discussed with farmer attendees at the multimedia room and on the farm. Demonstrators are fully professionally trained representative of different companies. While all of them are well trained professional in area of their specializations, they differ in level of ability of open, direct communication skills and capacity of initiating dialogue with farmers. (Observation tool). Only one demonstrator who was an advisor/company representative has been interviewed.

4. Frequency & Duration

According to the post host farmer interviewee one annual "Organic vegetable field day" and some field trips are organised each year on s/his farm.

Q: What is a typical time span for the demonstration activities and why? (e.g. one event a year over 3 years) R: Several times a year (Farm level Interviewee)

Q: How often? R: One, yearly "Organic vegetable field day" and some field trips (Post host farmer interview)

The post host farmer interviewee organises the Organic vegetable Field Day for the last seven years. Furthermore, visits of groups of farmers, advisors, university students and students are organised on his farm the last 20 years (Post host farmer interview). As far as the events duration and time allocation is concerned the lecture part was 3 hours, the field visit 1.5 hours and an additional 1.5 hours were devoted to refreshments and discussion (Observation tool).

5. Farm's infrastructures or arrangements

The farmer has made several arrangements and preparations in order to host the specific demonstration event. More specifically, he arranged a lecture room in the farm's storage room and he ordered a toilet for guests. Moreover he prepared a meal with farm's sausage products, vegetable dishes, local dishes, cakes, etc (Post host farmer interview +Observation tool)

6. Accessibility

Both programme and farm level interviewee stated that the travel time is an important factor that would discourage people from attending a demonstration. The travel time of participants to reach the demo farm, ranged from 40 to 870 minutes, with an average time close to 255 minutes (Pre demonstration survey participant). Approximately half of the participants (46 %) rated their travel effort to participate as no effort or very little effort and 31 % rated their travel effort to participate as little effort. Finally 23% of participants rated their travel effort to participate as quite some effort or great effort. It is not quite clear if the effort rate is only related to the travel distance, as the effort ratings were not always proportional to the travel distance. Maybe other factors influence the effort rate i.e participants' motivations, free time etc (Pre demonstration survey participant).

Q: What do you think discourages people from attending demonstrations? R: Devotion to the farm, distance, dates (Programme interviewee)

Q: What do you think discourages people from attending demonstrations? R: No time, badly conducted presentations, distance (Farmer)

7. Fees for participation

Participants did not have to pay a fee to attend the demonstration. Moreover, none of the participants had received any financial compensation for its attendance (Post participant's survey).

8. Time

The farm level interviewee stated that participant's lack of time is an important factor that would discourage them from attending a demonstration.

Q: What do you think discourages people from attending demonstrations? R: No time, badly conducted presentations, distance (Farm level Interviewee)

4. Functional characteristics

T1: Coordinating effective recruitment of host farmers and participants

1. Incentives

The Farmer cited 'own funds' as the main source of finance for the project, although it is unclear whether this was referring to farmers' own funds or to the 'national budget', as described by the Programme Interviewee. Other funding sources included industry sponsors and international projects, such as horizon 2020 and Interreg.

Mostly own funds, sometimes companies producing plant protection products (Farmer)

Own funds (national budget). International projects (H2020, Interreg) (Programme)

2. Motivations for host farmers

The Farmer was motivated by a sense of duty to put scientific research into practice, while the Programme interviewee felt that host farmers were motivated by the chance to develop their farm and have access to the latest information.

In my opinion results of scientific research should be transferred into practice (Farmer)

Willingness to know news, farm development (Programme)

3. Motivations for participants

Participants were motivated by the latest news, farm development, finding solutions to their problems and having questions answered.

Desire to farm development, interest in news, answering the questions, problems solution (Farmer)

4. Target audience

The target audience was advisors, farmers and agricultural students.

5. Advertising and recruitment

The events were advertised on the internet as well as through farm advisors and high schools.

Via agricultural advisors, internet (Programme)

Information directed to schools, high schools. Internet (Farmer)

T2: Appropriate demonstration and interaction approaches

1. The nature of interaction

Both the Farmer and the Programme Interviewee described the nature of interaction as 'Mostly top-down', as event topics were determined by the programme.

2. Involving farmers in the learning process and the demonstration programme

Host farmers were involved in the planning stages of the demonstrations. Other than this, it seems that host and participating farmers had no involvement in the programme.

First we select topics then demo is organised (Farmer)

3. Focus

Both the Farmer and the Programme Interviewee described the network as 'in between' whole farm and single focused.

4. Design

- The Farmer described the network as 'Experimental', however expressed a preference for 'a mixture', explaining that the approach should be diversified.
- The Programme Interviewee described the network as 'A mixture' and expressed a preference for this approach based on personal opinion that there should be both theory and practice.

5. Group size

Both Farmer and Programme Interviewee had a similar view on the optimal group size. The Farmer felt that the best group size was 10, but that this was not very economical. As such 15-20 participants were cited as optimal. The Programme interviewee felt that anything between 10 and 20 allowed for a communicative yet economical group size.

15-20 persons. However the best is group of 10 persons but this is not very economical (Farmer)

10 - 20 - communicative and economical (Programme)

T3: Enabling learning appropriate to purpose, audience, context

1. Facilitating interaction and learning: structure, content and techniques

Both Farmer and Programme Interviewee recommended a mixture between presenting the scientific information and presenting the farm as a whole. The Programme Interviewee also mentioned the use of practical demonstrations.

Introduction of farm as a whole, short walk, presentation of machinery, buildings and then go to the scientific experiences (Farmer)

Showing farm, presentation specific information, practical demonstration (Programme)

There was no mentioned of particular materials used on the day. Nor was there any mention of the preferred techniques for engaging participants.

2. Taking into account variation in learning

The Farmer mentioned brochures and a plan of scientific experiments as a means to accommodate variations in learning, presumably as this allows participants to read through the information at their own pace. Other than this it appears there was no consideration of different learning styles.

T4: Effective follow-up activities

1. Follow-up activities and materials

The Farmer had no contact with participants after the event; however the Programme interviewee did stay in touch with some participants, informing them of other demonstrations and conferences.

The Programme offered thematic brochures and a description of demonstrations for participants to take away.

2. Assessing impact

The Farmer did not assess the impact of the event among participants, but did talk to directors of schools and advisors in order to gauge the impact among the wider farming community.

The Programme Interviewee did assess impact among both participants and the wider farming community through the 'number and nature of questions' asked by third parties and participants.

5. Event analysis: effective peer learning characteristics

Event details

The group consisted of about 18 participants, of which 13 filled in the pre and the post survey.

local area - gender - age	unknown	farmer	Total
works in local area		3	3
female		3	3
25		1	1
28		1	1
unknown		1	1
doesn't work in local area	3	7	10
male		2	2
38		1	1
47		1	1
female	3	5	8
27		1	1
29		1	1
43	1	1	2
49		1	1
53	1		1
60	1		1
61		1	1
total	3	10	13

T1: Learning processes

1. Communication initiation by participants

When in the whole group About 20% of the participants hesitated but shared their knowledge and/or experiences related to the topic. They asked questions about specialist production, product quality, and sales problems. When in small groups during the last part of the trip, more than 50% of the participants had no problem sharing knowledge related to the topic. A little time was made for questions, about 15 percent of the time during the first part, and again at the end. Some questions were asked. There were a lot of participants formulating their points of view regarding the topic, especially on organic vegetable production technology.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I had the feeling that I could share my own knowledge as relevant information.	0	7/13	4/13	1/13	1/13
I asked at least one question during the demonstration .	5/13 yes				
I shared my own point of view at least once during the demonstration.	4/13 yes				
I felt encouraged to ask questions during the demonstration.	1/13	5/13	5/13	2/13	0
When there were any discussions, I felt comfortable sharing my opinion.	0	7/13	4/13	1/13	1/13

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I asked participants to share some of their own background knowledge during the demo.	0	1	0	0	0
I encouraged the participants to formulate their own point of view during the demonstration.	0	1	0	0	0
I encouraged the participants to formulate questions during the demonstration.	0	1	0	0	0

2. Interactive knowledge creation

Hands-on opportunities and other multi-sensorial experiences

The participants could try the vegetables and examine the organoleptic. Furthermore, there were no hands-on activities.

Discussion opportunities and negotiating conflicting points of view

There was a facilitator who was a representative of the family. Open discussions between a few participants were stimulated, during the last part for more than 15 percent of the time. Almost no critical points of view on the topic were shared.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	2/13	8/13	3/13	0
If participants didn't agree with each other during discussions, somebody (demonstrator/other participant) tried to reach a consensus between them.	3/13	1/13	3/13	0	6/13

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	1	0	0	0
If participants didn't agree with each other during discussions, somebody (me or somebody else) tried to reach consensus between them.	0	1	0	0	0

3. Engagement during the event

Participants acted more distant than open. The production on the demonstration farm was carried out at the highest level, usually better than on the farms of the farmers. They saw a model that is beneficial to pursue. The demonstrators acted more distant than open. However, there were several demonstrators with different styles, including a farmer from the Netherlands.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I felt actively involved during the whole demonstration process.	0	2/13	4/13	6/13	1/13
I felt like the demonstration increased my ability to rely on myself as a farmer.	0	1/13	6/13	2/13	4/13
I could relate well to other participants (because they have an agricultural background similar to mine).	0	3/13	6/13	2/13	2/13
A lot of the other participants are part of the same farmer network as me.	0	2/13	4/13	3/13	4/13
I felt like I could trust the knowledge of (most of) the other participants.	0	3/13	5/13	2/13	3/13
The demonstration felt like an informal activity to me.	3/13	4/13	5/13	0	1/13
I thought the host farm was comparable enough to my own farm.	3/13	4/13	2/13	0	4/13
I had the feeling the demonstrator was like one of us.	0	7/13	5/13	0	1/13
I had the feeling I could trust the demonstrators knowledge.	0	1/13	8/13	3/13	1/13
I got along very well with the demonstrator.	0	1/13	8/13	3/13	1/13

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
Were participants (farmers, advisers, researchers etc.) involved in the overall development of this demonstration?	no				
Most of the participants were well known to me.	0	0	1	0	0
A lot of the participants are part of the same network as me.	0	0	1	0	0
The demonstration felt like an informal activity to me.	0	0	1	0	0
I think the host farm was well suited for this demo.	0	0	0	1	0
I got along well with the participants.	0	0	1	0	0

T2: Learning outcomes

Explained knowledge was sufficiently understandable. However over 100 varieties of 18 vegetable species were presented. Practical skills were not addressed. Common methods or ways of thinking on farming and/or on learning were not questioned.

What would you ideally like to learn today?	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
Fertilizing in organic farming; (organic) plant protection; technology (in other region); innovation in organic farming; organic vegetable technology; how to work with an organic method; new varieties.					
The demonstration met my expectations regarding what I wanted to learn.	0	2/13	5/13	6/13	0
The demonstration exceeded my expectations.	0	5/13	3/13	5/13	0
I felt surprised at some point(s) during the demonstration.	1/13	5/13	3/13	4/13	0
I obtained a clearer understanding of the topic(s) demonstrated.	0	2/13	6/13	5/13	0
I have the feeling I learned something new (knowledge, skill, practice, etc.).	0	0	7/13	6/13	0
I thought about how I could implement some of the ideas and practices on my own farm.	0	1/13	5/13	2/13	5/13
I reflected on my own point of view at some point during the demonstration.	1/13	2/13	7/13	2/13	1/13
I learnt about the principles underlying a practice.	0	3/13	8/13	2/13	0
I thought about how we learn something new on demonstrations (e.g.: teaching methods).	0	0	0	0	13/13 (error)
I thought about why I want to learn about the topic(s) of this demonstration.	0	0	0	0	13/13 (error)

what do you intend for the participants to learn today?	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I think participants have learnt what I intended them to learn.	0	0	1	0	0
I tried to surprise participants with uncommon/new knowledge/new skill.	0	0	1	0	0
I felt surprised at some point(s) myself during the demonstration (e.g. by a question or discussion).	0	1	0	0	0
I obtained a clearer understanding of the topic(s) myself.	0	0	1	0	0
I have the feeling I learned something new during this demo (from participants, discussion...).	0	0	1	0	0
I reflected on my own point of view myself at some point during the demo.	0	0	1	0	0
I encouraged participants to reflect on their own point of view during this demo.	0	0	1	0	0
I encouraged participants to reflect on their own situation sometime during this demo.	0	0	1	0	0
I encouraged participants to reflect on how we learn something new on demonstrations.	0	0	0	1	0
I encouraged participants to reflect on why we are trying to learn about the topic of this demonstration	0	0	0	1	0

T3: Overall comments on the effectiveness of the event

Participants:

With an average of 4,1 on 5, participants rated the event overall as effective. 13 on 13 participants who answered the question would recommend the demonstration.

Demonstrator:

As main effective characteristics of the demo, the demonstrators listed: purely practical methods of communication; indication of problems and their solutions.

As suggestion for improvement the demonstrator mentioned: better conditions for multimedia presentation, e.g. sound in both the lecture hall and the field.

General summary:

It was a big event and it was not the first time being held in this farm. The host farmer is respected because of his production at the highest level. Less participants would be better, some didn't have the chance to talk or ask a question right now.

Serbia Case Study 1

1. Background

Funding and Governance

KRIVAJA doo was interested in building relationship with BioSense Institute so established collaboration. After initial joint work both actors decided that sharing the knowledge on the farm will facilitate uptake of new technologies by local farmers so a set of events covering all important aspect of KRIVAJA doo productions were designed. The demonstrations are organised jointly by researchers of BioSense Institute and employees of KRIVAJA doo. The topics are chosen by research institute and then adapted to fit common practice at KRIVAJA doo. Both researchers and farmers take part in demonstrating. The demonstrations are self-funded.

Actors and networks

The demonstrations at KRIVAJA doo are intended bring together end-users interested in utilising IT solutions in agriculture. Apart from researchers and KRIVAJA doo employees' other local farmers and researchers are welcomed but also students and agriculture advisers.

Event Farm and location

KRIVAJA doo is a private medium sized farm focused on arable crop production (i.e. corn, wheat, soybean, and oilseed rape, and barley, sunflower) and livestock (i.e. Pig husbandry). The farm owns 2325ha arable land (540ha irrigated) and big husbandry with more than 5000 pigs. KRIVAJA doo invested about 2.5Mil Euro in advanced farming technologies striving to adopt precision agriculture approach in its common practice. Acquiring and sharing knowledge related to technology use in agriculture is the main driving force while engaging with researchers on their premises. Notable effort is made in sharing experience and knowledge with local farmers therefore joint demonstrations are organised together with researchers.

How it works

- Physical part in the fields of the company Krivaja d.o.o. where many smart machines, tools and devices for precision agriculture are installed and fully operational in the real production environment – there are also thematic stands for face-to-face interaction with demonstrator and other participants
- Virtual part in the classrooms of BioSense Institute where instructions for using AgroSense digital platform is given
- The demonstrations were advertised as open farm visit on last Friday in the month (April-October) and the virtual part following on Saturday
- There is no limit in the number and profile of participants and the demonstration is free of charge
- A notable advertising effort is made to inform people about events

Event Dates:

- **April 27, 2018:** LoRa system for communication with sensors and meteorological stations – continuous monitoring of the field conditions
The basic idea behind the event was to introduce local farming community to new technologies in agriculture, both from the machine and IT/data points of view. There were 3 stalls in total. On the first one AgroSense, digital platform for farmers, was presented by researchers from BioSense institute, which is focused on the application of IT in agriculture. The platform itself is a useful and a highly practical tool for monitoring the production and gathering all the necessary information in one place. The second stall, also organised by BioSense was focused on sensory technologies and their integration into AgroSense web platform through modern LORA systems. There, BioSense's experts shared their experiences about using these

technologies and along with Krivaja agronomists presented the benefits these systems give. On the third stall, Krivaja agronomists and farm workers presented new machinery they are using in their daily activities, such as tractors, combine harvesters and other equipment based on variable-rate technologies, which allows them to apply precision-agriculture principles and reduce costs, thus maximising the profit.

- **May 25, 2018:** Variable fertiliser – reducing fertiliser consumption and increasing crop yield
The demonstration included two themes: variable rate fertilisation and overview on AgroSense application. Variable rate fertilisation was described, and machine presented by end user – Krivaja DOO. Also, real demonstration on pilot cite was provided, which was highly appreciated by attenders of the demonstration event. Important aspects of profitability and environmental sustainability were discussed. BioSense researchers were responsible for demonstration of AgroSense applications. All segments: creating account, field annotation, entering data related to all aspects of crop production, available data on weather forecasts, satellite images and indices, as well as advanced concepts of rich spatial information in the form of soil conductivity maps, elevation maps and yield maps were explained.
About 30 participants attended the event.

Additional events planned in 2018:

- **June 29, 2018:** Satellite images in agriculture – detailed insight into the crops' wellbeing
- **July 27, 2018:** Soil moisture sensors and irrigation systems – choosing the right moment for irrigation
- **August 31, 2018:** Drones in agriculture – maps for variable fertilisation and yield assessment
- **September 28, 2018:** Yield monitors and grain moisture sensor – yield mapping, performance evaluation and recommendations for the next season
- **October 26, 2018:** Probe for measuring electromagnetic conductivity of the soil – management zone

2. Method

In line with the Methodological Guidelines, three main data sources are used: a background document and interviews at Programme and Farm level to analyse structural and functional characteristics, and event tools and surveys to analyse event level participation and learning, as follows:

1. A background document for every case study was completed by the AgriDemo-F2F partner who carried out the case study.
2. Interviews with representatives of programme/networks (level 1) and farm level interviews with demonstrators/hosts (Level 1) to reveal how the functional and structural characteristics enable learning. Analysis of these interviews is reported in Sections 3 and 4. Data is sourced from 1 interview at the farm level. The analysis followed 4 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes, (4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.
3. Event tools and surveys (level 3) to reveal peer to peer learning processes. Event details and analysis is reported in Section 5. As there were two events held, the analysis is based on the following data. For the first event, data is sourced from 11 pre and post-demonstration participant surveys, post event surveys with 4 demonstrators, post-demonstration interviews with 2 host farmers and an event observation tool completed by an observing researcher. For the second event, data is sourced from 8 pre and post surveys for participants, 1 pre and post survey for demonstrators, post-demonstration interviews with 1 host farmer and an event observation tool completed by an observing researcher. This data is mainly used for the analysis of learning processes and learning outcomes related to the specific event and overall comments on the effectiveness of the event. The analysis followed 5 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes, (4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.

Finally, partners reviewed the case study reports to prepare their workshops with different stakeholders related to the case studies. These workshops aimed at validating the data presented in the case study reports and to discuss on key characteristics related to effectiveness of demonstrations. A workshop with Serbian case study partners will be held around January 2019.

3. Structural Characteristics

T1: Programme/network level

1. The main organisations involved in the demonstration activities and their roles:

BioSense Institute researchers role

BioSense Institute's researchers are responsible for the design, coordination and organisation/development of the demonstration, the topic selection and the timing proposition. They act also as demonstrators, as well as facilitators during demonstration events. For some of the above-mentioned functions (see below section on Farm employees roles), BioSense Institute's researchers are collaborating with KRIVAJA doo employees (demonstration, planning and organisation, timing etc.). However, the BioSense Institute seems to have the main responsibility for the demonstration events.

R: How is the demonstration organised? Who coordinates and who decides when the demo will take place? R: This is mainly done by BioSense Institute. The researchers proposed topics and we agreed...The demonstration at our farm is designed by BioSense Institute researchers. We added the part regarding use of equipment that support precision agriculture concept. ..Researchers from BioSense and farmers from KRIVAJA designed demonstration and advisers were guests... (Farmer).

Farm employees' roles (experts, workers, agronomists etc.)

Krivaja employees and the host farmer (farm's director) after consultation with the BioSense Institute, are responsible for the timing of the event, to be in line with field activities. In that way, the proposed timing of the event can be changed by KRIVAJA doo farm members. KRIVAJA doo does not have any responsibility as far as the topic selection is concerned (the BioSense Institute selects the topic), but they act complementary on the topic presented, showing how these practices work in their field. The farm does not organise any formal demo on its own, but it is often visited informally by farmer colleagues.

R: Researchers from BioSense Institute proposed topics and we were consulted on timing of the events.... The time for some topics was changed following KRIVAJA suggestion so the topics are presented in line with field activities. Yes, institute proposed and then we adapted to be in accordance with field activities. Q: Did you ask for having some topics that are of your direct interest? R: No but we realised that there are some useful information for our own practice. (Farmer).

R: The main topic on the last event was LoRa and meteo measurement but in addition to this we set a stand to show how this technology works in the field.

Q: So this is your practice in the field? R: Yes exactly we were thinking how be complementary to what the institute presents. (Farmer).

R2: Did you informally organised something for farmer colleagues? R: No, we did not organise, but some colleagues visited us to see our machinery. (Farmer).

On the other hand, people from BioSense institute are inspired of and/or include tools and approaches from KRIVAJA doo farm when designing a demo.

After first meetings with KRIVAJA, we realised that they use different ICT tools for which BioSense has knowledge and different approaches. Then we listed a number of segments that are connected so that full picture of application of ICT in agriculture could be covered. (Someone named Oskar from the Farm Level Interview-he told only that-must be from BioSense-Need for clarifications).

KRIVAJA doo is divided into separate departments (arable crop production, machinery department etc.). Depending on the topic the institute suggests, KRIVAJA doo's more suitable/ experienced employees, i.e. those with more knowledge on the topic, communicate with the institute regarding all aspects of organising and developing the demonstration event (Farmer). Then, Krivaja agronomists, farm workers as well as all farms' departments work together for the organisation of a demonstration event. (Observation tool + Farm Level Interviewee).

Q: Ok, and who in KRIVAJA is responsible for demonstrations? What position is in charge for this?

R: I am responsible for agrotechnics so I communicate with the research institute regarding all aspects of organising demonstration event. In KRIVAJA I am responsible for data collection and planning. Q: It looks like the person with most knowledge on the topic liaises with the research institute? R: That's right! Q: Who else is included? R: Chief of arable crop production and Chief of machinery department....Q: It looks like all structures are involved? R: This is team work and basically how the responsibility in common work is divided in demonstration as well. (Farmer).

The farm level interviewee works at the farm, as expert in precision agriculture. Technically he was the direct organiser of both events (25-04 and 27-04), always in collaboration with BioSense (Personal communication with national research). For the two events, he was responsible for data collection and demonstration planning. Although he had some organisational responsibilities for the events, he stated that he is not involved in the overall development of demos at the overall programme level (Farmer).

Finally, both BioSense researchers and KRIVAJA Doo farm employees take part in demonstrating topics during events. Five demonstrators in total took part at the two demonstration events. Three of them were BioSense researchers and two KRIVAJA doo employees (Pre survey demonstrator 27-04 and 27-05).

Advisers

KRIVAJA doo makes use of advisers' support, especially those who are experienced in a specific issue. It seems that the farm is mainly supported by researchers than advisers. At the demo events, advisers are present, but as available data indicate, it seems that they don't have an active role, as they are mainly involved in disseminating leaflets and/or preparing posters used during the events.

KRIVAJA for example collaborates with several advisers each with expertise in different agrotechnics... Researchers from BioSense and farmers from KRIVAJA designed demonstration and advisers were guests. ...Advisers provided printed material with info on how to apply variable treatments .Q: Did you ask them to prepare this material for this demonstration? R: No, this is prepared earlier... (Farmer).

Posters from advisers and leaflets introducing digital farm concept and AgroSense web based platform for collecting data and assessing satellite products for given field (Observation tool 27-04).

The director of the company/ host farmer

The director of the company is the owner of Krivaja doo farm. He collaborates with the chiefs of each department and holds a consulting role on their proposals concerning the organisation of each event. During the two demonstration events (27-04 and 25-05), the host farmer, apart from technical assistance to organise and set the location, he has also demonstrated how the presented technology is used in the farm (Observation tool 27-04 and 25-05).

R: Chief of arable crop production and Chief of machinery department. We always consult the director but he usually agrees with what we propose. (Farmer).

Target Audience/type of participants (not an actor).

The demonstrations on KRIVAJA doo intend to bring together end-users interested in utilizing IT solutions in agriculture. It seems that the demo audience of this farm does not have any active role at any demonstration function and/or organisation. This was the case in both demonstration events occurred of 25-05 and 27-04, in which participants (farmers, advisers, researchers etc.) did not involve in the overall development of this demonstration (Post survey demonstrator1).

The attendees of demonstration events are generally local farmers, high school students, farmers that use the new tractors with GPS, researchers (apart from BioSense ones) and advisers. There is no typical profile of the demonstration attendees. Big regional producers (who are owners of a farm at least of the size of KRIVAJA Doo) do not come to demonstration events, even though this is desirable by KRIVAJA DOO. A notable advertising effort is made to inform people about events.

In our region there are only small farms .We have tried to contact them and call them and some did come for the first opening event but mainly small farmers and some high school students from the region come... Nowadays almost all new tractors have GPS so when colleagues buy it they want to know what can be done with it and how.... The bigger farms are the more difficult is to attract farmer because they have their own approach to lead business. Q: And how efficient were you in attracting big producers? R: None from big regional producers came. (Farmer).

Apart from researchers and KRIVAJA doo employees, researchers are welcomed but also students and agriculture advisers. (Background info)

Sometimes demonstration participants are targeted. R: Sometimes they are. BioSense Institute advertised events and we are in contact with local input provider who shared his database of contacts. (Farmer)

At the event took place at 25/05/2018 the group size was 30 persons. The announcement of the event through diverse channels brought a mixture of attendees encompassing farmers, students and professors of agriculture (Observation tool 25-05). All participants interviewed (n=4) worked in the local area (3 farmers, 1 student) (Pre participant survey).

Participants of the 25-05 demonstration were targeted, as invitations have been sent to potential end-users of the AgroSense app (i.e. farmers, students and professors of Faculty of Agriculture). Despite this, advertisement for the event was spread publically, so everybody who wanted could attend. According to the same person, the targeted invitations, for potential users of the application, added on the effectiveness of this demo-event. (Post survey demonstrator 1)

At the event took which took place on 27-04 the group had 50 participants (Observation tool 27-04). Again, different communication channels were used and brought diverse attendees encompassing agriculture technicians, economist, engineers of agriculture, farmers etc. Two out of eleven participants work in the region close to Krivaja doo farm and 9 out of 11 reported that they were coming from far away (Pre participant survey demo 27-04).

The participants of the 27-04-2018 demonstration were not targeted according to 3 out of 4 demonstrators (1 answer is missing). In that way, it was possible for everyone who wanted to participate to take part in the demonstration according to these 3 demonstrators (Pre survey demonstrator). Finally, according to one demonstrator there were problems with transport of participants to the event, thus, some participants were not able to attend (Pre survey demonstrator 27-04).

8. Networks

The demo farm is neither part of a bigger agricultural network, nor is connected with other farms in the frame of a demo program. The farm cooperates regularly with BioSense. Occasionally, the farm collaborates with other institutions, as for instance in the case of a one off event which has been organised by FAO representatives in Serbia in Krivaja farm. Moreover, input providers of the farm, organise field days at other farms, in which KRIVAJA doo employees sometimes are also invited.

R: Our suppliers invite us regularly to such events. From time to time we attend.

Q: Did you host other demos apart from these with BioSense Institute? R: Yes, for example last November there was event organised by FAO representatives in Serbia. (Farmer).

The owner/director of the farm and the Farm level Interviewee, responsible for the organisation of the events in collaboration with BioSense, did not indicate if they are participating at farming networks and/or programmes (Post host farmer interview 27-04). In addition, no one from the demonstrators, were part of a network (Pre demonstrator survey 25-5 and 27-04).

9. Funding arrangements

There is no data concerning any kind of funding and/or compensation for the demo activities, which occur in KRIVAJA DOO farm. The demonstrations seem to be self-funded. However, it seems that demo expenses are not a big issue and pose no risk for the sustainability of the planned events.

Q: There are expenses for all demonstrations. Who takes care of this in KRIVAJA? How do you cover expenses?"... R: The expenses are minor, we bought some tents and we provide drinking water....Finances pose minimal risk for sustainability. (Farmer)

10. Human Resources

The employees of KRIVAJA DOO farm seem to have an empirical approach concerning the role of demonstrator. They have not received any formal training in order to be demonstrators. From the five demonstrators in both events, 3 of them did not answer if they have received any training for being demonstrator; the rest reported they have not received any training in order to be demonstrators. (Pre survey demonstrator 25-05 and 27-04).

Q: This is not asked but I am interested to know what do you think to what extent your demonstrator are in line with numbered here? R: We can certainly do better. We are not educated demonstrators so we learn by try and error. (Farmer)

Four out of five demonstrators agreed/or strongly agreed that they could benefit from some extra training as a demonstrator. (Post survey demonstrator 25-05 and 27-04).

11. The decision-making process in organising demonstrations

According to the roles already described for each actor the entire approach followed seems to be mainly top down, with the BioSense Institute being the main actor concerning most of demo functions. However, there is a good cooperation and understanding between BioSense and KRIVAJA DOO employees. KRIVAJA DOO employees act complementary but also actively in the frame defined by BioSense Institute. Additionally a top-down approach is followed towards demo-participants.

Q: Why like this? Is the approach directed by research institute? R: Participant do not have experience in precision agriculture so just displaying is already enough. (Farmer)

12. Goals and objectives

Acquiring and sharing knowledge related to the use of technology in agriculture is the main driving force that guides researchers' engagement (Background info), while the goals of KRIVAJA DOO farm are to continue their good collaboration with BioSense Institute. An important goal is also to find partners that also apply precision agriculture in their practices, for knowledge sharing and evaluation of relevant practices etc. Notable effort is made in sharing experience and knowledge with local farmers, therefore joint demonstrations are organised together with researchers.

R: We are honoured to organise this kind of events. We want good and long term collaboration with BioSense Institute. And finally we hope to get known new partners interested in precision agriculture so we could together develop this topic (Farmer).

T2: Farm (event) level

KRIVAJA doo is a private medium sized commercial farm, focused on arable crop production (i.e. corn, wheat, soybean, and oilseed rape, and barley, sunflower) and livestock (i.e. pig husbandry). The farm owns 2325ha arable land (of which 540ha irrigated) and pig husbandry with more than 5000 pigs. KRIVAJA doo invested about 2.5Mil Euro in advanced farming technologies striving to adopt precision agriculture approach in its farming practices (Background info + Post host farmer interview).

KRIVAJA Doo organises several events per year in order to achieve an efficient knowledge transfer, to as many as possible farmers. Seven demonstration events in total have been organised as open farm visit on last Friday of the month (April-October 2018) this year and the virtual part following on Saturday. Additionally farmers can visit the farm upon request. Finally, farmer visitors can have an idea of the major agrotechnical operations of the farm, through the Digital farm.

The idea with Digital Farm here at KRIVAJA farm is that anyone interested could come at any time and see what does it mean and learn something of interest. But we were aware that it is not feasible to have someone from the institute available every day so we think this is good alternative to cover major agro technical operations. (Farmer)

Multiple events seem to facilitate farmers' uptake of new technology.

"..One participant from the first demonstration approached to us recently asking for meeting to discuss on what he was able to see during demonstration. (Farmer)

Two events took place on the farm, one on 27th of April 2018 and a second on 25th of May 2018.

Event of 27th of April 2018

The demonstration event took place on 27th of April 2018. The basic idea behind the event was to introduce local farming community to new technologies in agriculture, both from the machine and IT/data points of view (Observation tool 27-04).

1. Practice/technology demonstrated

Topics: Precision Agriculture

- 1) AgroSense, digital platform / application of IT in agriculture.
- 2) Sensory technologies and their integration into AgroSense web platform through modern LORA systems. (LoRa system for communication with sensors and meteorological stations – continuous monitoring of the field conditions)
- 3) Demonstration of new machinery used in farms' daily activities: tractors, combine harvesters and other equipment based on variable-rate technologies (Observation tool).

2. Organisation, actors and roles (event-level)

The event has been organised with joint efforts from farmers and researchers. There were 3 stalls in total. A farmer employee of KRIVAJA doo or a researcher from BioSense hosted participants in each stand and facilitated knowledge exchange and interaction. The researchers from BioSense guided questions and discussion both as demonstrators and as assistants to farmer in his presentation. The participants gathered around the station that displays technology or machinery of their interest, where demonstrators presented what was displayed (technology and benefits) and encouraged participants to ask questions and discuss options for using given technology (Observation tool).

The host farmers displayed the on farm use of presented technology. Finally, posters and leaflets introducing digital farm concept and AgroSense web based platform were distributed by advisers (Observation tool).

On the first stall, AgroSense, researchers from BioSense institute, presented a digital platform for farmers, which is focused on the application of IT in agriculture. The platform is a highly practical tool for monitoring the production and gathering all the necessary information in one place. (Observation tool).

The second stall, also organised by BioSense focused on sensor technologies and their integration into AgroSense web platform through modern LoRa systems. There, BioSense experts shared their experiences about using these technologies and along with Krivaja agronomists presented the benefits these systems offer. (Observation tool).

On the third stall, Krivaja agronomists and farm workers presented new machinery they are using in their daily activities, such as tractors, combine harvesters and other equipment based on variable-rate technologies, which allows them to apply precision-agriculture principles. Agricultural machinery displayed in field by the host farmer (Observation tool).

3. Event Farm location and layout (size and design of test area)

The demonstration event took place in Krivaja village, where Krivaja doo farm is located.

According to the farm level interviewee, demonstrations on Krivaja doo are exemplary, although he thinks that, a mixture of exemplary and experimental approaches is more preferable. Additionally the demonstrations provided by the farm are mainly single focus (Farmer).

There is no consensus between demonstrators if the demonstrations follow a whole farm approach or rather a single focus approach.

The event of April 27 was exemplary according to 2 out of 4 demonstrators (more specifically the two researchers), while the two demonstrators from the farm, classified the demonstration as mixture of exemplary and experimental approach (Post survey demonstrator 27/04). No comparative layouts (strips or plots) were showcased in the farm. The performance of the sensors and their wireless connection were displayed in the test plot sized 30mx30m. (Observation tool 27-04).

4. Timing

The demonstration event took place on 27th of April 2018.

Participants communicated the need for a better timing in order to be free from their occupations (Pre participants survey 27-04). In the same vein, according to the observation tool, another time should be chosen for the next demonstrations (perhaps on weekends) to facilitate farmers' attendance.

5. Frequency

The demonstration organises a series of demonstrations events (as the two events at 27-04 and 25-05) in order to better cover a range of topics of precision making. (Observation tool 25-5 and 27-04).

Both post host farmers interviewees did not answer how often they organise demonstration events during a year period.

6. Farm infrastructures and/or arrangements

KRIVAJA Doo, offers some arrangements when holding an event, like tents for shading and drinking water. In order to be more efficient in demo delivery, the farm is planning some improvements in the near future, by offering for instance food and transportation for potentially interested farmers. (Observation tools 27-04 and 25-05).

Both post host farmers interviewees did not answer if they made any arrangements to host the event at 27-04 (accommodation, catering, etc.)

7. Farms accessibility

Travel time of farmers to reach the demo farm, ranged from 10 to 220 minutes. Except for two participants whose trip lasted 120 and 220 minutes, the rest of participants travelled an average time of 35 minutes. Four out of 11 participants interviewed have rated their travel effort to participate as rather easy, 3 out of 11 as of medium effort and 4 out of 11 as difficult or rather difficult. Participant comments concerning the travel effort referred either to the long travel or problems with the timing of the event (which coincided to a busy periods in their farms). (Pre participants survey 27-04).

8. Fees for participation

There are no fees for participation at this demonstration event. Moreover the participants were not financially compensated somehow to attend the demo (Post participant's survey 27-04).

Event of 25th of May 2018

1. Practice/technology demonstrated

Topic: Precision Agriculture

- i) Variable fertilisation- saving fertiliser and increasing yield) (Observation tool)

- ii) Overview of AgroSense application (creating account, field annotation, entering data related to all aspects of crop production, available data on weather forecasts, satellite images and indices, as well as advanced concepts of rich spatial information in the form of soil conductivity maps, elevation maps and yield maps were explained) (Background info + Observation tool)

2. Organisation, actors and roles (event-level)

The demonstration has been organised jointly by Krivaja DOO experts and BioSense researchers. The variable rate fertilisation was described by a BioSense researcher and machinery was presented by the host farmer of Krivaja DOO. Two stations were organised displaying agricultural machinery of variable ratio fertiliser machine that can be used for precision agriculture. Real demonstration of the machinery, on pilot site was provided to demo attendees from host farmer (machinery user. (Observation tool + background info).

Moreover, BioSense researchers were responsible for the demonstration of AgroSense applications. AgroSense application was showed to the attendees of digital farm event. (Observation tool + background info).

The participants gathered around the stand/station that displayed the technology or machinery of their interest. Employees of KRIVAJA doo and researchers from BioSense hosted participants in each stand and facilitated knowledge exchange and interaction. BioSense researchers guided questions and discussion both as demonstrators and as assistants to the farmer's presentation. The demonstrator presented what was displayed (technology and benefits) and encouraged participants to ask questions and discuss options for using given technology (Observation tool + background info).

3. Event Farm location and layout (size and design of test area)

The demonstration event took place in Krivaja village, where agricultural company Krivaja DOO has its farm and activities.

According to the farm level interviewee, demonstrations held in Krivaja doo, are exemplary. Nevertheless, he has pointed out that, a mixture of exemplary and experimental approaches would be more preferable. Finally, the demonstrations provided by the farm are mainly single focused (Farmer).

“This is my opinion but it is based on my experience from attending field days where I have noticed that farmers are interested to see experiments and to compare the results.” (Farmer).

The event occurred in 25/5/2018 was also exemplary. The performance of variable ratio fertiliser machine was displayed in the field, with a possibility to run the machine on a test plot sized 100m x100m. No comparative layouts (strips or plots) are used in the farm (Observation too + Post survey demonstrator1).

The demonstrator of the 25-05 event stated that he aimed to apply a 'whole farm approach' during the demonstration, rather than showing an isolated topic/technique (Post demonstrator1). Thus, in cases, even if at the farm level a single focus is indicated, individual events may also share notions of a whole farm approach.

4. Timing

The demonstration event took place on 25th of May 2018. The timing of a demonstration event is an issue of great importance for Krivaja doo, as non-appropriate timing is a major obstacle for attending. The appropriate timing is pointed out, as the most effective way of attracting participants.

The first event in this season was during sowing campaign so this was major obstacle. Seasonal tasks on own farm are priority... after these events we discussed how to approach and we think of scheduling event in less busy period. (Farmer)

5. Frequency

The demonstration organises a series of demonstrations events, in order to better cover the field of precision agriculture. The 25-05 demonstration is one of a series of events covering a range of topics (Observation tool 25-05).

Q: it is obvious that there are series events for different topics which should cover overall field of precision agriculture at KRIVAJA. (Farmer)

R: Would not be easier to have it once a year instead seven times in a year?

R: It would be easier but would not be efficient for knowledge transfer and to enable more farmers attend. (Farmer)

6. Farm infrastructures and/or arrangements

KRIVAJA Doo, offers some arrangements when holding an event, like tents for shading and drinking water. In order to be more efficient, the farm is planning for some improvements in the near future, i.e. to offer food/catering and to organise transportation to the farm.

R: The expenses are minor, we bought some tents and we provide drinking water. (Farmer)

R: "...what is the most effective way of attracting participants and advertising events? R: we discussed how to approach and we think that besides scheduling event in less busy period we should provide some food during event and maybe organise transport. (Farmer)

7. Farm's accessibility

Travel time of farmers to reach the demo farm, ranged from 30 to 45 minutes, with an average time close to 36 minutes. All participants interviewed (n=4) have rated their travel effort to participate as rather easy (Pre participants survey 25-05).

8. Fees for participating

There are no fees for participation at this demonstration event. Moreover, the participants were not financially compensated somehow to attend the demo (Post participant's survey 25-05).

4. Functional characteristics

T1: Coordinating effective recruitment of host farmers and participants

1. Incentives

The farmer did not mention any particular incentives associated with hosting demonstrations.

2. Motivations for host farmers

According to the Farmer, the key motivation for running demonstrations was to develop links and a working relationship with the BioSense Institute. In addition, they wanted to use the demonstration as a platform to find partners also interested in precision agriculture.

We hope to be able to draw conclusions on what we do well and what not (Farmer)

The Farmer felt 'honoured' to be involved in offering these kinds of demonstrations events; this reflects how running demonstrations is a prestigious activity to be involved in.

We are honoured to organise this kind of events. We want good and long term collaboration with BioSense Institute (Farmer)

3. Motivations for participants

The Farmer claimed to be motivated by a desire to demonstrate innovations in farming – particularly in relation to precision farming. He also valued the opportunity to share his story to help other farmers overcome problems he had experienced.

This what we show is new farming approach. Most farmers heard about precision agriculture and only some had attempts into. Nowadays almost all new tractors have GPS so when colleagues buy it they want to know what can be done with it and how. Also there was an example of colleague that asked how to overcome some problems that he faced. And I noticed that the problems are similar to those that we had when started.

Participants attending the first event stated that their main reasons to attend were: Improvement in agriculture production; Self-improvement; Improvement of knowledge; Introduction to new technologies.

Participants attending the second event stated that their main reasons to attend were: To learn something new and to improve business of my farm; education; to hear more about variable fertilising; I am interested in digital technologies in agriculture; New knowledge Improvement of knowledge and practice.

4. Advertising and recruitment

The demonstrations are advertised in a conventional way, via BioSense and through a database of contacts.

BioSense Institute advertised events and we were in contact with local input provider who shared his database of contacts.

T2: Appropriate demonstration and interaction approaches

1. The nature of interaction

The Farmer described the events as 'Entirely top down'; he suggested that this was because the demonstrated activity was basic and largely entry level, so there was little to diversify away from topic-wise.

2. Involving farmers in the learning process and the demonstration programme

The Farmer claimed the farm demonstration is designed by BioSense researches in conjunction with themselves at the farm. The design of demonstrations did not extend to participants.

3. Focus and Design

The Farmer described the demonstrations he provides as 'Single focus', and 'Experimental' in nature. He expressed a preference for an approach that would fall between 'Exemplary' and 'Experimental'. He claimed this stance was from his own experience of attending more experiment-oriented approaches – which allowed him 'to see experiments and to compare the results'.

4. Group size

According to the Farmer, approximately 100 people was desirable for demonstrations on precision farming techniques. This number, he felt, it struck a good balance between allowing maximum people to attend, and also engage with questions and answers.

About 100 people for this kind of demonstration. This would allow more people participate while we will still have possibility to answer all questions.

T3: Enabling learning appropriate to purpose, audience, context

1. Facilitating interaction and learning: structure, content and techniques

The farmer emphasised the importance of being outside and in the fields for the discussions/presentations. He added that there was some benefit in allowing participants to visit 'stands' or 'stations' in their own time.

Presentation directly in crop fields would be good but stands were are also effective as people can decide for which topic to spend the most time.

In terms of the content, the farmer recalled how the use of drone imagery in combination with machinery exhibitions are particularly effective. He also noted how discussion and interaction were intensified when participants were split into smaller groups.

Presentation of drone imagery and display of machines were the most attractive and raised the most intensive discussion.

Also it was obvious that there was more discussion and more interaction with farmers when they split into groups.

Interestingly, the Farmer claimed the demonstrations did not aim to make recommendations to participants on how to do things – out of fear of being ‘pushy’ – but instead showed participants, impartially, how to do things. There are important implications here for participant learning; by leaving it up to participants to decide what might work for them and how they might apply techniques or approaches, it is allowing them to take ownership of their learning.

Interviewee: Do you give recommendations?

Farmer: We have discussed this earlier and there is agreement that we do not want to be pushy so we show what we do and if someone thinks it is OK, they can implement.

In addition to the use of drone imagery, the Farmer noted how they prepared take-home leaflets for participants. This is quite a traditional and standard approach to the use of materials.

We prepared and disseminated two types of leaflets, one for AgroSense app and one that describes digital farm and what it means.

The Farmer ranked the ability for ‘Participants to ask questions and talk openly’ as the most important characteristic of a demonstration event. Rather than justifying this as an opportunity for learning or knowledge exchange, he cited that time built in for questions and discussions meant it prevented participants interrupting the proceedings.

We noticed that it is not interesting enough when demonstrator just gives presentation. Participant always tend to interrupt and ask questions.

2. Taking into account variation in learning

The Farmer claimed he did not take into account variation in learning types, attributing this to not knowing participants until they arrive on the day.

We did not prepare to variation in learning capacities as we did not know until the last moment who will attend.

T4: Effective follow-up activities

1. Follow-up activities and materials

The Farmer claimed that he did continue to engage with participants after the event. However, this seemed to be on an ad hoc informal basis, as opposed to anything more structured.

One participant from the first demonstration approached us recently asking for a meeting to discuss what he was able to see during demonstration

He noted that all materials used during the demonstration continued to be available for participants, after the demonstration.

2. Assessing impact

The Farmer did not attempt to assess the impact of his demonstration events amongst participants, nor in the wider farming community.

5. Event analysis: effective peer learning characteristics - Event of April 27th, 2018

Event details

The group consisted of 50 participants. 11 filled in the pre and post surveys. 4 pre and post surveys were filled in by demonstrators.

	n° surveys	Agricultural technician	farmer	Engineer	MSc economy	unknown
<i>occupations</i>	11	4	2	2	1	2
<i>working area</i>	10					
local area	2			2		
not local area	8	4	2		1	1
<i>gender</i>	10					
male	8	2	2	1	1	2
female	2	2				
<i>age</i>	5					
18-30	3	2	1			
31-40	1			1		
41-50						
51-60	1		1			

T1: Learning processes

1. Communication initiation by participants

When in the whole group between 10% and 50% of the participants (10 people) had no problem sharing their knowledge and/or experiences related to the topic. The group consisted of both experienced and novice farmers. Mainly those experienced were willing to share their ideas. The size of the groups did not change notably as participants gathered around stands in smaller groups. There was a lot of time for questions, about 30% of the total time. A lot of questions were asked, but there were people that asked more than 10 questions while some did not ask a single. There were a few participants trying to formulate their own points of view regarding the topic.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I had the feeling that I could share my own knowledge as relevant information.	0	0	7/11	4/11	0
I asked at least one question during the demonstration .	9/11 yes				
I shared my own point of view at least once during the demonstration.	9/11 yes				
I felt encouraged to ask questions during the demonstration.	0	1/11	6/11	4/11	0
When there were any discussions, I felt comfortable sharing my opinion.	1/11	0	4/11	6/11	0

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I asked participants to share some of their own background knowledge during the demo.	0	0	2/4	2/4	0
I encouraged the participants to formulate their own point of view during the demonstration.	0	0	2/4	2/4	0
I encouraged the participants to formulate questions during the demonstration.	0	0	1/4	3/4	0

2. Interactive knowledge creation

Hands-on opportunities and other multi-sensorial experiences

A hands-on activity was demonstrated taking enough time, so it was clear to every participant. The demonstrator showed how measurements of the NDVI could be performed with hand health spectrometer and how the data stored into mobile device can be stored and retrieved for later analysis. Participants could take part in a hands-on activity, and got some sort of feedback on their doing. Participants could engage with different sensors and see exactly how they work. For example the soil moisture sensors were installed and participants were asked to water the soil and observe change in the measurement values.

Participants were able to hold components of LoRa system in their hands and see how attaching sensors to plants work. Also they were able to sit in machinery.

Discussion opportunities and negotiating conflicting points of view

The researchers from BioSense guided questions and discussion both as demonstrators and as assistants to the farmer in his presentation.

Open discussions between a few participants were stimulated and took up about 20% of the time. There were for example discussions about replacing old wireless technology with LoRa. Shared critical points of view were clarified/rephrased so more people could understand. Pros and cons of various technologies were shared. Users' perspectives on this were shared.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	2/11	4/11	5/11	0
If participants didn't agree with each other during discussions, somebody (demonstrator/other participant) tried to reach a consensus between them.	1/11	4/11	6/11	0	0

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	0	1/4	3/4	0
If participants didn't agree with each other during discussions , somebody (me or somebody else) tried to reach consensus between them.	0	0	2/4	1/4	1/4

3. Engagement during the event

Participants all seem to know each other well, but are not close friends. The participants showed interest in problems and motivation of others to attend this demonstration. All were opened to share their experience linked to topics presented during the demonstration.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I felt actively involved during the whole demonstration process.	0	1/11	6/11	4/11	0
I felt like the demonstration increased my ability to rely on myself as a farmer.	0	1/11	8/11	2/11	0
I could relate well to other participants (because they have an agricultural background similar to mine).	0	3/11	4/11	4/11	0
A lot of the other participants are part of the same farmer network as me.	1/11	1/11	5/11	4/11	0
I felt like I could trust the knowledge of (most of) the other participants .	1/11	1/11	4/11	5/11	0
The demonstration felt like an informal activity to me.	1/11	2/11	7/11	1/11	0
I thought the host farm was comparable enough to my own farm .	0	4/11	5/11	2/11	0
I had the feeling the demonstrator was like one of us .	1/11	3/11	3/11	4/11	0
I had the feeling I could trust the demonstrators knowledge .	0	2/11	7/11	2/11	0
I got along very well with the demonstrator .	0	3/11	4/11	4/11	0

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
Were participants (farmers, advisers, researchers etc.) involved in the overall development of this demonstration?	2/4 yes, 2/4 no				
Most of the participants were well known to me .	1/4	1/4	2/4	0	0
A lot of the participants are part of the same network as me .	0	2/4	2/4	0	0
The demonstration felt like an informal activity to me.	0	0	3/4	1/4	0
I think the host farm was well suited for this demo.	0	0	1/4	3/4	0
I got along well with the participants.	0	0	1/4	3/4	0

T2: Learning outcomes

Explained knowledge was sufficiently understandable. Sensor networks were explained by referring to all components but also by referring to farmer, market and environment perspective. Practical skills were not sufficiently addressed to foster maximum uptake by participants. Presented technology was not intended for active use but rather for monitoring purposes. The host was not willing to allow test drive of machinery but displayed under supervision most of the options the systems provide. Common methods or ways of thinking on farming were questioned and alternatives were shortly elaborated on in group. The observation versus sensor based measurements were questioned, the importance of data evaluation was questioned and using math rather than common sense. Common methods or ways of thinking on learning were not questioned.

What would you ideally like to learn today?	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
How to be able to get farmland besides big farming companies; GPS systems; New technologies; To drive a tractor and new mechanization.					
The demonstration met my expectations regarding what I wanted to learn.	0	3/11	5/11	3/11	0
The demonstration exceeded my expectations.	2/11	3/11	4/11	2/11	0
I felt surprised at some point(s) during the demonstration.	1/11	2/11	5/11	3/11	0
I obtained a clearer understanding of the topic(s) demonstrated.	0	1/11	6/11	4/11	0
I have the feeling I learned something new (knowledge, skill, practice, etc.).	0	0	6/11	5/11	0
I thought about how I could implement some of the ideas and practices on my own farm.	2/11	2/11	4/11	3/11	0
I reflected on my own point of view at some point during the demonstration.	0	4/11	5/11	2/11	0
I learnt about the principles underlying a practice.	1/11	2/11	8/11	0	0
I thought about how we learn something new on demonstrations (e.g.: teaching methods).	1/11	2/11	5/11	3/11	0
I thought about why I want to learn about the topic(s) of this demonstration.	0	1/11	7/11	3/11	0

what do you intend for the participants to learn today?	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
To use the AgroSense platform and understand available satellite images; What benefits could be expected from the introduction ITC I am experienced with into agricultural practice.					
I think participants have learnt what I intended them to learn.	0	0	2/4	2/4	0
I tried to surprise participants with uncommon/new knowledge/new skill.	0	0	2/4	2/4	0
I felt surprised at some point(s) myself during the demonstration (e.g. by a question or discussion).	0	0	2/4	2/4	0
I obtained a clearer understanding of the topic(s) myself.	0	0	2/4	2/4	1
I have the feeling I learned something new during this demo (from participants, discussion...).	0	0	3/4	1/4	0
I reflected on my own point of view myself at some point during the demo.	0	0	1/4	3/4	0
I encouraged participants to reflect on their own point of view during this demo.	0	0	2/4	2/4	0
I encouraged participants to reflect on their own situation sometime during this demo.	0	0	0	4/4	0
I encouraged participants to reflect on how we learn something new on demonstrations.	0	1/4	2/4	1/4	0
I encouraged participants to reflect on why we are trying to learn about the topic of this demonstration	0	0	2/4	2/4	0

T3: Overall comments on the effectiveness of the event

Participants:

With an average of 3,9 on 5, participants rated the event overall as effective. Everyone would recommend the demonstration. They stated as most effective characteristics of the event: Introduction of something new; the demonstrators and their willingness to respond to questions; it widened my knowledge.

Suggestions for improvement included: Help young farmers which are eager to work; invite more researchers to give presentation; more focus on practical skills; more modern mechanisation should be available.

Demonstrators:

The demonstrator reported 'direct interaction with equipment' and 'contact between experienced farmers and engineers that all look into the common problems from different angles' as the most effective characteristics of the demonstration. They also added that 'participant had direct insight into how proposed solutions can be applied in common practice.'

As points of improvement, they reported: testing the equipment in the field; define step-by-step guideline that farmer should follow in order to implement new technologies into common practice and the outcome of ICT implementation should be clearly emphasised.

Observed main strong points of the event:

The main strong-point of the demonstration event was that the participants could receive limited hands-on experience about new technologies and discuss various issues with experts. The discussion was very productive. The way that it was organised allowed participants to ask as many questions as they needed and get in-depth knowledge about the themes covered by the event. Also, the event was organised with joint efforts from farmers and researchers. As a result, the topic was presented both from the researchers' side (optimistic) and from end users side (realistic).

Some participants travelled as much as 4 hours to reach the demonstration farm and they found that the visit was definitely worth it.

In my view, the demonstration activity was very successful. It enabled introduction to novel and cost saving technology. Also the demonstration event enabled discussion between farmers and researchers and between farmers.

Observed main improvements:

Perhaps some form of transport should be organised for potentially interested farmers, or another time should be chosen for the next demonstration (weekend perhaps). Also, more practical work where participant can have direct experience on using presented technology in their production could have been made part of the demonstration.

6. Event analysis: effective peer learning characteristics - Event of May 25th, 2018

Event details

The group consisted of 30 participants. 8 filled in the pre and post surveys. 1 pre and post survey was filled in by the demonstrator.

	n° survey participants	Agronomist	farmer	social sciences	student
<i>occupations</i>	8	1	4	1	2
<i>working area</i>	7				
local area	5		3		2
not local area	2	1		1	
<i>gender</i>	8				
male	7	1	4	1	1
female	1				1
<i>age</i>	7				
18-30	6		3	1	2
31-40					
41-50	1		1		

T1: Learning processes

1. Communication initiation by participants

When in the whole group between 10% and 50% of the participants (3 people) had no problem sharing their knowledge and/or experiences related to the topic. The demonstrator created a friendly and supportive atmosphere but kept authority to lead discussion with participants. The size of the groups did not change notably as participants gathered around stands in smaller groups. Nevertheless, more than 50% of the participants had no problem sharing their knowledge and/or experiences related to the topic when in smaller groups. There was a lot of time for questions, about 30% of the total time. A lot of questions were asked. Participants that took part in the demonstration on working with variable ratio fertiliser machine asked numerous questions related to the preparation and operation of such technology on their fields. Regarding the AgroSense application, participants were highly interested in the new services that will be developed for AgroSense. There were a few participants trying to formulate their own points of view regarding the topic. Only those experienced in variable ratio fertilisation were able to formulate their opinion on the applicability of presented technology.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I had the feeling that I could share my own knowledge as relevant information.	0	1/8	5/8	1/8	1/8
I asked at least one question during the demonstration .	5/8 yes				
I shared my own point of view at least once during the demonstration.	5/8 yes				
I felt encouraged to ask questions during the demonstration.	1/8	1/8	4/8	1/8	1/8
When there were any discussions, I felt comfortable sharing my opinion.	0	0	4/8	2/8	2/8

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I asked participants to share some of their own background knowledge during the demo.	0	0	0	1	0
I encouraged the participants to formulate their own point of view during the demonstration.	0	0	0	1	0
I encouraged the participants to formulate questions during the demonstration.	0	0	1	0	0

2. Interactive knowledge creation

Hands-on opportunities and other multi-sensorial experiences

More than one hands-on activity was demonstrated very clearly/ instructively. The demonstrator showed how to use variable ratio fertiliser machine. The demonstrator of the Agrosens application showed how to find and create a field in the Agrosense application based on the cadastral number. Participants could take part in a hands-on activity, and got some sort of feedback on their doing. Participants could engage with variable ratio fertiliser machine on a test plot to see how to prepare and run the machine. There were no other multi-sensorial experiences.

Discussion opportunities and negotiating conflicting points of view

Open discussions between a few participants were stimulated and took up about 20% of the time. This were discussions on usage and experiences with AgroSense application between users that already created users' accounts and entered data. Particularly interesting discussion was on the interpretation of satellite indexes – NDVI, EVI.... Critical points of view were further clarified.

The researchers from BioSense guided questions and discussion both as demonstrators and as assistants to the farmer in his presentation.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	0	4/8	2/8	2/8
If participants didn't agree with each other during discussions, somebody (demonstrator/other participant) tried to reach a consensus between them.	2/7	0	4/7	0	1/7

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	0	1	0	0
If participants didn't agree with each other during discussions , somebody (me or somebody else) tried to reach consensus between them.	0	0	0	0	1

3. Engagement during the event

Participants all seem to know each other well, but are not close friends. The participants showed interest in problems of others and their motivation to attend this demonstration. Participants that already created AgroSense accounts and had just started to use the application were open to share their experience linked to topics presented during the demonstration. All were opened to share their experience linked to topics presented during the demonstration.

The demonstrator acts open and friendly, but not as close friends with the participants. He created a friendly and supportive atmosphere but kept authority to lead discussion with participants.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I felt actively involved during the whole demonstration process.	0	1/8	4/8	2/8	1/8
I felt like the demonstration increased my ability to rely on myself as a farmer.	1/8	0	4/8	2/8	1/8
I could relate well to other participants (because they have an agricultural background similar to mine).	0	1/8	4/8	3/8	0
A lot of the other participants are part of the same farmer network as me.	2/6	1/6	0	3/6	0
I felt like I could trust the knowledge of (most of) the other participants .	0	0	5/8	3/8	0
The demonstration felt like an informal activity to me.	1/6	0	3/6	1/6	1/6
I thought the host farm was comparable enough to my own farm .	1/7	2/7	2/7	2/7	0
I had the feeling the demonstrator was like one of us .	0	2/8	4/8	1/8	1/8
I had the feeling I could trust the demonstrators knowledge .	0	0	6/8	1/8	1/8
I got along very well with the demonstrator .	0	0	4/8	3/8	1/8

	demonstrator answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
Were participants (farmers, advisers, researchers etc.) involved in the overall development of this demonstration?	no				
Most of the participants were well known to me .	0	1	0	0	0
A lot of the participants are part of the same network as me .	0	0	1	0	0
The demonstration felt like an informal activity to me.	0	0	1	0	0
I think the host farm was well suited for this demo.	0	0	1	0	0
I got along well with the participants.	0	0	0	1	0

T2: Learning outcomes

Explained knowledge was sufficiently understandable. Possibilities of AgroSense were explained by referring to all components but also by referring to farmers, market and environment perspectives. Practical skills were not sufficiently addressed to foster maximum uptake by participants. The host was willing to allow test drives of the variable ratio fertiliser machine but displayed under supervision most of the options the systems provide. . Common methods or ways of thinking on farming were questioned and alternatives were shortly elaborated on in group. Variable ratios of the fertiliser machine were questioned from the investment procedure and required inputs. Employees of agricultural producer KRIVAJA elaborated on their use. Common methods or ways of thinking on learning were not questioned.

	participant answers				
What would you ideally like to learn today?	How to get the most from modern mechanization for optimization of fertilizer use; More about organic production and new technologies Application of maps in variable fertilizing; How to monitor status of crops in the field How to apply technology on already existing mechanization or with minimal adaptations.				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
The demonstration met my expectations regarding what I wanted to learn.	0	0	4/8	3/8	1/8
The demonstration exceeded my expectations.	0	2/7	2/7	2/7	1/7
I felt surprised at some point(s) during the demonstration.	1/7	1/7	3/7	1/7	1/7
I obtained a clearer understanding of the topic(s) demonstrated.	0	1/8	3/8	3/8	1/8
I have the feeling I learned something new (knowledge, skill, practice, etc.).	0	0	4/8	3/8	1/8
I thought about how I could implement some of the ideas and practices on my own farm.	0	0	3/8	5/8	0
I reflected on my own point of view at some point during the demonstration.	0	1/6	3/6	1/6	1/6
I learnt about the principles underlying a practice.	0	0	4/7	2/7	1/7
I thought about how we learn something new on demonstrations (e.g.: teaching methods).	0	2/8	3/8	3/8	0
I thought about why I want to learn about the topic(s) of this demonstration.	0	0	5/8	3/8	0

	demonstrator answers				
what do you intend for the participants to learn today?	Basics for using AgroSense app				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I think participants have learnt what I intended them to learn.	0	0	1	0	0
I tried to surprise participants with uncommon/new knowledge/new skill.	0	0	1	0	0
I felt surprised at some point(s) myself during the demonstration (e.g. by a question or discussion).	0	0	1	0	0
I obtained a clearer understanding of the topic(s) myself.	0	0	1	0	1
I have the feeling I learned something new during this demo (from participants, discussion...).	0	0	1	0	0
I reflected on my own point of view myself at some point during the demo.	0	0	1	0	0
I encouraged participants to reflect on their own point of view during this demo.	0	0	1	0	0
I encouraged participants to reflect on their own situation sometime during this demo.	0	0	0	1	0
I encouraged participants to reflect on how we learn something new on demonstrations.	0	0	1	0	0
I encouraged participants to reflect on why we are trying to learn about the topic of this demonstration	0	0	0	1	0

T3: Overall comments on the effectiveness of the event

Participants:

With an average of 4,3 on 5, participants rated the event overall as very effective. Everyone would recommend the demonstration. They stated as most effective characteristics of the event: Practical possibilities; the effort of demonstrators to increase the quality of production to higher level and make it efficient; direct contact with demonstrators.

Suggestions for improvement included: Demonstrators should be more interesting and able to include better participants into discussion; technologies should be presented in small farms; organised in winter after production season; involve more young people and ensure they attend.

Demonstrators:

The demonstrator reported the targeted invitation for potential users and on-farm presentation of the app performance as the most effective characteristics of the demonstration.

As points of improvement, she reported: On site try out of all tools available in AgroSense.

Observed main strong points of the event:

The strongest aspect of the event were the practical demonstrations. Also, announcement of the event through diverse channels brought a mixture of attenders encompassing farmers and students, and professors of agriculture. This created a good starting point for discussion among participants.

In my view, the demonstration activity was very well organised. It enabled introduction to variable rate fertilisation technologies and an IT platform that can assist farmers in planning crop production and decision-making. Several discussions during demonstrations enabled exchange of knowledge and opinions among participants.

Observed main improvements:

When demonstration events include high-valued machines in agriculture, additional consulting regarding investment models would be beneficial for farmers. The demonstration of the AgroSense application could benefit from the invitation of advanced end users of AgroSense application to share their experiences with those that are considering its usage.

7. Annex: Case study poster July 2018



FarmDemo

CASE STUDY Serbia: KRIVAJA doo

Branko Sikoparija, BioSense Institute

KRIVAJA doo is a private medium sized farm focused on arable crop production (i.e. corn, wheat, soybean, oilseed rape, barley, sunflower) and livestock (i.e. Pig husbandry). The farm owns 2325ha arable land (540ha irrigated) and big husbandry with more than 5000 pigs. KRIVAJA doo invested about 2.5Mil Eur in advanced farming technologies striving to adopt precision agriculture approach in it common practice. Notable effort is made in sharing experience and knowledge with local farmers.



Objectives

- Initial objective: collaboration with research institute
- Objective expanded over time: finding local partners.

Motivations

- Finding partners with an interest in Precision Agriculture – building local network
- Building relationships with researchers: continuous improvement of production system
- Stand out in the local farming community

Topic selection

- Selected to cover main aspect of arable production
- Determined by researchers and farmers together

Audience & participation

- Audience: effort is made to involve local farmers and students.
- No participation fee.

Demonstration set-up

- Initially top-down, but interest to have this more bottom-up (possible effect on audience)
- Farmers demonstrate side-by-side with researchers, and assist in preparation (selection of production segments, event schedule)
- Presented topics are separated: allows participants to group and focus on what is of their interest
- Evaluation: mainly on content, not on outcome or demonstrator performance

Evaluation peer-to-peer learning environment (event date + name?)

- 50 participant split up over smaller groups
- No multisensory activities, limited hands-on tools opportunities
- Prior knowledge = essential for discussion and in-depth exploration
- Further learning outcome: not clear at this point

- Host farmer: open to collaborate with research institute
- Nearly impossible to make demonstration possible alone
- Although many participants emphasized incompatibility of presented topics with their farms (e.g. due to difference in size) all find demonstration useful and would recommend it to others
- The variety of topics throughout season allows for continuous knowledge transfer and building stronger relationships between host farm and participants.
- Host farmer learning outcome, approach to transfer from top-down to bottom-up demonstration



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Serbia Case Study 2

1. Background

Programme

The Beekeepers Association “Jovan Zivanovic” was funded in mid-20th century. It gathers beekeepers from Novi Sad and its surrounding with goal to foster development and sustainability of beekeeping in the region. The Association is the holder of protected designation of origin for Fruska Gora Lime Honey and actively promotes beekeeping products through annual organisation of Honey Festival. The Association numbers more than 400 members with more than 10000 honeybee colonies. The overall objective is supporting improvement of beekeeping status in the region by simplifying access to most relevant knowledge needed for sustainability of beekeeping and fostering networking.

Funding and Governance

Like other associations funded under law of Republic Serbia there is a president, deputy and steering committee, all elected directly by members of the association. The members of association pay a membership fee which covers about 30% of the costs required for being an active association. Remaining money comes from public funds and from participation in various research or promotional projects. Although the availability of money has a major impact on activities, since the past 20 years, knowledge exchange through series of lectures/workshops that are organised every winter and school for novice beekeeper (held by experienced peers) were ensured.

Actors and networks

The association involves members, researchers and other experts in knowledge exchange. Apart from invited experts (researchers) from the fields of interest, members of the association that are achieving good results in some of the aspects of beekeeping are invited to share their experience. There are strong connections to similar associations in Serbia and neighbouring countries. Demonstrations are often exchanged for hot topics and visits of beekeepers coming from other regions organised by other association.

How it works

- A list of hot topics is selected by steering committee (following the requests from members) aiming for covering four aspects technology, forage, final products, diseases.
- Suitable demonstrators are chosen after the discussion with topic proposers
- Outside of production season (November-March) every week a lecture is organised and another day a round table is organised in the premises of association (this allows additional discussion on presented topics but also positioning of the association towards coming lectures)
- Occasionally the demonstrations of the technology can be organised in apiary for visiting participants following the explicit request
- The demonstrations are advertised to members using the website of the association and the social media
- There is no limit for the profile of participants and the number is limited only by the size of the lecture room. Demonstration is free of charge for members but very often there are participants from other associations.

Event Dates: No event took place in the research period

2. Method

In line with the Methodological Guidelines, three main data sources are used: a background document and interviews at Programme and Farm level to analyse structural and functional characteristics, and event tools and surveys to analyse event level participation and learning, as follows:

1. A background document for every case study was completed by the AgriDemo-F2F partner who carried out the case study.
2. Interviews with representatives of programme/networks (level 1) and farm level interviews with demonstrators/hosts (Level 1) to reveal how the functional and structural characteristics enable learning. Analysis of these interviews is reported in Sections 3 and 4. Data is sourced from 1 interview at the programme level. The analysis followed 4 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes, (4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.
3. No events were planned in the research period.

Finally, partners reviewed the case study reports to prepare their workshops with different stakeholders related to the case studies. These workshops aimed at validating the data presented in the case study reports and to discuss on key characteristics related to effectiveness of demonstrations. A workshop for the case studies of Serbia will be held around January 2019.

3. Structural Characteristics

T1: Programme/network level

1. The main organisations involved in the demonstration activities and their roles

The Beekeepers Association “Jovan Zivanovic” aims at knowledge and experience sharing between the members of the association, which are all active beekeepers. Initiatives undertaken from the association are from beekeeper to beekeeper, i.e. they are organised by the members of the association for the members of association. It is not easy in this case study to make a clear distinction between all actors because all association’s members could be demonstrators, audience, lecturers or hold elected roles in the association.

On top of educational initiatives and other **outward-looking activities** (lectures/presentations, round tables, Honey Festival, debates, lectures/workshops, school for novice beekeepers etc.) the association organises also demonstration activities in order to achieve its objectives (Programme interviewee). On-farm demonstrations are not common but are organised from time to time upon request from another organisation or individual farmers. Usually those involve a host beekeeper and one visiting beekeeper. (Programme interviewee + Background info).

2. Beekeepers Association and the different roles

The roles of the key actors in this type of association are defined by law. Members are those that are elected who then organise activities. E.g. president signs documents and steering committee decides on everyday activities. Vice president shares the effort from the president and replaces when needed. Also very often president and vice president split focus on different key goals (e.g. education, administrative tasks). Major decisions are made by votes from all members on the general assembly that is made from all members (usually once a year) while operational everyday decisions are made by steering committee elected by general assembly.

In this particular association the vice president (interviewed) was responsible for education activities. He initiates proposing and selection of topics. Invites members to propose a list of topics that are of their interest and then in direct communication with members or external experts makes a list of demonstrators. Also he is responsible for organising logistics for lectures.

Targeting host farmers for demonstrations

There are 4 topics concerning beekeeping that are covered in all seasons (technology, forage, final products, and diseases). Some beekeeper members are involved at demonstration activities. Host farmers and demo topics are selected by the members of the association according to the following criteria (Programme interviewee + Background info):

- 1) Those who achieves good/obvious results in some of the aspects of beekeeping
- 2) Those who are chosen as experts for given/specific topic
- 3) Those who are implementing something special , useful and interesting in their practice
- 4) Those who are doing something promising and/ or intriguing for implementation in common practice
- 5) Those who are doing something completely novel

R: Since we are focusing mainly on giving presentations beekeepers like to show off especially when they are chosen as experts for given topic (Programme interviewee).

R: We focus on experts in the topic that is presented. Those that do something special and useful in their practice especially if results are obvious or intriguing. (Programme interviewee).

The demonstrations which occur in the frame of the Beekeepers association, are exemplary according to the Programme interviewee. From his point of view, exemplary approaches are also more preferable, because of the need for working examples. Moreover, the demonstrations provided are mainly in-between single focus and whole farm approaches. (Farmer).

R: Very few beekeepers are ready to experiment and personally, I prefer to see examples on how some technologies work in another apiary and then consider how this is comparable to my apiary (rather than seeing predefined comparisons) (Programme interviewee).

Topic selection

Following the requests/propositions from members, a list of topics is selected by the association's steering committee. Generally, all members of the association are invited to propose topics, but usually the most active members (president, vice president and members of the steering committee) propose them, linked to availability of suitable demonstrators. Suitable demonstrators are chosen after discussion with topic proposers. During the no production season (November-March), every week, a round table is organised in the premises of the association allowing for additional discussion on the topics (Programme interviewee + Background info).

R: There are 4 topics that are covered in all seasons (technology, forage, final products, and diseases). The most interesting aspect from each or the most promising for implementation in common practice is presented. If there is something completely novel it is introduced. All members of the association are invited to suggest topics, but usually the most active members (president, vice president and members of the steering committee) propose topics, often linked to availability of suitable demonstrators. (Programme interviewee).

Development of demo activities (individual and/or program level)

The association sets the objectives of the knowledge transfer programme, and initiates the process with the selection of the most suitable host farmer. From this point forward, the host farmer is exclusively in charge of the development of the individual demonstration activities. Host farmers are always involved in the development of the overall demonstration programme. (Programme interviewee + Background info).

R: The host farmer is fully in charge. The association has an influence only in the beginning by suggesting the most suitable host farmer. (Programme interviewee).

Target Audience/type of participants

The intended audience of the association's initiatives, including demonstrations, are beekeepers from all experience degrees (from novice to experienced professional farmers). Participants are usually members of the association; however, demonstration participants are never targeted for the demonstration events, as the call for participation is always open. The association is planning to open its audience by designing events for people not involved in agriculture. Finally, the association has already organised apiary demonstration for students. (Programme interviewee).

R: The call for participation is opened and we let participants decide. From my experience, about 20% of members of our association regularly attend winter lectures. (Programme interviewee).

R: Once we have demonstration apiary we will aim to students but also it would be interesting to design demonstration to people not involved in agriculture. (Programme interviewee).

Q: Do you - at the programme level - continue to engage participants after the demonstrations?

R: Participants are members of association so they are engaged. (Programme interviewee).

Researchers, experts, companies, practitioners and teachers

The association involves members, researchers and other invited experts (both researchers and good practitioners) to facilitate knowledge exchange. The demonstration events are organised in order to ensure that end users get the best possible information from these experts. However, it has been commented that, generally, researchers are not skilled to transfer new findings and new knowledge into something appropriate for implementation in everyday practices (Programme interviewee).

3. Networks

The Beekeepers Association "Jovan Zivanovic" was funded in mid-20th century. It gathers beekeepers from Novi Sad and its surrounding. As other associations funded under law of Republic of Serbia, there is president, deputy and steering committee all elected directly by members of association. The Association numbers more than 400 members with more than 10000 honeybee colonies. (Programme interviewee + Background info).

The association is connected with other knowledge exchange organisations. There are strong connections and collaborations with other beekeeping associations in Serbia and neighbouring countries. Demonstrators are often invited among organisations to participate in emerging topics. The Beekeeper association occasionally hosts visits organised by other associations in which beekeepers are attending from other regions. Finally, the association works also with other associations, which helps for a better position of beekeepers in the market (Programme interviewee + Background info).

4. Resources, finances and incentives

The members of the association pay a membership fee, which covers about 30% of the costs of the association. Remaining costs are funded by public funds and/or from participation in various research or promotional projects. With such a mixed funding arrangement, the association managed in the last 20 years to ensure resources for knowledge exchange through series of lectures/workshops organised every winter and school for novice beekeeper, held by experienced peers. The association does not offer any incentives to farmers to host demonstration activities and only travel expenses for the demonstrator are covered (Programme interviewee).

Demonstrations are free of charges for the members for the association, if other people want to attend and there is more space on the location, others are welcome too. There is no limit for the profile of participants and the number is limited only by the size of lecture room, since most demonstration are lectures (Programme interviewee). On-farm demonstrations are rare.

5. Timing

It seems that most (or rather all) demo activities are planned during the inactive period of beekeepers. This seems to pose some challenges and limitations in organising demos.

What do you think is the most effective way to arrange/structure a demonstration activity?
R: A technical presentation followed by a farm walk would be perfect but it is not possible for beekeeping technology as demonstrations are organised in winter period. Technically in this period there are no operation activities in the apiary. Organising knowledge transfer during active season is difficult because it is almost impossible to have a number of visitors around hives during operations. This would stress bees and also when operating, (e.g. changing frames, searching for queen, extracting honey) the host beekeeper cannot provide hands-on experiences for more than one participant. Finally when it is extraction time or migration time, it is for beekeepers hardly possible to dedicate time to attending a demonstration (Programme interviewee).

6. Human Resources

The association promotes knowledge exchange through series of educational/training initiatives such as lectures/workshops and school for novice beekeeper held by experienced peers. (Programme interviewee). However, it is not further detailed if those training sessions focus on skills to improve demo delivery.

7. The decision-making process in organising demonstrations

The structure and the overall governance the association follows, are better described as bottom-up approaches. Member farmers are engaged in all association's initiatives and members' engagement (debates, round tables) seems to be pursued. Especially for demonstration events, the host farmers seem to have control of all the activities. However, in the question related to the general approach the association follows when providing demonstration activities, the answer was that a mostly top down approach is followed and more specifically at beekeeping schools.

For beekeeping schools top-down is the obvious approach, as participants are complete novices. However participants are always encouraged to explore the suitability of presented knowledge for their business and decide what road to take. On weekly basis during the winter period, we organise active debates where 10-20 members (mostly beekeepers) attend and during which concepts that were presented during lectures are challenged and discussed. (Programme interviewee)

8. Goals and objectives

The objective of the Beekeepers Association "Jovan Zivanovic" is to foster development/improvement and sustainability of beekeeping in the region and to actively promote beekeeping products. Education and knowledge exchange is one pillar of their activities, to support the economic sustainability of beekeeping. Its overall objective is to support and improve the beekeeping status in the region by fostering networking and simplifying access to the most relevant knowledge needed for sustainable beekeeping.

T2: Farm (event) level

No farm level/event level/observation tools were provided.

4. Functional characteristics

T1: Coordinating effective recruitment of host farmers and participants

1. Incentives

The Programme Interviewee described how money from membership allows their association to run, which in part, funded their knowledge exchange programme.

The members of association pay membership fee which covers about 30% of costs required for being active association. Remaining money comes from public funds and from participation in various research or promotional projects. The availability of money has major impact on lifespan but up since past 20 years we are able to ensure knowledge exchange through series of lectures/workshops that are organised every winter. (Programme interviewee)

Specifically, this allowed the network to cover the expenses of host farmers.

2. Motivations for host farmers

The Programme Interviewee noted how beekeepers chosen to be demonstrators were honoured; the opportunity to 'show off' amongst their peers, is a key motivation for them. The opportunity to learn new things and be challenged is also important.

Beekeepers like to show off especially when they when they are chosen as experts for given topic. Also some demonstrators like to be challenged as this brings them new ideas on how to improve. (Programme interviewee)

3. Motivations for participants

Like host farmers, participants were also keen to learn something new. The idea of 'problem solving' was evident here too. Interestingly, the Programme Interviewee noted how attending a demonstration activity provided the opportunity for participants to challenge the conventional thinking of the demonstrator or authority.

Learn something new to improve common practice or solve problem. But also to confront demonstrator and show he is wrong. (Programme interviewee)

4. Target audience

The target audience was exclusively beekeepers, but differed in terms of their levels of experience.

Beekeepers at all experience degrees. From novice to experienced professional farmers. (Programme interviewee)

Participants were not targeted and demonstrations were open to all.

5. Advertising and recruitment

The Programme Interviewee highlighted the increasing role of social media platforms, e.g. Viber, in advertising and recruiting participants, which has replaced more traditional methods e.g. postal letters.

Nowadays it is internet (especially Viber). In the past we used to send letters of invitation to all members with pre-defined program of all lectures and today program is alive and often can change during the cycles. (Programme interviewee)

T2: Appropriate demonstration and interaction approaches

1. The nature of interaction

The events were described as ‘Mostly top down’ in case of the beekeeping schools; the interviewee suggested that this was attributable to the nature of the topic. He explained that where beekeepers are novices, information can only be transmitted in a top down way. However, he did add that participants are encouraged to consider the messages of the demonstration in the context of their own business models, hence why it was not ‘Entirely top down’. Furthermore, association members – who were beekeepers themselves – had the opportunity to attend discussions, the content of which, shaped the demonstration programme.

For beekeeping schools it is obvious approach as participants are complete novices. However participants are always encouraged to explore suitability of presented for their business and decide what road to take. On weekly basis during winter period we organise active debates where 10-20 members (mostly beekeepers) attend and during which concepts that were presented during lectures are challenged and discussed. (Programme interviewee)

2. Involving farmers in the learning process and the demonstration programme

Although demonstrations were described as ‘Mostly top down’, according to the Programme Interviewee host farmers are ‘Always’ involved in the development of individual demonstration activities. He attributed this to the fact that professional advisers were seldom involved beekeeping knowledge-exchange (they had other focuses and ‘common practice’ content does not warrant ‘expert’ input), therefore, beekeepers were more likely to want to engage with other beekeepers/their peers and learn from each other.

Advisers are rarely focused on beekeeping practice in Serbia. Beekeepers tend to be more flexible in adapting to the knowledge and demands their colleagues have. Researchers are not skilled to transfer new findings and new knowledge into something appropriate for implementation in common practice. (Programme interviewee)

It was clear from the interview that the Association played a limited role in the content of the demonstrations, but assumed a role in the administration and organisation in the early stages.

Host farmer is fully in charge. Association has influence only at the beginning by suggesting the most suitable host farmer. (Programme interviewee)

The fact that the ‘the beekeeper association is formed by beekeepers and they set objectives of the *knowledge transfer programme*’, the association is always across ‘what is relevant for improvement of practice in the fields of diseases, end products, forage and technology’.

Elsewhere in the interview the Programme Interviewee talked about the role of ‘expertise’. Although he understand this as important, he also recognised that it can also detract from the demonstration experience if they are not open to discussion or change. This highlights some interesting issues with regards to the balance of ‘participant’ and ‘expert’ involvement.

Expertise is important but could be drawback as those beekeepers that are really experts often are too proud to accept suggestions. (Programme interviewee)

3. Focus and Design

The Farmer described the demonstrations he provides as 'In between' 'Single focus' and 'Whole farm, and 'Exemplary' in nature. He expressed a preference for an 'Exemplary' approach. He claimed that beekeepers were not interested in experimenting, but are simply interested in seeing how something works.

Very few beekeepers are ready to experiment and me personally prefer to see example on how some technology works in other apiary and the consider how this is comparable to my apiary (rather than seeing predefined comparison). (Programme interviewee)

The Programme Interviewee described a predefined topic-base – listing 4 topics – which is open to discussion and input from members of the association, but he noted how this tended to be dominated by the more active members.

There are 4 topics that are covered in all seasons (technology, forage, final products, diseases). The most interesting aspect from each or the most promising for implementation in common practice is presented. If there is something completely novel it is introduced. All members of the association are invited topics to be covered but usually the most active members (president, vice president and members of the steering committee) propose topics often linked to availability of suitable demonstrators. (Programme interviewee)

4. Group size

Whilst no upper limit was imposed, 30-40 people was the typical number of attendees. The Programme Interviewee suggested that a range of 30-40 meant that 10 people were involved in discussion. This suggests there is scope to run smaller events or divide into sub groups to allow participants to get the most from events.

For winter lectures there is no limitation but for debates 30-40, as usually 10 are involved in discussion while others are just listeners. (Programme interviewee)

T3: Enabling learning appropriate to purpose, audience, context

1. Facilitating interaction and learning: structure, content and techniques

The Programme Interviewee recommended a traditional format of a technical presentation, combined with a farm walk. Although he did recognise this can sometimes be limited by the weather.

A technical presentation followed by a farm walk would be perfect but it is not possible for beekeeping technology as demonstrations are organised in winter period. (Programme interviewee)

It emerged in the interview that facilitating 'Problem solving' was the most important characteristic of a demonstration activity.

There are a number of problems nowadays for beekeeping and to survive beekeepers require solutions for their problems. But in my experience when participants ask questions and talk openly it usually leads to problem solving. (Programme interviewee)

2. Taking into account variation in learning

The Programme Interviewee claimed to take into account variation in learning styles and types by starting demonstrations from the lowest possible base.

When I give presentations I tend to treat all participants as having lowest level of experience. (Programme interviewee)

T4: Effective follow-up activities

1. Follow-up activities and materials

While there was no specific programme in place to engage participants after events, by being members of the association, many participants were engaged with by default.

Participants are members of association so they are engaged. (Programme interviewee)

2. Assessing impact

The Programme Interviewee claimed there was no assessment of whether participants have acted on/changed their practice. Nor was there any attempt to assess the impact of such demonstrations on the wider farming/beekeeping community.

5. Event analysis: effective peer learning characteristics

No events were planned during the research period.

6. Annex: Case study poster July 2018



FarmDemo

CASE STUDY Serbia: BEEKEEPERS ASSOCIATION Jovan Zivanovic
Branko Sikoparija, BioSense Institute

The Beekeepers Association “Jovan Zivanovic” was funded in mid 20th century. It gathers beekeepers from Novi Sad and its surrounding with ultimate goal to foster development and sustainability of beekeeping in the region. The Association is the holder of protected designation of origin for Fruska Gora Lime Honey and actively promotes beekeeping products through annual organization of Honey Festival. The Association numbers more than 400 members with more than 10000 honeybee colonies.



<http://www.pcelarins.org.rs>

Objectives

- Fostering improvement of beekeeping.
- Simplify access to most relevant knowledge needed for sustainability of beekeeping.
- Networking

Motivations

- Provide access to expert knowledge required for solving problems in beekeeping.
- Showing –off achievements and solutions for improvement beekeeping practice.

Topic selection

- Relevant for improvement of practice in the fields of diseases, end products, forage and technology.
- Determined by most active members of association.

Audience & participation

- Audience: beekeepers.
- No participation fee for the events, only membership fee for the association.

Demonstration set-up

- Initially top-down, but interest to have more bottom-up.
- Both farmers and researchers demonstrate.
- Usually lectures but sometimes visits to representative apiaries.
- Topics cover: important aspects of beekeeping are presented in a number of lectures outside the main production season.
- Evaluation: no.

Evaluation peer-to-peer learning environment (out of season knowledge transfer)

- 100-200 participant attending winter lectures, 50-100 attending beekeeping school, about 20 attending debates.
- No multisensory activities, limited hands-on tools opportunities.

- The association is well organized to reach its objectives which are in line with the needs of members (mostly farmers).
- The long-term sustainability of knowledge transfer covering all important aspects of beekeeping and all levels of experience.
- The entire learning process (from topic selection to delivery) is mostly done by farmers. Clear preference to farmer-to-farmer demonstrations.
- Effects of top-down demonstrations outside the farm (apiary) compared to what would be expected from bottom-up and on the farm.



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The Associations' events in 2017/2018:

The screenshot shows a web browser window with the URL www.pcelarins.org.rs/ns/zimska-predavanja-201718-2/. The page header includes navigation links: FIRST, SOCIETY, ORGANIZATION, EVENTS, PROJECTS, ACTIVITIES, REGULATIONS, REFERENCES, CONTACT. The main content area features the title "BEEKEEPERS ASSOCIATION 'JOVAN ZIVANOVIC'" and a sub-header "WINTER LECTURE 2017/18". The article text states: "We notify all members of the Association 'Jovan Zivanovic' NOVI SAD THAT BEGINS WINTER LECTURE SERIES. The lecture will be held at Faculty of Agriculture in Novi Sad, lecture P-5 MONDAY FROM 18h according to the following schedule: 11.27.2017 ; 04.12.2017 ; 11.12.2017 ; 12.18.2017 ; 08.01.2018 ; 01.15.2018 ; 01.22.2018 ; 01.29.2018 ; 05.02.2018 ; 02.12.2018 ; 02.19.2018. 02.26.2018 ; 05.03.2018 ; 03.12.2018. The gathering will begin the Round Table 27.11.2017 god. We invite you to the roundtable to exchange opinions and suggestions to improve the quality of the Company." The right sidebar contains a search bar, a "VISIT" section showing 2 visitors online and a total of 6069 visitors, an "ARCHIVE NEWS" section with a month selector, and a "NEWS CATEGORIES" section.

The screenshot shows a web browser window with the URL www.pcelarins.org.rs/ns/otvorena-vrata-2/. The page header includes navigation links: FIRST, SOCIETY, ORGANIZATION, EVENTS, PROJECTS, ACTIVITIES, REGULATIONS, REFERENCES, CONTACT. The main content area features the title "BEEKEEPERS ASSOCIATION 'JOVAN ZIVANOVIC'" and a sub-header "OPEN DOOR". The article text states: "Beekeepers Association 'Jovan Zivanovic' from Novi Sad inform all members, as well as those who want to become, that the day of 'Open Door' will be on Thursdays from 18h in the premises of the Company (Gagarinova 6). Your host and so far, Petar Cover (18)". The right sidebar contains a search bar, a "VISIT" section showing 2 visitors online and a total of 6070 visitors, an "ARCHIVE NEWS" section with a month selector, and a "NEWS CATEGORIES" section. Social media icons for Facebook, Twitter, Tumblr, Pinterest, Email, and LinkedIn are visible at the bottom of the article content.