



## Case study reports: Poland CS<sub>1</sub>



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# 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 (AAC) in Brwinów (CDR).

The Institute of Soil Science and Plant Cultivation (IUNG) was founded in 1950. A tradition of agricultural research in Puławy, 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 (PIGW) that was seated in Puławy 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 experimental 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. 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 m<sup>2</sup>.  
**Butcher.** A small meat processing plant registered as small, local and limited production (MLO). The plant has an area of 173 m<sup>2</sup>.  
**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 m<sup>2</sup>.
- **The mill**, originally located in the Ecological Show Farm in Chwałowice currently located in Radom, is an object with an area of 62 m<sup>2</sup>.

#### 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 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.

Event Date: April 15<sup>th</sup> 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 (Zwolen) 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, local 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. Moreove, 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 by 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, scentists, 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 the 15th April at 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).

## 9. 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).

## 10. 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).

## 11. 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).

## 12. 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)

## 13. 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)

## 14. 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).

## 15. 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).

## 16. 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 field 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 chance 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 | unknown | 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 |           |        |                 |                |  | demonstrator answers |           |        |                 |                |
|---|---------------------|-----------|--------|-----------------|----------------|--|----------------------|-----------|--------|-----------------|----------------|
|   | strongly disagreed  | disagreed | agreed | strongly agreed | not applicable |  | strongly disagreed   | disagreed | agreed | strongly agreed | not applicable |
| In my opinion, <b>there were interesting discussions</b> during the demonstration.  | 0                   | 2/18      | 9/18   | 7/18            | 0              |  | 0                    | 0         | 0      | 1               | 0              |
| If participants <b>didn't agree</b> with each other during discussions, somebody (demonstrator/other participant) <b>tried to reach a consensus</b> between them. | 1/17                | 2/17      | 6/17   | 5/17            | 3/17           |  | 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 |           |        |                 |                |  | demonstrator answers |           |        |                 |                |
|--|---------------------|-----------|--------|-----------------|----------------|--|----------------------|-----------|--------|-----------------|----------------|
|  | strongly disagreed  | disagreed | agreed | strongly agreed | not applicable |  | strongly disagreed   | disagreed | agreed | strongly agreed | not applicable |
| I felt <b>actively involved</b> during the whole demonstration process.  | 0                   | 1/17      | 6/17   | 11/17           | 0              | Were <b>participants</b> (farmers, advisers, researchers etc.) <b>involved in the overall development of this demonstration?</b> | No                   |           |        |                 |                |
| I felt like <b>the demonstration increased my ability to rely on myself</b> as a farmer.                         | 1/18                | 1/18      | 10/18  | 4/18            | 2/18           |  |                      |           |        |                 |                |
| I could <b>relate well to other participants</b> (because they have an agricultural background similar to mine). | 0                   | 2/18      | 9/18   | 5/18            | 2/18           | Most of the <b>participants were well known to me.</b>   | 1                    | 0         | 0      | 0               | 0              |
| A lot of the <b>other participants</b> are <b>part of the same farmer network</b> as me.                         | 1/18                | 5/18      | 4/18   | 3/18            | 5/18           | A lot of the participants <b>are part of the same network</b> as me.   | 1                    | 0         | 0      | 0               | 0              |
| I felt like I could <b>trust the knowledge of (most of) the other participants.</b>                              | 0                   | 4/18      | 10/18  | 2/18            | 2/18           |  |                      |           |        |                 |                |
| The demonstration felt like an <b>informal activity</b> to me.   | 4/14                | 2/14      | 6/14   | 0               | 2/14           | The demonstration felt like an <b>informal activity</b> to me.   | 0                    | 0         | 0      | 1               | 0              |
| I thought <b>the host farm was comparable enough to my own farm.</b>   | 4/18                | 5/18      | 3/18   | 0               | 6/18           | I think the <b>host farm</b> was <b>well suited</b> for this demo.   | 0                    | 0         | 0      | 1               | 0              |
| I had the feeling the <b>demonstrator was like one of us.</b>  | 1/18                | 0         | 6/18   | 11/18           | 0              |  |                      |           |        |                 |                |
| I had the feeling I could <b>trust the demonstrators knowledge.</b>  | 0                   | 0         | 3/18   | 15/18           | 0              |  |                      |           |        |                 |                |
| I <b>got along very well with the demonstrator.</b>  | 0                   | 0         | 4/18   | 14/18           | 0              | I <b>got along well</b> 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 <b>ideally like to learn</b> 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 <b>demonstration met my expectations</b> regarding what I wanted to learn.                | 0  | 1/18      | 4/18   | 13/18           | 0              |
| The <b>demonstration exceeded my expectations.</b>  | 1/18   | 0         | 12/18  | 4/18            | 1/18           |
| I <b>felt surprised</b> at some point(s) during the demonstration.                            | 1/18   | 3/18      | 10/18  | 3/18            | 1/18           |
| I <b>obtained a clearer understanding</b> of the topic(s) demonstrated.                       | 0  | 1/17      | 7/17   | 9/17            | 0              |
| I have the feeling I <b>learned something new</b> (knowledge, skill, practice, etc.).         | 0  | 1/17      | 6/17   | 10/17           | 0              |
| I <b>thought about how I could implement</b> some of the ideas and practices on my own farm.  | 1/18   | 1/18      | 7/18   | 5/18            | 4/18           |
| I <b>reflected on my own point of view</b> at some point during the demonstration.            | 1/18   | 1/18      | 10/18  | 5/18            | 1/18           |
| I learnt about <b>the principles underlying a practice.</b>                                   | 0  | 1/18      | 7/18   | 9/18            | 1/18           |
| I thought about <b>how we learn something new</b> on demonstrations (e.g.: teaching methods). | 0  | 0         | 0      | 0               | 18/18          |
| I thought about <b>why</b> I want to learn about <b>the topic(s) of this demonstration.</b>   | 0  | 0         | 0      | 0               | 18/18          |

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