SOLID participatory research from Denmark: Farmer Field Schools for climate friendly farming

Authors: Mette Vaaarst

April 2016

Aarhus University

This work was undertaken as part of the SOLID Project (Agreement no. 266367 (http://www.solidairy.eu/), with financial support from the European Community under the 7th Framework Programme. The publication reflects the views of the author(s) and not those of the European Community, which is not to be held liable for any use that may be made of the information contained.

Summary

This participatory research project was not realised as originally intended, for a number of good reasons. These reasons can be summarised into learning points which hopefully can guide other initiatives with similar or likewise aims. The following points will be explained in more details below:

- It came up as a desired participatory project, because of current public debates and concerns. A number of Thise dairy producers found it quite urgent and important and consider their climate impact as part of collective action.

- Thise Dairy Company and Organic Denmark had engaged in a mutual project where all farmers over a two year period had 'climate action plans' drawn-up for each their farms. However, many wanted to have more detailed and clear ideas of what they potentially could do to improve the climate impact of their production system.

- Farmer Field Schools is potentially a powerful approach for mutual learning. This was the reason for identifying it as the method of implementing climate action – primarily mitigating action – in organic and low-input dairy farming. However, evaluating the possibilities more closely, several arguments came up for why this approach is not sufficient in the case of climate action, as further explained below.

- Climate friendly organic dairy production was seen as very well connected to low-input farming: e.g. less concentrate, especially concentrate which had been transported over distance (e.g. imported soya), and of using grasslands which had carbon sequestration potentials, using as little fossil fuels as possible, less plastic, more renewable energy, reuse of water etc. Therefore the idea fitted quite well into a project with focus on organic and low-input production.

Table of content

1 Aims and Research question

The main of this participatory project were

1. To take a broad perspective to make dairy farming more climate friendly
2. To bring recommendations and intentions into action regarding transforming organic dairy farming into more climate friendly production
3. To research how an approach to a social intervention can work as key to future developments in low-input dairy farming.

2 Background

2.1 Farm Background

All Thise dairy farmers had agreed to have a climate action plan made but many were uncertain of what they potentially could do reduce climate impact of their production system.

A limited number of them showed interest to participate in a stable school or farmer field school about it. This fitted well with the idea for the project, where we intended to start only with one or two farmer groups.

2.2 Research Background

The so-called Stable School method has been practiced to a wide extent in Denmark (where the initiative started in 2004; Vaarst 2007; Vaarst et al. 2007), as well as Norway, and it has been included in research and development projects in England, Switzerland, Austria and Germany (Ivemeyer et al., 2015). Evaluation and research in participating farms and with the farmers, showed that it was a powerful way of reaching goals – both the groups' common goals such as phasing out of antibiotics, and the individual farmers' own goals. The emphasis on farmers' ownership over the process and their way of taking responsibility for phasing out or at least significantly reducing antibiotics on their farms, was paramount. The method built on mutual trust and respectful dialogue where the farmers explored in-depth each other's' farms and daily routines.

Based on this and multiple other studies with farmer groups, we considered this to be a method and approach which could have a great potential to help farmers mitigate to climate change, because it has shown to be a powerful way to development. In this particular project, the focus was on low-input and organic management strategies, and we assumed that much knowledge on low-input strategies exist. The fact that a lot of 'traditionally educated' advisors often are not focusing much on low-input strategies, pushes this argument further. In cases where farmers need to develop novel strategies outside traditional agricultural practise, they can do so by getting together and actually develop and work on it, and relying less on 'traditional advice'. These were arguments for suggesting 'Stable Schools' as a Farmer Field Schools approach to develop practices for making dairy farming more climate friendly. It was farmers who suggested it at a SOLID workshop meeting where the Rapid Assessment method and results from ten Thise dairy farmers were presented.

3 Methodology and data collection

3.1 Location of the farms

The 38 farmers participating are in the Jutland region of Denmark and are all members of the Thise Dairy company.

3.2 Climate action plans

Thise Dairy Company initiated the idea already in 2010 that all farms should have a climate action plan. They collaborated with the Danish organisation for organic production, Organic Denmark (OD), which had developed a template and procedure based on various sources of information. The climate action plan consisted of the following parts:

- Description and characterization of the farm and the herd
- SWOT-analysis of the farm in relation to climate, broadly speaking and going through all areas of the farm from the nature land areas, grazing and other practices, indoor facilities, need for transport of feed, electricity etc. etc.
- CO_2 calculation of current emission and emissions after the action
- Agreed actions

3.3 Farm visits for data collection

Fifteen farm visits were planned, all to farmers or farmer families who had experiences of making climate action plans as part of the Thise Dairy Company. We selected farmers who had demonstrated some initiatives to make their farming more climate friendly, e.g. energy saving or better integration of their dairy production with other types of production, establishing nature areas in between farm land or similar. The selection of farmers was based on the seeing their climate action plans beforehand. We wanted to cover a wide range of both 'actions' and 'calculated emissions', but in the end selected mostly farms with a remarkable low calculated CO_2 emission. The spectrum was chosen to explore different approaches. Only 7 visits were carried through, because while analysing the interview data collected it became clear that data that the original intentions with this innovative project did not 'hold water'. The responses of the farmers made clear that they did not feel ready to take part in climate stable schools and did not believe that group discussions could help them in any way. The same arguments and reflections around the same ideas, and suggested topics had been mentioned in most interviews, and in particular there was great frustrations and perceptions of limited possibilities of action that the farmers could take.

In total, seven interviews were carried out and transcribed. Thepartly based on the climate action plan, were carried through, and briefly transcribed, or in some places more 'summarised', as it became more and more evident that the concept for climate stable schools / farmer groups was not be feasible in this case and at this stage.

3.4 Workshops

Three workshops were planned to be held in three different regions where Thise producers lived, and two of them were held. The third was cancelled due to low number of participants. In total, 46

farmers participated representing about 38 farms of the Thise producers. The workshops were carried through after all climate action plans had been completed, and had the following agenda:

- Welcome from Thise and welcome to the farm where the meeting was held.
- Presentation about the process and some of the main mitigation and adaptation strategies from Erik Christensen, one of the responsible persons from Organic Denmark for , making the climate action plans with each farmer
- presentation about possibilities: facts and figures on some of the strategies such as establishment of permanent traffic lanes in fields, less driving, and prolonged lactations. Presentation about possibilities, facts and figures on some of the strategies (such as establishment of permanent traffic lanes in fields, less driving, and prolonged lactations) by Troels Kristensen, senior researcher at Aarhus University.
- Open debate with questions and answers, and a lunch with sandwiches.
- Group discussions on exchange of ideas and response to questions about the way forward.
- Plenary with presentation from groups and common discussion about ways forward

3.5 Time scale

First discussion around this: June 2012. Farmer workshops for climate mitigation May 2014. Interviews during spring 2014. Decision to not form Farmer Field Schools December 2014.

4 Results and Discussion

The Climate Action Plans had given many good thoughts and stimulated reflections among many farmers. It also raised some scepticism, e.g. concrete results, and believing whether this or that could help or not. On an overall level, it created some frustration among some farmers, because their room for manoeuvre to take action to reduce climate impact seemed very small. This was expressed by one of the farmers: '*It is a bit discouraging to work with these issues when the best strategy for reducing emissions would be to sell the cows – well, I'm a milk producer so what are my options if I want to keep being that?*'

All farmers had developed some thoughts about what they could do in the future, when making the climate action plan with the consultant from Organic Denmark. However, at the time of the interview, all farmers also was still searching for ways forward, and did not feel that it would help much to discuss them with farmers who had as little experience as they had themselves. They generally expressed the need for 'facts' and 'evidence' to build new solutions and directions for development rather than mutual learning at this stage.

4.1 Overall farm / land use strategies

A range of different actions were discussed when the Climate Action Plans were agreed on. The actions were of course decided in relation to the specific farm context: goals and priorities of the farmer family, conditions, possibilities and other factors. Some of the actions were constrained by lack of support on a policy level; e.g. the establishment of renewable energy sources such as solar panels went through huge discussions with electricity companies on prices of buying or selling surplus, and various types of subsidy-applications. The general farming subsidy system also discouraged nature conservation areas and tree planting to some extent, and that also gave rise to some conflicts around priorities in the whole farming system.

4.2 Specific actions proposed in the climate action plans

The following specific actions were mentioned in the climate action plans of the interviewed farmers:

Managing the land

- Plant hedges, trees, alleys
- Less driving in fields generally
- Establish permanent traffic lanes in the fields
- Use electricity from renewable energy sources, such as sun and wind.

Overall herd strategies

- Lower replacement rate: longevity; increase lifetime yield, and less animals through the system
- Prolonged lactations.

Feed and feeding, including grazing strategies

- Let cows pick their own feed as much as possible.
- Keep grass fields for longer time
- Better timing for cutting grass; more energy-efficient
- Improve yield per cow through optimizing feed
- Become generally more self-sufficient
- Less concentrate / reduced N in concentrate

Changes in the indoor facilities / milking

- Pumping the slurry out more often
- Optimize the use of milking room, e.g. cleaning system
- Use of milk heat as a heating source on the farm.

4.3 Outcomes of the workshops

The conclusion at both meetings was that farmer groups would not be able to stimulate major changes or actions, because all were uncertain on what would be best practise to adopt so not much could be gained through mutual learning. All participants, however agreed that they would like follow-up meetings with some facts and ideas, which could then be discussed in bigger fora.

5 Conclusions/ recommendations

Stable School approaches are based solely on the participants' experiences and knowledge within the area of common interest. Of course knowledge and insight can be sought from outside the group of farmers, but for the concept of mutual learning to work, the farmers should have a base of knowledge within the group, from which all can explore new common possibilities. This was the case in projects around e.g. phasing out of antibiotics, where there was a vast amount of knowledge and

experience within each group. The same was not the case when it came to actions for mitigating climate change: diverging information and difficulties in matching obtained information with possibilities for practical action made the farmers decide that creating groups around it would not be a viable option. This makes it clear that having proven practises that lead to the desired outcomes to share within the group is a key pre-requisite for the concept of discussion groups like farmer field schools to work.

Secondly, 'climate mitigation' will maybe not be the most relevant larger goal. During the discussions at the workshops and in some of the interviews, it was mentioned in many different ways and arguments that climate change and climate variability is one important aspect of the current global environmental challenges, but others should also be included because they are relevant: e.g. loss of biodiversity, water security and loss of ecosystem services in general are similarly important. Even though it may sound confusing to enlarge a 'large goal', it may be a good way forward, as doing something for pollinators, clean water, soil fertility, planting trees and diversify the production may be more tangible and possible to inspire each other with in a farmer group.

6 References

Ivemeyer, Silvia; Bell, Nick J.; Brinkmann, Jan; Cimer, Kornel; Gratzer, Elisabeth; Leeb, Christine; March, Solveig; Mejdell, Cecilie; Roderick, Stephen; Smolders, Gidi; Walkenhorst, Michael; Winckler, Christoph; Vaarst, Mette, 2015. Farmers taking responsibility for herd health development—stable schools in research and advisory activities as a tool for dairy health and welfare planning in Europe. Organic Agriculture, Vol. 5, Nr. 2, 01.06.2015, s. 135-141.

Vaarst, Mette; Nissen, T.B.; Østergaard, Søren; Klaas, I.C.; Bennedsgaard, Torben Werner; Christensen, J. 2007. Danish Stable Schools for Experiential Common Learning in Groups of Organic Dairy Farmers. Journal of Dairy Science, Vol. 90, 2007, s. 2543-2554

Vaarst, Mette Participatory Common Learning in Groups of Dairy Farmers in Uganda (FFS approach) and Danish Stable Schools. DJF : Aarhus Universitet, 2007. 72 s.