

# Participatory Common Learning in Groups of Dairy Farmers in Uganda (FFS approach) and Danish Stable Schools

Mette Vaarst



**Faculty of Agricultural Sciences**

# Participatory Common Learning in Groups of Dairy Farmers in Uganda (FFS approach) and Danish Stable Schools

Revised reprint of Master Thesis in Health Anthropology (Department of Ethnography and Social Anthropology, University of Aarhus), and Mini-manual to Danish Stable Schools by

Mette Vaarst  
Faculty of Agricultural Sciences  
Dept. of Animal Health  
Welfare and Nutrition  
P.O. Box 50  
DK-8830 Tjele

The reports primarily contain research results and trial statements aimed at Danish Conditions. Also, the reports describe larger completed research projects or act as an appendix at meetings and conferences. The reports are published in the series: Plant Science, Animal Science and Horticulture.

Subscribers obtain 25% discount. Subscription can be taken out by contacting:  
Faculty of Agricultural Sciences  
P.O. Box 50  
DK-8830 Tjele  
Tel. +45 8999 1028

All the publications can be ordered on the internet: [www.agrsci.au.dk](http://www.agrsci.au.dk)

Print: [www.digisource.dk](http://www.digisource.dk)  
ISSN: 1397-9892  
ISBN: 87-91949-16-5

## *Preface*

Tell me and I will forget  
Show me and I will remember  
Involve me and I will understand  
Step back and I will act  
Confucius or Kung Zi (551 B.C. – 479 B.C.)

The old Chinese proverb has been used in many different contexts related to learning. It does also apply to the type of learning and participation, by which the Farmer Field Schools or the Danish Stable Schools are characterised.

Farmer Field School is a well-known concept, which is widely used in many types of farming practices in the Global South. I learned about the principles in Uganda in 2002 and was deeply fascinated by the concept. I still believe in the potential of common learning and legitimate peripheral participation as a strong learning platform when developing farming methods and adjusting knowledge to different farming contexts. In Uganda, I had the great privilege of working with two different teams of researchers and extension agents in two different farmer environments in order to adjust the principles to fit exactly to the contexts of 2003-2004.

In Denmark, discussions about phasing out antibiotics from organic dairy herds were taken up, and a group of milk producers connected to the relatively small dairy company ‘Thise’ wanted to implement strategies of phasing out antibiotics from their herds. The Farmer Field School concept seemed a very relevant option, because it implied a common learning based on practice, meeting the goals and conditions of many different farming contexts and always building on exchange of knowledge and experiences. The Danish Stable School concept was developed in 2004-2005, supported by practical work in four Stable School groups of dairy producers and with a facilitator from the organisation ‘Organic Denmark’. It is now being implemented throughout the country (also in relation to other types of production), and will be included in a common European research project hoping to implement the concept in other European settings.

The mutual trust and respect among farmers, the work towards a common goal (in this case phasing out antibiotics), and the systematic approach to communication are important factors. Gradually, we saw the impact the participation in these groups could have on the participants, both in Uganda and in Denmark, in different ways and under different sets of conditions. This was beyond working professionally with animals – it was also about developing skills as a farm manager and local resource person, especially for the Ugandan farmers. Some of these aspects were treated in the work of writing a master thesis in Health Anthropology at University of Aarhus, Institute of Ethnography and Social Sciences, entitled ‘Empowerment of livestock farmers through experiential learning processes and common focus on animal health promotion in their dairy herds in Uganda and Denmark’. In this report, the thesis is presented in its full length after this introduction. After the thesis a short manual for facilitators working in and with the concept of the Danish Stable Schools can be found. Most of this is based on a manual used by Danish farmers and facilitators when initiating Stable Schools. The manual in Danish can be found on the internet at [www.okologi.dk](http://www.okologi.dk).

All publications emerging from this project involving farmer groups are listed at the end of this report.

Tjele, 21<sup>st</sup> April 2007

Mette Vaarst

### *Acknowledgements*

The work and developments behind this report have been carried out by a huge number of people all with much enthusiasm and through many discussions. The process was encouraging with committed people taking ownership and responsibility, sharing lots of inputs, knowledge, experiences, opinions and common learning. It led to the implementing in practice of shared and suggested improvements in livestock herds. It has been a true common learning experience with a grand participation by everybody involved.

The two Ugandan projects involved in this work were supported by the DANIDA Livestock Systems Research project (LSRP) component of the Agricultural Sector Programme Support (ASPS I) of the Ugandan Government. The Danish project 'Phasing out antibiotics from Danish organic dairy herds' was funded by the Danish Innovation Scheme.

A total of around 150 farmers have participated in the farmer groups in Denmark or in Uganda. My profound and genuine thanks goes to you all for sharing experiences, giving inputs, participating in the developments and being actively present in the process – of course nothing would have happened without you! I hope that your efforts will bear fruit not only for you but also for your fellow farmers.

In Uganda with the team in the mastitis-project around Jinja, I enjoyed working with the research team consisting of Dr. Denis Byarugaba, Jessica Nakavuma, and Dr. Chris Laker, as well as the two extension agents in Jinja, Dr. Stephen Kiwemba and Mr. Farouk Bogere, who are gratefully acknowledged for close and valuable (for researchers and farmers) collaboration during a period of a year and a half, where we have followed, described and evaluated three farmer groups.

In Mbale and Sironko districts, the following extension agents are gratefully acknowledged for sharing their innovativeness, experiences and development with us from the six different farmer field training groups in the two districts: Mr. Napokoli, Dr. Musunga, Dr. Bisagaya, Mr. Watiti, Dr. Okori, Dr. Makafu, Dr. Opolot, Dr. Nabulere, Dr. Okello, and Dr. Ocheing.

Thank you very much for the collaboration, exciting developments, insights and interesting times to my project colleagues in Uganda Prof. Rubaire-Akiiki and Dr. Joseph Okello-Onen. The district veterinarian Dr. Musunga from Sironko was also a master student in the project together with Chris Ayewazibwe, and therefore I thank both of you for reflections and good inputs related to the projects.

Thank you to the chairman of the dairy company Thise, Jens Christensen, for keeping the line and fire in the work, beside active farmer participation, and thank you to dairy production manager of Thise, Mogens Poulsen, for keeping our eyes on the commercial and consumer interest in all this work.

## Acknowledgements

---

Thorkild Bülow Nissen from the organisation 'Organic Denmark' was facilitator for the first four Danish Stable School Groups and co-developing the concept for the Danish context. The process happened through his efforts, including the many, many discussions, talks, reflections and exchanges of observations and experiences in the groups and by reading and picking up from other sources. Thank you for being such a good partner in this process!

In writing the Danish Stable School handbook, process consultant Lone Lisborg is gratefully acknowledged for valuable and inspiring discussions and inputs. Thank you for the collaboration with the Danish handbook which hopefully will be used by many farmers and facilitators.

My supervisor at my master project, Dr. Bjarke Paarup-Laursen, is gratefully acknowledged for advice on literature and structure of the thesis, as well as patience in the process despite his busy professional life.

**Content**

Preface.....3

Acknowledgements.....5

Introduction: Transformative learning towards empowerment of livestock farmers .....9

Agricultural development .....9

The concept of ‘Farmer Field Schools’ as an existing approach to legitimate peripheral participation .....9

Learning and participation .....10

Smallholder dairy farming in peri-urban and rural settings in Uganda .....11

Organic dairy farming in Denmark.....12

Empowerment of farmers in Uganda and Denmark .....13

Empowerment in order to meet new challenges .....14

Empowerment of livestock farmers through situated learning, participation and common focus on animal health promotion in their dairy herds in Uganda and Denmark.....15

PART 1: Introduction and presentation of the research.....15

Introduction.....15

Research question and structure of this thesis .....16

The settings .....16

    Smallholder dairy farming in Uganda.....16

    Danish organic dairy farming .....17

Presentation of projects and data collection.....18

    Action research approaches .....18

    Data collection and analysis.....19

PART 2: Learning and empowerment in different cultural and social settings.....23

    Exploring the concept of learning.....23

    Exploring the concept of empowerment .....25

    Power relations and empowerment .....26

    Participation and empowerment.....26

PART 3: ‘Doctor said he believes that we can now know whether our animals are sick or not’ .....28

    The Ugandan farmer groups .....28

        A general impression of the farmer group meetings in Uganda .....28

        First story: Feed and water instead of medicine .....29

        Farmers observing and judging their animals .....30

        Medicine as solution .....31

        ‘Black magic’ and farmers’ responsibility.....31

        The second story: To handpick ticks is something one can be proud of .....32

        Learning by seeing and agreeing on improvements.....33

        ‘Common learning’ when ‘somebody in the group knows better’?.....34

        ‘Being proud’ and empowerment?.....35

        Third story: Identifying common life conditions .....36

        Fourth story: Experiencing a new role in the local community .....37

        Empowerment as building up social capital .....37

        The identity as farmers.....38

    The Danish Stable Schools .....39

        The meetings in the Danish Stable Schools .....39

        Innovations and life situations on the agenda .....39

        Participation in Stable Schools in relation to veterinary services.....40

## Content

---

The learning experience and negotiating meanings in a local community .....	40
Ugandan and Danish farmers benefit from participation – in widely different contexts.....	41
Power relations involving farmers and animal health professionals in Denmark and Uganda .	41
Research methodological and ethical considerations.....	43
PART 4: Concluding remarks and future perspectives.....	45
Danish Stable Schools as a part of daily practice A mini manual .....	47
References.....	58

## **Introduction: Transformative learning towards empowerment of livestock farmers**

### ***Agricultural development***

Agriculture is developing in all parts of the world in order to meet the challenges created by increasing globalisation with changes in trade and market infrastructures, changes in political priorities such as concern for environmental issues and consumer priorities, as well as access to cheap and safe food. As a consequence, farmers also have to change practices, strategies and patterns of action. The inter-human relations connected to farming life between the farmers and the animal health professionals, and between farmers and consumers, are challenged, because new knowledge in many different areas has to be exchanged and developed. During the last decades, there have been requirements not only to produce cheap food without any safety risks, but also with minimum negative impact on environment and animal welfare. In Africa the major challenge is the food security and food safety, and in livestock herds it is to maintain health and production of the animals in order to improve livelihood and reduce poverty.

Despite the widely different life situations, farmers must not only adjust and respond to the expectations and pressure from the surroundings in a qualified way, but also act, take decisions and participate in as well as direct changes. Substantial elements of participation, learning and taking power over one's own life situation are involved in this process. So the farmers must be able to reflect, develop new practices and, so to speak, change the farming culture. Clearly, the type and expression of these expectations vary significantly between countries and regions and depend on the local context, e.g. farming tradition, consumption patterns or perception of animal welfare in a given region. All livestock farmers must be able to master the situation and feel in control of their own business and life. In other words, they have to feel in power to act and interact with the surrounding society.

Below, I will introduce the two concrete settings in Denmark and Uganda, which are further discussed in the master thesis as well as in the articles by Vaarst et al., 2007a & b. Because the approach used in the described projects are built on the classical Farmer Field School context, I will introduce the basic principles of existing 'Farmer Field Schools' below, and shortly introduce and discuss how this approach was adapted to two widely different cultural and social contexts.

### ***The concept of 'Farmer Field Schools' as an existing approach to legitimate peripheral participation***

In East Asia and Africa so-called Farmer Field Schools (FFS) are developed (Anonymous, 2003). It is groups for common learning and development of farming systems in a local context including economic conditions. They are widely used in relation to poverty alleviation and in order to empower poor farmers in terms of education and common learning. Khisa (2003) describes a

Farmer Field School in general terms as follows: ‘A *Farmer Field School (FFS)* is described as a platform and ‘school without walls’ for improving decision making capacity of farming communities and stimulating local innovation for sustainable agriculture’ and quotes one of the leading advocates for FFS, Kevin Gallagher, for having said that ‘*the Farmer Field School is not about technology, it is about people development*’. Many approaches to Farmer Field Schools exist, but five principles have to be followed in order to use the label ‘Farmer Field School’, as described by Pretty<sup>1</sup>:

1. What is relevant and meaningful is described by the learner and must be discovered by the learner.
2. Learning is a consequence of experience.
3. Cooperative approaches are enabling. As people invest in collaborative group approaches, they develop a better sense of their own worth.
4. Learning is an evolutionary process and is characterised by free and open communication, confrontation, acceptance, respect and the right to make mistakes.
5. Each person’s experience of reality is unique. As they become more aware of how they learn and solve problems, they can refine and modify their own styles of learning and action.

This background in the classical Farmer Field Schools formed basis for adjusting the concept to the local needs in smallholder dairy farms in Uganda.

In the work behind this report, learning is explored as a social phenomenon and process in an interaction between the learner and the learning environment, where the world is not seen as divided between an inside and outside world. The learner interacts according to his or her background and competencies, and the surroundings, including co-learners, the cultural and social context, the facilitator, teachers and specific situations. Dialogue and negotiation is central in learning, where common knowledge is developed within a group. Lave and Wenger state (1991, p. 51): ‘*Participation is always based on situated negotiation and renegotiation of meaning in the world*’. Participation in learning means per definition learning taking place in a social and cultural context, where members of a community (e.g. a learning group) negotiate to find a common meaning. A pre-condition for active participation, negotiation and common learning is openness and willingness to expose one’s own experiences, perceptions and life world to the group.

### ***Learning and participation***

The concept of situated learning is based on this understanding and links learning directly to a given situation and context. The learning agent, activity and the context mutually constitute each other in a process, which can take place in all types of learning situations. Situated learning is a conscious process, as opposed to a simple, empirical attribute of everyday activity or an informal participatory learning. The conscious and common process aims at finding negotiated meaning in dilemmas shared by the involved people. In relation to the learning and developments in the farmer group discussed in this report, the concept of legitimate peripheral participation is important. It was introduced by Lave and Wenger (1991), who propose this to be ‘*...a descriptor of engagement in*

---

<sup>1</sup> J. Pretty, 2002. Regenerating agriculture. In: FAO 2002. Ten years of IPM training in Asia. 6 pp.

*social practice that entails learning as an integral constituent...'*. Legitimate peripheral participation will lead to a full participation in society, and there is a shift in this concept from focus on learning as a main activity, to a focus on a daily practice, in which learning takes place as one activity partly supporting the idea that a distinction between knowledge being either general or situated (that is, specifically connected to a certain situation or context) is partly artificial. New knowledge, which is meaningful for the participants in the development of this knowledge, will always be created as a product of the negotiations and processes in the group, working towards a common understanding of what is relevant and meaningful for them in their life-world. A practical example can be the contextualised understanding in Uganda respectively Denmark of general knowledge for dairy farming e.g. that the risk for disease increases with poor hygiene. The meaning of 'poor hygiene' has to be understood in both contexts, e.g. in the Ugandan smallholder farms all cows were hand-milked, in contrast to machine milking in Denmark. Hygiene related to milking has therefore to be practised in two completely different ways. In this way, a so-called piece of 'general knowledge' (like 'hygiene increases disease risk') must be adopted to a specific context which is relevant to each learner.

### ***Smallholder dairy farming in peri-urban and rural settings in Uganda***

Small-holder dairy farmers were defined as farmers having herds of a size from one to twenty cows, mostly two to four cows. Two different areas were represented in the work: the lowland area around Mbale, where many peasant farmers lived, and where living conditions were sometimes difficult especially regarding to the accessibility of water. The other setting included peri-urban farming, where many household heads are women, either widows or with a husband working in an office or elsewhere in the nearby town. The milk production varies depending on the season and availability of feed resources. There is no formal farmer education in Uganda. The education level of most farmers is limited to primary school and in some cases secondary school. The farmers' knowledge about basic management routines and their ability to observe animals were observed on several occasions to be very poor (Vaarst et al. 2007b & Vaarst, 2004 & 2007). Basic signs of e.g. heat (time for mating or artificial insemination), de-hydration or lameness seemed not to be observed by farmers, either due to lack of knowledge or awareness. This was confirmed through informal interviews with local extension agents. Generally there is a lack of confidence and sometimes suspicion between farmers, and there is no cultural tradition of cooperatives or the supporting of colleagues in the villages. With the background of poor ability for observing whether animals are healthy or ill, a sudden death of an animal can be perceived as a result of something 'unnatural' happening. In other words illiteracy, poverty and lack of education, basic knowledge and skills related to animal husbandry and livestock farming, and lack of traditions for collaboration severely influence the human lives and ways of living. This brings along major restrictions for the development on human, farm and community levels. Since there is no formal farmer education, the focus was very much linked to the availing knowledge and skills of a technical type in the Ugandan groups. But other important developments happened (Vaarst et al (2007b), such as family members learning to collaborate better. Farmers improved their focus and capability to overview the entire production, started to take more active and informed decisions, judge situations and be able to articulate their needs to the extension agents, who formerly were 'the authorities', but now to a larger extent became sparring partners. Furthermore, the collaboration within the local communities was improved and other farmers started to consult them as resource persons in the communities. The farmer groups took up topics much wider than animal health and disease handling, such as 'farming as business', and other people started to buy milk at their farms so that the farmers did not

need to bring the milk to the market anymore. All in all, it seemed to bring about a transformation process of the farmers as human decision makers and actors in their farm and local communities. Munene et al (2005) emphasise the importance of attitude and belief in the process of acting to improve your own life situation. Furthermore, the farmers' attitude to own responsibility, role as livestock keepers, farmers, business people and community members seemed to change in the process. In the Ugandan context, the transformative common learning process clearly seemed to initiate and drive a transformation process on the human and community levels, which is the essence of empowerment. Munene and co-authors (2005) approach the issue from a psychological perspective, and the project carried out in the Ugandan farmer groups focused much on development on human and group levels, rather than to create the possibilities in society, which could facilitate a more basic and general change towards the previous privileged and underprivileged groups to re-structure power and power relations, because this was beyond the possibilities of the project.

### ***Organic dairy farming in Denmark***

The organic movement in Denmark has developed from different movements since the mid-1950s, but now operating under the common term and legislation of 'organic farming'. The first groups in the 1950s and 1970s often based their farm conversion on long processes of mental conversion, where they gradually gained insight and consciousness about environmental issues and agricultural sustainability. From the mid-1990s, a majority of farmers, who decided to convert their farms to organic farming, were mainly driven by economical incitements in terms of subsidies, premium prices and expectations that this was a way of ensuring the future of the farm. Organic farmers throughout Europe have very little support in terms of advisory assistance and veterinarians, who are specifically skilled and knowledgeable about organic farming (Vaarst et al., 2006b). Organic farmers therefore have gone through several learning processes and have had to be very innovative. Their learning processes also involve awareness towards a huge number of issues like environmental care and animal welfare. Organic farming is often supported by certain groups of consumers but not by others, and organic farmers have sometimes described themselves as isolated in relation to farmer colleagues, who feel threatened by their organic approach. In Denmark the farmer co-operative movements during the 19<sup>th</sup> century has formed a basis for the creation of common dairy companies, slaughterhouses and folk high schools for common adult education of farmers and a farmer culture with a big tradition for collaboration and formulation of a common policy for market strategies. Through agreements with dairy companies, Danish farmers' market situation is usually uncomplicated, with a five-year guarantee for delivering milk for a certain price. In general, Danish dairy farming has undergone dramatic developments during the past few decades. In 1985, 1995, and 2005 the number of farms with dairy cows was respectively 31,800, 16,000, and 6500, with an average herd size of 28, 44, and 86 cows (StatBank Denmark, 2006). High demands are put on the farmers' skills not only to manage the animals and crops, but also to find their way in a jungle of subsidies, regulations, record keeping and forms to fill out. All Danish farmers have a 4-4½ year education combining theory and practice.

## ***Empowerment of farmers in Uganda and Denmark***

Empowerment can be discussed and defined as enabling humans, as individuals, in groups or in local communities, to develop competencies, master life situations, control and take responsibility for their own life situation within its given framework and when necessary and relevant to participate in social interrelations, take common action in a community or society, and to challenge as well as change given power structures in a society (Andersen et al., 2000). It is not only an individual process, since the term empowerment is built on a fundamental understanding of society as in-equal and includes underprivileged groups. The effort to empower underprivileged groups also strengthen the effort against inequality in society, since the underprivileged position in society is strongly linked with powerlessness, literally understood as lack of possibilities to obtain control over own life situation, and this ability and power to take action and responsibility has to be facilitated by somebody in society who is not in this underprivileged situation, and it also has to be supported by a general political, economical and/or social effort to create the possibilities in society for acting and being able to influence life situations.

The term 'empowerment' may seem strange in connection to Danish organic dairy farmers, many of whom have been 'front fighters', so to speak, identifying and defining their own agenda and taking responsibility for environment, animal welfare and consumer health via the choices they have made. Some of these farmers converted to organic farming decades ago, when this choice could have had the consequence to leave the farming business, because the organic market was not well established. In other words, they have been through processes demanding much effort, strength and dedication. They cannot be claimed to be underprivileged as individual humans nor as group, and they have been supported by governmental legislation in terms of subsidies and special legislation for organic farmers. How can they be empowered then, in the Danish social and cultural context? They can still be claimed to be confronted with major challenges. Industries like the agro-chemical and medical industry with a major economical power and influence, has an agenda for agricultural and veterinary developments very different from the values within organic farming. Throughout Europe, the severe lack of education and advisory services, which can stimulate a development of organic livestock farming, increases the continuous need for developing the organic livestock farming ideas and transforming them into practice. In many ways, the ideas and practices of organic farming have been driven by the farming environment and groups of consumers, and it has in many ways survived and developed despite research results, interests of the industry and overall society aiming a higher and more efficient production and despite lack of interest among agricultural and animal health professionals. In this context, organic farmers need local and situated learning and development of environments which can stimulate and create room for a continuous development of the farming systems including the humans involved in it. Empowerment is then connected to a continuous creative, analytical transformation based on a belief that it is possible to influence the development. In this context any initiative to transform human perceptions, build on involvement, participation and situated common learning will empower the organic farmers and farming environment to take action and responsibility and to continue to respond to the demands. Empowerment in the Danish context is not a process in a group of underprivileged persons who for the first time are stimulated to take their lives in their own hands, but enabling a group of competent people who needs to build up capacities and knowledge, which at the moment does not seem to be supported by the existing structures in the surrounding society. This support has to be present in order to enable further development, e.g. animal health professional may need to reorganise their

involvement and be empowered to take other roles as sparring partners in relation to the development of organic livestock farming.

### ***Empowerment in order to meet new challenges***

Both Ugandan and Danish farmers need to respond to different demands and expectations. Danish farming systems have developed rapidly over the last half century, where the Ugandan farming systems seem to be built very much on traditional methods, relying on existing structures. Mead (1970) has discussed different learning cultures involving several generations. In a traditional system, young people obviously can learn from the elder generation in a so-called post-figurative culture, and this will most likely be the case in Uganda. Focus for livestock keepers shifted in some ways during the process of common learning and being empowered. Farmers e.g. saw farming as a business, where they previously rather seemed to 'co-incidentally being owners of a cow'. This may lead to a transformation, in combination with the process of being increasingly aware of how to observe and manage the animals. In this way, resource persons now possess new competencies and believe in their ability to take hand of emerging challenging situations. In older traditional systems, where age matters, this means a restructuring of the former power relations and learning cultures. In the Danish setting a so-called co-figurative culture (where young and old people learn from their equals) or a pre-figurative culture (where old can learn from the young people) have existed for a longer period. Here, the development of new practices, which meet the current challenges within the rapidly developing farming structures must take place in a common learning process, where both new and old generations participate as persons with each their insight, experiences and knowledge on the same premises, but this does not involve a major change in terms of a shift in power.

In the two projects dealing with farmer groups in Uganda and Denmark two modified FFS approaches were used. Both projects aimed at improving animal health in the herds either in order to improve production and income (Uganda) or in order to phase out the need for disease treatments using antibiotics (Denmark) as an explicit goal. Both types of farmer groups were built on the key principles of FFS, but modified to the articulated needs of each farmer group. The concept of Farmer Field Schools as defined above is seen as being able to provide a wide framework in which a context adjusted learning environments can be created based on the local needs and demands. The empowerment process should enable the farmers to handle life situations and developments within their own farms and farming community in a world of globalisation, complex political and social structural changes and market opportunities.

## **Empowerment of livestock farmers through situated learning, participation and common focus on animal health promotion in their dairy herds in Uganda and Denmark**

### **PART 1: Introduction and presentation of the research**

#### *Introduction*

Livestock contribute to the livelihood of approximately 70% of the world's poor people. Therefore it contains a considerable potential for poverty reduction both for export and for small-scale producers in growing urban and peri-urban areas (Wolmer & Scoones, 2005). This potential leaves many possibilities open for improvements of livestock production including animal health and disease handling. In livestock farming development and research projects we often focus on 'technology development', broadly understood as development of all kind of methods to improve production and health, farm and animal management, and to decrease disease levels (Kimmins et al., 2004). Wolmer and Scoones (2005) emphasise that many of the challenges are not of technical character<sup>2</sup>, but related to policies and institutions. One interphase between technical intervention and institutional change can be the mobilisation of farmers, who form groups and communities for learning, training and improvement of their lives. Farmer Field Schools (FFS) is a concept for farmers' learning and empowerment through knowledge and experience exchange, which has been developed and used in Indonesia and after this, in a number of developing countries, based on an innovative, participatory and interactive learning approach as a sustainable way of learning and developing farming for small-scale rice farmers (Gallagher, 2003). The FFS approach has been widely used in Africa in various forms in order to empower farmers to take responsibility and control over their own lives, to become active participants in their local communities and to improve their knowledge and skills in relation to their farming businesses.

In Uganda, a research program 'Livestock System Research Programme' was introduced in 1996, and realised in the livestock research since 2000 (LSRP, 2003). Two projects within this programme concerned smallholder dairy production. In the first phase of both projects, samples and questionnaire information concerning livestock disease and production were collected across 60-100 dairy herds, and in both projects, the major conclusion arising from the surveys of the first phases was that a significant amount of knowledge about animal and herd management seemed to exist among the farmers. The diseases in focus (tick born infections and mastitis) were of a complex character and needed to be approached in many different ways depending on local circumstances. Furthermore, the cattle were often concluded to be in a very poor condition, especially in one of the project areas (Mbale and Sironko lowland), but it was concluded that this was not due to tick born diseases, but rather lack of good management in general, e.g. providing the animals with sufficient amounts of water. Therefore, a FFS approach seemed relevant in order to build up farm management and knowledge concerning animal health, diseases, management and production.

---

<sup>2</sup> When the terms 'Technology' and 'technical' is used in the text, they refer to knowledge and/or solutions that are purely oriented towards the problem which is addressed and within the discipline and in case it is an animal disease problem, it only contains elements related to knowledge about animal diseases.

In Denmark, the so-called ‘Farmer Experience Exchange Groups’ (‘erfa-group’) have existed since decades. It is often groups of 10-15 farmers from quite similar farms (e.g. dairy farms with a certain housing system and/or breed), which meet on a regular basis shifting between their private farms. The whole group is normally run by an agricultural advisor, who is a kind of coordinator and professional expert in the field. Often, an external expert within the field (e.g. in farm economy, buildings, feeding etc.) will be invited and give a lesson on a certain topic. In 2004, a group of Danish organic dairy producers from the small dairy company ‘These’ formulated a common goal of phasing out the use of antibiotics from their herds through improved herd management, health promotion and disease preventing actions. As a group, the farmers had on their own initiative defined this rather complex goal and had therefore a strong sense of ownership and accordingly a strong motivation to do an effort to reach it. In collaboration with the organisation ‘Organic Denmark’ and a group of scientists at The Danish Institute of Agricultural Sciences, a suggestion to a modified FFS concept was introduced and further developed and adjusted by the farmers and project group. Based on these experiences, the concept of Danish Farmer Stable Schools was described and formed.

### ***Research question and structure of this thesis***

The research question of this thesis is to explore – based on theoretical concepts of learning and empowerment - how the formation of farmer groups in Uganda and Denmark potentially can contribute to common learning among and through this empowerment of farmers in their local contexts on individual, community and society levels.

In Part 1, I introduce the problem area, the settings in Uganda and Denmark, and the research methodology. In Part 2, aspects of the theoretical concepts of learning and empowerment will be explored. After this, in Part 3, I will describe and discuss selected examples from my own data collected in Uganda and Denmark in relation to theories about empowerment (including power relations) and learning. I will also discuss methodological and ethical considerations related to this study. Finally, in Part 4, the conclusions and future perspectives will be settled.

### ***The settings***

#### **Smallholder dairy farming in Uganda**

In sub-Saharan Africa, about 70 % of the livestock are in the hands of rural farmers, many within mixed crop-livestock production. De Leeuw et al. (1995) broadly classify African livestock systems into pastoralist (30 % of cattle on the continent), agro-pastoralist (20 %), crop-livestock farmers (40 %), and crop farmers with livestock (10 %). There is no formal farmer education in Uganda; this implies a need for knowledge and capacity among farmers to handle animals and dairy production.

This thesis is based on smallholder dairy farmers with few cows, in two different districts in Uganda: the peri-urban and rural area of Jinja and the lowland area of Mbale and Sironko districts.

Jinja district is located in the Eastern Region of Uganda, along the shoreline of Lake Victoria with lowlands and pediments between 1200 and 1500 metres above sea level, and with a typical tropical climate with two rainy and two dry seasons every year. This is a part of the Basoga region, which has a complex history due to continuous movements and intermingling of people (Nzita & Mbaga-Niwampa, 1993). This makes up one of the largest ethnic groups in Uganda, and it is an area with fertile land and water from Lake Victoria and River Nile (Gakwandi, 1999). Only a small portion (less than 15%) of farmers is engaged in livestock keeping and fishing. The project took place in peri-urban area as well as rural area, where the cattle often are kept in zero-grazing systems (in-door or fenced all the time with no or very little access to grazing, due to their big susceptibility towards tropical diseases). These cows are mostly living in smallholder farms with one to four milking cows per herd in average (in the project). Milk production varies depending on the season and availability of feed resources. Many peri-urban household heads are women, either widows or with a husband working in an office or elsewhere in the nearby town. The language spoken in this area is Lusoga, which belongs to the Bantu languages. Lusoga was also spoken during farmer group meetings.

The second project area was the lowland areas of Mbale and Sironko districts, which is inhabited by another very important group of Bantu speakers, the Bagisu, which is believed to have been settled in the area without major migrations for very long time, probably since mid-16<sup>th</sup> century (Nzita & Mbaga-Niwampa, 1993). Their early life seems to have been very much based on the principle of 'survival of the fittest', and with little social structure (Nzita & Mbaga-Niwampa, 1993). Many groups around Mbale (the third largest urban centre in Uganda) are dynamic agricultural people (Gakwandi, 1999), but in the lowland areas, many farmers are poor and have a very weak educational background. During the first project phases, the cattle were found to be in a very poor condition, and the project researchers concluded that it was mostly due to lack of knowledge and resources among the farmers. During the 1970s, a pastoralist neighbour tribe, the so-called Karimojong, stole a lot of the cattle from the area. The concerned tribe is the Nilo-Hamitic people who are cattle people, moving with the cattle like the Masaai of Kenya and Tanzania. They are known to keep their traditional way of living, and still practice widespread cattle rustling (Nzita & Mbaga-Niwampa, 1993; Gakwandi, 1999). Since mid-1990s, a re-stocking program has been initiated after decades with very few livestockholds in the lowland area of Mbale. Many farmers in this area have consequently not been brought up with the tradition of managing cows.

### **Danish organic dairy farming**

Denmark is a country with a long farming tradition, which for centuries has been the major source of Danish export and living. In Denmark, the farmer co-operative movements during the 19<sup>th</sup> century has formed common dairy companies, slaughterhouses and folk high schools for common adult education of farmers and a farmer culture with a strong tradition for collaboration and formulation of a common policy for market strategies. All Danish farmers have a 4-4½ years education combining theory and practice, and they either buy their farm on the free market or take over from their parents, often through a gradual process where they start buying a share part in the farm and collaborate with the parents. During the past few decades, Danish dairy farming has experienced a dramatic development. In 1985 and 2005 the number of farms with dairy cows was

respectively 31,800 and 6500, with an average herd size of 28 and 86 cows, which illustrates the growth in herd size along with a dramatic reduction in the number of farms. Among others, this means that many farmers live a more lonely life with less contact to neighbours and colleagues. Farmers have to be skilled not only to manage the animals and crops but also to find their way in a jungle of subsidies, regulations, record keeping and forms to fill out. Through agreements with the dairy and other companies, Danish farmers' market situation is usually clear, including a five-year guarantee for delivering milk for a certain price.

Organic farming has been developing in at least two major movements: the biodynamic movement from mid-1950s and the so-called modern organic movement basically starting in 1970. These two movements are now operating under the common term and legislation of 'organic farming'. Organic dairy farming has followed the general development of farms in Denmark as described above (increased size of farms and herds and reduced number of farms). When converting to organic farming, the farmers typically go through a 'mental conversion process', where they start thinking in terms of being organic farmers, and a 'technical conversion process', where they physically and legally convert their farm to fulfil the expectations e.g. in the EU Regulation. Today, many organic farmers have a conventional farmer education and a post-education in organic farming. Organic farmers throughout Europe have very little support in terms of advisory assistance and veterinarians, who are specifically skilled and knowledgeable about organic farming (Vaarst et al., 2006b). Farmers therefore often go through several learning processes where they develop both technical skills, awareness towards environmental care and animal welfare, as well as innovative farm development. Therefore, organic farmers in Denmark can in many ways be claimed empowered by the processes of conversion, innovativeness and gradually gaining consciousness and insight to professional issues of farming as well as societal and environmental issues.

### ***Presentation of projects and data collection***

The experiences in this article come from three research projects. Two of these projects were carried out in smallholder dairy farming in Mbale and Sironko districts (in sub-counties Butiru, Busiu, Buwagogo, Beikhabe, Mnyembe, Bunambutye, and Bukhulo), and in Jinja district (Kakiri, Butagaya, and Bubolo sub-counties), respectively, and one the last one was carried out in Danish organic dairy farms situated in Jutland.

### **Action research approaches**

The project parts forming the data background for this master thesis all deal with the interactive development of farmer groups for common learning based on the participants own experiences, knowledge and observations. Action research is a term used to specify a spectrum of research methodologies and designs, all aiming to produce practical knowledge that is useful to people in the everyday conduct of their lives, and to contribute through this practical knowledge to the improved living of people and communities as well as society (Reason & Bradbury, 2001). These projects were all based on action research approaches, meaning that the farmers, facilitators and researchers to a very high extent developed the method of conducting farmer group meetings in an iterative and joint effort, involving formal or informal evaluations of how things worked, and adjusting the approach in order to let it meet the farmers' needs and wishes. The major decisions in the two

Ugandan projects about using a modified Farmer Field School approach to form farmers groups were taken in the research groups (that is, limited influence from farmers in the process of deciding in which direction the project should develop), whereas the initiative to the Danish project focusing on phasing-out antibiotics from organic herds was taken by a small organic dairy company Thise, and the suggestion to form farmer groups came from the research group and was based on my experience in Uganda, but the practical framework and how the Danish Stable School meetings were conducted were jointly developed between farmers, the facilitator and me as researcher. The initiation of an action research and development project is based on a worldview where everybody is actively participating and directing the development. In practice all involved participants are expected to be situated and reflexive, as well as explicit about the process and the knowledge and insight which has been created in each participant during the process (Reason & Bradbury, 2001). The methods of data collection included feed-back and constant communication between participants in the project. This was clearly supporting the ethical and democratic thinking behind the project within the contexts where they took place. By contributing with widely different backgrounds, skills, knowledge and taking different roles, the democratic process consisted of a mutual trust that all the different contributions were fed into a common process that was built on a basis of mutual respect, openness and a common goal. More specific information and insight into the projects are given in Vaarst et al. (2007 a & b).

### **Data collection and analysis**

In the following, the methods used in the work leading to this thesis will be introduced. The appropriateness of and experience with the various methods and the combination of them will briefly be discussed by the end of the thesis in terms of methodological and ethical considerations.

*Participation-observation in farmer group meetings in Denmark and Uganda.* Being present as an observer during farmer group meetings was the major field work and data collection method in this project. The farmer groups were the forum for learning, communication and development and therefore in focus in the field work, which is an anthropological core research methodology (Eriksen, 1994; Hastrup & Ovesen, 1985; Emerson et al., 1995), or research strategy, as emphasised by Hansen (1995). Informal interviews, talks and discussions with research colleagues and facilitators between the meetings in the farmer groups was a part of the research as well as a part of the action research approach, where I through my observations and participations in the groups acted as sparring partner and gave feed-back on the research and development process. The theoretical pre-understanding behind the projects, namely that adult, experiential, situated learning will stimulate farmers to improve their animal management routines and as such become empowered as individuals as well as in their local settings, was gradually developed in interaction with the field work, the observations, reflexions and discussions. In this way, the field work was a complex process, where the data collection using different types of methods, the development and understanding of the theoretical framework as well as the analysis of data analysis were combined and took place in jumps and parallel processes, as also described by e.g. Hansen (1995).

<b>Title</b>	<b>Project 1: TBDH project</b>	<b>Project 2: Management of mastitis in smallholder dairy herds in Jinja</b>	<b>Project 3: Phasing out of antibiotics from Danish organic dairy herds</b>
<b>Time period</b>	January 2004-July 2004	October 2003-May 2004	March 2004-April 2005
<b>Area</b>	Lowland in Mbale and Sironko	Jinja: peri-urban and rural	Jutland, Denmark
<b>Number of groups</b>	6	3	4
<b>Number of facilitators</b>	12 (2 per group)	2 (both involved in all 3 groups)	1
<b>Meeting intervals</b>	Every week	Every fortnight	Every month
<b>Number of group members</b>	Approx. 15	10-12	From 5-6 farms
<b>Data collection by author of this thesis</b>	Participating in farmer group meetings 2 x 3 days, 2 focus group interviews of facilitators.	Participation-observation in farmer group meetings 2 x 2 days, 4 individual farmer interviews, informal interviews with facilitators, participating in PIA workshops and evaluation workshops.	Participating in approx. 18 farmer group meetings, individual in-depth qualitative interviews of 23 farmers before and after the project period, group focus interviews of all 4 groups.

Table 1. Presentation of the three projects based on farmer groups for common learning about dairy farming in Uganda and Denmark.

I kept a field note record during all farmer group meetings, and after all informal interviews and meetings with facilitators and researchers, in terms of memos, descriptions of scenes and dialogues (Emerson et al., 1995). Some of these field notes were systematised into reports, which related my observations and reflections to my participation in the groups available for discussions among facilitators, researchers and donors<sup>3</sup>.

*Semi-structured qualitative research interviews and focus group interviews.* The individual qualitative research interview aims to explore and describe the life world<sup>4</sup> of the interviewees, including the spectrum of attitudes and experience within a certain field among this group (Kvale,

<sup>3</sup> For example Vaarst, M. 2004. The 'Participatory Farmer Field Learning Groups' in Mbale smallholder dairy lowland farms. Report and recommendations based on a three-day visit June 2004. P. 30.

<sup>4</sup> 'Lifeworld' is understood as our lived experience. It is the everyday, intuitive, world of our day to day experience, in contrast to the idealized, cognitive world of the sciences and mathematics. The term 'lifeworld' refers to both the experiential world of perception, or intuition - that which grounds our activities and interests, as well as the world as a whole - or that which encompasses the multiplicity of particular worlds.

1996; Strauss and Corbin, 1990). All 23 participating Danish farmers were individually interviewed by means of this method at the beginning as well as at the end of the project. Each interview was tape recorded and lasted 60 to 100 minutes, preceded by a 30-minute guided tour of the farm. The interviews were structured according to themes, basically focusing on their expectations to or experiences with the farmer groups, including changes, decisions, processes, and perceptions during the project period. According to the method, the interviewee was encouraged to speak and direct the course of the interview, and as the interviewer, I followed up on his or her answers, explored apparently self-contradictory statements, asked for examples, and tried to keep to the point and the theme of the interview. A written summary was made and sent to the farmer for confirmation. Quotations were included in this summary. This approach was chosen to confirm that the interviewer had correctly understood the important messages and conclusions of the farmer regarding his or her experience with the Stable Schools. I chose not to make a full transcription, because I wanted to communicate with the individual farmer about my interpretation of his or her statements. Overall themes across interviews were described across the interviews in an approach modified from Strauss and Corbin (1990), and this led to a grounded theory analysis of farmer experiences with farmer group approaches. In Uganda, I interviewed four farmers partly with translator, and these interviews were not taped but written down during and immediately after the interview. These four interviews lasted about 25-45 minutes.

Another method used was the focus group interview. These focus group interviews comprise interview methodologies where groups of people are interviewed (Lewis, 2000). In group interviews, common reflection, exchange of experience and elaborating interpretations or future perspectives are allowed. Such interviews were carried out in the four Danish Stable Schools and in two groups of facilitators in Mbale and Sironko, at a time where all facilitators had been facilitating at least 10 farmer group meetings. Each of these Ugandan focus group interview took approx. two hours and consisted of the facilitators' stories about their experiences in the farmer groups, common reflections on the process within the farmer groups, their own experience as facilitators, their perception of main issues in the improvement of livestock health and production in the area, their needs in terms of education and knowledge about facilitation and their point of views on relevant changes when introducing farmer groups.



Figure 1. Five facilitators in the hotel garden where one of the focus group interviews took place.

*Participatory Impact Assessment workshops and evaluation workshops.* Two PIA workshops were conducted by two experienced facilitators, following the method described by Oruko et al. (2003). One was held in Jinja municipality combining the urban and peri-urban farmers from the project, and the other one in Butagaya with the rural farmers. The Participatory Impact Assessment (P.I.A.) is a widely used method of assessing impact among a group of participants in client-oriented research and dissemination projects (Jackson & Kassam, 1998). The P.I.A. process is directed towards ranging the major impacts on household and community level as perceived by the participants, and identifying potential risks and relevant action to the achieved impact.



Figure 2. Evaluation workshops were held in the farmer groups at the end of the project, where farmers discussed the outcomes and process of participating in the farmer groups.

## **PART 2: Learning and empowerment in different cultural and social settings**

This thesis is based on an assumption that adult situated experiential common learning in groups will empower the group participants to improve their knowledge and management of their animals. It will also form and strengthen social bonds in their local community and through this they can learn to take responsibility and action including interaction with their local community. In this part, I will present the theoretical framework for learning and empowerment which will be discussed in relation to the empirical material in this thesis, with the aim to explore how learning and empowerment relevantly can be understood in adult situated learning among farmers.

### ***Exploring the concept of learning***

Learning can be defined as internalization of knowledge from ‘the outside world’, where learning is treated as a question of absorption or assimilation. From a perspective of much cognitive psychology literature, learning seems to be seen mainly as internal mental, psychological processes and representations, and as ‘a personal experience’. Seen this way, there is a sharp distinction between the outside and the inside world, emphasising that learning primarily is an intellectual phenomenon (Lave and Wenger, 1991), although the meaning of ‘internalization’ does not necessarily exclude the importance of the social context. From this viewpoint, focus will often be on how knowledge is picked up, understood and internalised, and author groups like Boud and co-authors (1995) discuss e.g. the importance of reflection in the learning process. Each individual has the starting point in his or her own world, knowledge and experience and build on top of this, gradually reaching a higher level of understanding. Kolb (1984) described learning as a cyclic process where the learner includes knowledge and experience into the already existing experience and transform it through practical learning and using it: *‘the process whereby knowledge is created through the transformation of experience’* Furthermore second-order experiences in the learning experience are important for developing knowledge, as the lived, past first order experiences – knowledge about the observed and what it means – are not sufficient for a true learning experience to take place. The second order experience involves reflection over the learned, the process including the interaction between oneself and the surroundings, and it involves disorientation (discussed by Percy, 2005 p.128), surprise (Schön, 1983) or ‘optimal frustration’, which facilitates transformative development (Hansen, 2001). Percy (2005) states that reflection can happen on different levels, from ‘thinking and acting on everyday basis’ to ‘make reflective judgments through a process of rational inquiry’ (Percy, 2005 p. 129). The higher level of reflection, the more likely a transformation of the learner takes place. So, learning can be seen as a personal experience, which can happen under many different conditions, where the person meets new challenges that bring an insight and a new perspective to the learner’s life, involving new knowledge, skills, practices and attitudes. Learning is also often seen as a process happening between a teacher and a pupil or a learner, where the teacher, the mentor, the supervisor and/or the master are the superior person guiding the learner. In this perspective, the learner will be guided to second-order experiences, which will create the learning experience and make the learned relevant to the learner by integrating it into the life world of the learner. Learning happens, in other words, when the individual person integrates new knowledge, skills and perspectives into his or her own life world. If facilitating a learning process as a teacher, the important point is to lead the learner to the edge of his or her own life world, knowledge, experience and it has to happen in a context which is relevant for the learner,

as stated by Kahlil Gibran (1883-1931) in 'The Prophet'<sup>5</sup>: *'No man can reveal to you aught but that which already lies half asleep in the dawning of our knowledge. The teacher who walks in the shadow of the temple, among his followers, gives not of his wisdom but rather of his faith and his lovingness. If he is indeed wise he does not bid you enter the house of wisdom, but rather leads you to the threshold of your own mind. The astronomer may speak to you of his understanding of space, but he cannot give you his understanding. The musician may sing to you of the rhythm which is in all space, but he cannot give you the ear which arrests the rhythm nor the voice that echoes it. And he who is versed in the science of numbers can tell of the regions of weight and measure, but he cannot conduct you thither. For the vision of one man lends not its wings to another man'*, (page 41).

Apprenticeship is an example of learning as a social practice and as participation in a community of practice, where mutual relations and commitments are part of a specific, well-defined social structure existing over a longer period of time (Nielsen & Kvale, 1999). It is often connected to handcraft, but is also described in relation to artists, midwives, scientists and other groups in society (Lave & Wenger, 1991). Seen from an anthropological point of view, apprenticeship involves learning as a basically social phenomenon, which is embedded in daily practice and which both maintains continuity and initiates new practices within a given social and in most cases professional practice (Lave & Wenger, 1991; Nielsen & Kvale, 1999). Learning within an apprenticeship relation or environment is not mechanically reproduction only connected to imitation following observation. It is a critically reflective practice, which also involves common experimentation and includes new aspects and perspectives to what is learned (Nielsen & Kvale, 1999).

Seeing learning as a social phenomenon and process and as an interaction between the learner and the learning environment opens up to a view of the world as one world with interrelations between the learner with his or her background and competencies, and the surroundings, including co-learners, cultural and social context, facilitator, teachers and specific situations. Nielsen & Kvale (1999) emphasise that learning seen from an anthropological perspective focuses on the social structure and framework enabling learning to take place. As discussed above, also when seeing learning as a personal experience, much emphasis is put on experience as basis for learning leading to a transformation of the learner. The exposure of own experiences in a social context also involves a negotiation process among the participants. From this, common learning and common conclusions arise. Percy (2005) discusses the concept of transformative learning in relation to participatory research and development, where learning is viewed as an emancipatory and far from straight-forward process bringing about transformation in our own construction of reality. She also links the learning process with first and second order experiences, but includes negotiation among the participants as crucial for this reflection, since it combines many different view points and experiences. Lave and Wenger state (1991, p. 51): *'Participation is always based on situated negotiation and renegotiation of meaning in the world'*. A pre-condition for active participation, negotiation and common learning is openness and willingness to expose own experiences, perceptions and life world to the group.

So, acknowledging the importance of building all learning processes on experiences of the learner, learning seems always to happen in relation to a specific context, in which the learned must be seen,

---

<sup>5</sup> Available at <http://www.livinglifefully.com/ebooks/prophet.pdf>

and learning as a process is seen in a social context involving two or more persons. The important point in learning is not the setting, but the social interactive negotiation between the involved persons, which ensures the knowledge to be commonly developed, negotiated and in this way confirmed among a group of people for whom it is relevant. The learning agent, activity and the context mutually constitute each other in a process, which can take place in all types of learning situations, including classroom teaching and participatory learning in groups. It is important to notice that learning does not have to be connected to any teaching nor formal educational situation (discussed by Dreier, 1999). Situated learning is a conscious process, opposed to a simple, empirical attribute of everyday activity or an informal participatory learning, and aiming at finding negotiated meaning in dilemmas shared by involved people.

Lave and Wenger (1991) expand their own concept of situated learning and developing the idea of legitimate peripheral participation, which they propose to be '*...a descriptor of engagement in social practice that entails learning as an integral constituent...*'. Legitimate peripheral participation will lead to full participation, which justifies the diversity of relations involved in a given community. In other words, in this concept there is a shift from focusing on learning as a main activity, to a focus on a daily practice, in which learning takes place as one activity. Lave and Wenger (1991 p. 34) state: '*The generality of any form of knowledge always lies in the power to renegotiate the meaning of the past and future in constructing the meaning of present circumstances*'. Knowledge of a general rule is not meaningful to any person, unless this knowledge can be relevantly used in a specific situation or context. New knowledge will always be created as a product of the negotiations and processes in the group, working towards a common understanding of what is relevant and meaningful for them in their life-worlds.

### ***Exploring the concept of empowerment***

Empowerment has been discussed and defined in numerous contexts in different parts of the world, and can be discussed and defined as enabling humans, as individuals, in groups or in local communities, to develop competencies, master life situations, control and take responsibility for their own life situation within its given framework. This implies participation in social interrelations, taking common action in a community or society, and being able to challenge as well as change a given power structure in a society (Andersen et al., 2000). The development from the state of being passive and not taking action, to being active and taking action necessarily includes e.g. being able to evaluate a situation, act critical to decisions taken by others, and believing in ones own potential and influence. But it is wrong to focus solely on the individual process such as improved self-confidence, or that empowerment depends on private economical issues or changes taking place on the personal or individual level. Andersen et al. (2000) emphasise that the term empowerment is built on a fundamental understanding of society as in-equal and including underprivileged groups. In the Source Book of the World Bank (2002 p. 11), empowerment is defined as '*...the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives*'. The focus here is mostly on the institutional level, and empowerment is linked to the access of information, inclusion/participation, accountability and local organizational capacity. The effort to empower underprivileged groups should not only be directed towards strengthening individuals to take action and power, but also to

strengthen the effort against inequality in society. The underprivileged position in society is strongly linked to powerlessness, literally understood as lack of possibilities to obtain control over one own's life situation. This process of developing the ability and power to take action and responsibility has to be facilitated by somebody in society, who is not in this underprivileged situation. But it has also to be supported by a general political, economical and/or social effort to create the possibilities in society for acting and being able to influence life situations.

### ***Power relations and empowerment***

Empowerment enables people to take action in their own lives in order to change and improve the life situation. Power relations are essential in the understanding of the conflicts and injustice in a given society that may call for empowerment of certain groups (Andersen et al., 2000). In this context, it is important to understand which power relations the livestock farmers take part in, in order to stimulate empowerment and evaluate the needs and impact of the empowerment process. Nelson & Wright (1995) have described different frameworks for power relations based on various sources, namely the 'Power to'-model, where human development is in focus and where one person's power increase does not necessarily affect another in a negative way. Another model is called the 'Power over'-model, where empowerment is related to expanding sense of ability to influence decisions and therefore moves away from the thinking of power as human growth. In the so-called 'Subjectless power'-model, which is highly influenced by Foucault, power consists of discourse as well as institutions and agents, from which we are unconsciously influenced. Chambers (2004) furthermore include the 'power with'-model, obtained through collaboration, solidarity and collective actions, and 'power-within' through self-worth and confidence. An increased consciousness concerning the power and dominance relations in a society may arise commonly among all involved actors or in a group. The group are then empowered and can start acting according to their changed perception, which eventually will influence other groups to gradually change their attitude and behaviour, and in this way everybody takes profit of the situation as emphasized by Chambers (2004). When forming farmer groups with the aim to empower them through improved knowledge and skills, it seems relevant to consider how this can potentially influence existing power relations in society. As stated in IDS (2001). '*Empowerment implies power to those who are subordinate and weak, but the usual practice between levels of hierarchy is control from above. Aid agencies impose conditionalities at the same time as they preach empowerment*'. In other words, in order to ensure a framework in which empowerment can take place it is crucial to have the discussion of how power relations were created and how they so far have influenced the role of the farmers who wanted to change their own life situation.

### ***Participation and empowerment***

In conclusion, in experiential, situated or transformative learning processes, the learner can feel challenged, confused and frustrated, and a group of learners will negotiate about a common meaning of the experienced. The common learning process leads not only to improved technical knowledge. Through the negotiation process between involved partners the negotiation process is transformative in nature. It influences the individual experience of reality, stimulates self-awareness

and self-confidence, and develops trust in others and leads to action. It seems relevant to explore how legitimate peripheral participation in farmer groups can possibly be linked to the concept of empowerment.

## **PART 3: ‘Doctor said he believes that we can now know whether our animals are sick or not’**

The heading of this part was written in the Mbale farmer Rose-Mary’s notebook, which she generously let me read during the second meeting at her farm. During many of the group meetings, training the sense of observation and judgement formed a central element of the dialogue in the group.

This part of the thesis is constructed of three small stories from my experiences in the farmer groups in Uganda, preceded by a short introduction to my general impression of the meetings in the Ugandan farmer groups. The stories are treated based on the concepts introduced in Part 2. Subsequently, the process in the Danish farmer groups will be presented shortly and discussed in relation to the Ugandan groups in order to question the understanding of learning and empowerment in different cultural and social settings.

### *The Ugandan farmer groups*

#### **A general impression of the farmer group meetings in Uganda**

The group meetings always took place on the farm of one of the group participant with the starting point in the animals and the practical living conditions on the particular farm, using a certain questionnaire which touched most relevant areas concerning the surroundings and management of the animals. This interview of the farmer was primarily led by the facilitator and took place while the farmers sat in a circle in the shade, and it lasted about 30-45 minutes (see picture on the front page). After this, the group examined the animals (see Figures 5 a & b) and went through the surroundings such as housing, milking facilities, feeding, and access to water and grazing. In addition, it gradually became a part of the agenda to discuss a more general topic, such as ‘reproduction’, ‘first aid’, ‘farming as a business’, ‘calf management’ or ‘feeding strategies’. This was in particular formalised in the three project groups related to the mastitis project in Jinja district and will be referred to as ‘classroom sessions’ in the following. Demonstration of equipment for diagnosis of mastitis (e.g. the so-called Californian Mastitis Test; Figure 6) took place, and when discussing disinfectants in relation to udder health, some of the farmers who had practical experience with the use of it, demonstrated the technique to their fellow farmers in the group. In the other Ugandan project (TBDH) this was never made a part of the agenda, but taken up along the way when relevant. The classroom sessions – organised as a part of the agenda or spontaneously taken up – consisted of teaching where the facilitator told about the focus topic and attempted to use practical examples from the participants’ farms. On the evaluation workshops, the farmers emphasised how important this knowledge was for the understanding of dairy farm management, and on the P.I.A. workshop, they agreed that one of the major benefits of the project was an improved collaboration with the veterinarian in terms of better mutual understanding and communication.

### **First story: Feed and water instead of medicine**

It was hot, even though we met at around 10 o'clock in the morning. The farmer group members greeted each other and sat down in a circle in the shade under a tree talking for about 30 minutes about this farm, including the daily practices. After this, the group examined the two cows, which were tethered left standing under the burning sun. When the facilitator attempted to close the meeting, the farmer asked for a bit more time, because he had a calf he wished to show the group. We had so far only focused on the cows. He thought that the calf was ill and needed medicine. He brought the calf forward. The calf was grinding its teeth and looked very depressed. The bones were clearly visible under the very dry skin, and there were clear signs of dehydration. The group concluded that it was very skinny, but nobody could really tell what was wrong. Until now, the calf had never been offered water or any other feed than milk from the mother (assumed very sparse) and what it could find itself. The facilitator emphasised the fact of even a young animal's need for supplement both in terms of feed and water and encouraged the group participants to look around on the farm for appropriate supplement feed for calves, and advised the farmer to feed his calf left over beans and water right away.



Figure 3. The farmer fed the calf after advice from the group. In this way, it was clearly visible to everybody that the calf was hungry instead of in need of medicine.

The calf started eating the beans immediately, clearly demonstrating hunger, but had difficulties in drinking from a bucket and a cow next to it drank the water before the calf. The group members expressed surprise to see a small calf being so hungry and obviously needing more than the milk from its mother. The conclusion seemed clear, and all farmers agreed: the calf had not been ill; it was dehydrated and hungry.

### **Farmers observing and judging their animals**

What happened in this farmer session? The farmers commonly moved from a viewpoint of not knowing what was wrong with an animal and sharing the perception that it might need medicine. By demonstration they had now seen that it just needed feed and water instead of medicine. Together they commonly improved their sense of observation. One of the goals of the farmer groups was to improve animal management, and a pre-condition to do this is observation and judgement of a situation. So, the structure in the meetings was directed towards common improvement of the farmers’ sense of observation. But the surprise they showed perceiving the condition of dehydration indicated to me that their prior level of knowledge was not very high. When I first came to Uganda in the beginning of 2000, I thought that Ugandan farmers in large terms had inherited knowledge about cattle, including the ability to observe and intervene at an early stage of disease than most European farmers. This may be true for pastoralist farmers with large flocks of cattle and inherited knowledge through generations, but it turned out to be wrong in the case of smallholder dairy farmers, which is very well illustrated in this short story above. I was told by the extension agents that dehydration often occurred in these areas, where water was sparse and had to be carried over long distances. Yet, it seemed not to be recognised by the farmers.

In terms of learning, the ‘technical knowledge’ (in this case e.g. about the phenomenon of dehydration) was improved based on a concrete situation and the farmers’ own observations and reflections. By combining the observations of the animal as well as of the surroundings and having the signs of the condition – dehydration and hunger – illustrated, and like in this case, even have the conclusion confirmed through practical demonstration. The farmers may be able to recognise condition of dehydration and hunger in other contexts also. In the group they discussed the meaning of what they had seen and through reflection it seemed as if they reached a common conclusion. In this way they went through a process, where they came up with suggestions to solve the problem. This can be characterised as a situated, reflexive, experiential, common learning process embedded in a concrete context, and where abilities to identify problems areas and judge situations in the future were commonly built up as a part of social practice, as described by Lave and Wenger (1991).

When the project started, the extension agents and researchers were often confronted with farmers expressing uncertainty and lack of self-confidence. This could be due to the fact that the area of Mbale had most of its cattle stolen during the 1970s. Subsequently a re-stocking program gradually introduced cattle to the households again. This might explain why the farmers did not have a tradition for observation of animals, which became obvious a number of times during my participation in these farmer groups. For example, many animals were tethered by a rope around the leg, and sometimes the rope had made an impress, hairlessness or even a wound on the leg of the animals. The facilitators treated this theme and guided the farmers through a discussion about this, so that they acknowledged that tethering used in this way could harm the cow. Furthermore, a good level of hygiene is a precondition to keep animals healthy, but in many situations, farmers did not know or see the importance and benefits of keeping a good hygiene in the environment and when milking the animals. The observation of the environment and potential risks for developing diseases was also guided by the facilitators in a number of concrete situations when it was relevant.

### **Medicine as solution**

As illustrated in the example above, the farmers seemed to have a basic perception that medication was the only or the most obvious solution to most problems, a kind of ‘magical touch’ whenever a problem arose. Whether and when animals needed medicine was another major focus area in many group discussions, this is illustrated and discussed below. The farmers explained that they often lacked self-confidence when judging the condition of an animal, and therefore wanted to involve an animal health professional. Their experience was that IF an animal health professional was involved, then it most often also included a disease treatment with ‘some medicine’. Therefore, the conclusion drawn could very often be that if the animals looked affected they probably needed some kind of medicine.

### **‘Black magic’ and farmers’ responsibility**

In the project areas of Uganda, many farmers seemed to have an idea of so-called ‘black magic’ built into their life world. In the project team, we several times experienced that a farmer refused to tell us the true number of his or her animals, and the project researchers had to count the number instead of asking the farmer to avoid this mistake. According to the local extension agents the explanation was that the farmers believed that they might be ‘punished’ by forces or spirits, over which they had no control. In the initial questionnaire of the first project phase, the farmers were asked about the number of household members, and some farmers told that they had fewer children than they actually had. According to my colleagues at Makerere University, it was for the same reason: that if they gave the true number, there was a risk that one could be due to ‘boasting’. The sudden death of an animal could be spoken about as a fact of ‘something unnatural had happened’, and if trying to question this, the farmer seemed uncomfortable to go more in-depth with any explanation, but just emphasised that the death had occurred from day to day. They said that they had not observed anything wrong with the animal on the day before it was found dead, which was ‘unnatural’ and a potential result of black magic. The local extension agents did not want to clarify these perceptions neither, but explained that other villagers could have been envious because the animal looked too healthy, or because this farmer family did too well, or because of a conflict between two or more families, and therefore might have consulted somebody who could cause the sudden death of the animal, or it could also be a punishment for boasting. When many farmers gradually improved their ability to observe and judge animals, they also were able to spot a critical condition occurring at an earlier stage than before and respond to what they had observed in terms of a relevant intervention. In this way, disease was seen as something developing over at least some time instead of being ‘sudden’ and leading to death before the farmer had noticed that something was wrong. In the case just described, dehydration of an animal as a major cause for ‘looking ill’ seemed to be a phenomenon, which the participating farmers had not previously dealt with. The development of perceiving disease as something, one could possibly observe at an early stage and react to instead of perceiving it as ‘a case of death occurring from day to day as a potential result of black magic’ was not articulated by any farmer, and only discussed among some of the project researchers and facilitators as a possible important step towards focusing on one’s own role in maintaining health among animals and taking responsibility. The impact and importance of black magic and witchcraft in this project area around Mount Elgon is emphasised by Nzita & Mbaganiwampa (1997). Munene et al. (2005, p.87-102) gives an example of a woman, Hajiti, who came to a village with food insecurity and started growing crops with exceptional high yields. Some other villagers accused her of using witchcraft, where others decided to believe that she just knew better than them how to work with poor soil and contacted her to gain knowledge about what she did. She

ended up gathering a big group of women around her, and they all learned to grow crops with similar good results. On a community level, this was a great benefit in terms of improved food security, and furthermore it can be viewed as a great benefit that they so to speak broke an ‘evil circle’ of bad thinking about others. Instead they focused on what could be achieved by using and improving ones skills and abilities. Similar processes may take place among these farmers: they focus on their own possibilities and improving their own capacities to be in control of a situation instead of factors potentially related to witchcraft.

**The second story: To handpick ticks is something one can be proud of**



Figure 4. One of the farmer group meetings took place on Rose-Mary’s farm, where the farmers started the meeting by gathering in the shade of Rose-Mary’s house. Here, they talked about the animals, management routines and recent developments. Since this was the second meeting at Rose-Mary’s farm, held focus was obviously on what had happened since the first meeting.

Two visits were planned at all group participants’ farms, so we could evaluate and follow up on the first meeting, and new initiatives were taken. I was present at the second meeting at Rose-Mary’s farm. At the first meeting, the group had noticed that the number of ticks on the cows was very high, and the group had advised the farmer to spray twice every week, in accordance to standard recommendations.



Figure 5a. Farmers estimating the weight of the cow by measuring it (heart girth).



Figure 5b. Farmers counting the number of ticks on the front part and ears of the cow.

When leaving the shade of the house and walking to the animals – two cows of local breed and their calves - comments from at least five of the other farmers indicated that the number of ticks had reduced significantly on this cow. The general condition of the cow had improved, and the weight of the cow was estimated (Figure 5a). According to the notes of the farmers, one of the cows weighed a bit more than 200 kg, and it had gained 32 kg without being pregnant, which was quite a lot. When Rose-Mary was asked what she had done, she explained that she could not afford spraying her animals, but she had developed a practice of picking the ticks every Sunday and had thrown them into the fire. This had also been discussed at one of the group meetings, but she had not been attracted to the idea of hand-picking ticks from the beginning. She said that she had not felt proud of it because she found it much more fancy to be able to spray the animals and she had hoped to avail some chemical inputs as part of participating in the project. But now she was proud of her routines, because it actually made her think that she could manage the problems with ticks with very low inputs and resources. Furthermore, she had started to give her cow water early in the morning, and supplement feed like banana peelings and maize bran, which probably could explain the weight increase. The cows had been a bit reluctant to eat it in the beginning, but now they took it immediately when it was served to them. The water had to be picked from a spring during the dry seasons, and this was difficult and needed a relatively hard effort, but during the rainy seasons, she took them to rain ponds whenever possible. As a result of all this, the cows had gained weight, and the milk production had increased significantly. All farmers and the two facilitators confirmed that the cows looked much healthier than at the previous meeting.

### **Learning by seeing and agreeing on improvements**

Learning seemed to occur in this farmer group through demonstration, where the farmers reminded each other of how the cows had looked and concluded together how they had improved, along with a shared experience of listening and inquiring the farmer about how she had improved her animal management. Once again, as with the story mentioned above, the farmers openly expressed their surprise. Even the facilitators seemed to be commonly surprised and impressed that it actually looked so much better. The surprise may be an important stimulator in this as discussed by Schön (1983). This evaluation was partly based on having created a common memory at the last meeting through a profound presentation of the farm context and a careful examination of the animals. In combination with the farmer's story, this allows each participant to gradually build up a picture,

which improves their own skills and understanding of animal health, disease, and management. This stimulated the whole group – including the facilitators – to think about the issues of low-input efforts, like the hand-picking of ticks and feeding the cows with leftovers from the household. In this way, the common learning experience also includes a transformation process, as discussed in Part 2 with reference to Percy (2005) and Lave and Wenger (1991), where perceptions on what is appropriate and relevant actions have been changed among the participants.

### **‘Common learning’ when ‘somebody in the group knows better’?**

As illustrated through the stories about the farmer feeding his calf and about Rose-Mary, the farmers seemed to have been guided through a process, where they gradually improved their sense of observation and judgement and their pool of technical knowledge. Many of these issues were obvious and basic elements in a formal common farmer education. Nevertheless, these issues were gradually introduced, discussed and made obvious to the farmers through practical demonstrations, documentations and common learning sessions, where associations between risks in the surroundings (e.g. poor hygiene) and the disease conditions in the animals were demonstrated and made subject for common conclusions and learning processes. These reflective processes and negotiated meanings were partly reached through guidance from the facilitators, who also acted as teachers and can be claimed to know where the whole groups ‘should go’. It can relevantly be questioned whether we are talking about a true common learning process or legitimate peripheral participation. Or are we talking about a rather interactive ‘classroom teaching’ – or could we even talk about manipulation? Is it really democratic when there are some messages that the facilitators as animal health professionals want to bring forward, but the farmers – in the beginning – seem not to have the slightest idea about what the issue could be? We can claim that there was a permanent asymmetry between one person in the group who per definition knows from the start what they guide everybody to know about through the process. E.g. in the case where the calf was fed, the starting point of the participating farmers might have been that they were completely unable to see that the calf just needed water and feed, in contrast to the facilitators who immediately might have spotted the fact that this calf was not sick, but just hungry and dehydrated. How was the asymmetry dealt with, and how can we talk of a common learning process in this case? As I perceived this situation, the facilitator stimulated them to really observe the calf, and after this, carefully guided the farmers through their own arguments and observations. In this way, the technical knowledge – which the facilitator but not the farmers possessed from the start – seemed to be weaved into everybody’s daily practice and experience in a common process, where everything was demonstrated and agreed upon. The motivation of both farmers and facilitators was the same, and the facilitators guided the farmers to explore the issues on their own based on an honest and respectful wish to empower and build up their capacities. Empowerment can be defined as a process where underprivileged persons in society are guided to take control over their own life situation, guided by a professional and/or not-underprivileged person (Andersen et al. 2001).

The facilitators told that they also experienced new insight and practical demonstrations of how their ‘general knowledge’ could be understood under various conditions. In the role of being teachers in the classroom sessions, the Ugandan facilitators did not seem to focus on or repeat general knowledge, which would not involve or challenge their own perceptions or experience. It all happened in situations and contexts that constituted the lives of the farmer group participants, and everybody was exposed to a spectrum of e.g. how certain disease related conditions looked in many

different contexts and from there, common learning, new insight and conclusions arose including farmers, facilitators and researchers.

### **'Being proud' and empowerment?**

Rose-Mary clearly said that she had not liked to handpick ticks from the start, and it was because she felt that this was a routine that one could not 'be proud of', in contrast to using medicine. If she were able to use medicine it would signal that she 'was in control of the situation' and that she could afford using medicine, which would give a certain status. Hand-picking of ticks showed lack of money and was a kind of low-status solution. Gradually through this process, she had changed her opinion. Together with the farmer group, they had faced the fact that resources were scarce and instead of focusing on importing things to the farm like feed and medicine, they had focused on how to use the available resources to improve the situation.

In many cases, farmers had perceived lack of money and resources as embarrassing, and therefore they attempted to hide these lacks away from the local community. This was brought up on several of the farmer meetings in terms of initiatives to use 'existing resources' and face the fact that there is very few resources among the farmers. This seemed to influence the farmers attempts to seek, develop or do visible 'low-profit improvements', because this might show the surroundings that the farmer could not afford solutions that demanded money. Opening up one's farm to other farmers, as well as being confronted with other farmers and farms made it obvious that they all operated under more or less similar living conditions. The feeling in a group of working and living under more or less similar living conditions enabled the farmers to develop a spectrum of possibilities for improvements. This is an important element of empowerment and being empowered, according to Munene et al. (2005). One needs to ask who potentially CAN be in power to change the situation, and which obstacles can be present? In this case, the farmer could change the situation! Obstacles to rational action aiming at minimising the risk for tick borne diseases were commonly removed, first by Rose-Mary openly talking about how she had changed her attitude, and secondly by seeing how the situation in general had improved and agree among the farmers and facilitators that this was a very sensible approach also seen from the point of establishing endemic stability regarding the diseases in question. Munene et al. (2005) discuss behaviours that carry (lead to or maintain) poverty. They collected a huge number of different perceptions of poverty among poor rural people, and concluded that many of these perceptions of what is related to poverty point to behaviours that either explicitly or implicitly can be changed, such as alcoholism, having too many children to be able to send them to school, or family quarrels between wives leading to waste of resources and energy (Munene et al., 2005 p. 25-27). Rose-Mary's shift of perception and behaviour can be interpreted as an example of breaking a pattern of poverty carrying behaviour: the possibilities for changed behaviour were just in front of her and all she had to do was to do it. But she and her fellow farmers had to identify the possibilities and stop focusing on the 'fancy medical inputs' and instead start to become proud of what can be done with a few available resources. I conclude that making this explicit in a common experiential learning process is transformative on individual, group and community level, because it shifts focus from 'hiding poverty' to 'possible solutions and actions'. From there, the individual as well as the group can start taking actions and responsibility in their own lives.

### **Third story: Identifying common life conditions**

At many of the farmer group meetings on private farms in the lowland area in Mbale and Sironko districts, one major conclusion was that the farmer should give more water to the animals. The farmers emphasised that this could be difficult, especially during the dry season. During the rainy season, animals could drink from ponds. If farmers should collect water they would need a bucket, and not all farmers felt that they had money for this. Several farmers did not earn money every day, and if so, selling e.g. 1½ litres of milk and a few tomatoes gave less than a dollar. For this money a farmer should also support the family including school costs, medical fees etc. There was no access to electricity in the area, and there were no water supply others than streams and springs.

The facilitators had demonstrated how to make a calf drink from a bottle, and many of the farmers had taken this up gradually. Giving water to a calf seemed to be easier to overcome than carrying water to a cow. The importance of keeping calves alive because they were future cows, and acknowledging their needs for both feed and water encouraged the farmers to do an effort for them anyway.

During the dry seasons, the farmers saw no other possibility to give their cows water than taking them to the river. Most farmers only did this once every day as the river was several kilometres away. At one meeting where I was present, one farmer brought this argument forward almost as a kind of defence of himself for not giving his own cow more water. The response from the facilitator was to open up the discussion and ask the other group members how they experienced the situation of bringing animals to the water. When talking about these issues, the discussion became quite lively and up-heated. Many of the farmers had an opinion about it, when it first was brought up, and agreed that it was difficult to take the animals to the river. The access could be very limited due to crops on the river banks. There would often be many animals, so each cow was only allowed to drink for very short time. Furthermore, farmers with more animals often were able to chase away farmers with few animals, due to a higher status. Seen from my point of view, the farmers also went through a process together in these discussions. The farmers seemed to discover that nobody was alone in this, although the perception of the size of this problem differed slightly among the participants. They became aware and conscious that this was not 'how things necessarily should be' or 'the natural order of things'. The farmers concluded that these things had to be solved on community level, and that they should take steps to identify ways of doing this, e.g. approaching the local government.

One of the farmer groups in the Mbale lowland area and the two peri-urban farmer groups in the mastitis project in Jinja took initiatives to form farmer associations by the end of the project. This was done for several reasons, but the primary reason was to support each other by e.g. buying seeds together, to be able to speak with 'one voice' when approaching the local council or government, e.g. in cases like with the discussions about access to water (as discussed above). Possibilities for a joint effort to access the market with better quality milk including e.g. buying equipment for cooling the milk were also mentioned in the peri-urban group around Jinja, where some of the farmers had a relatively high milk production and cows of Holstein Friesian origin.

#### **Fourth story: Experiencing a new role in the local community**

During the evaluation workshop in the mastitis project in the area of Jinja, the farmers discussed experiences with the farmer groups. One experience was repeated, namely the feeling of being perceived as a 'more knowledgeable person' after having participated in this farmer groups, and being used in the local community as a resource person. The farmers gave numerous examples of this at the workshops, e.g. that they had been called to sick animals elsewhere in the village to give their opinion, or that they had been asked for advice about breeding, or on how to improve milk production and how to apply medicine. One farmer in the group of rural farmers told that he had convinced his neighbour to construct a 'real milking place', and another farmer from the same group had advised his neighbour to use a crossbred bull, which he did. Some farmers in this group from the rural area had even convinced other people in the village to buy a cow and start a dairy production. The pride of now being able to produce milk of a very high quality was also mentioned several times both in the individual interviews and in the evaluation workshops by farmers from both the peri-urban groups and the rural group. A number of these farmers did not go to the market anymore to sell their milk, because people had started coming directly to their farm to buy milk. 'Farming as business' was put on the agenda for the 'classroom sessions', which had become a part of the group meetings. Two farmers from the rural area of Jinja emphasised at the evaluation workshops that this had made them think completely differently compared to the time before this project. Despite the fact that they had acquired a crossbreed cow, they had never before thought of themselves as 'business men' or even as 'farmers'. They knew that they were living on their farm and from what they could produce, but the thought of selling their products and being business people as new and challenging, and they enjoyed improving things and planning what they could produce and sell now as farmers.

#### **Empowerment as building up social capital**

Munene et al. (2005) discuss social capital as a cultural interface that can promote development and emphasise that the concept has had increasingly importance in development literature. They reach the conclusion that social capital exist within a community or a functioning network, and cannot be exported. It is embedded in social relations and interaction in a given context, including sharing a set of e.g. cognitions, values, beliefs and knowledge (Munene et al., 2005 p. 56-57). In relation to these farmer groups, social capital consisted of building up common knowledge (e.g. about animal husbandry and observing an animal) and values (such as agreeing that handling ticks by hand-picking is a sensible strategy instead of focusing on 'fancy medical solutions', and realising the farmer's responsibility for the animals) within a group of people all belonging to the same local community. The empowerment in terms of transformation of humans towards taking more responsibility and action in their own life can not be directly exported to the local community, but through using these new skills, sense of judgement and self-confidence it seems to be indirectly exported through demonstration of these skills and the improvements that follow, participation in discussions in the village and having shown that dialogue and openness in these farmer groups can be beneficial to everybody and lead to improved animal production. Munene and co-authors (2005) furthermore discuss the understanding of bridging and bonding in relation to building up social capital. They define bridging as activities of connecting people in identifiable networks or communities, and bonding more as commitments individuals make to each others, grounded in trust and reciprocity. They state: *Both the bonding and the bridging mechanisms of social capital are crucial in promoting community development. That is, in order to develop, a community needs members who are willing, committed and able to invest in one another and in the larger group*

(bonding). And, because no community or individual lives in isolation, it needs members who act to link it to other communities and to the wider society in order to tap new resources required to progress (bridging). (Munene et al. page 59). It is relevant to question how the farmer groups contribute to development of farming practices and progress in the local community. Based on the stories, the participation in the farmer groups demand openness and mutual trust. A kind of bonding seems to take place: all members are equal and give access to their farm so that colleagues can see what they do in their daily life and practice, and the whole group can learn from all participating farms. A certain dialogue culture arises within the group, and people gain trust in one another. The shared understanding of common life conditions, problems and challenges are reached in mutual trust, but the consequences of this understanding, namely taking action, benefits the local community. Taking action to get easier access to common goods like water will benefit more farmers than the ones involved in this discussion, and forming a local farmer association has potentials of organising market conditions and improve the milk quality for other farmers who sign up for membership. Seeing that it is possible may affect many farmers in the local community. This suggests that both the bonding and the bridging activities within this local community are important parts of the empowerment process on community and maybe on society levels. Pontius et al. (2001) describe the empowerment of FFS on community level as having enabled farmers to become experts, IPM trainers, researchers, organisers, planners, policy-makers etc., and as such having developed a very strong identity as capable resource persons and managers.

### **The identity as farmers**

*‘Before I joined FFS, if somebody asked me what I do, I used to say ‘nothing’. Now I proudly answer: ‘I am a farmer’.* (Quotation, Kellen Catherine Wambui, Mureri FFS, Kenya, ‘Farmer Field Schools, The Kenyan Experience’, FAO/KARI/ILRI 2003, page 3).

The farmers experienced that they could see themselves in a new light – as farmers – and it seemed as if that the local community also had recognised their improved knowledge and skills. What has pushed this development forward, and how can these two experiences be seen as a result of participation in these situated learning and group processes? The fact that all meetings in the farmer groups took place in the participants’ daily life and surroundings opened up for a common development from the actual starting point, and the continuous common reflection made the farmers aware of what happened the whole way through. They might have given opinions on their own initiative in the village, and the fact that they produced milk of a high quality was visible. We are dealing with an empowerment process, where farmers built up skills and self-confidence, and could use these capacities in settings relevant to themselves and colleagues. Even though they referred to the sessions about ‘Farming as business’ as eye-opening towards their identity as farmers, the whole process built up towards a strengthening of the identity of being a farmer. A farmer manages his or her farm, and he or she knows how to observe, judge and act in situations. Responsibility is increased, and this is a main ingredient of an empowerment process. The pride discussed in connection to the story from Rose-Mary’s farm could be linked also with strengthening ones identity as farmer and manager who can take decisions and manage the farm and the animals. These farmers felt that they experienced being given a new role in the local community. Was the role new? Yes maybe, but maybe taking this role in reality reflected what they also experienced, namely having identified and strengthened their own identity as farmers, who were capable of managing farm, animals and business.

## ***The Danish Stable Schools***

### **The meetings in the Danish Stable Schools**

The initiative to the Danish Stable Schools was based on the experiences from Uganda and adjusted to the Danish context in an interactive process involving farmers, researchers and facilitator. Because of the driving distances and the available time only allowing monthly meetings, the number of farms per group could not be higher than 5-6 farms. The education level of the Danish farmers was high, and therefore ‘classroom sessions’ seemed irrelevant and already existed in the concept of erfa-groups. All communication should be based on farmer knowledge exchange, and be situated and based on the host farms. Therefore, the facilitator sent out an agenda 1-2 weeks before the meeting in the group based on communication with the farmer, on whose farm the next Stable School meeting should be held. One success-story and two problem areas as perceived by the host farmer were discussed at each meeting. Key data from the herd (from the Danish central cattle data base the development of disease and production within the herd) was included in the letter in order to let the whole group gain insight to the herd in focus, and to prepare them for the discussion. During the group meeting, which was built up of a walk with free discussions in the stable, other farm buildings and outdoor when relevant, and a session of 1½-2 hours around a table indoors. It was crucial to the process that the facilitator kept from giving out advice. Apart from facilitating the discussion and the process in the group, the facilitator recorded brief minutes, basically giving the mutual advices and the main conclusions of the meetings. The Danish farmers were with their educational background competent advisors for each other, and the facilitator did not provide any ‘classroom teaching’, like the Ugandan facilitators who took up themes of more general character as a part of the farmer meetings.

### **Innovations and life situations on the agenda**

When analysing what happened in the herds during the project period, the farmers generally committed themselves to improve a number of things on their farm, ranging from technical improvements like fixing a defect watering system or changing milking routines, to rebuilding the stable or building an outdoor feeding table, in other words, relatively dramatically changes. Some of the changes and improvements were stimulated by seeing what other farmers did, and were rather un-traditional and innovative, and not in accordance with what many advisors would advice based on a cost-benefit point of view. Such systems could give the cows outdoor access during the winter or having systems where small calves were kept together with grown-up cows in so-called suckler systems, which are not normally regarded as fitting into an efficient farming system. But farmers also put much broader topics on the agenda involving aspects of their or their family’s whole life. E.g. one female farmer asked the group to help her structure the working day so that she had more time to observe the animals, to do ‘extra interventions’ and gain more spare time, especially on Sundays. She had only a part time employee from Monday till Friday, and was alone during all the weekends. The crucial factor in the collaboration process was that farmers mutually agreed to really make the changes that they agreed to commit themselves to do, and that they gave other farmers full insight to their farming life and data from their herd.

### **Participation in Stable Schools in relation to veterinary services**

During the final group focus interview and individual interviews, the role of the veterinarians and advisors was often brought up by farmers. Most farmers had a very critical view on the role of their advisors, in particular the veterinarian, whom they felt did not respond to their needs and wishes related to the organic way of farming. In an EU network project, a questionnaire survey showed that in many EU countries, veterinarians generally lack knowledge and understanding of organic farming (Vaarst et al. 2006b), and are therefore unable to give appropriate advice. The farmer groups consequently seemed to create room for new innovative developments that could not be stimulated by traditional advisors.

In an earlier study among Danish organic dairy farmers (Vaarst et al. 2006a), one of the farmers described a gradual development of common understanding and mutual respect between them as farmers and the local veterinarian, and emphasized – supported by other farmers – their need for their veterinarian as co-innovators and sparring partners. In this project they seemed to view their fellow farmers to fulfil this role.

### **The learning experience and negotiating meanings in a local community**

The farmers in the Danish project took ownership over the process on his or her farm by defining the agenda, the success case and the problem area. Lave and Wenger (2003, p.34) introduce the concept of legitimate peripheral participation, where everybody in a group has a role equal to the others (nobody is placed in the centre) as active participants in the group. Particularly in the Danish farmer groups, the host farmer had set the agenda and defined problem areas and received advice from the others, and would as such always be in focus for the whole meeting, so the group dialogue was always asymmetric on the individual farm. But since all farmers participated under the same conditions, equality in the overall process was ensured and the concept is justified in this context. Learning became a common negotiated transformation which took place as an integrated part of daily practice related to animal husbandry, and it was a common process related to social practice within the group, rather than an individual experience for each farmer: *‘The notion of situated learning now appears to be a transitory concept, a bridge, between a view according to which cognitive processes (and thus learning) are primary and a view according to which social practice is the primary, generative phenomenon, and learning is one of its characteristics’* (Lave and Wenger, 1991, p.34) The benefits of learning in a community rather than individuals are described in the concept about zones of proximal development, developed by Vygotsky (1978). The zones of proximal development describe the difference between what a person can learn and solve alone, and what can be learned at a result of a collaborative practice in a community. Lave and Wenger (2003, p. 48) emphasise that this concept can be interpreted in the way that Vygotsky distinguish between scientific and everyday knowledge, and the ‘social’ only provides input for the process of internalisation. Munene et al (2005), however, emphasise the importance of a culture which is open to networking and growth of social relations based on Vygotsky’s theory of learning. In the Ugandan culture, the openness towards collaboration and dialogue developed as the benefits of participating in the groups became obvious and visible to the participants, who had not formerly been used to collaboration and giving other farmers access to their own farms.

### **Ugandan and Danish farmers benefit from participation – in widely different contexts**

The concept of the Danish Stable Schools was developed on basis of the experiences in Uganda. We saw the potential benefit of the concept of common situated learning despite the very different life worlds for farmers in Uganda and Denmark. The concept of Farmer Field Schools was developed on the Global South to do an effort for poverty alleviation and empowerment. Clearly, the needs of Danish farmers are not the same as for Ugandan farmers, and it can be questioned whether the concept of empowerment is relevant for the Danish organic farmers, who cannot be defined as underprivileged.

Based on what we experienced in the Ugandan and Danish farmer groups, I conclude that the approach to learning and empowerment in farmer groups necessarily must be guided by the participants, who are involved in the learning process, and their needs, contexts and starting points. Negotiated meanings (as discussed by Lave and Wenger, 1999) are central in the common interpersonal (involving supervisors, in this case extension agents or animal health professionals) or intrapersonal (where individuals fit acquired knowledge into their own understanding) situated learning. How can the involved partners then identify their particular needs? In the case of the Ugandan and Danish farmer groups, the examples given above serve as examples of common development and identification of the needs within the farmer groups: an iterative and interactive process based on daily practice and observing as well as analysing the local context. The Danish farmers viewed the Stable Schools as an approach to animal health promotion, which was not currently covered by the animal health professionals, whereas the Ugandan farmers emphasised that the process had improved the relations between farmers and animal health professionals during this process, so they saw it as a platform for new ways of collaboration with the veterinarians. This may lead to exploring the potential power relations between these two groups in the two settings in order to further explore how differently the concepts of empowerment may need to be addressed in the two settings.

### **Power relations involving farmers and animal health professionals in Denmark and Uganda**

The concept of empowerment is partly built on the idea of inequality and the existence of privileged and under-privileged groups in society (Andersen et al., 2001). Danish organic farmers cannot be claimed to be under-privileged. But the farming concept they represent goes against the mainstream development for farming and against major economical industry powers, and the organic farmers form only a small group which can seem vulnerable, so in this sense ‘empowerment’ would still be relevant to support their attempts to follow their goals and principles. But as individuals in the current situation, because their market situation and income are clear, and as discussed above, their history as dedicated front fighters and active in a group and in interaction with society does not indicate that they accept the role as ‘under-privileged individuals’.

Many of the Danish organic farmers openly expressed a very sceptical attitude to their veterinarians (the authority), and saw the farmer groups as a new forum for development and improvements. This may indicate that an empowerment process took place involving shift of power. In Part 2 of this thesis, power relations are shortly discussed based on Nelson & Wright (1995) and Chambers (2004), who described different frameworks for power relations based on various literature sources.

These perspectives on power relations seem relevant to relate to the discussion on how the farmers in these groups became empowered. The farmers’ sceptical attitude to their animal health professionals can be seen within the framework of ‘power over’ or ‘subjectless power’, if viewing power inequalities in terms of ‘capital’, as e.g. Pierre Bourdieu (1991), who describes a capital concept in terms of *social capital*, *economic capital*, *cultural capital* (achieved knowledge, language, education, family relations), and *symbolic capital* (reputation, honour). Bourdieu uses the capital metaphor to describe inequalities, which are often inherited and will lead to *symbolic violence* in terms of suppression of the weaker, poorer groups by the stronger and richer. A professional title represents symbolic power (Bourdieu, 1991), and monopoly, scientific authority and competence is a ‘weapon’ in this fight. This also involves a mutual perception of legitimacy of the inequality. The involved people accept the dominance relationship and view it as the ‘natural order of things’. When dealing with empowerment processes for livestock farmers, an increased consciousness might emerge that existing power relations may not be the ‘natural order of things’ and the attitude of the involved persons will change. In a Danish context, veterinarians have the monopoly over medicine administration. Involving veterinarians often is linked to animal disease treatment, and the veterinarians’ authority in terms of medicine monopoly is exposed and may provoke a feeling of inferiority within farmers who ask for alternative approaches as opposed to the use of conventional medicine. An increased consciousness about these power relations as well as having gradually demonstrated that alternatives exist may seriously question a former perception of ‘the natural order of things’ in terms of an inequality, and this will lead to new communicative practices and ways of interaction.



Figure 9. Technical knowledge about mastitis was taught and demonstrated to the farmers. This improved their understanding on disease occurrence and consequently also how to maintain a cow in good health. According to the farmers, the collaboration with the local extension agents had improved during the project period, and in the Ugandan context, the facilitators clearly was a great source of knowledge and teaching.

The Ugandan farmers emphasized at the evaluation workshops that a better and closer relationship with their veterinarians (who were also the FFS facilitators) was one of the major benefits of the project. So, new communicative practices were developed as a result of the empowerment process,

and both farmers and facilitators were empowered, which happens in fruitful empowerment processes (Chambers, 2004). An improved mutual understanding between the farmers and the animal health professionals seemed to have occurred, e.g. in terms of enabling the farmers to specify their needs and expectations to the involvement of the veterinarians, along with their own improved sense of observation, judgment and informed decision making. The farmers reached common conclusions based on common experience in contexts relevant to them. The animal health professionals represented a source of useful, valuable or even necessary knowledge for the farmers, which could partly explain what they saw, and which enabled them as facilitators to guide the farmers through a process where things were mutually interrelated. This was in contrast to the Danish situation, where the veterinarians represented knowledge and authority primarily linked to disease treatment and in most cases to a very little degree about organic farming or innovations in 'organic developments', and the organic farmers were well educated and had developed practices and experience over a number of years.

### ***Research methodological and ethical considerations***

The way in which the data was created in this study is likely to have been influenced by the role, I as researcher played in the projects. Furthermore it is important to consider how it can possibly have influenced the results. I participated in the Ugandan and Danish projects in widely different ways. My participation in the two Ugandan projects was primarily based on short-term consultancies as a resource person in a so-called twinning arrangement within the Livestock System Research Programme of Danida in Uganda. Having this role may have influenced my work with this thesis in at least two ways. First of all, my data collection is based on a very short, although very intense, time in the farmer groups and the facilitators and researchers. The fact that I returned to the same groups and places during the project, however, gave me a feeling of being familiar with the people and places, including being able to continue discussions and common reflections. Secondly, the job-related outputs from my hand had been directed towards immediate feed-back, aiming at continuous adjustments, development, analysis of results and recommendations related to the projects. This is a very different approach than being there as student, and the two different ways of trying to collect as much insight and information might have supported as well as conflicted with each other. My personal feeling was that collecting data in relation to this thesis added valuable insight which was also used in the discussions about the projects and future initiatives with my colleagues. In the Danish project, I was the project leader besides being the researcher doing participant-observation and interviewing the farmers. The fact that this project was developed based on the experiences from Uganda in combination with initial reflections on common learning processes might have facilitated and stimulated my deep involvement in the project, where I acted as an interactive sparring partner in the development of the farmer group design.

Ethical considerations related to the projects primarily address the sustainability of the approach after the completion of the action research and development projects. In action research approaches, a great part of the responsibility and development within the project as well as the dissemination are carried by the end-users of the project. To a large extent, the outcome of the projects also seemed relevant, appropriate and sustainable in each their context. However, many of the human resources involved in the projects were paid by the projects, and as such, the sustainability of the approach

can relevantly be questioned. Furthermore, in Uganda, some of the technical equipment (such as test material) was bought by the project and very difficult to obtain in some districts, in particular remote rural areas. This is critical in terms of sustainability of these initiatives, and such inputs clearly should be minimised. A great part of the development in the projects was the iterative interactive process involving farmers, facilitators and researchers. This created a high spirit and much enthusiasm in the whole group. Ison & Russell (2000) emphasise the importance of enthusiasm as a driving force in the development process. This should be though critically evaluated and guide lines as how to stimulate enthusiasm should be given in order to ensure future sustainability when not being supported by an inter-disciplinary team involving researchers, stakeholders and end-users throughout the whole.

## **PART 4: Concluding remarks and future perspectives**

The research theme of this thesis was to explore – based on theoretical concepts of learning and empowerment – how the formation of farmer groups in Uganda and Denmark potentially could contribute to common learning among and through this empowerment of farmers in their local contexts on individual, community and society levels.

So, which learning environment and framework can facilitate learning and empowerment?

Qualities such as mutual trust, ownership, respect, openness, participation on equal basis (e.g. when all group members expose their background, experiences and participate with all their capacities), consciousness about one's own as well as other participants' role in the process, and working towards a common goal for the process were some of the explored themes in this thesis. And they all seem to be relevant suggestions to qualities which are crucial for facilitating a learning and empowerment processes across local contexts.

Based on the experiences in the two different settings in Denmark and Uganda, the learning process could be described as empowering, when it was challenging and leading to a transformation of the farmers thinking and practice on individual and community levels. Such transformative learning experiences seemed based on situations with situated, experiential learning with a starting point in the daily practice of the learner.

To which extend can the approach of learning in groups contribute to a learning situation? Through legitimate peripheral participation, new knowledge and insight was created through negotiation of meanings among the participants, and learning took place as a part of social practice. The learning and the empowerment of Ugandan and Danish farmers were focused differently, which underlines the need of identifying the approach to learning and direction of the empowerment process which is valid for the context. When the processes leading to learning and empowerment are guided by the involved parts at all steps of the process, the relevance of the approach is ensured.

Addressing the diversity of learning environments and developing analytical concepts related to this diversity seems relevant in order to enable facilitators and development organisations to guide and adjust learning and empowerment processes in farmer groups in accordance to the local context. I suggest that this is taken up as a future perspective in the work concerning the empowerment of farmers.

Empowerment on a more political and structural level e.g. in relation to farming policy and extension service constitutes a future challenge. This is a relevant focus area for evaluation of empowerment, but not covered in this thesis. These projects were action research projects, where all participants were equal in the process, although of course contributing with widely different types of inputs. The Danish project was conducted within a framework involving a major organisation relevant for the environment, namely 'Organic Denmark' (an umbrella organisation for organic production). The initiatives of the Danish Stable Schools were therefore disseminated to a wider community of organic dairy producers. The experiences and reflections presented in this master

thesis suggest from my point of view that it is possible to contribute to the development of resource for poor farming communities through farmer groups and processes like the described approach from Uganda. Based on these experiences, it contributed to strengthen farmer identity and feelings of responsibility, need and capacity to take action in own lives, and to create strong social and cultural networks in local communities based on mutual trust and respect. One relevant future challenge is to bring this approach to a wider farmer community, which we could not do being part of these specific research projects.

## **Danish Stable Schools as a part of daily practice A mini manual**

### **Stable Schools in practice**

The following is partly based on the translation of a little 24-page booklet in Danish entitled 'Handbook on Stable Schools'. The idea is to give some practical advice on how to get started. It can be seen as a good supplement to the rest of this report (which is built on a master thesis where a more reflective approach to the learning process) in order to facilitate practical implementation and use of the concept, which – if used in other parts of Europe or the World as well as in other areas than dairy cattle – most probably must be adjusted to the local conditions, and of course the expectation and needs of the farmers and other end-users. The Danish handbook was edited in 2005 by Lone Lisborg and co-written with Thorkild-Büløw Nissen, the facilitator of the four first Stable Schools in Denmark. Both are gratefully acknowledged for being inspiring partners in that process, and I hope that the following although re-edited and changed here and there, carry the good spirit of their contributions.

### **The common goal**

The most important starting point for a Stable School is a common goal. This is a goal all participants will aim at reaching in a way that fits with the context of each farm. The goal can be an overall goal, something that everybody wants to work towards, or a common problem that everybody wants to solve. Therefore, a Stable School can start in two ways:

- A group of farmers identify their common goal. They decide to collaborate and support each other to reach this goal. They will connect a facilitator to guide them through the process.
- A facilitator is familiar with a goal, which is shared by many farmers. The facilitator therefore announce his or her capacity to guide groups through a process connected to this goal, for farmers who want to link up with other farmers in order to reach it.

In the project on which this mini manual is based, the participants had the common goal of phasing out antibiotics from their dairy herds. Each farmer made a strategy to improve the animal health and welfare condition in the herd, so that the antibiotics gradually would become less relevant as a 'tool' to control diseases in the herd. After this project was completed, other initiatives were taken among organic farmers to form groups with other topics, and 'Farm Shop Schools' were created with the common goal of building up farm shops on the participants' farms in harmony with the farms, and 'Field Schools' with the common goal of getting rid of weed. Each farmer articulated the local goals for their farm at the first group meeting at the farm in order to let their colleagues base their advice on this.

The fact that each group had a common goal was evaluated to be of great importance because it made the discussions relevant to everybody. The combination of a common goal and individual herd goals vividly illustrated how a common goal could be reached in a number of different ways, which again stimulated the innovative thinking in the group. All farmers came from their own complex herd situation, which enabled them to take many different factors into account also when discussing solutions to a specific and apparently limited animal health related problem. In conclusion, the Stable School approach seemed a valuable way to promote animal and herd health in cases, where complex farming situations are in focus and the group of farmers work to meet the same challenge, which in this case was phasing out antibiotics from organic herds.

### **Describing a ‘Stable Schools’**

- They consisted of farmers from 5-6 organic dairy herds and a facilitator, who were given the task of organising the practical arrangements of the meetings, keeping the agenda at the meeting and writing the minutes. The facilitator in this case was a cattle health advisor with focus on feeding, but he did not act as an advisor at the meetings. He was guiding and facilitating the discussion and seldom interfering with it.
- The dairy herds in each group were of very different in sizes, housing systems, calving patterns etc. It was generally seen as an advantage to have participants from very different farms, because this represents a spectrum from which everybody can learn.
- It was seen as an advantage if the driving distance between farms was not longer than maximum 45 minutes.
- The groups held meetings monthly. They visited one herd at each visit and this herd was in focus. After the first round of visits, a follow-up meeting was made on each farm. The whole course of the Stable School was in this way planned to last one year, with monthly meetings twice at each participating farm.
- The participating farmers could know each other before starting a Stable School. They could even participate in the same ‘erfa-group’ (farmer groups for experience exchange). If knowing each other beforehand, the farmers should be conscious about not falling into old patterns of ‘joking’ or ways of communicating or acting which are not constructive in a Stable School context, where openness and mutual trust are some of the most important characteristics.
- For each meeting, the facilitator and the host farmer made an agenda for the following meeting. One success-story and two problem areas were identified.
- Each meeting took 2½ hours, normally from 9:30 till 12:
  - o The first hour was spent in the stable and/or fields among the animals, where the success-story of the herd often were shown and demonstrated.
  - o Inside the house, the group had coffee and ‘free discussion’ for 5-10 minutes.
  - o Then the meeting started with the problem areas of the herd in focus. Each problem area was handled in the following way:
    - The farmer presented the problem area to the group, including the history, actions taken, perceptions of possible risks etc,
    - The group asked clarifying questions, which were answered by the farmer
    - Then the group took a ‘round’ where each group member one after the other gave their evaluation on his or her perception of the problem and possible solutions. The farmer him- or herself was not allowed to respond to the suggestions and discussions of the group.
    - Finally, the farmer was asked to sum up the meeting and tell the group what he would commit himself to in terms of concrete improvements on his farm until next meeting.
    - After the first problem area was handled this way, the second area was brought up in a similar way.
  - o The whole process with two problem areas around the table took approximately 1½ hour.
  - o At the second meeting on each farm, a follow-up was made and replaced the success-story.
  - o A more detailed description of the agenda is given in Box 1 below.



1a



1b.



1c.



1d.

Figure 1a, 1b, 1c, and 1d. The Stable School groups consist of farmers from 5-6 farms, and the first 30-60 minutes of each monthly meeting take place outdoor or in the stable. The farmers look at all things that can be related to the agenda, which is set up by the farmer with help from the facilitator. Especially the success case should be demonstrated and shown to the colleagues. If practical questions or discussions arise, the farmers often do something to find out what is right, like in 1a where the temperature of the deep litter mat is measured, or in 1b, where feed samples were taken for analysis of the content of various nutritional components.

<b>No. and point on agenda</b>	<b>Explanations and comments</b>
1. In Stable and Field	Half an hour, maximum one hour, to get an overview and an impression of the farming system and the starting point for the discussion, as well as the latest developments. The farmer leads the farm tour, and it is important that the group sees all things related to the chosen problem areas and the success case. The facilitator keeps an eye on time and speeds up the process if necessary.
2. Coffee and free talking	This is necessary in order to keep the agenda afterwards. The farmers will always have news to exchange on latest exhibitions, who has sold a farm or started a new type of production. The facilitator starts the meeting after 10 minutes.
3. The goals for this farm and in this family	The participants in a Stable School share the common goal, but all solutions have to be found within the framework of each farm. Therefore it is important that the farmer articulate the goals for this particular farm, herd and family. This includes all types of goals, such as ‘I want to have at least one week’s holidays with my family every year’, ‘I want 250 milking cows’, ‘I want to employ one more person to help me out in the weekends’, ‘I want to be able to keep all groups of animals including bull calves, because I feel that is more harmonic’, ‘I want to keep cows and calves together as long time as possible’ etc.
4. The goal and thoughts on phasing out antibiotics in this herd	What is the farmer’s motivation for taking up this common goal? How are the politics and the routines in the herd concerning the use of medicine at the moment? What are the farmer’s concerns? What are the farmer’s goals on medicine and antibiotic use in the future? Are there any diseases in the herds that could complicate a phasing-out-antibiotic strategy?
5. Latest two antibiotic disease treatments in the herd	In order to get an impression of the choices of the farmer in relation to use of antibiotics, the two latest treatments are discussed in detail. In some cases more than two cases are discussed, especially if the herd’s treatment pattern is diffuse.
6. The success case	It is important to not only focus on problems but also on things that the farmer has succeeded in. This is both in order to support the host farmer by reminding him or her about the things that went well, and in order to stimulate and inspire the colleagues by providing them with experiences that they might import to their own reality at home. At the second meeting at each farm this point is replaced by a follow-up from last visit and the things that were implemented.

7. Problem area; one after the other:	Some of the problem areas or challenges might be relevant to take up already when in the stable or outdoor, e.g. the milking parlour (if the problem area is somatic cell counts) or how the different sections are placed in relation to each other.
a. Presentation	The host farmer tells about the problem and its history in the herd, e.g. what has been done so far.
b. Questions	The colleagues ask clarifying questions in order to understand the problem area or related risk factors better, or in order to link it to similar experiences from one's own memory or daily life. This can be taken systematically as a tour among the participants. The facilitator can also participate in asking clarifying questions.
c. Evaluation and suggestions	By turn everybody gives his or her evaluation of the case and suggestions to solutions. The host farmer is not allowed to say anything during this round. The facilitator does normally not participate in this, but take notes so that nothing is forgotten in the following. The tour can start from the left side of the host and go clockwise treating the first problem area, and the other way in relation to the second problem area.
d. Commitments	The host farmer sums up what has been said and gives his or her view points on the suggestions, e.g. why he/she is not attracted to some of them and on the other hand why others sound attractive. After this, he/she lists the commitments and changes that can be expected in relation to the problem area. Often, two types of commitments are listed: I. Changes which are expected to be implemented before next meeting II. Changes which the farmer will consider. This category is often big changes that might involve the bank, details worked out by an advisor, or acceptance among members of the family or staff.
8. Next meeting date	Time and place for next meeting.

Box 1. Details on the agenda of the Stable School.



Figure 2 a & b. After having seen all outdoor facilities and all groups of animals, the group goes indoors and after a cup of coffee and ‘free talk’ they start working by going systematically through the agenda.

### **The first and the last Stable School meeting**

At the first group meeting some extra time, at least half an hour, should be allocated for discussion of the general principles of the meetings, the democratic approach, expectations to each other, and the conditions for participation in the groups, such as mutual trust, openness and confidence that everybody wants the best for each other. Here, the participants can also shortly introduce themselves.

At the last meeting in the group, the whole course should be properly evaluated, with focus on the process and what has been achieved in the different farms.

### **Important to structure the meetings**

One meeting could easily take 3 hours or more, since farmers in general often are quite talkative. If not structured properly, many different topics can be opened, often with the result that the discussion becomes diffuse and lacks focus. It is important that the facilitator keeps the time and cuts all attempts to discussions moving out of the line. One of the important things are to bring up and relatively profoundly discuss few issues, and then allow each farmer time and space to reflect and implement things in practice when home again.

### **The facilitator’s role and tasks**

‘Facile’ originally means ‘easy’, and the basic role of the facilitator is to make life easy for the group and the process easy-going by stimulating the whole group to remember the goals and frameworks of the whole concept of Stable Schools. This also includes the goals and norms that the group has agreed on from the start.



Figure 3. During the meetings, the facilitator is the person keeping the structure of the meetings, keeping track of time, keeping the group to the agenda, and writing the minutes from the meeting, which will be sent out together with the agenda to the following meeting.

#### During the meetings

- Keep focus on the goals.
- Take care that everybody has the possibility to talk.
- Help the group to keep their agenda.
- Remind the group members to keep their word and take care that all agreements remains clear.
- Make sure that the group does not get stuck in any discussion or exchange of opinions, or about things like whether a certain solution to a problem is illegal or any other things that needs clarification.
- Write notes during the meeting in order to be able to prepare the written minutes.
- Help making the conclusions as precise and concrete as possible.
- Take care that everybody agrees on the time and place for next meeting.

#### Between the meetings

- Prepare the agenda together with the farmer, who will be the host for the following meeting, and send out the agenda not later than a week before the meeting.
- Send out the agenda and the written minutes from the previous meeting together with the farm data.
- Follow up if there is a need to clarify something for the group before next meeting, e.g. some legal matter or information e.g. about whether a new feeding stuff can be used in organic herds.
- Call group members who did not attend in order to keep them updated, hear why they did not attend and let them know about time and place for the following meeting.

Box 2. The facilitator's main tasks during the meetings and in relation to the whole process of each Stable School group are to keep the group on the track towards fulfilling their common goals.

### **The facilitator has to put aside the role as ‘expert’**

*... The facilitator must not become the professional dominant person in a group. This is important. The worst example I can imagine is the type of advisors who are invited to a meeting and then they take over and dominate the debate completely. That kind of lacking sense of the situation is not good for a facilitator in a Stable School – then it would be better to be just farmers who meet’*

*Said by a Stable School participant, summer 2005,  
Focus Group interview.*

During the meeting with the farmers, the facilitator concentrates on the agenda, the group dynamics and writing notes for the following meeting. The facilitator does not act as an expert, in other words! Many facilitators will have a history as advisor or consultant, and it can be a big challenge to change one’s role from being the expert who is expected to come up with the solutions and suggestions. Having had feed-back from facilitators, some of the challenges identified are:

- the facilitator might possess professional knowledge conflicting with the farmers’ advice,
- the facilitator feels that everybody expects him or her to talk, and that not giving professional advice might make the group members question his/her professional knowledge in the field,
- the facilitator might have some ‘hot view points’ in certain areas, e.g. for or against deep litter, suckling systems etc., and it is difficult not to be able to try and convince a farmer about the advantages and disadvantages of a certain system.

On the other hand, the facilitator often finds out that the group of farmers is very knowledgeable in the field and that most aspects related to the chosen topics are covered. Furthermore, several of the facilitators working with Stable Schools in Denmark now, have gained the experience that if somebody gives an advice that is too much out of focus or too ‘crazy’, it will often be commented on by other farmers or even the host, and that the self-regulatory mechanisms in a group consisting of competent farmers will put most ‘out of scope statements’ in appropriate proportions to other advice and suggestions.

In the group focus interviews of the Stable School groups, it was discussed whether a facilitator without any professional livestock system knowledge would be acceptable. The advantage could be that the facilitator may focus solely on the process and furthermore be able to ask questions that might stimulate the farmers to question ‘conventional’ or ‘traditional’ knowledge in the field. The farmers in these groups agreed that they preferred a facilitator with professional knowledge especially when discussing and preparing the agenda with the farmer. In the groups, the facilitator might help the process with his or her professional knowledge by asking relevant questions, and to know whether a discussion is starting to become disconnected to the topic in focus, and finally to be able to track facts about whether something is illegal or whether there e.g. are some websites in a given area that could be useful or even necessary in order to provide answers to some questions posed by the farmers.

### **The important characteristics of the Stable Schools**

#### Mutual trust

*... the trust in each other ... I think this is the important thing. It is not only about knowing each other, but about feeling the mutual trust, to dare saying the difficult things and what one struggles with. That you do not just keep your mouth shut or say ‘I will think about that’, because you do not*

*really dare to say things. It can be difficult to distinguish between trust and knowing each other. But it is possible to know each other well without trusting each other.*

*Said by a Stable School participant, summer 2005,  
Focus Group interview.*

The mutual trust should be supported from the first meeting. This will be stimulated by allocating time at the first meeting to allow all participants to present themselves and agree on common principles and norms for communication and participation in the groups. All responsibilities, expectations and practical arrangements should be made clear from the start so that everybody feels safe and know what to do and what is expected.

### Common democratic responsibility

*I think that one thing that has really been working has been the listening to each other. We have been able to say things, but we also remember to listen.*

*Said by a Stable School participant, summer 2005,  
Focus Group interview.*

All participants in a Stable School have a common responsibility for the process. Everybody participates actively and give their experience and knowledge to the group when relevant. Everybody has the duty to genuinely participate with asking relevant questions, give comments, and respectfully listen to each other, and not least: to say when certain things do not work or should be changed. In this way, everybody contributes to the equality, mutual respect and right to always give view points and share knowledge and experience. It is important that the facilitator keeps the structure at the meetings and stimulates the communication in this way, but the experiences from these groups was often that once the farmers saw the way of communicating, it was a kind of self-regulatory process.

### Openess and participation on equal basis

*What we basically also did was to see all kinds of criticism as an opening of new possibilities...*

*Said by Stable School participant, summer 2005,  
Group Focus interview.*

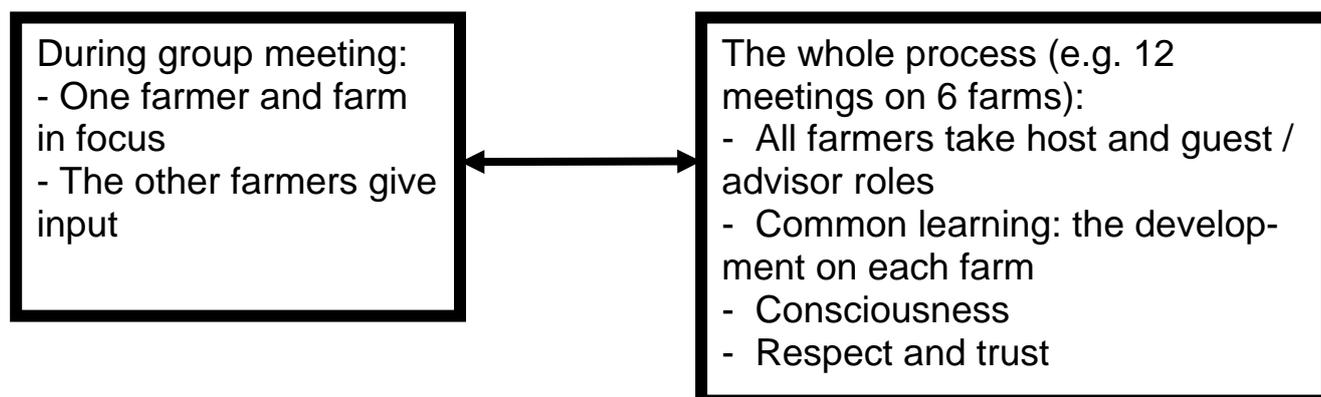


Figure 4. Illustration of the asymmetry and symmetry in the group. In the whole process all farmers take the role both as the one being exposed to their colleagues' in-depth studies and advice after having opened up to his or her farm, and to take the role as advisor for colleagues. The success of this approach is completely dependent on each farmer's openness and the mutual trust between farmers in the group.

The combination of the common goal and each farm's own goal stimulated the mutual respect and the identity and consciousness of each farmer

*'Our Stable School had farm life as a starting point, being organic as a precondition, and phasing out of antibiotics as a goal. The Stable Schools have clarified in my mind, what the problems were on my farm. The mutual trust among the participants made it possible for us to go far with each other and to touch the problem areas that hurt.'*

*(Olsen, 2006, a participating farmer in a Stable Group;  
translated by Mette Vaarst)*

All suggestions and solutions responding to challenges should be adjusted to the reality, values and possibilities of each farm, and the Stable School group helped in this process. By articulating the goal of each farm, the farmers' identity and self-consciousness was challenged and strengthened. Furthermore, we concluded that the challenge of being different strengthened the group's common effort to help each other in reaching the common goal. The dialogue was continuously challenged by the differences between herds and conditions for management and daily routines, seeing things from different angles, and clearly making different choices. The strengthening of the identity happened in some cases, such as farmers with seasonal calving patterns being together with farmers with equal amount of calving throughout the year. Here, farmers with the equal calving pattern might have considered a more seasonal calving pattern, but by being confronted with the advantages and dis-advantages through experience by the colleagues, their consciousness about NOT wanting to introduce a similar system in their own herds. In conclusion, there was a high amount of ideas that each farmer were inspired by and attracted to, but also ideas that made the farmer conscious about how things were already appropriate the way they were.

The innovative and un-traditional solutions to challenges

*... I am sure that certain things which have been implemented by some of us might be wrong if looking into the textbooks, and they might be completely wrong seen from a theoretical point of view, but if the facilitator had stopped us every time, then we would not have learned from each other.*

*Said by a Stable School participant, summer 2005,  
Focus Group interview.*



Figure 5. The farmer groups worked with many un-traditional systems and ideas, such as the so-called 'suckler aunt systems', outdoor access during winter, and lot of small innovative improvements that the fellow farmers never would have been advised to do by 'traditional advisors'.

The practical aspects of implementing a suggested solution

The farmers knew farming life! At several occasions, fellow farmers were able to identify potential constraints to implement a new strategy or routine, because they had a practical approach to farming life. Therefore, advice and suggestions were always given open to adjustments to the practical framework, and the farmers tended to discuss in detail how a given piece of advice should be practically implemented in the herds.

Ownership: setting the agenda and drawing the conclusions

The farmers showed enough responsibility to decide on the agenda together with the facilitator. After the meeting, they also had the full responsibility to follow up on the improvements that they committed themselves to. This allowed full ownership over the process and may help explaining why so many changes were made in the participating herds, and how the use of antibiotics could be reduced to the half amount over a one-year period without increasing signs of diseases.

**And after one year in a Stable School ...?**

In the Danish Stable School project, we had introduced the principle that a success is not made more successful by letting it continue. So we had put a framework of a one-year course with two meetings at each of the 5-6 farms. However, all four groups in the project chose to continue after the year passing. The frequency of meetings has been reduced in all cases to 4-6 meetings per year.

If continuing, the one year course should still be carefully evaluated and new norms and agreements should be made for the following period, so that the development of the group and the goals are evaluated and all participants agree on what has happened and how it is most appropriate to continue.

*... The renewing aspect in this is that we get together here, 6 farmers, and actually talk on equal level with 'the clever people'. Because it is our stables that are our starting points, and our goals that we try to meet before the next meeting in the group, and our ambitions that are tested. There are many people who want to sell all kinds of advisory service in Denmark, but the type of advisory service that we should cultivate in this group is the type where we focus on each others' situations and each others' goals.*

*Said by a Stable School participant, summer 2005,  
Focus Group interview.*

*... At a certain point I told my wife that these meetings are the approach on which I have been able to save most money. The salary per hour when participating is enormous – or at least it can be. Who deserves the roses for this, I don't know, but I suppose it is a common effort ...'*

*Said by a Stable School participant, summer 2005,  
Focus Group interview.*

## References

Anonymous (2003). Farmer Field Schools. The Kenyan Experience. Report of the Farmer Field School stakeholders' forum held on the 27<sup>th</sup> March 2003 at ILRI, Nairobi, Kenya.

Andersen, M.L., Brok, P.N. & Mathiasen, H. 2000. Empowerment på dansk [Empowerment in Danish. In Danish]. Dafolo Forlag, Frederikshavn, Denmark, pp. 180.

Boud, D., Keogh, R. & Walker, D. 1985. Promoting Reflection in Learning: a Model. In: Boud, D., Keogh, R. & Walker, D. (eds.) 1985. Reflection: Turning experience into learning. Kogan Page Ltd., London, UK, 18-40.

Bourdieu P (1991). Language and Symbolic Power. Edited and Introduced by John B. Thompson. Polity Press, Cambridge, UK.

Chambers, R. 2004. Ideas for development: reflecting forwards. IDS Working Paper 238., Institute for Development Studies, Brighton, Sussex, UK, pp. 40.

De Leeuw, P. N., McDermott, J. J. and Lebbie, S. H. B. Monitoring of livestock health and production in sub-Saharan Africa. Preventive Veterinary Medicine 25. 1995. 195-212.

Dreier, O. 1999. Læring som ændring af personlig deltagelse i sociale kontekster [Learning as change of personal participation in social contexts. In Danish]. In: Nielsen, K. & S. Kvale (eds.), 1999. Mesterlære. Læring som social praksis [Apprenticeship. Learning as social practice. In Danish]. Hans Reitzels Publishers, Copenhagen, 76-99.

Eriksen, T.H. 1994. Små steder – store spørgsmål. Innføring i sosialantropologi [Small places – big questions. Introduction to social anthropology]. Universitetsforlaget, Oslo, Norge, pp. 384.

Emmerson, R.M., Fretz, J. & Shaw, L.L. 1995. Writing Ethnographic Fieldnotes. The University of Chicago, Chicago, USA. Pp. 254.

Gakwandi, A. 1999 (ed.). Uganda Pocket Facts. A companion guide to the country, its history, culture, economy and politics. Fountain Publishers, Kampala, Uganda. Pp.125.

Gallagher, K. 2003. Fundamental Elements of Farmer Field School. LEISA MAGAZINE, March 2003, 5-6.

- Hansen, J.T. 2001. Selvet som rettedhed – en teori om noget af dét, der driver og former menneskeliv [The self as directedness – a theory about some of the factors that drive and form human lives. In Danish]. Klim, Århus, Denmark, pp. 331.
- Hansen, H.P. 1995. Feldarbejde som forskningsstrategi [Fieldwork as research strategy. In Danish]. I: Lunde, I.M. & Ramhøj, P. (eds.) 1995. Humanistisk forskning inden for sundhedsvidenskab. Kvalitative Metoder. Akademisk Forlag, Copenhagen, Denmark, 116-128.
- Hastrup, K. & Ovesen, J. 1985. Etnografisk Grundbog [Basic Ethnography. In Danish]. Gyldendal, Odense, Denmark, pp 355.
- IDS, 2001. The new dynamics of aid: power, procedures and relationships. IDS Policy Briefing. Issue 15, August 2001, pp.6.
- Ison, R. & Russell, D. 2000. Agricultural Extension and Rural Development. Breaking out of Traditions. A second-order systems perspective. Cambridge University Press, UK, pp. 239.
- Jackson, E.T. & Kassam, J. (eds.) 1998. Knowledge Shared. Participatory Evaluation in Development Cooperation. IDRC CRDI, Kumarian Press, Canada. Pp. 252.
- Khisa, G.S. (2003). Overview over the Farmer Field School approach. In: Anonymous 2003: Farmer Field Schools. The Kenyan Experience. Report of the Farmer Field School stakeholders' forum held on the 27<sup>th</sup> March 2003 at ILRI, Nairobi, Kenya.
- Kimmins, F., Ebong, C., Albright, K., Ward, A., Vaarst, M., Halberg, N., Hindhede, J. 2004. Technological options that respond to demands and market opportunities with focus on crops and livestock. Uganda Journal of Agricultural Sciences, 9, 855-870.
- Kolb, D. 1984. Experiential learning. Experience as the source of learning and development. Prentice hall, Englewood Cliffs, New Jersey. PP 256.
- Kvale, S. 1996. Interviews. An Introduction to Qualitative Research. Interviewing. Sage Publications, Thousands Oaks, California.
- Lave, J. & Wenger, E. 1991. Situated learning. Legitimate peripheral participation. Cambridge University Press, pp. 129.
- Lewis, M. 2000. Focus Group Interviews in Qualitative Research: A review of the Literature. Action Research E-Reports, 2, <http://www.fhs.usyd.edu.au/arow/arer/002.htm>

- LSRP, 2003. Proceedings of the Livestock Systems Research Programme (LSRP) Annual Scientific Workshop 2003. In collaboration with DANIDA's Agricultural Sector Research Programme (ASPS) and the National Agricultural Research Organisation (NARO). Pp. 252.
- Mead, M. 1970. *Culture and Commitment: a study of the generation gap*. Doubleday, London., UK. Pp 81
- Munene, J.C., Schwartz, S.H. & Kibanja, G.M. 2005. Escaping from Behavioural Poverty in Uganda. The Role of Culture and Social Capital. Fountain Publishers, Kampala, Uganda, pp. 170.
- Nelson, N. & Wright, S. (editors; 1995). *Power and Participatory Development. Theory and Practice*. Intermediate Technology Publications, UK. 225 pp.
- Nielsen, K. & S. Kvale, 1999. Mesterlære som aktuel læringsform [Apprenticeship as learning practice. In Danish]. In: Nielsen, K. & S. Kvale (eds.) 1999. *Mesterlære. Læring som social praksis [Apprenticeship. Learning as social practice. In Danish]*. Hans Reitzels Publishers, Copenhagen, 11-31.
- Nzita, R. & Mbagwa – Niwamba, 1997. *Peoples and Cultures of Uganda*. Fountain Publishers, Kampala, Uganda, pp. 170.
- Olsen, A.B. 2006. Mine erfaringer med staldskoler og udfasning af antibiotika. [My experiences with Stable Schools and phasing out antibiotics. In Danish]. Pages 116-117 in: *Proceedings from Danish organic Congress 2006, 30<sup>th</sup>-31<sup>st</sup> May 2006*, Odense Congress Center, Odense, Denmark.
- Oruko, L., A-Olaunah, C. & Okubal, P. 2003. Report on Participatory Impact Assessment Case Studies. Monitoring and Evaluation Series Number 6, Department of International Development, NARO, pp. 23.
- Percy, R. (2005). The contribution of transformative learning theory to the practice of participatory research and extension: Theoretical reflections. *Agriculture and Human Values*, 22, 127-136.
- Pontius, J., Dilts, R. & Bartlett, A. 2002. Ten years of IPM training in Asia. From farmer field school to community IPM. FAO. Regional Office for Asia and the Pacific & FAO Community IPM Programme. FAO, Bangkok, Thailand, pp. 110.
- Reason, P. and Bradbury, H. 2001. *Handbook of Action Research. Participatory Inquiry and Practice*. SAGE Publications, London, UK. Pp. 468.

Schön, D.A. 1983. *The reflective practitioner. How professionals think in action.* Basic Book, New York, pp. 374.

StatBank Denmark, 2006. Detailed statistical information on the Danish society.  
<http://www.statbank.dk/statbank5a/default.asp?w=1280>

Strauss, A. and J. Corbin. 1990. *Basics of Qualitative Research. Grounded Theory Procedures and Techniques.* Sage Publications, Thousands Oaks, California.

Vaarst, M. 2004. The 'Participatory Farmer Field Learning Groups' in Mbale smallholder dairy lowland farms. Report and recommendations based on a three-day visit June 2004. P. 30.

Vaarst, M., Bennedsgaard, T.W., Klaas, I.C., Nissen, T.B., Thamsborg, S.M., Østergaard, S. 2006a. Development and daily management of an explicit strategy of nonuse of antimicrobial drugs in twelve Danish organic dairy herds. *Journal of Dairy Science*, 89, 1842-1853.

Vaarst, M., Padel, S., Arsenos, G., Sundrum, A., Kuzniar, A., Walkenhorst, M., Grøva, L. & Henriksen, B.I.F. 2006b. Challenges for animal health and welfare in the implementation of the EU legislation on organic livestock production: analysis of questionnaire survey among SAFO participants. In: Rymer, C., Vaarst, M. & Padel, S. (eds) *Future perspectives for animal health on organic farms: main findings, conclusions and recommendations from the SAFO Network.* Proceedings of the 5<sup>th</sup> SAFO Workshop, Odense, 1<sup>st</sup> June 2006, 43-74.

Vaarst, M., Byarugaba D.K., Nakavuma, J. & Laker, C. 2007. Participatory Livestock Farmer Training for improvement of animal health in rural and peri-urban smallholder dairy herds in Jinja, Uganda. *Tropical Animal Health and Production* 39, 1-11.

Vaarst, M., Nissen, T.B., Østergaard, S., Klaas, I., Bennedsgaard, T.W., Christensen, J. 2007. Danish Stable Schools for Experiential Common Learning in Groups of Organic Dairy Farmers. *Journal of Dairy Science*. 90, 2543-2554.

Vygotsky, L.S: 1978. *Mind in society: the development of higher psychological processes.* Harvard Univeristy Press, Cambridge, UK, pp. 159.

Wolmer, W. & Scoones, I. 2005. *Policy Processes in the Livestock Sector: Experiences from the African Union.* AU/IBAR Policy Briefing Paper, African Union/Interafrican Bureau for Animal Resources, Institutional and Policy Support Team (IPST), Nairobi, Kenya, pp. 33.

World Bank 2002. *Empowerment and Poverty Reduction. A Sourcebook. Draft.* PREM, World Bank, May 1, 2002, pp 280.

Farmer Field Schools (FFS) is a well-known concept, which is widely used in many types of farming systems in the Global South. In this report different approaches to FFS adjusted to Ugandan smallholder dairy systems and to Danish organic dairy systems are explored and discussed. The report is based on a Master Thesis in Health Anthropology and a mini manual to the so-called Stable Schools.

Improvements of farming practices should be based on the context of the individual farm and include the goals of the farmer and the farming system. This should be the case in all types of farming systems.

Viewing learning as a social phenomenon and process, as well as an interaction between the learner and the learning environment (including other farmers) may give opportunities for context based innovations and developments towards a common goal in a group of farmers.

## PLANT SCIENCE



## HORTICULTURE



## ANIMAL SCIENCE



Grøn Viden is published by the Faculty of Agricultural Sciences (DJF) at the University of Aarhus and is issued in separate Horticulture, Plant Science and Animal Science farming series. For more information on our publications please visit our website [www.agrsci.org](http://www.agrsci.org)