

# **Sowing Seeds of Trust**

Social Learning in Farmer Family Learning Groups

*Tim Sievers*

---

Master Thesis Series in Environmental Studies and Sustainability Science,  
No 2016:033

A thesis submitted in partial fulfillment of the requirements of Lund University  
International Master's Programme in Environmental Studies and Sustainability Science  
(30hp/credits)



## **LUCSUS**

Lund University Centre for  
Sustainability Studies



**LUND**  
UNIVERSITY

## **Sowing Seeds of Trust**

Social Learning in Farmer Family Learning Groups

Tim Sievers

A thesis submitted in partial fulfillment of the requirements of Lund University International  
Master's Programme in Environmental Studies and Sustainability Science

Submitted October 3, 2016

Supervisor: Elina Andersson, LUCSUS, Lund University



## **Abstract**

Agricultural systems, specifically in the global South, and the people living of them, are more than others, exposed to changes in the environment around them. Smallholder farmers (that work in agro-ecological systems), with a low standard of living, are the most vulnerable to short-term shocks and long-term stresses. There have been attempts by development agencies, researchers and local governments to facilitate the development of sustainable and dynamic agro-ecological systems, though, most of these have failed. My thesis based on a case study, which is situated in the biodiverse Rwenzori region in Uganda, where farmers are one of the poorest groups in society and directly depend on their own food production. This case study centers around an agro-ecological approach that promotes whole household participation and which is practically oriented and that encourages farmers to take charge of their development process towards an increased livelihood, through so called Farmer Family Learning Groups (FFLG's). I depart from social learning theory and investigate to what extent social learning processes unfold in such groups and in what ways it supports an increase in farmers' capacity (respond to livelihood stressors) and adapt to environmental change. Drawing on open-ended interviews with local farmers, Facilitators and the member organisation SATNET, I use the theory of social learning to identify conditions that facilitate social learning and compare these with my data. Factors identified are how trust is increased, how a change in attitude and behaviour occurs, how shared knowledge is created, social networks are strengthened, and how improved management of socio-ecological systems can be recognised. The results of this empirical study indicate that the FFLG's provide a secure and trustful setting to create a participatory learning environment in which social learning can be practiced and contribute to improved livelihoods. Based on this case study I will propose an extension of the social learning theory by implementing a permanent facilitator that guides the farmer group, to ensure a continuous strive to achieve lasting change.

**Keywords:** Farmer Family Learning Groups, Uganda, Smallholder agriculture, social learning, facilitator, livelihood

**Word count: 13988**

## Acknowledgements

First of all, I want to express my gratitude towards the SATNET team who allowed me to conduct research on their very inspiring approach. I was welcomed with open arms and introduced to many interesting people. Without their hospitality the whole research would have not been possible.

Special thanks also go out to all the farmers that were willing to answer my questions and show me around on their farms and inside their homes.

I want to thank Ellinor that she connected me with SATNET in Uganda when I was desperately looking for a case study. Thank you very much, without you I probably would have never went to Uganda.

I want to express my gratitude to my Supervisor Elina who helped me during my whole process of writing. Especially in the beginning when everything just seemed overwhelming she helped to organize my thoughts.

I also want to mention Henner here. You helped to channel my thoughts and gave me confidence in what I am writing is not complete nonsense. N'dicket Danke Schön!!

My flatmates need to be mentioned here as well. Dennis and Shona... Gosh we went through hard times. But we kept each other's heads high with good food, laughter and when things went down there was always glass of whiskey one could hold on to.

My family needs to be mentioned here as well. You always supported me, if it was financially or giving me encouragement. I am glad to have such a supportive and loving family that helps to make my way, whatever way.

Last, but most importantly, Sara. I cannot tell you in how many different ways you supported me during this time. You were always there when I needed to get my mind out of academia and just talk about life and be silly. On the other hand, you allowed me to make use of your brilliant mind and brainstorm about theory and helped me to get out of moments of standstill. Constant encouragement and motivation kept me going and enabled me to finish this thesis. You know how much you mean to me!

# Table of Contents

<b>1 Introduction .....</b>	<b>1</b>
<b>1.1 Contribution to Sustainability Science .....</b>	<b>2</b>
<b>1.2 Historical Background .....</b>	<b>2</b>
<b>1.3 Context – the dilemma of modernist agriculture and alternatives.....</b>	<b>4</b>
<b><i>1.3.1 Alternative Approaches to Conventional Agriculture .....</i></b>	<b>6</b>
<b>2 Theory.....</b>	<b>7</b>
<b>2.1 Social Learning.....</b>	<b>7</b>
<b><i>2.1.1 Loop Learning.....</i></b>	<b>9</b>
<b><i>2.1.1.1 Single Loop Learning .....</i></b>	<b>9</b>
<b><i>2.1.1.2 Double Loop Learning .....</i></b>	<b>9</b>
<b><i>2.1.1.3 Triple Loop Learning.....</i></b>	<b>10</b>
<b><i>2.1.1.4 Loop Learning Questions .....</i></b>	<b>10</b>
<b>2.2 Social Capital .....</b>	<b>10</b>
<b>3 Methodology.....</b>	<b>11</b>
<b>3.1 Research Design.....</b>	<b>11</b>
<b>3.2 Research Method and Data Collection.....</b>	<b>12</b>
<b><i>3.2.1 Selection of Participants .....</i></b>	<b>13</b>
<b><i>3.2.2 Interviews .....</i></b>	<b>14</b>
<b>3.3 Qualitative Data Analysis .....</b>	<b>15</b>
<b>3.4 Limitations.....</b>	<b>16</b>

3.5 Ethical Considerations.....	17
<b>4 Case Study Background .....</b>	<b>17</b>
4.1 Social Capital in FFLG Approach.....	19
<b>5 Results and Analysis .....</b>	<b>19</b>
5.1 Participatory Environment .....	20
5.2 Social Participation .....	21
5.3 Collective Learning.....	23
5.4 Social Interaction .....	25
5.5 Loop Learning .....	27
<i>5.5.1 Single Loop Learning.....</i>	<i>27</i>
<i>5.5.2 Double Loop Learning .....</i>	<i>28</i>
<i>5.5.3 Triple Loop Learning .....</i>	<i>29</i>
5.6 Side Findings.....	30
5.7 Summary .....	30
<b>6 Discussion .....</b>	<b>31</b>
6.1 Contribution to Theory .....	31
6.2 Side Findings.....	33
6.3 Policy Recommendations.....	34
6.4 Limitations.....	34
6.5 Discussion summary .....	35
<b>7 Conclusion.....</b>	<b>35</b>

<b>8 References .....</b>	<b>36</b>
---------------------------	-----------

<b>9 Appendix.....</b>	<b>39</b>
------------------------	-----------

Table of Figures

<b>Figure 3.1: three phases of interviews.....</b>	<b>15</b>
--	-----------

# 1 Introduction

Food insecurity is a particularly prominent problem in Sub-Saharan Africa. Historical events such as the partition of the continent Africa, the introduction of Christianity and with it the establishment of the nuclear family and structural adjustment programmes (SAP's) led Africa into poverty. Farmer family members were forced to sell their labour in order to generate income. The aftershock of the HIV/AIDS pandemic resulted in a shortage in workforce and led to increased food insecurity (Gabrielsson 2012). Climate change is another stressor that makes sowing and harvest seasons more unpredictable and leads to decreased amount of crops that can be sold (Vaarst et al. 2012, IPCC).

We live in a time of global economic and environmental transformation, climate change and unstable political circumstances. Many farmers were, and still are, not able to cope with the above mentioned stressors. The agricultural food system is in need for improved capacity to cope with unpredictable changes. Alternative approaches are required in order to improve the livelihood of many Africans whose lives depend directly on their harvest. Alternative approaches are needed that provide a sustainable and adequate livelihood for the rural population in Africa to break out of the modernist agricultural dilemma. Such alternative approaches for smallholder agriculture are agroecology and participation (Thompson & Scoones, 2009).

My thesis investigates a case where an approach has been applied that combines agroecology and participation. In Western Uganda a project team of researchers and local organisations has implemented an approach that combines agroecology and participation. The approach is called Farmer Family Learning Groups (FFLG's). The project is centred on social capital and aims at improving the livelihoods of smallholder farmers. In my thesis I will focus on learning processes, in particular on social learning in the context of this project.

I will start my thesis by going more into detail on the historical events to display how Africa developed into the situation it is in right now. Next, a deeper elaboration on the modernist agricultural dilemma is provided, which is followed by a short section on agroecology and participation. Subsequently I will provide an overview on social learning theories and define the variant that is used throughout my thesis. In this theory section I will also briefly elaborate on social capital in order to provide basic understanding for the concept. Theory is followed by a methodology section where I display the outline of my research. I will present my case study of FFLG's in Uganda in the following section. After describing the case I will present the results in combination with my analysis together in one section. Finally, I will discuss my research question and the corresponding sub-research questions:

RQ: Can Social Learning programmes help address food insecurity?

Sub-RQ 1: In what way does Social Learning unfold in the FFLG approach?

Sub-RQ 2: How does the FFLG approach give new insights on the theory of Social Learning?

Lastly I will conclude my work and give recommendations for further research.

## **1.1 Contribution to Sustainability Science**

Sustainability science has been defined by Kates et al. (2001) as “[seeking] to understand the fundamental character of interactions between nature and society”, and according to Jerneck et al. (2011), there is a general divide between the natural and the social sciences, which sustainability science aims to bridge. Sustainability science is, beyond interdisciplinary, also transdisciplinary, meaning it reaches out to non-academia and values and incorporates other knowledge types than the traditional ones (Jerneck et al., 2011). My research focuses on finding a pathway out of the modernist agricultural dilemma towards increased food security and out of rural poverty, by means of social learning theory. Through the consideration of situated knowledge and the involvement of the civil society, both in my case (see section 4) and my choice of theory (see section 2), my thesis contributes with a deeper connection and stronger bridge between alternative approaches to conventional agriculture, and socio-based approaches and solutions, such as social learning and social capital.

## **1.2 Historical Background**

In order to provide a proper overview of the historical background I decided to use the book “Uncertain futures” by Gabrielsson (2012). She gives a profound overview of historical events that shaped the path of Sub-Saharan Africa (SSA). Uganda is part of SSA, which is defined by a number of major historical events. The first is the partition of Africa. During the colonial times, in 1884 to 1885 at the congress in Berlin, Africa was divided among European powers (Caplan, 2008). That partition cut through borders of established natural and cultural groupings, creating borders. This division and clear separation through landmarks let the ties grew stronger of ethnicity and clan, during colonial rule, and still exist (Caplan, 2008). The colonization and the physical partition negatively affected Africa’s economy, infrastructure as well as its educational and technological development (Rodney, 1973; Hydén, 1983; Caplan, 2008). Gabrielsson (2012, p. 42) concludes on that point that “many Africans are

still affected by the remnants caused by the colonization of their mind, which, it is argued, instilled in them a sense of inferiority and backwardness". Maathai (2009, p. 170) argues that this created a lack of 'self-knowledge' among Africans. This affects the African population in a way that they allow to be exploited by their leaders, but also being exploiters themselves. These conditions and characteristics suggest how smallholder farmers respond to change.

The second important historical development is connected to the introduction of Christianity in Africa. With Christianity the classic patriarchal family structure was brought as well, establishing the universal ideal of the nuclear family with males as head of the household. Usually this resulted in men providing for the family and women taking care of children and the house (Mies, 1986). This has led, and still is practiced, to an agrarian division of labour. In practice today, men are involved in cash-crop production and female farmers take care of subsistence production (Francis, 1998).

Another significant development in African agrarian history concerns the time after gaining independence and the failure of socialism in Africa. Those historic events created a lot of instability in East-Africa with a decreasing economic development (Gabrielsson, 2012). This situation let structural adjustment programmes (SAP's) emerge. These SAP's are responsible for the removal of subsidies on fertilizers, seeds and pesticides, as well as they undid African marketing boards and parastatals (Bryceson, 2002a). The marketing boards and parastatals were "servicing smallholder agricultural production requirements, through enforced commodity standards, provision of single-channel marketing facilities and controlled prices" (Gabrielsson 2012: 43). This development resulted into a more uncertain market environment with fluctuating prices and input prices increased a substantial amount. Many merchants did or do not have outreach to rural areas which made the supply of goods unsubstantiated. This resulted in a primarily application of quick or year-round growing crops (Gabrielsson 2012). The insolvent government in Africa were forced to remove subsidies on education and health which resulted in creating a need for more money in households for school fees and health services (Gabrielsson 2012). SAP's declined men's labour time and cash returns when growing cash-crops. Though, this has the effect that adults and sometimes children are forced to look for jobs that generate income to prevent poverty. On the other hand, these programmes also undermined the role of the man as family provider, since everyone can work and generate an income (Francis, 1998). This also brought about changes in how labour in rural areas is organised. Means of work that were usually established within agricultural are now increasingly exchanged by non-agricultural work and activities that were usually performed by the entire household are now shifted to individuals (Francis, 1998; Ellis, 2000; Bryceson, 2002b). For many smallholder farmers the changes had significant negative impacts on long-standing agrarian division of labour (Francis, 1998).

Sub-Saharan Area is as prone to globalization as many other regions in the World, but the effect might be even more devastating than somewhere else. The area is flooded with imports, mainly from China, competing with locally produced goods. Furthermore, according to Gabrielsson (2012), a shortage in workforce and increased has developed due to the aftershock of HIV/AIDS pandemic. All this results in a more cash-based economy and a move away from subsistence farming, and Gabrielsson refers here to Bryceson (2002b) when she claims that, a shift towards 'multiplex livelihoods' in the SSA has happened. This forces farmers to acquire new and diversify non-farming skills to find occupation in a saturated job-market to generate cash to secure livelihood. An increased need for cash has developed but with limited means to generate such.

I want to use this point to give a unified understanding of what food security is, which is to be used throughout my thesis, by providing a definition from FAO: "Food security [is] a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life." (FAO 2002).

### **1.3 Context – the dilemma of modernist agriculture and alternatives**

A robust and resilient agricultural food system delivers the potential for new opportunities, innovations and to level off new pathways of development. On the other hand, a vulnerable agri- food system allows only small disturbances to have the potential to cause already significant negative social consequences. Especially hard hit are usually the most vulnerable, in this case, the rural poor in developing countries (Adger, 2006; Ericksen, 2008). Today, in conventional agricultural science and development programmes the overriding perception is that farmers live in unchanging and almost indeterminately resilient environs. This perception conveys the impression that resource flows can be controlled and nature would return to a stable state when human stressors were uninvolved. This is a stagnant and equilibrium centred interpretation and provides insufficient understandings of the dynamic character of agricultural food systems. This is especially true for a time of global economic and environmental transformation, with climate change, swift land use shifts, and unclear political and economic circumstances (Thompson and Scoones, 2009). This is a representation of maintaining the 'status quo' or trying to 'control change', but a shift towards an improved capacity of agri-food systems to respond to and cope with and shape change is necessary (Smit & Wandell 2006; Berkes et al 2003). Thompson and Scoones (2009, p. 387) say that "such responses in turn enhance the possibilities of sustaining desirable, yet diverse pathways for development in changing environments, where the future is unpredictable and surprises are likely".

Agricultural and resource management problems are classic 'system' problems, where the systems' behaviour is complex and unpredictable. Its causes are always multiple, manifesting non-linear in nature, being cross-scale in time and space and dynamic in character. This is true for both, natural and social systems and eventually for their interactions – it needs to be understood as one system (Thompson & Scoones, 2009).

There are different opposing philosophies on agriculture and the challenge to develop interdisciplinary and integrated human-environment interactions. One paradigm is molecular biology and genetic engineering that thrives on prospects of health and economic benefits from agricultural biotechnology. In conventional science, variables that affect survival, growth and distribution are examined individually and tried to be managed one by one. This way of dealing with agricultural issues has developed from experimental science with a very narrow focus and questions to prove a theory. This approach is narrow-viewed and has conservative foci, eventually being too fragmented and incomplete. Too look at problems and challenges in such a way are not suitable for sustainable agriculture and needs to be defined more widely and include economic, ecological and social aspects (Thompson & Scoones 2009).

Another paradigm has a more holistic approach. One could refer to it as science of integration where different scientific perspectives are blend together and combine historical, comparative and experimental approaches. One should consider this approach as a pathway of analysis that is deeply alarmed with examination and multiple fonts of evidence. In the SSA region, rural societies and the agriculture they depend on are prone to inevitable surprises which need to be reckoned with. Also, it needs to be accepted that the knowledge we possess about the system will always be incomplete. The system is continuously changing with a constantly evolving scale of human impacts on the environment. In this context, what is needed are policy making processes in regards to agriculture that are fair for the people, environment, and to future generations. Thompson and Scoones (2009, p. 388) state:

“Dynamic and diverse agri-food systems require policies and actions that not only contribute to social objectives, like poverty reduction, but also achieve continually modified and enriched understandings of the evolving ecological, economic, social and political conditions and provide flexibility for adapting to surprises.”

Drivers of change in the past in agricultural development but also today are multi-fold. Since the 1980's a constant decline in support for agriculture in the public sector had the effect that many producers lost access to important inputs and services. Those events lead often to a detachment to markets for

poor rural producers. This becomes even more complicated in a global world. Smallholder farmers compete within global markets that have higher requirements on standards. The whole production line is more focused and vertically incorporated than it ever was before (Thompson & Scoones, 2009). Agricultural producers who are part of the OECD receive high subsidies and are therefore able to produce at much lower costs and depress world prices for several key commodities, such as sugar, cotton, milk and beef. This destabilises extremely economic growth in agriculture in developing countries (OECD, 2005). The HIV/AIDS pandemic hit many regions in SSA hard, decreasing numbers of family members. This pandemic disrupts the transfer of knowledge, destroys traditional land allocation systems and changes the demographic composition of communities. Another driver of change is the constant increase of energy prices and the connected production of biofuels and the potential increase in instability of food prices, which has negative effects on food security. Arising conflict conditions are other drivers of change in agriculture. Conflict situations that emerged from poverty or that have been promoted by poverty destroy livelihood systems and decrease resilience and ability to cope with change of the rural poor. Climate change is considered to be another stressor for change. Pressure on natural resources and increased frequency and intensity of floods and droughts put pressure on the natural system (Thompson & Scoones, 2009).

There are alternatives to conventional agriculture and its classic approaches that are centred on production-innovation and growth perspectives. Such new approaches are agroecology and participation, which have developed over the last two decades.

### ***1.3.1 Alternative Approaches to Conventional Agriculture***

Thompson and Scoones (2009, p. 392) describe agroecology as “the discipline that provides the basic ecological principles for how to study, design and manage alternative systems that address not just environmental/ecological aspects of the crisis of modern agriculture, but the economic, social and cultural ones as well” (Thompson & Scoones, 2009, p. 392). Instead of focusing on a few specific constituents of the agroecosystem, agroecology puts stress on interrelatedness of numerous system components and the multifaceted dynamics of socio-ecological courses. Another vital cornerstone of agroecology is to get to know farmers’ knowledge and eventually incorporate into approaches. In this way it is possible to fully understand and react to changing local ecological dynamics of agricultural food systems. Innovations that are developed and/or based on local knowledge and realised with local resources are most likely to adequately respond to local conditions. This approach can easily be

supported and facilitated by learning techniques which build up human and social capital in the corresponding community (Thompson & Scoones, 2009).

The other alternative mentioned by Thompson and Scoones (2009) is participation. This approach places farmers at the heart of innovation processes. In association with scientists, new technologies are established and existing ones are being modified to local conditions. The active involvement of local communities and the incorporation of their knowledge is vital for sustainable processes. Locals can be creative partners in technology developing processes and therefore enable marginalized farmers to engage directly in research and development to improve their own agricultural food systems. Research and innovations will never achieve their full potential unless local knowledge is included to increase agricultural productivity, alleviate poverty and increase livelihoods.

## **2 Theory**

In the following section I will provide an overview on different theories on social learning and give a definition I will use throughout my thesis. The theory for social learning will be explained in detail with all its different levels. At the end of this section I will briefly explain what social capital is because it will be part of my discussion.

### **2.1 Social Learning**

The theory I will use is centred around social learning. Though, there is a big number of theories on social learning out there. I will give a little insight on what there is and then narrow down what definition of social learning I will use in this paper.

Muro and Jeffrey (2007) see the approach of social learning in an interactive way that facilitates decision making processes and problem-solving. By creating participatory learning environments, learning processes are promoted. Social learning has been applied as means to support research in rural settings in developing countries such as Latin America, India and Africa (Davidson-Hunt 2006; Rist et al. 2006, 2007). Lare and Wenger (1991) developed the theory of situated learning in which they describe how social participation is able to lead to shared knowledge and a common understanding of the world.

In this thesis though, I want to draw on a definition of social learning defined by Reed S. et al. (2010). In the paper "What is social learning?" three main points are identified to conceptualise social learning.

- Demonstrate that a change in understanding has taken place in the individuals involved
- Demonstrate that this change goes beyond the individual and becomes situated within wider social units or communities of practice
- Occur through social interactions and progresses between actors within a social network

Often, potential outcomes of social learning and its actual concept are confused. “Although social learning may be both a process of people learning from one another and an outcome, i.e., the learning that occurs as a result of these social interactions, it is often defined in relation to the wide range of additional potential outcomes it may have” (Reed et al., 2010, p. 2). Such outcomes could be increased trust, adaptive capacity, behavioural change, strengthening of social networks and improvement of management of socio-ecological systems. Those are all things desired by Farmer Family Learning Groups (Vaarst et al., 2012).

Furthermore, individual learning occurs when a change in a person’s understanding of the world and the person’s relation to it occurs. Collective learning, though, is more effective than the sum of individual learners. Keen et al. (2005) define that the collective action and reflection by individuals and/or communities when working together to improve the management and interrelationships between social and ecological systems as the actual process of collective learning. Reed et al. (2010) refers to two different types of social interaction, one is information transmission, like simple learning of facts, and the second is deliberation, which can be described as the normal exchange of ideas and knowledge. Ideas and perceptions are prone to change due to persuasion. It is further described that social learning triggers change in social networks and wider societal institutional structures. Rist et al. (2007, p. 23) argues that, “different actors can deliberate and negotiate rules, norms and power relations”. Furthermore, Shaw and Kristjansson (2014, p. 2690) add that “Of critical importance in learning environments where socially differentiated groups are involved, the attitude, skills and capacities of the facilitator are crucial for moderating power imbalances and knowledge hierarchies in order to foster an environment of meaningful exchange, deliberation and, ideally, learning”, though do not mention who that facilitator may be or on what level she may act.

Concluding and using Reed S. et al. (2010, p. 6) social learning, for the purpose of this thesis, is defined as: “a change in understanding that goes beyond the individual to become situated within wider social units or communities of practice through social interactions between actors within social networks”.

### **2.1.1 Loop Learning**

The learning process can be divided into three different, distinct and interacting learning loops. Shaw & Kristjanson (2014, p. 2690) put it as follows: “Each of these loops describes a different form of learning, based on the extent to which actors are enabled or encouraged to interrogate the tacit assumptions and underlying values implicit for knowledge to action”.

#### **2.1.1.1 Single Loop Learning**

Single loop learning is considered a form of learning where only a simple correction of errors occurs and standards of practices are improved, though no change of guiding assumptions is being made. The routine is not questioned (Pahl-Wostl 2009). No reflection on current world views is made as well as there is no critical reflection of main practices (Tanner et al. 2013). Nevertheless, social learning and a change in individuals involved can already happen at the stage of single loop learning if it results in a shift in understanding in an adequate ratio through social interaction (Reed et al. 2010).

#### **2.1.1.2 Double Loop Learning**

Johannessen and Hahn (2013) describe in their paper that double loop learning supports critical reflection on basic assumptions and worldviews as well as it challenges the existing assumptions. In the context of this type of learning it is attempted to draw less on technical fixes and rely less on external, expert driven knowledge. Shaw and Kristjanson (2014) promote that an exchange of ideas, perspectives, materials and knowledge needs to be fostered. Double loop learning approach aims at identifying underlying needs, values and norms that shape the routine of practice and action. This type of learning is often linked with participatory action research and multi-stakeholder approaches. Armitage et al. highlights in their paper “Adaptive co-management and the paradox of learning” (2008) that Diduck et al. (2005) adds to that theory that frameworks that support double loop learning are described by trust-building attempts, a willingness to take risks to extend learning possibilities and “the transparency required to test and challenge embedded values, active engagement with civil society, and a high degree of citizen participation” (Armitage et al. 2007, p. 88).

### **2.1.1.3 Triple Loop Learning**

The last type of learning is often described as critical or emancipatory. Triple loop learning encourages open-ended and seated discussions on primary challenges and ways to reshape values, norms and social structures. Shaw and Kristjanson (2014, p. 2690) point out that an “exchange and deliberation of key underlying drivers/barriers help question what the critical problems are, the approaches used to address them and the influence of the system that govern them (enabler or driver). Otherwise known as co-production or co-creation, this learning emerges through the interaction”.

### **2.1.1.4 Loop Learning Questions**

To pictorially represent the three different types of learning one can ask a learning question to exemplify what is meant.

*Single loop: Instrumental Learning*

Learning question: Are we doing things right?

*Double loop: Communicative Learning*

Learning question: Are we doing the right things?

*Triple loop: Transformative Learning*

Learning question: What is the right thing to do?

(Shaw and Kristjanson 2014)

## **2.2 Social Capital**

At this point I want to put in a description of social capital, as it will be more important later on when dealing with my results and discussing. Social capital is a form of economic and cultural capital in which social networks are central. Negotiations are characterised by reciprocity, trust and cooperation where market actors create goods and services not only for their own benefit but rather for the common good.

I will use James Coleman’s paper “Social Capital in the Creation of Human Capital” (1988) as the definition used in my paper. Coleman (1988, p. S98) defines social capital as the following: “It is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors - whether persons or corporate actors - within the structure”. He elaborates with saying that social capital is anything that facilitates

individual or collective action which is brought about by networks of relationships, reciprocity, trust and social norms.

Coleman argues that social capital is genuinely of productive nature. He then further adds that it is not fungible and therefore specific to certain activities. The structure of relations is intrinsic between and among actors. He goes further when saying that the relations themselves among corporate actors constitute social capital.

Coleman highlights two things as important for defining or fostering social capital such as trustworthiness which is necessary in order that obligations will be returned and the actual extent of obligations held.

Coleman (1988) highlights a distinct property different to most other forms of capital in this way: "A property shared by most forms of social capital that differentiates it from other forms of capital is its public good aspect: the actor or actors who generate social capital ordinarily capture only a small part of its benefits, a fact that leads to underinvestment in social capital" (Coleman 1988, p. S119).

### **3 Methodology**

In this section I will give an overview on the methods used to conduct research. Further on I will provide a deeper insight in my framework and describe my research set up, finally followed by limitations and ethical considerations.

#### **3.1 Research Design**

To be able to answer my research question I developed a case study on rural farmers that participate in a Farmer Family Learning Group in Western Uganda. By conducting interviews, I was able to collect primary source data and gain new information directly tailored to my research focus. In going into the field provides the opportunity to produce a deeper understanding of the situation on spot. Furthermore, a case study provides the chance to collect converging evidence from different sources and facilitate research triangulation. That being said, an additional search for possible discrepant evidence will give my study increased validity (Yin 2011).

The specific case of Western Uganda was chosen due to pre-established connections to the organisation SATNET in Fort Portal, Uganda. Ellinor Isgren who is a PhD candidate at the LUCSUS

department provided contact to SATNET, who she previously did research with. Since I am researching on FFLG's this connection provided the perfect opportunity to get in touch with fellow researchers on site. After e-mail contact with Programme manager, agricultural researcher and person being responsible for the technology development of SATNET, my visit and opportunity to conduct field research and establish a case study for my research was established. The contact person as well as the translator also functioned as a gatekeeper to farmers. In that way it was much easier to establish a trusting and comfortable environment between interviewer and interviewee.

The data collection is a mixed-method research study approach with qualitative, semi-structured, open-ended interviews and literature research. Semi-structured and open-ended interviews allow the possibility to gain important knowledge on facts that one as researcher might not have thought of initially (Yin 2011). The interviews were not focused on farming in general, but more on the interactions of farmers within the FFLG approach which is an agro-ecological approach that promotes whole household participation and a practically oriented approach that encourages farmers to take charge of their development process to increase their livelihood. By choosing themes of social learning it is possible to show to what extent social learning plays a role in FFLG's and their success.

### **3.2 Research Method and Data Collection**

This thesis has a mixed-method research study approach with qualitative, semi-structured, open-ended interviews and literature research as methodology.

In this thesis I conducted research in two different ways, I retrieved data from literature sources, online periodicals and books, as well as qualitative interviews. Data on social learning and Farmer Family Learning Groups (FFLG) was mainly desktop research, but I also retrieved information from books recommended by my supervisor and contacts in Uganda. Interviews were conducted in Uganda during a period of time of 6 weeks in February and March 2016, though, after my departure, I received some answers via email from SATNET. Four different groups of farmers, three External Facilitators, 8 individual farmers and one representative of the umbrella organisation SATNET were interviewed.

Three different groups or phases of interviews were conducted. Group interviews with farmers, individual interviews with farmers from the focus group and external facilitators and an expert interview with a member from SATNET. Answers of interviews were recorded by handwritten notes on a notebook and audio recordings on my phone. In this way I would get insights from different perspectives - group perspective, individual perspective and expert perspective. Some facts might not

be mentioned in a group interview, but in individual interviews. On the other hand, someone might feel more comfortable talking in a group, opposed to alone. The expert gives me insights of the bigger picture of the whole approach that a farmer might not see. But again, maybe a farmer realises things an expert does not notice or realise from his or her perspective.

As mentioned before in 3.1., interviews provide one pillar of triangulation, next to literature research and grey literature, that gives my study increased validity. When I mention grey literature here, I mean informal conversations and literature that has been handed to me by SATNET that is not peer reviewed, such as papers written by former master students conducting their research on agroecology.

In addition to my interviews, I collected data of SATNET and their approach of FFLG's. A lot of information is to be found on their webpage, but detailed data was retrieved from the booklet "The Rwenzori Experience" (Vaarst et al. 2012) they published. In addition, I was given a couple of papers written by former researchers that worked together with SATNET in the past, mainly researching on social capital in FFLG's. I wanted to collect a large amount of information to give a good description and actor perspectives. I chose Uganda and the Kaberole district because of the unique concept of FFLG's. SATNET has its base in that district and I had main contact over them to the farmers. The Programme manager, agricultural researcher and person being responsible for the technology development of SATNET and is, my main contact to SATNET. To be able to conduct my interviews, I needed someone to translate for me since most farmers only spoke the local language. The groups consist of 15 to 25 members which makes it manageable to have group discussions. I would meet the majority of farmers of one FFLG in one meeting and let them answer my questions as a group. In addition, for the group Kayakaigo, I tried a different approach and divided the group in four smaller groups and let them write down their main ideas on paper (always one in the group could speak and write English). Nevertheless, the answers were hardly any different than in the group interview. Since this method required much more time in explanation and conduction, and I did not want to occupy the farmers in time of farm season preparation, I continued using only the group discussion. In three groups, interviews with the External Facilitators were conducted as well. In my focus group further interviews with 8 different farmers were conducted as well as with staff from SATNET in Fort Portal.

### ***3.2.1 Selection of Participants***

The organisation SATNET which is an umbrella organisation is in contact with other organisations that all support FFLG's. Through guidance of one of SATNET's members I was able to choose five different

farmer communities that participate in the FFLG approach. Determination of groups for interviews was mainly based on accessibility. Western Uganda has a fair Infrastructure with a working public transport system. Though, most of the farms participating in the FFLG approach are located quite rural with no connection to public transport. I could get a hold on a car from one of the SATNET members and drive to a few, most close and easiest to access farms. That resulted in interviews with the following FFLG's:

- Kayakaigo FFLG-Kaberole United Farmer Association
- Umoja FFLG-Kiima Foods
- Bukangara women FFLG-Ndongo united herbalists association (NUHA)
- Kaserengethe Farmers FFLG-Karughe farmers united
- Kagando II FFLG-Give a goat Africa (GAG-A)

Except the focus group Kaserengethe, which was fairly close to where I stayed, I had only once the possibility to go visit and interview the farmers due to my financial limitations.

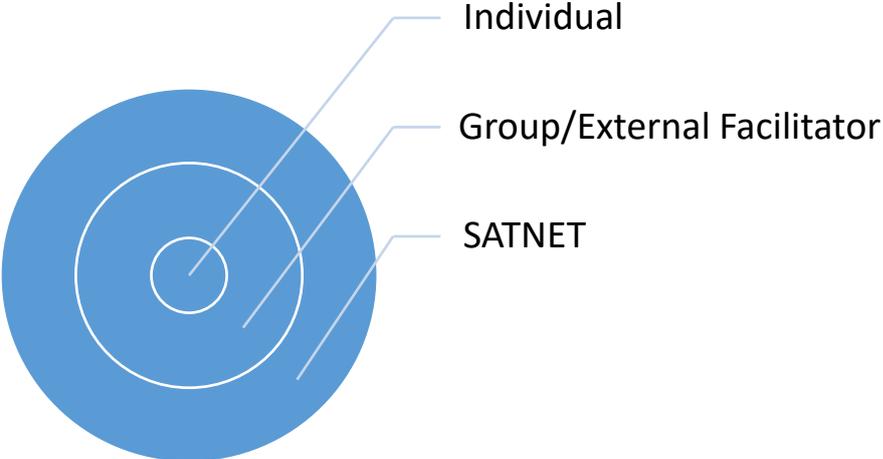
Kaserengethe was my focus group where I conducted further eight individual interviews with farmers. In addition, I was able to interview three External Facilitators. And last, I did an interview with a representative from the umbrella organisation SATNET.

### **3.2.2 Interviews**

The usual procedure of an interview would be me being introduced by a member of SATNET and all interview participants would introduce themselves (most of the time in their local language). Group interviews would range from 1,5 hours up to 3 hours. Since it would take such a long time and participants would have no time to prepare food or get a drink I would provide a little refreshment and a snack, to keep concentration high.

After the initial introduction the interview would begin with the first question of my guiding questions. I would have a notebook with me where I write down the answers or comments I get from the translator. In individual Interviews (focus group and External Facilitator) I would additionally use a recorder of which I previously asked for permission to use. The first questions would be rather easy and of introducing character to break the ice and make the participants comfortable. Later on more elaborate questions would follow.

As already mentioned, during my field studies I would have three phases of interviews (Figure 3.1). First I conducted interviews with the whole farmer community. That is done out of several reasons. First, farmers would get to know me and be explained why I am conducting research and to what purpose. Second, it would potentially provide the opportunity of me returning with someone else than a member from SATNET (a translator for example) to conduct more research. This was in fact the case for the focus group. Third, I would get a chance to identify the most interesting group for being the focus group. The second phase would be individual interviews with farmers from the focus group and External Facilitators. And at last phase I had the individual expert interview with a representative of SATNET.



**Figure 3.1.** three phases of interviews (own production)

This figure shows the three different levels interviews were taken in my fieldwork.

This provides different viewpoints from different perspectives as already mentioned in 3.2.

### 3.3 Qualitative Data Analysis

In order to deal with big amount of written and recorded interviews i had to come up with a system to relate them to my framework. The data of the interviews was organised according to the *five phases* by Yin R. (2011) in his book “Qualitative Research from Start to Finish”. The five phases are of a non-linear nature and are rather recursive and of iterative relationships. First, I *compiled* the data and established a rough form of a data base which then is *disassembled* and broken down into smaller

fragments. Themes that I retrieved from social learning theory by Rist et al. (2007)/Reed et al. (2010) and Armitage et al. (2008) in section 2.1. are used to *reassemble* and organise the data in different sequences that directly relate to the themes. These three phases are followed by *interpretation* and *conclusion*.

### **3.4 Limitations**

Conducting research, especially when dealing with people, always has limits. Biases, limits and objectivity are the researchers' enemy. It is impossible to have none of the three, that is why one finds them here in this sections again.

One of my biggest limitation is the availability of respondents and the amount of data I could collect, limited by financial means and time. Furthermore, most farms participating in the FFLG approach are located very rural which are very difficult to reach, sometimes no roads lead there. I did not possess a car or mode of transportation my own, so I depended on others or public transport, which is difficult in Uganda. All this limits the number of participating farmers and groups and consequently the amount of data it was possible to collect.

In order to get the most interviewees, I consulted my contact from SATNET who helped organising my data collection with his profound knowledge on the area and farmers - he worked with most of them before. That choice of farm groups and the people being part of it as well as their general group dynamic has influence on the quality of answers.

The above mentioned group discussions were usually dominated by a couple of more active and outgoing participants which influences the general direction of discussion and answers. The translator functioned as discussion leader and tried to make everyone speak. The translator, on the other hand, had another impact. All answers given by interviewees are influenced by translation and mediation.

Another very big limitation is the fact that I was able to go only once to Uganda and interview farmers, so I cannot make statements on their continuous progress. In addition, it is a field research entirely based on questionnaires, no observation was possible, due to a lack of language. Interactions between farmers and the quality of their communication would have provided further insights in social behaviour.

Further on, my data collection consists of interviews that provide insight into people's behaviour in given situations, hence my data is limited to interactions with a set of participants and their own reflective report on behaviour, beliefs and perceptions (Yin 2011).

Another constraint is that I was very limited in analysing any data that goes beyond spoken words, such as behaviour like tone of voice, pauses, interruptions of each etc. since I do not speak the local language of farmers interviewed (Yin 2011).

### **3.5 Ethical Considerations**

With a clear conscious I can say that I operated under a high level of integrity. I do not use any person's name in this thesis as well as I asked for permission to record interviewees. I explained to interviewees who I am and what purpose this research has so that there is no misconception on my intentions. Further on, any snacks provided during interview sessions merely had the purpose to provide food and therefore energy to answer my questions, not to increase willingness to participate in my research.

No human or animal has been directly harmed by this research.

## **4 Case Study Background**

In the year 2009, Organic Denmark, National Organic Agriculture Movement of Uganda and the Sustainable Agriculture Trainers' Network (SATNET) established a partnership to work on an approach in the mountainous region of Uganda. That partnership worked on creating and establishing a new agricultural smallholder approach called Farmer Family Learning Groups (FFLG's). This approach builds on adult education and experiential learning as well as the project developers have the believe that each farmer's' field is unique.

The project team (Vaarst et al. 2012, p. 49) defines Farmer Family Learning Groups as follows: "We see Farmer Family Learning Groups of farmer families who together define their needs and goals in relation to their own future development as individuals, families and as a group - and help each other to reach these goals".

Participating farmers take ownership of their own development, meaning that a farmer family or groups of farmers come together and decide together what their approach to increase their livelihood will look like. SATNET, the umbrella organisation, organises so called External Facilitator (EF), from their

member organisations who will assist facilitating farmers own process in finding their path. This approach also has the outstanding feature that all farms of all members are involved, opposed to the former approach of Farmer Field Schools where only one demonstration plot is established.

The main project focus is to improve food security in the communities of Western Uganda. The social aspect of working together is probably the most important in achieving that goal. The pool of knowledge and experience in a group is extensive, consequently building social capital. Openness to change and challenges are required of participants in order to develop practices that improve sustainability and resilience of the system. Nevertheless, the project team and farmers identified the farmer families' ownership of the groups in all respects as key point to success.

As already mentioned before, the whole family is involved and not just one member. Responsibilities are distributed among all family members which entails children as well since they are the future of the farm and should get involved as early as possible. Further on, the before mentioned EF's are trained by SATNET (in a two-week intensive course) on how to deal with the farmers (among other things, such as farm practices and further social skills) and how to let farmers find their own way of finding solutions to their own problems. Anyhow, it has been recognised that the sustainability of the groups is bigger if they work with their own facilitator, an Internal Facilitator (IF). The IF is chosen by the group itself and is trained by the EF to acquire the same skills and become the facilitator of the group owned development process to achieve a higher standard of living.

The project team released a booklet in 2012 (Vaarst et al. 2012) in which they describe how the approach manages to maintain the development process towards an increased livelihood to be sustainable. One factor is that no external material input is desired and no donations taken since that makes people only dependent on aid. Local communities have managed to increase their ability to mobilise resources which can have social forms and also can be natural capital, as well as human capital and financial capital. The project team succeeded in increasing sustainability in the groups by improved income generation activities, such as the credit and saving scheme, and enhanced food security inside families which contributes to an increased economic sustainability. For financial stability a credit and saving scheme was introduced in groups which did not already established it before the project. The money saved is used to invest in improvements on individual, family or group levels. Building social capital due to increased transparency in decision making and recording of cash-flows within households increased the social sustainability. To implement transparency for cash flow in households, record keeping of basic income-expenditure-balance was introduced for either normal household cash flows, the production of farm goods or, in rare cases, to draw up an investment plan for future investments. Whereas some challenges will always remain or even increase and stay in need

to be overcome collectively. Such challenges are devastated areas due to deforestation, overuse and increased population pressure, but also erratic weather conditions due to climate change that make sowing and harvest season more unpredictable, as well as market conditions become more fluctuations. Though, the level of control over production and food sovereignty has been increased by farmers and therefore contribute strongly to sustainability.

#### **4.1 Social Capital in FFLG Approach**

The project team, that is identical to the author team of the booklet “The Rwenzori Experience” (Vaarst et al. 2012), has defined social capital as one of their major theoretical cornerstones of their work. The team draws on a theoretical viewpoint on social capital by John Munene and claims that Munene “defines social capital as an individuals’ willingness to make sacrifices on a short-term basis for the long-term benefit of a local community as well as the individual himself or herself, by setting common goals and interacting to meet these goals” (Vaarst et al. 2012, p. 46). Following Munene’s theory, the project team emphasizes that moving out of poverty, as it is the overarching goal of the FFLG approach, is not just an action, it is interaction. “Since the environment keeps people poor, it is only logical that the environment should be taken into account in making strategies to move out of poverty, and nobody can manage the situation alone as one individual” (Vaarst et al. 2012, p. 46). Building up networks and social capital facilitates decision making that will improve livelihood. A sort of positive social control results in making decisions that support long-term beneficial decisions. Additionally, regular meetings of the group members have the effect that they become more familiar and start trusting each other, “then a stream of response and feedback processes influence the general thinking and formation of norms in a local community” (Vaarst et al. 2012, p. 47). Building up respect and understanding as well as cooperation is healthy and supportive. The project team identified social capital as the most important factor for development (Vaarst et al. 2012).

### **5 Results and Analysis**

In this section I will analyse my interviews through the theory of social learning. I use four key conditions necessary to facilitate social learning: participatory environment, social participation, collective learning and social interaction; as well as the three types of loop learning. By analysing the interviews with the conditions of social learning as my lens I am able to demonstrate in what way social learning unfolds in FFLG’s.

## 5.1 Participatory Environment

In order to facilitate social learning, it is important to create a *participatory environment* which will promote learning processes. Such environments can be classic tangible locations like points of social encounter, but “the fruits of learning can [also] be found in many ‘locations’, including brains, bodies, routines, dialogue, and symbols” (Reed et al. 2010, p. 4). “Learning environments tend to build relational capacities and networks, contributing to more potential for broad-based adoption of relevant, legitimate and credible strategies and policies, creating the basis for joint future action” (Shaw & Kristjansson 2014, p. 2690).

Members of FFLG’s meet frequently (at least once a week always on a specific week-day) on one of the farmer’s land. Usually it is discussed in the meeting before where to meet the next time. Every farmer’s land is visited at least once in a year. On the day of meeting, the farm, home, garden or property becomes a shared venue and everyone participating examines it with a serious mind. Constraints, problems and ideas are discussed and shared during such meetings.

Some of the FFLG’s have built an office for communal use and group meetings, a place for socialising, discussion and planning. Other groups always meet at the IF’s home. This creates a secure and familiar environment in which the group members feel free to speak their mind and share their ideas and constraints. Such regular meetings create an environment that supports dialogue (Reed et al. 2010).

In some interviews I have been told ideas are also discussed outside of the official meetings in places like churches, at the river, on the market or any other place where members could meet in everyday life. There is no specific place or environment that is required to share ideas and talk about projects.

It is important to mention that the FFLG’s do not only create a participatory environment in terms of meeting points and freedom to share ideas, but also an environment that supports health. Since the programme has been launched, the health of members has increased. No one is under malnutrition anymore and people feel genuinely less tired, which has the effect that meetings are more fruitful and members have more energy to brainstorm and get active or participate.

Another great factor mentioned several times in individual interviews is that the whole family is involved, everyone helps according to her own abilities (Fieldwork 2016). This being said, one has to recall that the FFLG approach promotes the involvement of the entire family which facilitates the participation of women or children as well (Vaarst et al. 2012).

Finally, a member of SATNET answered to a question on what facilitates a good learning environment, stating that the attitude of farmers is crucial. Though it is usually very positive because farmers are very dependent on the success of their farming efforts and eventually a higher and sustainable livelihood. Nevertheless, willingness to participate (which includes attendance as well) and even take risks in trying new techniques is vital in order to enable the FFLG approach. The staff of SATNET mentioned that it is important how strong the member organisation is, how much time they can spare and how much knowledge they have, that supports the EF.

## 5.2 Social Participation

*Social participation* is another requirement because it triggers the possibility to lead to a shared knowledge and common understanding of the world (Muro & Jeffrey 2007).

One of the centre points of the FFLG approach is the inclusion of the whole family and the whole community. In interviews with the EF's I was told that one of their first tasks is to unite the group of farmer families. To bring them together and start a dialogue is the most important in order to make anything happen. Usually that was not a big problem since many of the members knew each other before or worked on former projects already together. The process of founding the groups was explained by a member of SATNET the following way:

“The external facilitator identifies these groups. They may be already formed or the facilitator forms them. These groups’ members must have a common goal. They must be composed of farmer families. The members should be within neighbourhood to allow walking to each other’s farm. The group is 15-30 members. The group should be ready to be legally registered. This implies that the group has leadership structures and other guiding documents such as policies.”

(Fieldwork 2016)

In my interviews I was able to experience that cooperative sense of togetherness among members. Members of the FFLG's work together because they have experienced that what goes around comes around - if favours given, they are returned. There even is a sense of positive social control as I was told in one of the group interviews – if members are absent, the whole group together visits that member and has a talk. It was described almost as kind of peer pressure to perform well, in a positive sense.

“If your garden does not look well managed, other group members will notice”

(Fieldwork 2016)

Members motivate and care for each other because they have realised that together in a group they accomplish more. In one of my last interviews a member of a farm group put it this way:

“They [the group members] help me so much, so of course [I] want to give something back and help them as well”

(Fieldwork 2016)

The project team has done investigations on the role of men and women and came to the conclusion that women usually did more than men. After they shared that conclusion with the groups, the group members changed work distribution. I have been told that there is no separation of work according to genders, only according to skills. Tasks that require certain knowledge is done by people that possess such expertise, which usually transferred to fellow group members in due time. Though, some activities are distributed according to required energy or physical strength, which in some cases divided the work forces in gender.

In an interview with staff from SATNET it was highlighted why the IF is so important for the success and sustainability of this approach. Since the EF might have more than one group and has limited time, the implementation of an IF increases the interaction inside a group since the IF is more often available, being a part of the farmer group. IF's are part of the group, which makes their position as facilitator more permanent and they are always available, thus increasing sustainability.

As already mentioned above, the whole group visits the farm or land of the weekly changing host. After a collective inspection of the land and a discussion on what is in need for maintenance or change, the whole group gets active and does the task together. As one of the farmers puts it:

“Before joining the group [I] almost worked alone... when [I] joined the group they [the members of the group] normally have rotational visits to help each other at home”

(Fieldwork 2016)

Most farmers do not have much financial capital and cannot hire additional workforce, but they are in need for additional labour force, therefore, having fellow community members to help solves that problem.

Nevertheless, my interviews also revealed that this is not always the case and sometimes some members are lazy and do not attend the meetings. There are different approaches in the groups to change that. Some members try to encourage and motivate each other by reassuring commitment to each other and the approach. Others want to attract members by building new facilities such as a communal office.

Another issue is the rural depopulation. When the young leave the countryside to find work and a potentially better life in the city their workforce is missing and when they return back to the countryside they have missed out at farm work and new progresses as well as they accustomed to a different life.

### **5.3 Collective Learning**

Social learning is a form of learning which can only be achieved in a group. *Collective learning* is a key condition of this learning type. Keen et al. (2005) illustrates the process being the collective action and reflection by individuals and/or communities when working together to improve the management and interrelationships between social and ecological systems.

Collective learning, action and reflection happens at many occasions in farmer groups. When the group members meet and observe each other's farms, gardens or houses they analyse any problem together, collectively identify the issue and try to come up with a solution with local material and their own labour force (Vaarst et al. 2012). Some simple way of identifying the problem is to compare one's own garden with the one being visited and highlight differences. A specific plan is created by the farmers who then collectively work on the specific task or tasks and reflected on their action (Fieldwork 2016). But I will go into more detail on such reflexive cycles when I analyse loop learning. During the group interviews but also in individual interviews, I experienced a desire to work together. Members of a group ask each other of their opinion on their management of their farm or garden and honest replies or suggestions are given.

A different matter is the perception of the EF to the whole approach. She has an outsider's' point of view and can see things from a different angle. The time period of 6 months for an EF to stay with the group and implement the FFLG approach and train an IF is mentioned to not be enough. Since the EF's do not tell the farmers what is right or wrong to do, it takes more time to find the right way. Though, for the cost of spending more time, a sustainable and reflexive solution finding process is established.

EF's expressed the desire to have that time period extended to at least a year. Most EF's are still in contact with the groups and function as first the focal point for inquiries, voluntarily.

This chain of knowledge transfer and reflexivity goes a step further. Collective learning does not only happen between and among farmers in their groups, it can happen at all levels of the FFLG approach. Collective action and reflection can happen between farmers and facilitators, among facilitators or with SATNET and either of the two. EF's are in constant contact with their organisations and SATNET. So whenever they have any questions or problems they are asked to report to SATNET. The staff of SATNET reported that this happens approximately two times a month. Whatever problem may arise can be discussed within SATNET's vast network. Of course this goes the other way around as well. Collectively, all EF's and SATNET prepared and facilitated the introductory course for EF's before they were sent off to their farmer groups. A member of SATNET who organises that course explained it the following way:

“The facilitator plays a mentoring and coaching role. During the two-week course which is mandatory for all facilitators, the facilitator acquires knowledge in using different participatory methods to enable the group take their decisions. The facilitator does not tell or decide what the group should do but rather guides the decision making process.”

(Fieldwork 2016)

This course works in a way that the EF's write down on a paper what they think they need more knowledge on. With those core themes set they get divided into smaller groups and work on those themes to then, in the end, teach each other (Vaarst 2012, Fieldwork 2016).

I asked the staff of SATNET how they facilitate the feedback channels with their EF's to make sure that knowledge exchange is guaranteed. I want to provide the answer:

“All facilitators and SATNET staff have shared phone and email contacts. During the first six months of training, the external facilitator is provided field allowance (lunch and transport) mandating the facilitator to make monthly reports. The facilitator during the first 6 months goes to the FFLG at least 4 times. In the reports on the four visits, the facilitator describes what happened in the meeting including issues that require advice from SATNET. SATNET makes quarterly field follow up visits. During the follow up, the facilitator conducts a meeting with the farmers in the presence of a SATNET staff. After the farmer meeting, the SATNET staff and facilitator discuss areas of improvement for the facilitator. There is also possibility for the CPF to make calls of inquiry. Also, SATNET organizes

refresher courses for facilitators where they express areas of inquiry. However, the facilitators also do consult each other.”

(Fieldwork 2016)

This shows that, in theory, all necessary requirements are provided in order to facilitate a reflective exchange of inquiries, problems and discoveries. So it happens that SATNET learns from EF's as well about knowledge that the EF has picked up from farmers, such as indigenous knowledge on bio-rationals and their application on herbs or certain farm methods.

During individual interviews, farm group members told me how transfer of knowledge from the EF works. The EF came to a group and showed them how to build a safer and more efficient cooking stove themselves with materials from their backyard. After he showed a handful of members how to build such a stove, they went on and taught the rest of the group how to build such a stove. This is turn is given on to the next generation. One of the interviewees said:

“The External Facilitator showed [us] how to build the new cooking stove and [we] showed each other how to build it. And helped each other to build that”

(Fieldwork 2016)

The same accounts for other examples such as kitchen gardens, how to arrange compost and manage the plantation in all aspects. Either the farmer come up with a solution entirely by themselves or with consultation by the EF.

#### **5.4 Social Interaction**

*Social interaction* is another key condition for enabling social learning. Reed et al. (2010) refers to two different types of it, one being information transmission such as plain learning of facts, and the second one being deliberation, which is characterised as plain exchange of ideas and knowledge.

When a group of farmers is gathering on someone's land at a weekly meeting, the group walks around and observes the land and checks if something needs to be improved or changed. The members look for missing elements and try to identify subjects prone to change. In this process, ideas and everyone's varying knowledge is exchanged and possible solutions are discussed. If no solution is found, the EF is consulted and provides his expert knowledge or will gain information from elsewhere. This whole process has information transmission and deliberation at various points along the line.

In the beginning of this project, when a group just starts to practice the FFLG approach, the EF is facilitating discussions and idea sharing as well as solution finding processes. The EF was taught how to manage or guide such processes in the course at SATNET. Later on, the IF will take over the guidance if still necessary.

Since my case is placed in rural setting where many people are illiterate, it can come to difficulties by passing on knowledge if not done verbally. Therefore, methods for record keeping for illiterate people needed to be established. That was one thing, among others, that the EF's learned during their introductory course at SATNET (Vaarst et al. 2012) which then was transferred to fellow farmers. Inside the farmer groups the IF is usually responsible for keeping record of the meetings and plans developed in such.

Other deliberation processes happen for marketing. In my first group interview I was told that one of the farmers started growing peppers and sold them on the market. The person reported that the farming was very easy and no one else sold peppers on the local market. So other farmer from the group started adopting that procedure.

As already mentioned above, but none the less necessary to mention here again, knowledge is passed on to children. A truly sustainable outcome is only achieved when the next generation is involved in creating their own development process to increase their livelihood (Vaarst et al. 2012, Fieldwork 2016).

Just to give an idea on what knowledge is transferred I can refer to one of the interviewees who said:

“The external facilitator taught us practical things, like how to do gardening and how to dig trenches properly and what to plant.”

(Fieldwork 2016)

Another interviewee expressed herself about what fellow group members taught her:

“The members showed me how to build a new cooking stove with materials from my back garden.  
[...] I learned from the group how to motivate and encourage each other, how to share ideas and how to work together.”

(Fieldwork 2016)

Those two quotes show how diverse the things are that are taught inside the group and come into the group from outside, for example taught by the EF.

When asking SATNET staff what is the most important knowledge transferred in order to guarantee a sustainable outcome for farmers and their livelihood, I received the following answer:

“Participatory and facilitation skills[,] this enables all the farmers to contribute their ideas, feel appreciated in the group and own the decisions. Innovation skills that enable the facilitator to think outside the box and able to use locally available resources [and] use their skills to handle dynamic challenges in the field.”

(Fieldwork 2016)

## **5.5 Loop Learning**

As already mentioned above in this section, and together with 2.2, social learning has three different types of loop learning as crucial parts, out of which the last two are of major importance.

In this section I show to what extent the three different loop learning processes exist in the FFLG approach. Many examples listed here from field studies have been mentioned in the previous sections on the conditions of social learning already. Some of those practical examples are applicable for both, loop learning and stand as a condition as well.

### **5.5.1 Single Loop Learning**

The first and most simple type is *single loop learning* where simple corrections take place and routine is not questioned and reflection is not in place. Though, as explained above, social learning is possible at this level.

The proper management of a kitchen garden and the variety of produce in it is a vital source for a healthy and balanced diet. There are many cases in the different groups that I visited and interviewed where a family did not have or didn't know how to properly maintain one. Members of the group showed such families how to arrange a healthy and sustainable kitchen garden with showing simple corrections of their doing. This does not question the routine of the group or individual and require no reflection upon their diet.

Another example of single loop learning in a wider sense is the problem of alcoholism in some families. A simple action of drinking alcohol has been changed, though the farmer groups' and community's

values and beliefs have been altered, leading to shame and embarrassment for most people abusing alcohol and their negative actions associated with it.

Reed et al (2010) give a similar example for single loop learning in their paper “What is Social Learning”. “An example of this is the decline in drinking and driving behaviour. Although partly a response to the introduction and enforcement of legal penalties, public awareness campaigns in many countries have altered the values and beliefs of those within drunk drivers’ social networks, leading to shame and embarrassment in all but the most hardened of repeat offenders” (Reed et al. 2010, p. 4).

The example of alcoholism can be applied to other scenarios such as changing the attitude towards hard work. The social control that I mentioned earlier in 4.1 plays a big role in that. Through the fact that the group changed to work together in equal amounts it would create conflict in the group if some people would not work as hard.

### **5.5.2 Double Loop Learning**

Second, *double loop learning* can be described by its feature of critical reflection and the fact that the emphasize is less on technical fixes and less on external and expert driven knowledge. Further, trust-building and transparency is very important in order to build a reliable social environment and challenge embedded values. Double loop learning aims at identifying underlying needs, values and norms that shape the routine of practice and action. In addition, there needs to be a willingness to take risks in order to extend learning opportunities.

The FFLG approach requires a constant amount of critical reflection of actions or practices. The group of farmers owns that process entirely alone, the EF is only present in the beginning to help foster such processes. When the group walks through the farm or any other place prone to improvement and compares their own with it, a reflection to their abilities and practices happens automatically, but is also encouraged by the group when they discuss next actions in developing their farms or improving their livelihood.

The FFLG approach has as one of its content cornerstones the focus on less technical fixes and the attempt to use only local material (Vaarst et al. 2012). During my field studies I was shown former projects that have been carried out only with local material. That were smaller things like building a cooking stove or a hen house, but also complex projects such as fish ponds and water tanks out of concrete (some materials were bought at the local market such as cement and plastic foils).

EF's are part of the farmer groups for only a limited period of time with occasional visits. They consult the groups in their solution finding processes but also supply them with information if their own pool of knowledge is exhausted. Most of the interviewees in my research reported the EF gave them valuable information on farming techniques and that this improved the yields. Another farmer explained to me how the EF introduced a technique on how to produce faster offspring in her hen house. Composting was another method that was introduced by the EF. Nevertheless, mostly farmers own their solution finding processes entirely themselves and do not rely on external or expert knowledge. In my interviews I could record that some groups developed techniques on their own on how to counteract pesticides in their gardens and plantations with ecological pesticides and herbicides (Fieldwork 2016). Another interviewee reported that the group figured out that it is beneficial to leave the grass in the soil in their gardens to increase yield in the next harvest season.

All groups that I interviewed had adopted the credit and saving scheme (see section 4) in order to save money collectively and invest in different projects or lend money for school fees. Such an arrangement requires trust within the group. The treasurer is trusted with a significant amount of money and the group members are trusted to give back the money that they owe to the group. Strict rules have been implemented to make sure such progresses go smoothly but trust is high inside the groups.

Nevertheless, I have to mention that in the beginning first the EF and then later the IF play important roles in facilitating knowledge exchange and reflective processes. Interviewees reported that the EF and IF took over central roles in managing group meetings and idea exchange processes.

### **5.5.3 Triple Loop Learning**

*Triple loop* learning is supposed to encourage open-ended and seated discussions on primary challenges and ways to reshape values, norms and social structure. This type has a deep rooted reflective nature Shaw and Kristjanson (2014). It is difficult to question one's own values, norms and social structure and eventually need to change all that. Armitage et al. (2008, p. 96) wrote in his paper "Novel ways of encouraging vulnerable, resource-dependent individuals and communities to engage in learning are necessary to overcome inherent livelihood and political risks".

Taking into account that the whole FFLG approach aims at increasing livelihood for participating farmers and their families and the community they live, the approach does tackle the overarching dilemma of poverty in rural, agriculture dependent areas in Africa. Therefore, the only level where

triple loop learning happens and deep, underlying questioning of the status quo, is inside the umbrella organisation SATNET. But SATNET alone would not be able to facilitate a triple loop learning outcome, but in correspondence with other organisations, policy makers and researchers. The results of my research do not give insight on those matters, but in the booklet, published by the project team (Vaarst et al. 2012), cooperation and joint research has been practiced with project partners such as Organic Denmark, National Organic Agriculture Movement of Uganda and the Sustainable Agriculture Trainers' Network (SATNET). This team of organisations with different backgrounds and academic input from previous research on either the approach or other approaches to increase livelihood in rural Africa contributed to an open discussion on values, norms and social structure.

## 5.6 Side Findings

Another topic, that gets less attention than it should, is domestic violence. It happens in many households and is a topic that cannot be addressed enough. Fortunately, the FFLG approach does address this issue. In one group interview, I was told that domestic violence was one of their major issues. Men would get into an alcohol problem, which eventually resulted in domestic violence and abuse of the family. This did not only alter the social bonds and financial situation of the family, and not even speaking of psychological damage of the victims, but also had a bad influence on the farmer group. The men would spend the savings on alcohol and neglect farm work, which affects everyone in the group since farm work is done collectively. The group pointed out one or two members that were trusted most in the community and were sent to the family with reported issues. They would sit together and talk things through. With clear reasoning and social pressure, the situation turned for the better and the problem was ultimately solved.

## 5.7 Summary

After having displayed my findings in this section I want to answer my first sub-question: "*How does social learning unfold in the FFLG approach?*". The results and analysis are ordered according to four conditions and loop learning that are needed to facilitate social learning. Reflecting on the data presented in the previous sections, I can say that all four conditions, *participatory environment*, *social participation*, *collective learning* and *social interactions*, and all three loops of learning are met in the approach. Those results give confidence in saying that social learning, on all levels, is practiced in the FFLG approach and contributes to its successful implementation.

After I have answered my first sub-question and showed that social learning is practiced in the FFLG approach, I am now able to discuss my second sub-question: “*How does the FFLG approach give new insights on the theory of social learning?*”.

## **6 Discussion**

To come back to where this thesis started I want to refer back to the greater sustainability challenge here, food insecurity in SSA. Food insecurity, times of global economic and environmental transformations as well as climate change and political instability have put rural agricultural smallholders in a vulnerable state where they are not able to cope with unpredictable changes. My thesis presents the case of an approach that pulls farmers out of this vulnerable state and provides sustainable and adequate livelihood to break out of the agricultural dilemma (see 1.2) and achieve higher food security.

The FFLG approach is an alternative to conventional agriculture with principles of agroecology and participation. In this discussion I will answer my research question *if social learning programmes can help address food insecurity* and subsequently my second sub-question. In the following section I will answer my second sub-question and show *how does the FFLG approach give new insights on the theory of Social Learning*.

### **6.1 Contribution to Theory**

Social learning *is* practiced in the FFLG approach, but there is a special feature to it. During my research it becomes clear that the EF and IF have a special role in the approach. In this section I want to show how the FFLG approach give new insights on the theory of social learning and answer my sub-question 2: *How does the FFLG approach give new insights on the theory of Social Learning?*

My research revealed a potential extension of the theory of social learning by more precisely defining the facilitation with implementing double facilitation. The theory of social learning only mentions that facilitation is necessary to foster learning as Shaw and Kristjansson (2014, p. 2690) put it: “Of critical importance in learning environments where socially differentiated groups are involved, the attitude, skills and capacities of the facilitator are crucial for moderating power imbalances and knowledge hierarchies in order to foster an environment of meaningful exchange, deliberation and, ideally, learning”.

In this case study the facilitator takes an introducing and guiding role. Mostly, the farmer groups already existed, but if that was not the case then EF's united the group and initiated the process of group building and helped to create a participatory environment and supported social participation. In section 2.1 I give a definition of social learning by Reed S. et al. (2010) who defines it as a change in understanding, through social interactions among actors within social networks, that becomes part of expanded social units or communities of practice and beyond the individual. This definition says that a change in understanding happens through social interactions between actors *within* social networks. Looking at the case of FFLG's, the External Facilitator, as the name already implies, coming from outside the group, contributing to social capital of the group as it facilitates and increases the network of relationships, reciprocity and trust. As mentioned in the paper from Vaarst et al. (2012), the EF is trained in a seminar on how to let the farmers group find their own way in dealing with their challenges. The decision making of which actions are necessary is owned by the group and not set by the EF. Vaarst et al. (2012, p. 11) write: "The way in which each group will work should be identified in a dialogue between the facilitator and group members". This shows that the EF has no determining role, no decisions about what is necessary to do is decided by the EF, only by group members. Though, the EF supports and helps to facilitate that process in creating *participatory environments* and enabling *social participation*. Social learning theory does not discuss how such learning environments and social participation are initiated and describes the process of learning rather as a passive one that is facilitated automatically by interaction within groups and among individuals (Reed et al. 2010). Shaw and Kristjansson (2014) highlight a speciality of a facilitator necessary to guide a group in their own process. Furthermore, the facilitator continues her work also after the initiating phase and, being a part of the group (in this case the IF is meant), helps the group channel their process of *collective learning* and *social interaction*.

Nevertheless, the EF has a limited period of time she is available to the group. In order to keep the FFLG approach continuous and smoothly running, the project team identified that an IF can take over the work of the EF and therefore increase sustainability of the approach inside the group and for the community around it, since she will be continuously available to the group. The EF trains the IF which takes over the work of the EF. The IF is chosen by the group and not the EF, member organisation or SATNET, which guarantees acceptance and legitimacy of the IF within the group. With training and time the IF will take over the role of the facilitator, but doing this from within the group.

To sum up this argument, the EF functions as initiator for the learning process and the IF continues that work, introducing a *double facilitation* in the social learning theory. This defines more accurately

where the facilitation process could be implemented and continue to guarantee a social learning process.

## **6.2 Side Findings**

Social learning as theory for the FFLG approach has more advantages than improving farm practices, for example saving and credit schemes, overcoming domestic violence and alcohol abuse. There is more that contributes to a higher livelihood and food security with the help of social learning.

Some of the groups had implemented a so called credit and saving scheme before the project started, and all groups had implemented it two years after initiation of the FFLG approach. This scheme is based on a financial contribution by every farmer in set time intervals to a common money pool. Individuals or the group together can withdraw money from the pool for a small interest fee.

This practice requires a high amount of social capital in order to work. As mentioned before, group members meet frequently to discuss and work together on their farming practices. This has the effect that members become familiar with each other and start building trust. Social capital is characterised by reciprocity, trust and cooperation where market actors create goods and services not only for their own benefit but rather for the common good (Coleman 1988). Coleman (1988) points out characteristics that all entities of social capital have in common. First, they consist of some form of social structure, in this case the groups or family in the FFLG approach, and second, it facilitates certain actions of actors, in this case enable individuals or a group to invest or pay for school fees or things alike. Third, trustworthiness is of major importance for social capital and for the credit and saving scheme to function. Trust guarantees that obligations are returned, in this case money is paid back. On the other hand, social learning provides features that are suitable for enabling the credit and saving scheme as well. Shaw and Kristjansson (2014) describe that social learning occurs as a result of social interactions with outcomes such as increased trust and strengthening of social networks. Those attributes are well suited for facilitating the saving and credit scheme as well.

Another topic is the already mentioned domestic violence in combination with alcohol abuse. In some families the men got into an alcohol problem and started to neglect the family and farm work (which involves the whole group), using savings and abusing the family. Through clear reasoning by a few well trusted group members and social pressure the problem was eventually solved. Social learning occurs through interaction within social networks. The single loop learning process of changing behaviour is supported by the implemented social structure of the FFLG and the social control that comes with it.

This ultimately ends in an improved livelihood for the abuser and the people around him, showcasing an example of social learning improving situations that are not directly linked to farm practices.

### **6.3 Policy Recommendations**

The project is successful in achieving its goals of a sustainable livelihood that provides a healthy life and strengthens the community. Social learning with the addition of double facilitation works well in that case. It could be used as an alternative or addition to the social capital approach, since it seems so well suited for that case. Social learning theory could be introduced to the member organisation and SATNET and further possibilities of using it in the FFLG approach could be examined. Triple loop learning requires more attention in this approach since it triggers questioning the bigger picture and involves multiple stakeholder with different backgrounds, eventually giving the possibility to further develop any approaches that improve the situation for the agricultural, rural poor in Africa. FFLG is a holistic approach which makes social learning applicable on all levels, from the umbrella organisation and its international partners and connections to the world of research, to the member organisation, facilitators and down to the farmers.

The FFLG approach seems to be suitable for serving as a platform to use social learning to improve the capacity to cope with changing environments and increase the livelihood of farmers and their communities. This approach with the combination of social learning, double facilitation and further research should be applied in more cases.

### **6.4 Limitations**

Reflecting on these new insights, there is one limitation to the introduction of IF's. There is the chance that the group does not accept one of their own to be the guiding facilitator. Hence, there is a need for the group to understand that the IF has no superior role in their group. All the members take ownership of the group. In order for the IF to act sufficiently, the group needs to understand the importance of an alliance with her.

## 6.5 Discussion summary

To sum up the discussion section and answer my main research question *can social learning programmes help address food insecurity*, one can say that social learning, and all its levels, is practiced in the FFLG approach with an addition to the theory in form of double facilitation. But no less need to mention other achievements of the approach and social learning that go beyond farm practices, such as credit and saving schemes or fighting domestic violence. This insight can be used to further develop the theory of social learning by defining the work of a facilitator more precisely. The FFLG approach in combination with social learning is a well-functioning project that increases the livelihood and fights food insecurity of many rural communities in Western Uganda. This approach could be used to conduct further research on social learning in combination with double facilitation, and eventually be applied to other approaches in different places.

## 7 Conclusion

Food security is a big problem throughout many parts of this planet. Many marginalised people are rural smallholders who depend directly on their own production. In my thesis I looked at an approach that aims at increasing the livelihood of rural farmers in Western Uganda. The FFLG approach can be used as an example for successfully increasing the livelihood in a vulnerable environment by using social learning.

In my thesis I displayed how social learning is part of the approach, though with an extra contribution. My research discovered a possibility of extending the theory of social learning by more precisely defining who could take on the role of a facilitator and how this facilitation could be managed. This theory in combination with the approach and concomitantly double facilitation provides an approach that should be further researched but also introduced in other poor rural settings that are in need for building up capacity to cope with ever more rapidly changing environments and therefore contribute to food security.

## 8 References

Adger, W.N., 2006. Vulnerability. *Global Environmental Change* 16 (3), 268-281.

Armitage, D., Marschke, M., & Plummer, R. (2008). Adaptive co-management and the paradox of learning. *Global Environmental Change*, 18(1), 86–98. doi:10.1016/j.gloenvcha.2007.07.002

Becker, P. (2014). *Managing risk and resilience for sustainable development*. . Amsterdam and Oxford: Elsevier

Bryceson, D. (2002a) 'The scramble in Africa: reorienting rural livelihoods' in *World Development*, 30, 725-739.

Bryceson, D. (2002b) 'Multiplex livelihoods in rural Africa: recasting the terms and conditions of gainful employment' in *The Journal of Modern African Studies*, Vol. 40. No. 1., 1-28.

Caplan, G. (2008) *The Betrayal of Africa*, Groundwood Books, House of Ananasi Press: Toronto.

Cash, D. W., Clark, W. C., Alcock, F., Dickson, N. M., Eckley, N., Guston, D. H., ... Mitchell, R. B. (2003). Knowledge systems for sustainable development. *Proceedings of the National Academy of Sciences of the United States of America*, 100(14), 8086–91. doi:10.1073/pnas.1231332100

Coleman, J. S. (1988). *Social Capital in the Creation of Human Capital*. The University of Chicago. *AJS* Volume 94 Supplement S95-S120

Diduck, A., Bankes, N., Clark, D., Armitage, D., 2005. Unpacking social learning in social-ecological systems: case studies of polar bear and narwhal management in northern Canada. In: Berkes, F., Huebert, R., Fast, H., Manseau, M., Diduck, A. (Eds.), *Breaking Ice: Renewable Resource and Ocean Management in the Canadian North*. Arctic Institute of North America and University of Calgary Press, Calgary, pp. 269–290.

Ellis, F. (2000) *Rural Livelihoods and Diversity in Developing Countries*. Oxford, UK.

Erickson, P.J., 2008. What is the vulnerability of a food system to global environmental change? *Ecology and Society* 13 (2), 14 [online] URL: <http://www.ecologyandsociety.org/vol13/iss2/art14/>

FAO. 2002. *The State of Food Insecurity in the World*. 2001.Rome

Folke, C., Hahn, T., Olsson, P., & Norberg, J. (2005). Adaptive Governance of Social-Ecological Systems. *Annual Review of Environment and Resources*, 30, 441–473. doi:10.1146/annurev.energy.30.050504.144511

Folke, C., 2006: Resilience: The emergence of a perspective for social–ecological systems analyses. *Global Environmental Change*, 16, 253-267.

Francis, E. (1998) 'Gender and rural livelihoods in Kenya' in *Journal of Development Studies*, 35(2) 72-95.

Gabrielsson, S. (2012). *Uncertain futures - Adaptive Capacities to Climate Vulnerability and Change in the Lake Victoria Basin*. Lund Dissertation in Sustainability Science No. 3. LUCSUS

Gibbons, M. (1999). Science's new social contract with society. *Nature*, 402(December), C81 – C84.

Hydén, G. (1983). *No shortcuts to progress: African development management in perspective*, Berkeley: University of California Press.

IPCC, 2014. Summary for Policymakers. *Ipcc Wgiii Ar5* 1-33. doi:10.1017/CBO9781107415324

Jacobson, W., 1996. Learning, culture, and learning culture. *Adult education quarterly*, 47 (1), 15-28.

Jerneck, A., Olsson, L., Ness, B., Anderberg, S., Baier, M., Clark, E., Hickler, T., Hornborg, A., Kronsell, A., Lövbrand, E., Persson, J. (2011). Structuring sustainability science. *Sustainability Science*, 6(1), 69–82. doi:10.1007/s11625-010-0117-x

Johannessen, Å., & Hahn, T. (2013). Social learning towards a more adaptive paradigm? Reducing flood risk in Kristianstad municipality, Sweden. *Global Environmental Change*, 23, 372–381. doi:10.1016/j.gloenvcha.2012.07.009

Kates, R.W., Clark, W.C., Corell, R., Hall, J.M., Jaeger, C.C., Lowe, I., Mccarthy, J.J., Schellnhuber, H.J., Bolin, B., Dickson, N.M., Faucheux, S., Calloprn, G.C., Grübler, A., Huntley, B., Jäger, J., Jodha, N.S., Kasperson, R.E., Mabogunje, A., Matson, P., Mooney, H., Iii, B.M., Riordan, T.O., Svedin, U., 2001. *Sustainability Science*. *Science* 292, 641–642. doi:10.1126/science.1059386

Keen, M., T. Bruck, and R. Dyball. 2005b. Social learning: a new approach to environmental management. Pages 3-21 in M. Keen, V. Brown, and R. Dyball, editors. *Social learning in environmental management: towards a sustainable future*. Earthscan, London, UK.

Lundqvist, L. (2004). Integrating Swedish water resource management: a multi-level governance trilemma. *Local Environment*, 9(5), 413–424. doi:10.1080/1354983042000255324

Mies, M. (1986) *Patriarchy and Accumulation on a World Scale – Women in the International Division of Labour*, London: Zed Books Ltd.

Muro, M. & Jeffrey, P. (2007). A critical review of the theory and application of social learning in participatory natural resource management processes. *Journal of Environmental Planning and Management*. Vol. 51, No. 3, May 2008, 325-344.

OECD, 2005. Agricultural Policies in OECD Countries: Monitoring and Evaluation. Organization for Economic Co-operation and Development, Paris.  
<http://www.oecd.org/dataoecd/58/45/35314840.pdf> (11 January 2009)

Pahl-Wostl, C. (2009). A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes. *Global Environmental Change*, 19, 354–365. doi:10.1016/j.gloenvcha.2009.06.001

Reed, M. S., A. C. Evely, G. Cundill, I. Fazey, J. Glass, A. Laing, J. Newig, B. Parrish, C. Prell, C. Raymond, and L. C. Stringer. 2010. What is social learning? *Ecology and Society* XX(YY): rZZ.

Rist, S. et al., 2006. “It was hard to come to mutual understanding...” – The multidimensionality of social learning processes concerned with natural resource use in India, Africa and Latin America. *System practice action research*, 19 (3), 219-237.

Rist, S. et al., 2006. Moving from sustainable management to sustainable governance of natural resources: the role of social learning processes in Rural India, Bolivia and Mali. *Journal of rural studies*, 23 (1), 219-237.

Rist, S., M. Chidambaranathan, C. Escobar, U. Wiesmann, and A. Zimmermann. 2007. Moving from sustainable management to sustainable governance of natural resources: the role of social learning process in rural India, Bolivia and Mali. *Journal of Rural Studies* 23:23-37.

Rodney, W. (1973) *How Europe underdeveloped Africa*, Bogle-L’Ouverture Publications, London and Tanzania Publishing House, Dar-Es-Salaam.

Salomon, G., ed., 1993. *Distributed conitions*. Cambridge: University Press

Scholz, R. W. (2011). *Environmental Literacy in Science and Society: From Knowledge to Decisions*. Cambridge: Cambridge University Press.

Shaw, A. and Kristjanson, P. (2014). A Catalyst toward Sustainability? Exploring Social Learning and Social Differentiation Approaches with the Agricultural Poor. *Sustainability*, 6, 2685-2717; doi:10.3390/su6052685

Smit, B., Wandell, J., 2006. Adaptation, adaptive capacity and vulnerability. *Global Environmental Change* 16 (3), 282-292.

Tanner, T. M., Jackson, C., Seballos, F., & Clark, J. (2013). Learning to tackle climate change : Innovative approaches to knowledge sharing and co-production in highly dispersed development organisations. *Knowledge Management for Development Journal*, 9(1), 9–23.

Thompson, J. and Scoones, I. (2009). Addressing the dynamics of agri-food systems: an emerging agenda for social science research. *Environmental Science & Policy*, 12, 386-397.

Vaarst, M. et. al. (2012). The Rwenzori Experience. Environment and Development Series 15. Third World Network.

Yin, R. (2011). Qualitative Research from Start to Finish. The Guilford Press.

## 9 Appendix

### Questionnaire

#### Group Questions

1. What made your group chose to adopt the FFLG approach?
2. How does a meeting usually look like?
3. Are there different tasks for different people? Who does what? Why this person?
4. When you visit each other's farms, how do you start to analyse the problems?
5. Do you talk to each other about your concerns, ideas? When does that happen? Give an example.
6. What were the problems you tried to improve? Why were they problems?
7. What did you do to find a solution for the different problems? (elaborate more in focus groups)
8. Which changes have been most significant after establishment of the groups?

What do you think about the external facilitator? (do not ask if EF is present) for the focus group!!!

9. How are the different responsibilities/positions chosen?
10. What are the tasks that you work more together now?
11. What changed in the distribution of work?
12. How did the improvements better your life? pay attention to 'most significant change' – shouldn't double)
13. What was the biggest challenge(s)?
14. Is there anything you would change in the way you work in the group? (should be last question)

#### Individual Questions

1. What is your name? age? (write down gender)
2. What is your personal goal by joining the FFLG?
3. What was the problem before joining?
4. Is it still a problem? What have you done to solve it?
5. What did you learn from your fellow farmers and what did you learn from the external facilitator alone?
6. Do you think the External Facilitator did a good job? Why?
7. How is the whole family involved? Men, women, children and elderly
8. What changed in the distribution of work?
9. How did the improvements better your life?
10. Which action supported by the group had the biggest impact on your life?
11. What is your vision for the future about your farm and family?

12. What was the biggest challenge(s)?
13. How do you make sure everything will stay the same / develop in the direction you wish?

### **External Facilitator**

1. What's your name?
2. From which member organisation do you come from?
3. What is your background in agroecology?
4. What is the field you feel most comfortable with? (if the previous question had more than one answer?)
5. When did you have the educational course at SATNET?
6. How did you experience it? What was the aim of that?
7. What did you learn there that you did not know before?
8. Where/Who is your FFLG?
9. What were the problems at your FFLG?
10. How did you start your work there?
11. Did you feel accepted by the group? How was the work with the farmers?
12. What of your previous education or the course SATNET helped you to solve the problem?
13. Was there anything you wished you would have known more?
14. Did you use SATNET for consultancy? And when? For what reason?
15. How was the Internal Facilitator chosen? Were you happy with the choice? Why yes and why no?
16. What did you teach the Internal Facilitator???
17. How long did/do you stay in contact with the FFLG? For what reason?

### **SATNET**

1. What is your name and position at SATNET?
2. What do you do in your position? What are you responsible for?
3. What does the FFLG approach mean to you? Can you define it?
4. How do you pick the groups that are turned into FFLG's?
5. How do you chose EF?
6. The EF should be educated so that she allows the process of letting the group find their own pathway, how is she meant to do that? Or what do you teach in that perspective?
7. Why should a group have an Internal Facilitator? – Why not keep the External Facilitator?
8. Do you keep track on what you taught the external facilitator or what they identified as areas they still need improvement of their knowledge? What was usually identified as a weakness or what do you usually teach?
9. How do you imagine assuring that each group identifies their focus and builds up network? - they should be guided by the facilitators in that process, how do you prepare the EX for that?
10. How often are you (SATNET) consultant for EF or IF? During what time does that happen?
11. How do you make sure that the EF, IF or farmers can seek consultancy from you? What feedback or consultancy channels do you have?
12. What did you learn from the Farmer groups, Internal Facilitator and External Facilitator?
13. What do you think facilitates a good learning environment?
14. What acquired knowledge do you identify as most important to guarantee a sustainable outcome for the farmers?
15. What is your vision on the farmer's future?

16. Is there any method you judge the success of your work and the work of the External Facilitator? And how do you define the success of a FFLG?
17. How will the future of the FFLG programme look like?