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“The world will turn in to nature,
everyone turns away from chemicals.”¹ -

Aspiration and values among organic farmers in India



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¹ Mr. Muthu Samy (Organic small scale farmer, Tamil Nadu). Notes taken during the interview, February 7, 2010.

² Photo taken by the author the Maria Mikkelsen

Abstract

Keywords: Sustainable development, Organic farming, India, Small-scale farmers, Sustainable Livelihood Approach

This thesis is a case study about the prospect of organic small-scale farmers in Pudukottai, Tamil Nadu, South India, with conventional small scale-farmers as a reference group. The aim is to look at what opportunities these farmers have in relation to their economic and social context. To look at these aspects you need to understand the aspiration and values of the farmers which all goes according to my theoretical framework Sustainable Livelihood Approach. To do this I used among other methods, semi-structured interviews, so that the farmers perspective could shine through. Complementing to the interviews I had one participant observation and five non-participant observations. In the end the conclusion gets to three main points which are the aspects of knowledge, solidarity and difference in mentality among the farmers.

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1. Prologue

My field research was completed in Tamil Nadu, South India. Reaching Tamil Nadu requires a half hour bus ride from the town of Trichy to the smaller town of Keeranur . The streets on the way to Keeranur are lined with food shacks, small shops along the right, while the left side was covered with Eucalyptus trees growing on government land. Because Eucalyptus trees require so much water, thereby drying out surrounding land and killing everything that grows around them, many farmers I talked to expressed frustration with the trees killing their harvest. Although monsoon season was a few month earlier, everything bloomed but looked dried up because of the clouds of red dust covering everything including me and my bags.

Arriving to Keeranur, the small bus station was littered with small food stands which first transformed into houses, and later in to a town. I took the opportunity to buy some snacks and fruits for the children whose orphanage I would be living over for the next three weeks at Kolunji Farm, which my contact organization Kudumbam was running in the area. Reaching Kolunji required another bus ride to another village that run along another road line of bushes, trees, flowers and of course more dust. My journey ended in a small village, consisting of a few houses, and five tiny shops (built up shacks) along the main road through the village. From here a short twenty minutes stroll brought me to my destination of Kolunji.



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³ See map number 1 under Biography

⁴ See map number 2 under Biography

As I approached the farm, a big stone sign welcomed me saying: “Ecological farm cum training centre implemented by “Kudumbam” with assistance by “Swallows” Sweden”⁵. Continuing past this sign, brings you to a small shaded path with paddy fields on the left and grassland on the right. After 50 meters a long, a white building with a thatched roof appear. This is the farms main office. To the right of the office is a school room. Behind, another building appears, which would become very important to me as this is where I would eat breakfast, lunch and dinner for the next 20 days. Further down the path, a flat two stiroed building decorated with laundry in every possible color emerged. The first floor housed the orphans, the second floor, would house me as I immersed myself in this area to learn its customs, people, aspirations and fears.



⁵ See Appendix 1, photo

2. Introduction

70% of the world's poor live in rural areas⁶. According to the UN organ; World Food Program, 50% of India's population of over 1 billion people⁷ is considered "food-insecure,"⁸ despite the Green Revolution, which started in the 1960s, which managed drastically increase Indian food production⁹. But in addition to increased harvest yields, the Green Revolution left behind many environmental consequences with its high external input agriculture and a more sustainable agriculture is required. Organic farming has come to be viewed as one of the viable alternatives in the march modern towards a sustainable future¹⁰. Concepts like *sustainable development* are loaded with western concepts and values. Although these tools are used within this research, implementing the farmers' values is important when analyzing their opportunities and risks. This thesis is looking at sustainable development through an alternative approach which is focusing on the social aspects of organic farmers, in India, to better understand how it is related to environmental problems. The value of this research lies in its approach in that it looks into the farmer's values on a personal level. My main goal is to see what opportunities these farmers have in relation to their economic and social context. To acknowledge the opportunities I also need to look at the differences. To take an opportunity you need an aspiration for something that is based on values. Following questions then occur:

RESEARCH QUESTION:

Main question:

Using the theoretical framework of the Sustainable Livelihood Approach, what are the opportunities of the small scale organic farmers in Pudukkottai, Tamil Nadu, India?

⁶ <http://data.worldbank.org/topic/agriculture-and-rural-development> (Accessed: 2010-04-30)

⁷ <http://data.worldbank.org/topic/agriculture-and-rural-development> (Accessed: 2010-04-30)

⁸ <http://www.wfp.org/countries/india> (Accessed: 2010-04-07)

⁹ *4th Five Year Plan*. India's Planning Commission. Available at:

<http://planningcommission.nic.in/lans/planrel/fiveyr/welcome.html> (Accessed: 2010-05-03).

¹⁰ Pretty, Jules (2002a). *Agri-Culture: Reconnecting People, Land and Nature*. Earthscan; London, p. 78ff

Sub-questions:

1. What is the aspiration of the organic farmer?
2. Which are the values of the organic farmer?
3. How is the context related to these aspects?

This thesis is a case study that will use a sustainable livelihood approach as both its theoretical framework and as an analytical tool. This paper will focus on organic farmers while using conventional farmers as a reference group to both compare and contextualize organic farmers. In total, 12 farmers, 6 organic farmers and 6 conventional farmers were interviewed.

This thesis was divided into three sections. The first consists of background information containing the concept of sustainable development, history of India's agriculture, and the roles both local governments and NGO's. This sets the stage for an explanation of why organic farming is important as an alternative option for India today. This is followed by the theoretical framework and a methods and material section. This paper will then discuss the analysis and results followed with a discussion, conclusion and possibilities for future research.

3. Sustainable development

The 1987 Bruntland Report first defined the concept of *sustainable development* as: "development that meets the needs of the present without compromising the ability of the future generations to meet their needs"¹¹ and encouraged for political action¹². The subsequent debates vested interest groups regarding the concepts of *sustainable development* have sparked great confusion and long lasting arguments over the practical implications, the reports and many documents¹³.

There are two main opinions in this debate on how to interpret and implement the concept on sustainable agriculture. The first one simply emphasizes the importance of more use of new technology within the agricultural sector¹⁴.

¹¹ <http://www.un-documents.net/ocf-02.htm> (Accessed: 2010-04-30)

¹² Conway, G. (1998). *The Doubly Green Revolution: Food for all in the 21st Century*. Cornell University Press; Ithaca & New York, p. 164

¹³ See Conwal 1998, p. 164

¹⁴ Cf Dyson, T. (1996). *Population and Food; Global trends and future prospects*. Routledge; London

The second simply calls for a reconstruction and reform of the international economy in addition to more sustainable farming methods¹⁵. Poverty is related to the amount of people and access to food¹⁶. This paper will define “food security” as the time all people “...have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” according to the World Food Summit¹⁷. India has faced chronic food shortages for its 1 billion people since independence in 1947¹⁸. To provide enough food, the government was running many food campaigns, as well as importing food, to help solve the food crisis¹⁹. The first five year plan (1947-1952) 30% of the budget was invested in agriculture and irrigation²⁰. In the 1960s the government of India made a big investment in the Green Revolution to achieve self sufficiency²¹.

3.1 Perspectives and history of the Green Revolution

The Green Revolution originally referred to the development of high yielding varieties of rice and wheat,²² followed by a big investment in the intensification of agricultural programs²³. Thomas Robert Malthus first addressed a society’s ability to provide adequate food for growing populations in 1798 in his book; “An Essay on the Principle of Population”²⁴.

and Dyson, T. (1999). Prospects for feeding the world. *BMJ*. Vol 319, Nr. 9 October. Pp. 988-991 and Djurfeldt, G. (2001). *Mera Mat: Att brödföda en växande befolkning*. Arkiv Förlag; Lund

¹⁵ Cf Pretty 2002a and Bunch, R. (2004). More Productivity with Fewer External Inputs: Central American Case Studies of Agroecological Development and their Broader Implications. In: *Environment, Development and Sustainability*. Vol. 1 Nr. 3-4 Pp.219 - 233

¹⁶ Das, R.J. (1998/2002). *The Green revolution and poverty: a theoretical and empirical examination of the relation between technology and society*. *Geoforum*. Vol. 33, Nr. 1. Pp. 55-72, p. 62

¹⁷ http://www.fao.org/wfs/index_en.htm (Accessed: 2010-05-13)

¹⁸ Bhalla, G.S. (2004). Demand and Supply of Food and Feed Grains by 2020. In: Asthana, M.D. & Medrano, P. (2004). *Towards a Hunger Free India: Agenda and Imperatives*. Manohar; New Delhi, p. 47

¹⁹ Sharif, A. (2004). Food and Nutrition Security in India: The Micro-level dimension. In: Dorin, B. & Jullien, T. (2004). *Agricultural Incentives in India: Past Trends and Prospective Paths towards Sustainable Development*. Manohar; New Delhi, p. 21

²⁰ See Hazell, P.B.R. (2009). *The Asian Green Revolution*. International Food Policy Research Institute (IFPRI): Sustainable solutions for ending hunger and poverty. Vol. ? Nr. ? Pp. 1-40 Available at:

<http://www.ifpri.org/publication/asian-green-revolution> (Accessed: 2010-05-03), p. 12 and *1st Five Year Plan*.

India’s Planning Commission. Available at:

<http://www.planningcommission.nic.in/plans/planrel/fiveyr/welcome.html> (Accessed: 2010-05-03).

²¹ Bhalla 2001, p. 47f

²² Hazell 2009, p. 7

²³ India’s Planning Commission, 4th Five Year Plan. (Accessed: 2010-05-03)

²⁴ See more about Malthus theories at: Malthus, T. (1798). *An Essay on the Principle of Population: An Essay on the Principle of Population, as it Affects the Future Improvement of Society with Remarks on the Speculations of*

According to Chapman the world has been able to escape the “Malthusian trap” for three reasons:

1. There is more land surface that is used for farming.
2. Food transports are more efficient today.
3. The development of high external input agriculture.²⁵

The modern development of agriculture came to India in the late 1960s through the Green Revolution²⁶. With the Green Revolution came a need for new markets that could handle the production and the need for education among farmers about new farming techniques, credit systems and new inputs²⁷. The government's played an important role in making sure that even small scale farmers benefited from the revolution²⁸. In India's fourth five year plan (1965-1970) the government emphasized on the importance of acknowledging and modernizing the Indian agriculture²⁹. This was to prevent famine in the country by trying to become self-sufficient in food grains,³⁰ which started with introducing chemical fertilizers, irrigation systems, new seeds and tractors to increase the food production³¹. This leads to an increase in the production, both in terms of the use of landmass as well as the use of chemicals³². There are two main arguments for these statements. To simplify the debate I have represented and summarized the two different sides into proponents and opponents of the Green Revolution.

Mr. Godwin, M. Condorcet, and Other Writers. Available at:
<http://www.esp.org/books/malthus/population/malthus.pdf> (Accessed: 2010-04-08).

²⁵ Chapman, G.P. (2002). The Green Revolution. In: Desai, V. and Potter, R.B. (2002). *The Companion to Development Studies*. Oxford University Press Inc; New York, p. 155

²⁶

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/EXTSAREGTOPAGRI/0,,contentMDK:20273764~menuPK:548214~pagePK:34004173~piPK:34003707~theSitePK:452766,00.html> (Accessed: 2010-04-08).

²⁷ Hazell 2009, p. 9 & 11

²⁸ See Hazell 2009

²⁹ India's Planning Commission, 4th Five Year Plan. (Accessed: 2010-05-03)

³⁰ Agoramoorthy, G. (2007). *Can India meet the increasing food demand by 2020?* Futures. Vol. 40. Nr. 5 Pp. 503-506, p. 504

³¹ The World Bank: Agriculture and Rural Development Unit South Asia Region (2005). *India: Re-energizing the Agricultural Sector to Sustain Growth and Reduce Poverty*. Oxford; New Delhi, p. 28f

³² Singh, R.B. (2000). *Environmental consequences of agricultural development: a case study from the Green Revolution state of Haryana, India*. Agriculture, Ecosystems & Environment. Vol. 82 Nr. 1-3 Pp. 97-103, p. 97

3.1.1 Proponents

At start, the Green Revolution positively affected India by increasing rural labor and wages. At the same time, the cost of food was decreasing helping to lift millions out of poverty³³. Bigger fields required more labor familiar with chemical fertilizers³⁴. New technology that came with the Green Revolution helped people out of their poverty by increasing the speed of production and providing the world with cheaper grains, most notably rice and wheat³⁵. Proponents for the Green Revolution argue that without the Green Revolution there would not have been any poverty reduction³⁶. The poverty would never decrease if there would not have been food security as a backup, despite growing population³⁷.

3.1.2 Opponents

Opponents think that prior to the start of the Green Revolution hundreds of people were needed for the harvest season³⁸. The techniques used during the Green Revolution favored rich large scale farmers who could invest in both chemical fertilizers and modern techniques³⁹. The large scale farmers could also buy land from small scale farmers who chose to sell their land with the consequence of the small scale farmers ending up without livelihoods,⁴⁰ creating social gaps in the society⁴¹. Poor small scale farmers also had no idea of the techniques being used, and even if they knew about them, the techniques themselves were to expensive.

³³

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/EXTSAREGTOPAGRI/0,,contentMDK:20273764~menuPK:548214~pagePK:34004173~piPK:34003707~theSitePK:452766,00.html>

(Accessed: 2010-04-08)

³⁴ Das 1998/2002, p. 57

³⁵ *Technology and Development*. The World Bank (2008). Available at:

<http://siteresources.worldbank.org/INTGEP2008/Resources/GEP08-Brochure.pdf> (Accessed: 2010-05-02), p. 4 and Singh 1998/2000, p. 100

³⁶ Rao, V.M. (2004). Agricultural Price Policy and Food Security: Need for a New Paradigm. In: Asthana, M.D. & Medrano, P. (2004). *Towards a Hunger Free India: Agenda and Imperatives*. Manohar; New Delhi, p. 75f

³⁷ See Runge Carlisle, F. & Runge Carlisle, P. (2010). "Against the Grain". Vol. 89 Nr.1 Pp. 8-15

³⁸ Das 1998/2002, p. 55

³⁹ See Runge Carlisle & Runge Carlisle 2010 and Conway 1998, p. 66

⁴⁰ Runge Carlisle & Runge Carlisle 2010

⁴¹ Das 1998/2002, p. 59

This side also argue that new seeds lead to greater environmental problems due to the fact that they are often suited for their new environmental surroundings,⁴² thus they argue that the farming techniques used in the Green Revolution will not last in a long term system⁴³. Because the Green Revolution increased in grain yields, it also worked to drive down prices of food thus making each harvest less profitable for small scale farmers⁴⁴. Opponents acknowledge that the Green Revolution helped to increase food security, which in turn helped lead to a population boom, which puts India in a very similar situation that they were in prior to the start of the Green Revolution⁴⁵. Opponents argue in favor of different solutions due to the belief that the long term negative consequences of these techniques (the loss of small species, destruction of good soils and ground water and the disturbance of ecosystems and biodiversity in nature) out weight the short term gains⁴⁶. There has to be other and better solutions⁴⁷.

3.2 A local agenda

One way of trying to hand out responsibility to different actors in both the political, private and public sectors was at the Rio conference in 1992. The conferences goal was to acknowledge the environmental problems and unite actors all over the world to take common responsibility⁴⁸. The results of the conference were greater awareness along with 27 global guidelines in the “Rio declaration” for national and international environmental behavior⁴⁹.

⁴² Singh 2000, p. 99

⁴³

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/EXTSAREGTOPAGRI/0,,menuPK:452774~pagePK:51065911~piPK:64171006~theSitePK:452766,00.html> (Accessed: 2010-05-02)

⁴⁴ Das 1998/2002, p. 59

⁴⁵ Hazell 2009, p. 16

⁴⁶ Chapman 2002, p. 157f and Agoramoorthy 2007, p. 503 and Singh 2000, p. 98

⁴⁷ Pretty, J. (2002b). Regenerating Agriculture. In: Desai, V. and Potter, R.B. (2002). *The Companion to Development Studies*. Oxford University Press Inc; New York, p. 170 and Das 1998/2002, p. 58

⁴⁸ <http://www.sfn.se/press/nyheter-fran-fn/2007/fyra-framtidsscenarier-for-klimatfragorna/> (Accessed: 2010-04-30)

⁴⁹See *Rio-deklarationen*. Svenska regeringen. Available at:

<http://www.sweden.gov.se/content/1/c6/01/86/84/42a35d54.pdf> (Accessed: 2010-04-30).

The most famous framework for guidelines that they achieved was “Agenda 21”, which promoted the future spread of the concept of *sustainable development* at global, national, and the local level.⁵⁰

Guidelines for the Agenda 21 local protocol were one example on how to manage implementing similar environmental laws on all local levels. Gibbs and Jonas note that this process developed from both top down and bottom up approaches.⁵¹ NGOs (non governmental organizations) played a role in implementing *sustainable development* by complementing local governments on the ground level⁵². NGOs are expected to handle the poverty reduction in a more direct and efficient way than the government by looking at the needs of the poor⁵³. From the 1960s and through the 1990s, economic development was the prevailing strategy in alleviating poverty⁵⁴. Today, many different approaches are used to alleviate poverty besides economic development. Other ideas for solutions to the problem of poverty and food security are under discussion.

A local government approach is useful for alleviating for a variety of social ills due to the fact that they have a better understanding of their environment and a better chance to contact and cooperate with the local people⁵⁵. The problem with a local government solution is that local government often only considers what is in the best interest of its own locality from an environmental point of view⁵⁶. There is therefore a need to establish a framework concerning international common environmental goals in order to achieve local environmental management.

⁵⁰Cf <http://www.sweden.gov.se/sb/d/6936> (Accessed: 2010-04-30) and *Agenda 21 – En sammanfattning*. Svenska regeringen. Available at: <http://www.sweden.gov.se/content/1/c6/01/86/84/6de2900f.pdf> (Accessed: 2010-04-30).

⁵¹ Gibbs, D. and Jonas, A.E.G. (1998/2000). *Governance and regulation in local environmental policy: the utility of regime approach*. Geoforum. Vol. 31 Nr. 3 Pp. 299-313, p. 299

⁵² Wanmali, S. and Islam Y. (2002). Food Security. In: Desai, V. and Potter, R.B. (2002). *The Companion to Development Studies*. Oxford University Press Inc; New York, p. 168

⁵³ Parmar, K. (2008). NGOs in Globalization and Sustainable Livelihoods. In: Sarkar, A.K. (2008). *NGOs and Globalization: Developmental & Organizational Facets*. Rawat Publications; Jaipur, p. 33

⁵⁴ Parmar 2008, p. 34f and Kanango, S.D. (2008). Sustainability of Development Programmes: Dilemma of Voluntary Social Service Sector. In: Sarkar, A.K. (2008). *NGOs and Globalization: Developmental & Organizational Facets*. Rawat Publications; Jaipur, p. 98ff

⁵⁵ Pugh, J. (2002). Local Agenda 21 and the Third World. In: Desai, V. and Potter, R.B. (2002). *The Companion to Development Studies*. Oxford University Press Inc; New York, p. 289 and see The World Bank: Towards a Sustainable Growth Framework Incentives 2009, p. 83

⁵⁶ Pugh 2002, p. 289f

Currently, a debate is occurring which discusses whether or not local governance is the best solution to the problem. Local interests for economic development effect local decisions and policies about the environment⁵⁷. Conflicts between global and local decisions are hard to avoid⁵⁸. The conflict lies in whether environmental decisions should be made at the local, national or international level⁵⁹. The challenge then is to find reliable and effective tools for setting up *sustainable development*⁶⁰ goals. The focus mostly lays in how to address issues such as the environment through the various linkages between different levels of government, institutions, partners and networks with other states⁶¹.

3.3 A holistic view

An alternative approach and as an answer to the more western concepts both Kemp, Martens and Pretty agree on that *sustainable development* is something that is a positive process of social change that does not harm nature⁶². So they are neither for nor are they against global or local development as long as the outcome of the process does not harm nature. Their solution to the debate on whether to have global or local decisions concerning *sustainable development* is to see environmental sustainable development as a social phenomenon rather than have it be nature related. To understand the relationship between humans and nature they argue that a trans-disciplinary approach is needed to see a more holistic picture⁶³. They argue that policies concerning environmental *sustainable development* issues are based on idealistic visions of society and not upon the actual reality⁶⁴. This can be done using a holistic view combined with trans-disciplinary subjects. They argue that changing policies requires vision but the policies in themselves should be based on reality⁶⁵. Both decisions makers and the population needs more environmental education and cooperation to make it succeed⁶⁶.

⁵⁷ Cf Gibbs & Jonas 2000, p. 300 and *Global Environment Outlook Geo4: Environment for Development*. United Nations World Programme (2007). Available at: http://www.unep.org/geo/geo4/report/GEO-4_Report_Full_en.pdf (Accessed: 2010-04-30).

⁵⁸ Kemp, R. and Martens, P. (2007). *Sustainable development: how to manage something that is subjective and never can be achieved?* Sustainability: Science, Practice & Policy. Vol. 3 Nr. 2 Pp. 5-14, p. 9

⁵⁹ Gibbs & Jonas 2000, p. 302

⁶⁰ Ness, B. et al. (2007). *Categorising for Sustainability assessment*. Vol. 60 Nr. 3 Pp. 498-509, p. 498

⁶¹ Gibbs & Jonas 2000, p. 300 and http://www.un.org/esa/dsd/agenda21/res_agenda21_10.shtml 2010-04-30

⁶² Kemp & Martens 2007, p. 7 and Pretty 2002b, p. 171

⁶³ Kemp & Martens 2007, p. 8

⁶⁴ Kemp & Martens 2007, p. 9

⁶⁵ Kemp & Martens 2007, p. 10

⁶⁶ See Kemp & Martens 2007, p. 10 and Ness et al. 2006, p. 499ff

According to the holistic view it is important to mention that concentrating on one issue will not by itself cause drastic ecological change⁶⁷. The role of both social and environmental issues such as among others poverty, food security, landscape changes, excessive consumption and pollution must also be taken into consideration⁶⁸. According to the World Bank, India should concentrate on environmental *sustainable development* instead of single environmental problems. But this approach poses great difficulty for India. The World Bank suggests that success in *sustainable development* depends on having a long term national education program that encourages participants to act on behalf of environmental change as well as establishes clear guidelines for environmental management. There is an urgent need to reach out with this vision to the Indian public.⁶⁹ India needs to build up the capacity of knowledge within its civil society to understand the environmental problems it is confronted with⁷⁰. To accomplish the long term program with clear guidelines and a common goal, all levels within society needs to cooperate. The World Bank suggests that the bond and cooperation between civil society and politicians can be stronger in three areas;

1. Through better access to education and training.
2. Maximizing the possibilities through better dialog and environmental performance.
3. Improving the cooperation between different environmental authorities in early stages of planning (i.e. infrastructure and industrial development).⁷¹

Since the mid 1990s the government of India released several new policy documents addressing the problems within the agricultural sector. These documents proposed increasing land and water use restrictions, finding other ways of feeding a growing population, and reducing the widespread poverty and malnutrition⁷². By looking at the consequences of the Green Revolution, another type of agricultural approach is needed in India. The government in Tamil Nadu is in the beginning stages of slowly encouraging small scale farmers to adopt incremental changes towards more sustainable agriculture.⁷³

⁶⁷ United Nations World Programme: Global Environment Outlook Geo4: Environment for Development 2007

⁶⁸ *Living Planet Report* (2008). WWF. Available at: http://assets.panda.org/downloads/living_planet_report_2008.pdf (Accesses: 2010-05-20), p. 6

⁶⁹ *Towards a Sustainable Growth Framework Incentives*. The World Bank. Available at: <http://siteresources.worldbank.org/INDIAEXTN/Resources/295583-1176163782791/ch6.pdf> (Accessed: 2010-10-28), p. 80

⁷⁰ The World Bank: *Towards a Sustainable Framework Incentives*, p. 81

⁷¹ The World Bank: *Towards a Sustainable Growth Framework Incentives*, p. 83

⁷² The World Bank 2005, p. 13

⁷³ Ramesh (Former local Minister of agriculture, Tamil Nadu). Oral communication during visit, February 18, 2010

One way is to give free electricity to farmers who exchange their diesel well motors for electric ones. In the Pudukkottai area, where I did my fieldwork, the government also sponsored gatherings that taught organic farming techniques. The government compensated farmers who attended these gatherings for they would have spent working in the fields⁷⁴. While the government still provides farmers with chemical fertilizers and information about conventional farming, these two actions suggest a change in the mentality of the people in this region towards more alternative, sustainable methods. Conwald notes “sustainable agriculture is a way of providing sufficient food without degrading natural resources”⁷⁵. Organic farming is urgently needed in India for ecological reasons and as well as being a possible solution for more sustainable agriculture⁷⁶. The NGO Kudumbam is one, out of many organizations, that promote and work with organic farming among small-scale farmers in India.

4. Case Study

4.1 The Swallows

I came into contact with the Kudumbam organization through their partnership with the Swedish organization “The Swallows”, with whom I worked with. The Swallows is an international organization, established in 1959, that works with partners (NGOs) who have different projects related to both economic and environmental *sustainable development*⁷⁷⁷⁸. They are strongly dependent on Swedish governmental support from Sida through Forum Syd as well as members and private donations⁷⁹. The Swallows is divided into two sections, India/Bangladesh section and the Latin America section.

⁷⁴ Fieldwork notes, interviewing different farmers and discussion with Kudumbam

⁷⁵ Conwald 1998, p. 163

⁷⁶ Hope, R. & Borgoyary, M. & Agarwal, C. (2008). *Smallholder Preferences for Agri-environmental Change at the Bhoj, Wetland, India*. Vol. 26 Nr. 5 Pp. 585-602, p. 2

⁷⁷ http://www.svalorna.org/pages_sv/SVALORNA/svalorna.html (Accessed: 2010-03-10)

⁷⁸ *Verksamhetsberättelse 2009*. Svalorna. Available at:

http://www.svalorna.org/wpcontent/uploads/2010/04/Verksamhetsber%C3%A4ttelse_2009.pdf (Accessed: 2010-04-30), p. 4

⁷⁹ *Verksamhetsberättelse 2009*. Svalorna. Available at:

http://www.svalorna.org/wpcontent/uploads/2010/04/Verksamhetsber%C3%A4ttelse_2009.pdf (Accessed: 2010-04-30), p. 3f

The India and Bangladesh section has their main office in Lund with eight core staff members as well as up to seven additional employees used for minor missions in the years of 2008 and 2009⁸⁰. The Swallows has many goals as an organization. These include: working as a bridge-builder between North and South⁸¹, raising awareness of environmental issues, achieving sustainable consumption in Sweden and working with poverty reduction, all with an environmentally *sustainable development* perspective⁸².

4.2 Kudumbam

Kudumbam, established in 1982, works with 24 different villages in the western parts of the district Pudukkottai located in the state Tamil Nadu, India. Their main purpose is to educate farmers, children, disable people, dalits⁸³ and widows to give them the tools needed to increase their living standard in an environmental sustainable way.⁸⁴ They believe that rural people should be able to maintain this standard of living on their own. Kudumbam serves as a reference providing poor people long term education and guidance about new farming methods and techniques⁸⁵. They have two offices in Tamil Nadu working with different projects and people. The model farm Kolunji has a training centre, mostly for farmers to learn different methods of organic farming. It also runs a program called “Sutdents Nature Club” that teaches children to preserve nature in the long term⁸⁶. Kolunji used to have a forested area that they used for teaching agro-forestry techniques. While Kolunji ultimately turned this forest over to a local village, they still use this forest to teach sustainable agro-forestry techniques⁸⁷. Kudumbam also runs a project that empowers women by both employing widows as well as providing day care for single women.

⁸⁰ *Verksamhetsberättelse 2009*. Svalorna. Available at: http://www.svalorna.org/wpcontent/uploads/2010/04/Verksamhetsber%C3%A4ttelse_2009.pdf (Accessed: 2010-04-30), p. 9

⁸¹ North is often considered to be the developed countries while South is the developing countries.

⁸² *Verksamhetsberättelse 2009*. Svalorna. Available at: http://www.svalorna.org/wpcontent/uploads/2010/04/Verksamhetsber%C3%A4ttelse_2009.pdf (Accessed: 2010-04-30), p. 3

⁸³ See more about Dalits in Webster, J.C.B. (1999). *Who is a Dalit?** In Michael, S.M. (1999). *Dalits in Modern India; Vision and Values*. Vistaar Publications; New Delhi, p. 68ff

⁸⁴ <http://kudumbamindia.org/> (Accessed: 2010-03-10)

⁸⁵ <http://kudumbam.wordpress.com/kudumbam/> (Accessed: 2010-05-15)

⁸⁶ <http://kudumbamindia.org/> (Accessed: 2010-03-10)

⁸⁷ Poppy (Co-director at Kudumbam organization, Tamil Nadu). Oral communication during visit, February 4, 2010).



Some of the women and children at Kolunji Farm are drying a fruit called Amla.



The Agro-forestry that Kudumbam once started, this is Esashseti (you make baskets out of the string).

Kolunji farm started as a dry desert like piece of land until Kudumbam started to build up the nutrition in the land and the farm. The reason why the farm is called Kolunji is because this was the only bush that could grow on the land of 40 acres (that belongs to the farm). “The Kolunji bush brought up the salt from the ground and gave it nutrition through its leaf” Oswald the director of Kudumbam organization says. He continues by saying that after a while Millet⁸⁸ started growing and later on Brinjal⁸⁹ as well.⁹⁰



To the left a picture of Brinjal and to the right the model field at Kolunji Farm today.



⁸⁸ An old crop, that is both suited for the surrounding in India as well as it is rich on nutrition

⁸⁹ Brinjal is like a smaller eggplant

⁹⁰ Oswald (Director at Kudumbam organization, Tamil Nadu). Oral communication during visit, February 19, 2010.

Tamil Nadu reaches 13.058 square kilometers⁹¹ and has 66 million habitants. It is India's eleventh biggest state and contains Chennai, India's fourth biggest city⁹². Their main industries are agriculture and heavy industry⁹³. Tamil Nadu has a tropical climate⁹⁴ and follows India's two main seasons for agriculture. The "Kharif" season that starts with the first rains in July⁹⁵ and the winter "Rabi" season that follows from November to March. During "Kharif" most farmers sow their staple crop rice.⁹⁶ The map shows all the districts in Tamil Nadu, Pudukkottai is located on the east portion of the region.



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⁹¹ <http://www.mapsofindia.com/tamilnadu/geography-and-history/> (Accessed: 2010-05-14)

⁹² <http://www.mapsofindia.com/tamilnadu/geography-and-history/> (Accessed: 2010-05-14) and <http://www.indien.nu/kartor-guider/tamil-nadu/> (Accessed: 2010-05-14)

⁹³ <http://www.ne.se/tamil-nadu> (Accessed: 2010-05-14)

⁹⁴ <http://www.ne.se/tamil-nadu> (Accessed: 2010-05-14)

⁹⁵ Poppy (Co-director at Kudumbam organization, Tamil Nadu). Oral communication during visit, February 4, 2010).

⁹⁶ Poppy (Co-director at Kudumbam organization, Tamil Nadu). Oral communication during visit, February 4, 2010).

⁹⁷ See Bibliography, Map 3

⁹⁸ See Bibliography, Map 4

5. Theoretical framework

SLA (Sustainable Livelihood Approach) is a theoretical framework and an analytical tool used to evaluate and improve the live of poor, and more specifically, rural poor⁹⁹. The main focus lies in the opportunities rather than in the difficulties that the poor people face¹⁰⁰. Yet, understanding SLA requires understanding the holistic picture and, taking many aspects in to consideration. Simply, SLA has four main themes or sections. These are human capital (skills, knowledge, ability and health), social capital (networks, family and community relations), economic or financial capital (savings, credit, depth, cash and technology) and natural capital (access to good soil and water)¹⁰¹. The SLA theoretical framework can be further divided into two different categories. The first category is “livelihood strategies”, which is comprised of the target group’s has access to knowledge, skills, capacity, access to education, health and natural resources.

The second aspect is the “vulnerability context” which is concerned with trends such as politics, economics and technology or shocks such as epidemics, natural disasters and civil strife.¹⁰² Seasonality also falls under the vulnerability context. Seasonality is comprised of prices, production and employment opportunities. To further discuss this it is important to understand how a society makes use out of natural resources to seek a way to make the resources sustainable while promoting social change. This theoretical framework specifically addresses the importance of highlighting the connection between global decisions and policies to local institutions and how they affect the target group¹⁰³ Figure 1.1 below simplifies this framework by first realizing that the poor is the focus group which requires you to take into consideration the context around them. Figure 1:1¹⁰⁴

⁹⁹ Murambadoro, M. (2009). *How the Sustainable Livelihoods Framework can contribute towards sustainable social development*. Vol. ? Nr. ? Pp. 1-5, p. 1

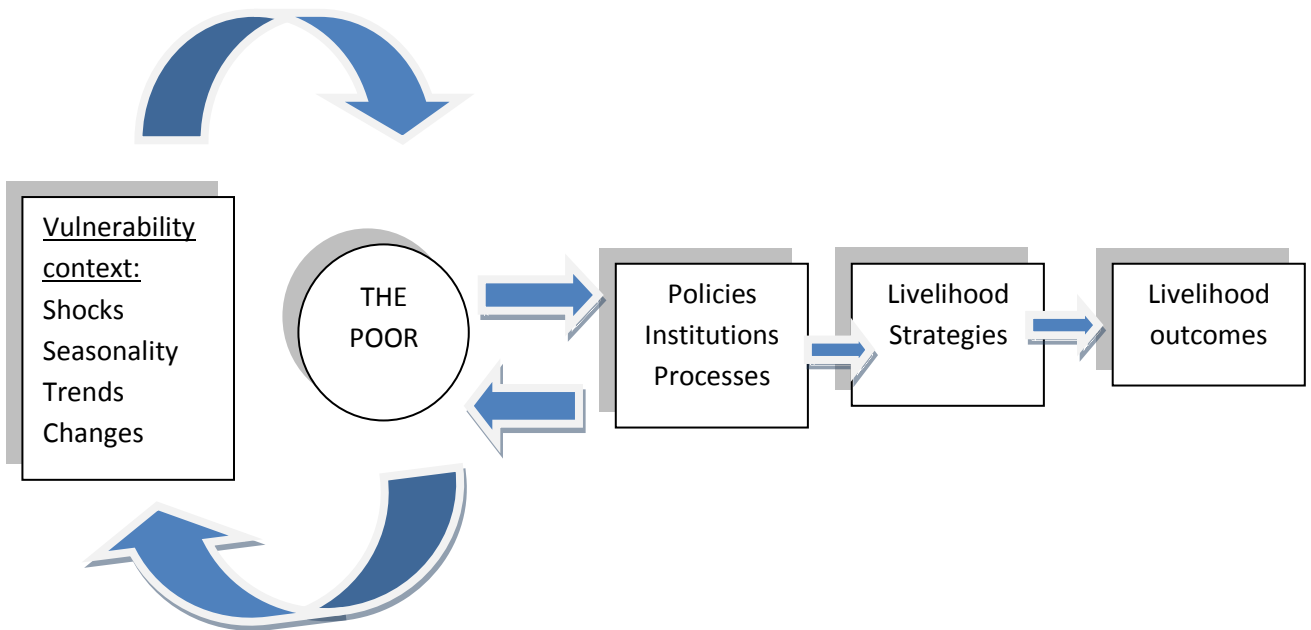
¹⁰⁰ <http://www.ifad.org/sla/index.htm> (Accessed: 2010-04-14)

¹⁰¹ Scoones, I. (1998). *Sustainable Rural Livelihoods: A Framework for Analysis*. IDS Working Paper (72), Pp. 1-22, p. 7f

¹⁰² *An IFAD Sustainable Livelihood Framework*. IFAD. Available at: <http://www.ifad.org/sla/index.htm> (Accessed: 2010-04-14).

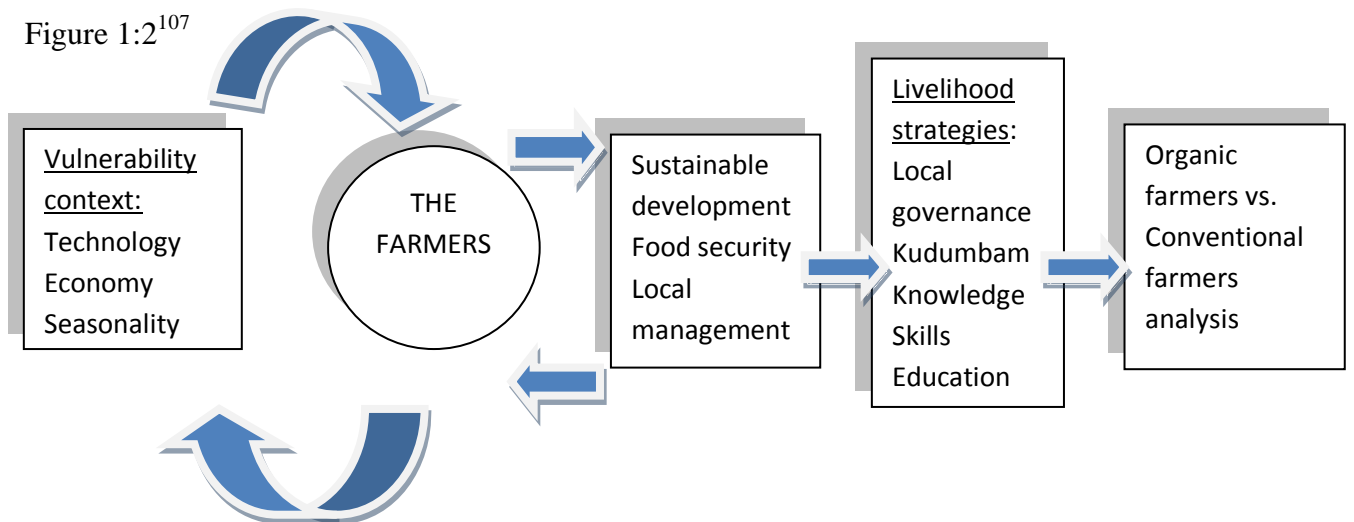
¹⁰³ *An IFAD Sustainable Livelihood Framework*. IFAD. Available at: <http://www.ifad.org/sla/framework/index.htm> (Accessed: 2010-04-14).

¹⁰⁴ Based on the figure at: *An IFAD Sustainable Livelihood Framework*. IFAD. Available at: <http://www.ifad.org/sla/index.htm> (Accessed: 2010-04-14).



While the model suggests that it is important to look at the persons’ surroundings, the most essential point is to acknowledge the humanity of the individual and to listen to their individual issues and concerns.¹⁰⁵ Figure 1:2 below represents the essential points of the SLA model that will be used as an analytical tool during research¹⁰⁶.

Figure 1:2¹⁰⁷



¹⁰⁵ Carney, D. (2003). *Sustainable Livelihood Approaches: Progress and Possibilities for Change*. Department for International Development (DFID). Pp. 1-64, p. 11

¹⁰⁶ <http://www.ifad.org/sla/index.htm> (Accessed: 2010-04-14)

¹⁰⁷ Based on the figure at: <http://www.ifad.org/sla/index.htm> (Accessed: 2010-04-14)

This paper will investigate the “vulnerability context” taken through the perspective of farmers’ access to technology as well as the status of their economic situation and more specifically, field production and savings . The second aspect are policies, institutions and to some extent processes have already have been touched upon in the introduction and background of this thesis by introducing the debates on sustainable development, food security and local management. “Livelihood strategies” are seen as social, institutional or political environments, which affect the farmers ability to achieve their goals. During research “livelihood strategies” will be interpreted as how the farmers can achieve goals through knowledge, skills and education using the support that both the government of India, Kudumbaman, and social networks are offering them. In the analysis I will look at, among other things, how the outcomes of this affect the farmer.

6. Method and material

I am following the traditional framework of a case study. Case studies are originally used as a method when studying different communities and settings such as this research¹⁰⁸. This case study is an intervention in a real life context where I try to capture an everyday situation¹⁰⁹. The traditional framework continues to promote qualitative research methods such as qualitative interviews and participant observations to best access for research¹¹⁰. My main method in this research consists of semi-structured interviews with the small-scale farmers, complemented by one participant observation and five non-participant observations. My theoretical framework emphasis, looking at rural poor as well as my primary motivation for researching India is the fact that two-thirds of India’s population is still dependant on agriculture as their main source of support¹¹¹. I look at small-scale farmers because they are in general poorer and more vulnerable than big scale farmers.

¹⁰⁸ Bryman, A. (2008). *Social Research Methods*. Oxford University Press; Oxford, p. 53

¹⁰⁹ Yin, R.K. (2009). *Case Study Research: Design and Methods*. SagePublications, Inc; Thousands Oaks, p. 19f

¹¹⁰ Bryman 2008, p. 53

¹¹¹ Anant, T.C.A. (2006). Institutional Reforms for Agricultural Growth. In: Mujumdar, N.A. & Kapila, U. (2006). *Indian Agriculture in the New Millennium: Changing Perceptions and Development Policy*. Academic Foundation; New Delhi, p. 97

The quantity of 12 farmers was enough for this study considering the limitation in time. The sample fit well within the context of my research¹¹².

The informants are in the category of open or public settings where they count as doing research on a community. My access to my key informants went through a closed setting, the organization Kudumbam where Poppy the co-director acted as a gatekeeper.¹¹³ I also had discussions with two different people about the situation. The first discussion was with the former local minister of agriculture that I gave the fictitious name Ramesh. The other discussion was with a PhD student from Australia fictitiously named Ben. Apart from this I attended two meetings with Kudumbam as well, one held by the director Oswald and one held by the co-director Poppy. I also wanted to add a seasonal calendar, but this did not work due to some complications in communication with the translators. Because of this problem I will also bring up the validity of information and my role as a researcher. This fieldwork was a learning process and a great experience for me both as a learning tool for conducting field work as well as allowing me to learn from people of different backgrounds and perspectives whose lives are totally different than mine.

6.1 Interviews

I decided early on in the process of structuring my fieldwork that I would base my interviews accordingly to a qualitative research approach. One way of doing this is to make a qualitative interview based on a semi-structured interview. To structure a good qualitative interview you need specific topics to be covered and that you keep it open for the interviewee's perspective such as opinions and stories to shine through¹¹⁴. My interviews were divided into five different topics; the values of the farmer, the farmer's economic situation, the farmer's social situation, the health of the farmer and some questions for the women¹¹⁵. To help myself stray from topic during the interviews I arranged between 4-12 main questions in each field. It is important to mention here that I did not ask all of the prepared questions to everyone. If I felt that it was not necessary to ask some of the questions, I did not.

¹¹² Cf Kvale, S. (1996). *InterViews: An Introduction to Qualitative Research Interviewing*. Sage Publications, Inc; Thousand Oaks, p. 101f

¹¹³ Cf Bryman. 2008, p. 403ff

¹¹⁴ See Bryman 2008, p. 437

¹¹⁵ Cf Pretty 2002b, p. 170f

The questions I set up within each field acted more as guidelines. I also asked followed-up questions when I felt that there was something interesting or important to bring up or look further into.

My own purpose of using this method was to give space for the interviewees' values,¹¹⁶ which was important for this research topic. Since my theoretical framework advocated the importance of listening to the farmers own voice.¹¹⁷ The second reason was to make it more of a conversation than an interview so that the interviewees could feel more comfortable in the situation. Conversations are the oldest method for gaining information and it is something that most people are both familiar and comfortable with¹¹⁸.

6.1.1 Overview tables

I have divided the material from the interviews up into two different parts in the analysis. The first part is set into tables in the appendix to get an overview and understanding of the material when comparing organic and conventional farmers in three different aspects. The first overview table concerns economics, the second is in social aspects, the third is in health and all these are in the first analysis to understand the farmers' situation. The fourth overviewed table is used in the second analysis together with the farmers' values. Sections A through M concern economics. N through S concern social aspects. While sections T through W concern health aspects. The coded material will be analyzed by looking through the aspirations of the farmers including what opportunities there are, to achieve this aspiration. Doing this I am well aware that the farmers' opportunities are limited by the difficulties facing their own lives. Fulfilling the farmers' aspirations requires a base set of values which comprise the second aspect I am going to look at knowing full well that the values reflect the history, background and upbringing of the stakeholders.

The second analysis of interview material will be in analyzing values through the last overview table on values (X-Y) and the different quotations from farmers. This illustrates the thoughts and ideas concluded from the first analysis. I am then going to relate the quotations to the daily context, listening to what they have to say about the different aspects themselves. The quotations confirm the material that the analysis is based on.

¹¹⁶ Bryman 2008, p. 438f

¹¹⁷ <http://www.ifad.org/sla/framework/index.htm> (Accessed: 2010-04-14)

¹¹⁸ Kvale 1996, p. 8

The interviews with the women could unfortunately not be used in this thesis considering the amount of space and that the analysis then would have been too long.

6.2 Observations

I had one participating observation that covered one day's work, which started after lunch, at 12 am. I spent one day with a farmer (Mr. Rajendran) and his family on their field. I had a translator with me in the beginning of the day (from 12.00 to 14.00) and then later during the day (at 16.30 to 18.30). The reason it started so late was because it was on a Sunday and it was the only available time that the farmer had for me.

A participant observation is often used as a method when you want to interact and learn about people's daily life, their routines and culture¹¹⁹. The observation was after the "participant-as-observer" model where I was interacting with Mr. Rajendran and his family. The whole family was aware of my role as a researcher since they knew my role as a researcher and understood what my data would be used for¹²⁰. I tried to prepare by talking to other people at the model farm about their daily situations at home trying to experience and soak in new information about the social and cultural context of the farmers to hopefully better understand their situation¹²¹. Because at this time I had already been living in India for two months, learning about the culture, observed behaviors, systems and many different social situations the participant observation did not become a big cultural shock as they have a tendency to do¹²². The family highly engaged me in their daily activities where I was digging canals, taking away weeds in the peanut field and fishing for dinner in the pond. Mr. Rajendran was also extra enthusiastic about showing me how their life worked and engaged me in all their tasks so that I could come up with better ecological solutions for them in the future or at least forward their story in my work.

In total, I had five non-participant observations. Three of the observations were after I interviewed the farmers, by interrupting their work and forcing me to sit in their fields. I always asked if I could stay a little longer to observe and see what they were doing.

¹¹⁹ DeWalt, K.M. and DeWalt, B.R. (2002). *Participant Observation: A Guide for Fieldworkers*. AltaMira Press; Walnut Creek, p. 1

¹²⁰ Cf Byman 2008, p. 411

¹²¹ See DeWalt & DeWalt 2002, p. 17

¹²² See DeWalt & DeWalt 2002, p. 56ff

The reason I did this was because of the language problems with one of the translators and because I did not always get completely accurate information from my translator as the farmers often gave a long answers that were drastically shortened by the translator. The other two observations happened on the road between villages when people were either taking care of their harvest or when women were working in the field. I stopped with the translator and stayed for a while to observe them. While they were working with the harvest I asked some smaller questions. During the second observation with the women working in the field, no questions where asked, just some photos where taken.

6.2.1 Other material

Through my conversations with the widows on Kolunji Farm, helping seeing the women help each other in different situations helped me to understand the role of the women in both a social and cultural context. Another way for me to understand the social and cultural context better was through living in the area and constantly forcing myself to handle different situations. Having conversations with people around me, being invited to different homes for dinners and tea, and seeing the farmers outside their farm and outside the interview situation was also very meaningful. Additionally, participation in village weddings and different meetings with Poppy, the former agricultural minister, as well as meetings with some Swedish farmers and other researchers have all contributed to the research material.

6.3 Reflection

A case study can also be combined with quantitative research methods such as structured interviews¹²³ which I did not use because then there would not be any space for follow-up questions or personal stories¹²⁴ which both where essential for the goal of this research. Then there are interview techniques in the other direction that allow for more personal stories such as oral story interview and life history interview¹²⁵. I did not use these techniques since beyond the personal stories I also found it important to understand the broader context of the farmer's life through research about the same types of areas in interviewing everyone.

¹²³ Bryman 2008, p. 53f

¹²⁴ Bryman 2008, p. 193f

¹²⁵ Cf Bryman 2008, p. 196

Participation in this research has been taken into consideration during the process of the fieldwork. Question concerning the issue of the informant giving his or her approval in being a part of this thesis can be discussed. Is it enough with an approval of my questions to say that they participated in the research or do I need a written document saying that I can use their answers in my thesis? I always asked for their approval to use their names and answers in my research. They gave me their approval but I still wonder if it was ok to use this information in my research? Did I or they really have a choice¹²⁶?

6.3.1 The field

There were neither contacts nor supervisors ready for us as told when we arrived to Delhi. I started contacting different organizations without results so I finally took my own contacts with The Swallows in Sweden, which was the only contact that gave results. They put me in further contact with their partner organization Kudumbam down in Tamil Nadu, South India and they had time for me in the beginning of February. I wish I had had more time for my fieldwork but ultimately I was only able to stay for 20 days. This was due to the fact that Kudumbam was not able to arrange for a longer time due to the fact that my request was made on such short notice. Despite this, I am grateful for the fieldwork that I was able to do. Ideally I would have liked to interview the farmers two or three times each, giving me a better idea of the context of their situation.

6.3.2 Reliability and validity of information

I had two different translators. They were both teaching social science at a college in the nearby town of Trichy. The first translator, Anthony, was good. He worked as a translator for another organization for three years and he was used to being in the field, being around westerners, translating stories and his English skills were quite good. The second translator Andrej had me as his first job as a translator, and he was not very good. In addition to the fact that his English was bad he summarized the farmers answers, he sometimes answered my questions without asking the farmer, which sometimes turned out to be untrue.

¹²⁶ See Bryman 2008, p. 121

When information is translated it comes out in a second interpretation of the original source. When the translator is not good the information could be questioned, which I am well aware of both when I interviewed my subjects as well as when I was doing my transcription of the interviews. I was concerned from the beginning about how me as a western, woman connected with the organization Kudumbam would affect the validity of the information. However, I did not get the impression that the information from the farmers was misrepresented because of those aspects because of two reasons. The first is that I always made sure to start by saying that I was there to learn from them. The second reason is because I always made sure to sit at the same height as them creating a positive effect.

Another aspect to consider is that I did not record my interviews. Recording interviews gives a more accurate description of the information. Transcribing the main points from memory afterwards focuses more on getting the main purpose of the interview rather than getting the details. Quotes and more important opinions were written down immediately but of course this type of method reflects your interpretations of your material, which is something that must be taken into consideration. Everyone constructs his or her surroundings based upon prior knowledge, but without constructing your environment the meaning of the surroundings will disappear¹²⁷. This can create either a weakness or an obstacle to truly understanding the research object or, as I would like to see it, a strength to further understand the context of the farmer¹²⁸.

¹²⁷ Alvesson, M. & Sköldbberg, K. (2008). *Tolkning och Reflektion: Vetenskapsfilosofi och Kvalitativ Metod*. Studentlitteratur; Lund, p. 486f

¹²⁸ Cf Alvesson & Sköldbberg 2008, p. 183

7. Analysis and results

In my analysis and results I am going to focus on two categories of the farmer according to my theoretical framework. First I am going to look at the small-scale farmers economic and financial capital, then I will look at the human and social capital of the farmer¹²⁹. The third section in my theoretical framework is natural capital but this will not be discussed in this thesis due to the fact that this category shines through in the second part of the analysis about the general values of the farmers.

7.1 Economic and financial capital

Starting with the economic and financial capital of the farmers I looked at the economic aspects which included the number of acres¹³⁰, what type of access farmers have to water¹³¹, fertilizers, animals, technology, production, crops, money output, livelihood diversification, if they are members of a “self-help group”, if they have loans or can afford savings, and what kind of food they eat¹³²? I have decided to focus mainly on these five main indicators which helped to identify the difference. This will be divided up into the “vulnerability context” which includes the applied technology, weather they are members of any self-help group, and their savings. Within the “vulnerability context” there is also “seasonality” which includes production and food consumption, but also includes when the agricultural activities take place¹³³. But before going into the differences I am going to summarize the similarities between organic and conventional farmers.

All the farmers have between 2-10 acres except two organic farmers that have 18 and 45 acres each. Almost all of the farmers have a well connected to some or all of their portions of land scattered throughout the area. Only one conventional farmer does not own his own well. He buys water from his neighbors. Everyone at least a few animals, ranging down from two bulls or up to forty goats and five cows. As an organic farmer having animals is very beneficial due to the fact that organic fertilizers often consist of cow dung.

¹²⁹ Scoones 1998, p. 8

¹³⁰ 2 acres = 1 soccer field

¹³¹ Different watering techniques like well, rainfed and dryland

¹³² Appendix 3, economic table, under M

¹³³ Appendix 3, see economic table

I am not going to bring up how many animals one and each farmer owns but it is important to know the impact it can have in these questions¹³⁴. Both organic and conventional farmers have one out of six among their respective groups who use a mixture of both organic and chemical fertilizers. All the farmers cultivate the same crops. ADT -36, ADT -37, Culture and Pooni are the most common varieties of rice that were cultivated. The next most common crops are peanuts, ladyfingers, pumpkin and black gram in that respective order. Possibilities for livelihood diversification will be brought up further down under education (in human and social capital). The last similarity lies in how the farmers spend their money. They all spend it on the same things such as on food, shelter, school, agricultural needs (as fertilizers and seeds) and unexpected outcomes such as weddings and doctors appointments. Here most of the economic similarities end.

7.1.1 The vulnerability context

7.1.1.1 Technology

The differences in technology among the farmers are that 50% of the organic farmers rent a small tractor as their only tool for planting and harvesting. Two out of six only use bulls and only one uses both. Among the conventional farmers 50% only use bulls while two out of six mostly use bulls and sometimes a rented tractor and one of them only uses a rented tractor.

The Aspiration: might be to make the harvest as easy and efficient as possible with the opportunity to rent a tractor to achieve this aspiration.

The value: among the farmers could be that the harvest goes faster requiring less labor when cultivating with a rented tractor.

It could also be a health aspect since using the old methods and tools is physically demanding. From both an economic and health standpoint, if a farmer can afford to rent a tractor, he will. The difficulty lies in that it is not easy to move the tractor to all fields since all fields are not accessible by road but rather through “bunds”¹³⁵. Despite the assumption that organic farmers would have a greater respect for the environment, organic farmers show a greater tendency to use tractors than their conventional counterparts.

¹³⁴ Appendix 3, economic table 3

¹³⁵ Bunds are the small pats between the fields.

This example could be explained by the idea that organic farmers do not completely look at the environment in a holistic way. This attitude was not unique to organic farmers as many instances occurred among the translators, people at the farm and people at Kudumbam not taking a holistic view of the environment in consideration. As said in the introduction many researchers agree on that there is a need for education on all levels within the society¹³⁶. You can not only focus on one issue that will lead to social and climate change, you have to look at all the aspects¹³⁷.

7.1.1.2 Self-help group

Among the organic farmers 67% are members of a self-help group. The other 33% has instead a wife who is a member. Among the conventional farmers 50% of the farmers are not members of any self-help groups. 33% have a wife that is a member and one farmer has a daughter that is a member of a self-help group, but none of the conventional farmers are a member themselves.

The aspiration: might be to achieve dreams through the opportunity of loaning money and get support in sharing knowledge and burden within a self-help group.

The value: could be that you want to influence and be a part of your community, to have solidarity for a better society and for your own wining to achieve something. You are stronger together than alone.

Being a member of a self-help group could be an important factor for the farmers, gaining more knowledge, getting support¹³⁸ and the opportunity to do savings. Most self-help groups either lends the whole group money or/and helps the members to save around 25 – 50 rupees¹³⁹ a month, through giving education in household economics. Can it be that organic farmers have a different mentality for taking this opportunity?

¹³⁶ See Kemp & Martens 2007, p. 10 and Barry, N. et al. (2006). *Categorising tools for sustainable assessment*. Science Direct. Vol. 60 Nr. 3 Pp. 498-508, p. 499ff

¹³⁷ Cf Pdf: "Global Environment Outlook Geo4: Environment for development" 2007, p. xxiii 2010-04-30 and Pdf: "Living Planet Report" 2008, p. 6

¹³⁸ Through encouragements, discussion partners and ideas from other group members.

¹³⁹ 50 rupees=8 swedish kronors=1 dollar

Comparing the groups there is a big difference. The difficulty that the conventional farmers might have is in if they at all have the time and energy, after a hard day's work, to form a group? Farmers do generally not have a day of for organizing these kinds of activities.

7.1.1.3 Savings

The organic farmers are able to save more money than the conventional farmers¹⁴⁰. 50% of the organic farmers are able to save 50 rupees a month whereof one out of the 50% also have a second work at the post-office, doing pension-saving for him. For one organic farmer it is possible to do seasonal savings but for different reasons for the remaining two is impossible to do saving¹⁴¹. Among the conventional farmers none of them are able to do their own savings. One of them has a second job at the oil company that is saving money for him and one has a daughter that saves 50 rupees a month through a self-help group.

The aspiration: could be to get a better livelihood through having a bigger house, more land, a better pension or a better education for your children through opportunities like having money in a saving account.

The value: seems to be that it is yourself that has to do something about your situation to gain a better livelihood.

It seems easier for the organic farmers to save money since they take the opportunity in being members of self-help groups, learning about new techniques and household economics. In general it is hard for a farmer to do savings every month since they live on seasons and not on monthly payments as Mr. Kasi Muttu says: "...no farmers have savings because we have seasons and I am about to go in depth. It is a back down meaning a loss of nature."¹⁴².

Two possible reasons why conventional farmers can not do any savings could for example be the input in to chemical fertilizers and hybrid seeds and that they need to restructure their daily life with new knowledge, about for example household economics and different farming techniques. The difficulties then lies in being dependent on seasons and that you get stuck in a routine, not seeing how you could save money.

¹⁴⁰ Appendix 3, economic table, L

¹⁴¹ Appendix 3, economic table, 3L & 6L

¹⁴² Mr. Kasi Muttu (Conventional small scale farmer, Tamil Nadu). Notes taken during the interview, February 15, 2010.

7.1.2 Seasonality

7.1.2.1 Production

The size of production is measured in bags and after each season there are around 30 bags¹⁴³ per acre for almost all of the organic farmers except for two, whereof one has around 20 bags and the other has between 16-30 bags, depending on a good or bad season. Among the conventional farmers it is a little more divided. 50% of the conventional farmers get around 30 bags where one out of the 50% says that he always gets less than 30 bags per season. Two of the farmers get around 20 bags and one farmer gets everything in between 12-45 bags depending on a good or bad season.

The aspiration: could be to get as many bags as possible through the opportunity of new farming techniques.

The value: for the organic farmers might be in to both nature and health.

A possible explanation for the organic farmer that has around 20 bags per season, could be that he has only been doing organic farming for two years. It takes some time for the soil to recover from conventional farming as confirmed both by Mr. Natarajan himself that says: “Before I got 35 bags each season but since I started with organic farming I got 20 bags. This is because it takes at least 5 years for the soil to get well again so first you get less bags and then it goes up again.”¹⁴⁴. and by Mr. Rajendran who says: “It takes time to cure land. The same as it takes long time to cure fever with traditional herbs, I get to the doctor and it has an immediate effect. This is also the reason why people use chemical fertilizers.”¹⁴⁵ He continues to talk about the difference in his own harvest from the year of 2008 to 2009, where the production of 2009 was bigger: “Why there is a difference is because the land is getting more and more familiar with the natural fertilizers and get better, before the land was dead.”¹⁴⁶.

¹⁴³ One bag=60 kg

¹⁴⁴ Mr. Natarajan (Organic small scale farmer, Tamil Nadu). Notes taken during the interview, February 5, 2010.

¹⁴⁵ Mr. Rajendran (Organic small scale farmer, Tamil Nadu). Notes taken during the interview, February 9, 2010.

¹⁴⁶ Mr. Rajendran (Organic small scale farmer, Tamil Nadu). Notes taken during the interview, February 9, 2010.

Over all the amount of harvest for each season is higher among the organic farmers¹⁴⁷. Listen to what Mr. Ramaj Samy is saying is that: “Organic farming is good. The main change is in soil and that harvest is much bigger.”¹⁴⁸. He continues further in to the interview: “Before chemical fertilizers we had 10 to 15 bags per acre after each harvest, now when we have organic farming we get 30 bags per acre.”¹⁴⁹ and Mr. Marudha Muthu that says: “Before with chemical fertilizers we got 25 bags per season/harvest per acre, after organic farming we got 30-33 bags per season/harvest per acre.”¹⁵⁰.

This speaks against the results of the Green Revolution which was that the high input in techniques where increasing the production of grains¹⁵¹. As said before there is no major difference in crops that the farmers use each season. All of them cultivate paddy in rainy season which is one of the high yield grains of the Green Revolution¹⁵². I am not sure how to interpret the results, been discussing it with another researcher Ben, that looked at the difference in organic farming between North and South India saying: that the high external input agriculture gives you better outcast in the North when it seems to be the opposite in the South. Could it be the climate or that the high external input farming techniques are more developed in the North and organic farming techniques are more developed in the South? According to many research, small-scale farmers who switch from conventional to organic farming have a short-term reduction in food productivity and income for the first five years of organic farming, which is crucial on the livelihood in developing countries.¹⁵³ The difficulty lies in the loss of money during the approximately five year period it takes for the soil to recover. Could it be that the farmers up in North India had not tried organic farming long enough?

¹⁴⁷ Appendix 3, economic table, section F

¹⁴⁸ Mr. Ramaj Samy (Organic small scale farmer, Tamil Nadu). Notes taken during the interview, February 7, 2010.

¹⁴⁹ Mr. Ramaj Samy (Organic small scale farmer, Tamil Nadu). Notes taken during the interview, February 7, 2010.

¹⁵⁰ Mr. Marudha Muthu (Organic small scale farmer, Tamil Nadu). Notes taken during the interview, February 8, 2010.

¹⁵¹ The World Bank 2005; 28f and Pdf: “Technology and development” 2008; 4

¹⁵² Singh, R.B. 1998/2002; 100

¹⁵³ Hope, R. & Borgoyary, M. & Agarwal, C. 2008; 1f

7.1.2.2 Food consumption

When it comes to food consumption both organic and conventional farmers eat the same dishes of vegetarian food such as porridge, idly (steamed rice bolls) and sambal (different vegetables in a strong sauce). The difference lies in how often they eat non – vegetarian food. Two thirds of the organic farmers eat non – vegetarian food only when there are bigger festivals (maybe two – four times a year). The other two farmers eat non – vegetarian food once or twice a week. Among the conventional farmers two thirds eat non – vegetarian food once a week and the other two farmers eat meat once a month and at festivals¹⁵⁴.

The aspiration: could be to get food on the table every day through one of the opportunities of growing your own kitchen garden.

The value: might be to get full every day by eating healthy and nutritious food.

Looking at what a person eat and how often he/she eats non – vegetarian food can say a lot about a person’s economical situation in developing countries. The result puzzled me a little. The organic farmers eat non – vegetarian food less than the conventional farmers even though they seem to have a better economic situation. Could it be that the organic farmers have education through Kudumbam about growing kitchen gardens for a better self-sufficient household that makes the difference? Or could the reason be that the conventional farmers are thinking more of here and now, promoting fast growth and instant needs? I know most farmers get their meat from either their own cattle or buy it from the neighbor but it is hard to discuss the question since I do not know where all the farmers get their meat from. The organic farmers who eat more meat have also got more animals than the other farmers¹⁵⁵. This could be the crucial reason. They can prepare meat form their own cattle not being forced to buy from neighbors or the market. None of the conventional farmers have more or less animals than anyone else compared both to the organic- and conventional farmers¹⁵⁶.

¹⁵⁴ Appendix 3, economic table, 7M and 8M

¹⁵⁵ Appendix 3, economic table, 4D and 5D

¹⁵⁶ Appendix 3, economic table, D

7.2 Human and social capital

The second category I am going to touch upon is the human and social capital which includes knowledge, ability, skills, networks, family and community relations which goes under livelihood strategies. I have been looking at cooperation and exchange of seeds and crops between neighbors, how many family members there are, how many of them live under the same roof, what engagement they all have in the farming system and finally education. I will also bring up the health aspect of the farmer since it also is included in the human and social capital, according to my theoretical framework¹⁵⁷. When cooperation and health was very similar among the organic farmers there were more differences in the aspects of sharing seeds and crops, education and how they treat themselves when they get sick. I will bring up all these aspect further down.

7.2.1 Cooperation

When it comes to the aspects of using their skills, knowledge and abilities both organic and conventional farmers where very similar. One third on both sides helped their neighbors out in the field during both planting and harvest. Everyone except one organic farmer cooperated with neighbors in knowledge before planting. It seemed to be very common to share knowledge with each other and if there was one farmer that was more experienced he always helped the others.

The aspiration: could be to get a higher production through the opportunity of learning from other farmers.

The value: might be to broaden your knowledge about farming through the opportunity of learning from other farmers.

The output and the future for the community are better if the farmers cooperate. It can increase the community feeling and relations between neighbors. This cooperation can be seen as an opportunity for better livelihood. What Mr. Natrajan says about cooperation is that: “Yes we cooperate, climate is very important to cultivating crops.

¹⁵⁷ Scoones 1998, p. 7f

We cultivate different things to keep the pesticides away.”¹⁵⁸ and Mr. Subramaniyan says: “Yes, we are cooperating with each other in many ways to survive.”¹⁵⁹ confirms that cooperation could be crucial for the farmers survival. The difficulty could be on what to do with different types of information on the same topic.

7.2.2 Sharing

There was on the other hand a slightly difference in sharing crops and seeds with your neighbors. 50% of the farmers on both sides buy or exchange seeds and crops with their neighbors and among the other 50% there where more potential and a whiling to share if the neighbors wanted to among the organic farmers¹⁶⁰.

The aspiration: could be to get good seeds and cheaper crops through the opportunity of exchange these things with your neighbor.

The value: could be to help the community for a better chance to survive and increase the community feeling which in turn also increase your own chances for survival.

Why the organic farmers exchange seeds and crops more than conventional farmers could be for the reason that the organic farmers easily can change seeds since they are not hybrid. Hybrid seeds that the conventional farmers use do not provide seeds for the following season. You have to buy them in the shop which takes away the opportunity for exchanging and it get the conventional farmers an unnecessary expense. Both cooperation and sharing effect the food security of the farmer and their ability to have savings, through spending money on labor when the farmers are working in each others field.

¹⁵⁸ Mr. Natarajan (Organic small scale farmer, Tamil Nadu). Notes taken during the interview, Februrary 5, 2010.

¹⁵⁹ Mr. Subramaniyan (Conventional small scale farmer, Tamil Nadu). Notes taken during the interview, February 16, 2010.

¹⁶⁰ Appendix 3, economic table, table. 30, 40 and 60 compared to 70, 80 and 90

7.2.3 Education

One very significant difference was that there were a higher education level among the organic farmers. One of the organic farmer and his brother had both a master degree in business management while his brother wife worked full time doing researching in a governmental technique lab¹⁶¹. One of the organic farmers have five children whereof the two oldest girls are married and the third girl had continued school, now working as a nurse while the two youngest were still in school. All the other children between 5 – 15 (and up) of the organic farmers were still in school. Among the conventional farmers only one farmer's son gets a higher education (as an engineer). The reason for this could be that he is the only child. Otherwise the children of the conventional farmers were either unemployed, worked as load men, had a small tea shop, worked abroad as a cleaner or in a textile factory to help the economy of the family. Not all children between the age of 5 – 15 were in school.

The aspiration: could be to get a better livelihood through the opportunity of more knowledge.

The value: might be to gain more and better knowledge to broaden the view of life.

The chance for getting another occupation than being a farmer is the same for all the farmers but the chance of getting a better livelihood through another occupation is higher among the organic farmers. Could this be another indication of organic farmers being more open for opportunities? It seems to have a tendency to become a virtuous circle where better education leads to more knowledge that leads to taking other opportunities in investment in organic farming and sustainable techniques that leads to more knowledge? The difficulty would be to afford education for all children since most farmers have 3-6 children each.

¹⁶¹ Appendix 3, economic table, 2Q

7.2.4 Health

The health of the farmers is the same for both organic and conventional farmers. The difference lies in how they treat themselves during sickness. 50% of the organic farmers visit the doctor when they get sick, one farmer treats himself with only herbal medicine and two farmers first treats themselves with herbal medicine, if it does not work, then they go to the doctor. Five out of six of the conventional farmers only goes to the doctor and one farmer first treats himself and if it does not work he goes to the doctor.

The aspiration: could be to be healthy through the opportunity of using natural methods.

The value: might be to let the body have its natural recovering instead of filling it with modern medications.

Can it be that the organic farmers in general favor old knowledge and are more use to that thing takes time, while conventional farmers are use to an immediate effect and do not have the patient of waiting? The difficulty would be in not having knowledge about which herbs to use and how to use them. It could also be that the farmers can not afford time of the field.

7.3 Values

The second analysis takes a step back to look at the broader picture. It is then important to get a better understanding of the farmers perspective through looking at their values. From the last overview table about values, I have concluded the four prior values of both the organic- and conventional farmers. Considering that my theoretical framework emphasis on listening to the farmers own voice¹⁶² I will also bring up some quotations on values from the farmers. But first there will be a summarize of the four main values of the:

¹⁶² Carney 2003, p. 11

Organic farmers which are:

1. Good soil
2. Better nature/environment
3. Good health
4. Variation in food consumption

Conventional farmers which are:

1. More money
2. Faster growth
3. Good soil
4. Good health¹⁶³

7.3.1 Quotations

7.3.1.1 Organic farmers

About the difference in food between using organic and chemical fertilizers Mr. Aravind own opinion on chemical fertilizers is that: “Chemicals destroy the food after a few days, with organic farming they can take some food for themselves once in a while.”¹⁶⁴. To be able to eat your own crops effects both the food consumption, food security (being self-sufficient) and the economy of the farmer. All farmers take a certain percentage from their own harvest for themselves but as Mr. Rajendran says: “The biggest difference is in the taste of the crops. Before the porridge had a bitter taste afterwards and they felt ill after eating it. Now it has a good taste and the food last much longer.”¹⁶⁵. Being able to eat healthier food is crucial for the farmer’s health because this in turn effect how much you are able to work and how the economy will turn out.

¹⁶³ Appendix 3, the values of the farmers table, X and Y

¹⁶⁴ Mr. Aravind (Organic small scale farmer, Tamil Nadu). Notes taken during the interview, February 6, 2010

¹⁶⁵ Mr. Rajendran (Organic small scale farmer, Tamil Nadu). Notes taken during the interview, February 9, 2010.

It is shown in the summarize of values above that many farmers value a good health and Mr. Muthu Samy confirms this by saying that: “He went to a training program at Kudumbam called; Science of agriculture (nature science). Before the government told everyone to have chemical fertilizers but it was difficult for a lot of farmers, they had bad health issues because of this. He wanted to change.”¹⁶⁶. To take the opportunity to seek knowledge through among others Kudumbam you are more able to gain your aspiration. Gaining a better health and having a better nature/environment by achieving among other things good soil seems to be important for many of the organic farmers. As Mr. Aravind says about the change from conventional to organic farming is that: “There have been many changes. Some of the main things are that the soil is much better and the pest control is nicer. Using chemical fertilizers, the soil gets dry and with the organic fertilizers the soil becomes moisture.”¹⁶⁷.

7.3.1.2 Conventional farmers

Mr. Rama Mortty says about using chemical fertilizers that: “The Government insisted that chemical fertilizers are good and that it gives both a big harvest and an instant profit.”¹⁶⁸. This proves why he chooses conventional farming, to get instant profit both when it comes to getting more money and a faster growth. Both those aspects were highly valued among the conventional farmers and Mr. Fachurtwen also talks about those aspects saying: “The only thing I value is fast growth. Organic farming takes more time and more labor. Conventional farming saves both time and labor, no one in the village wants to work with farming anymore. People seek jobs outside farming.”¹⁶⁹. In general the conventional farmers did not talk so much about having a good soil or a healthy life and some of them had difficulties expressing their values. As Mr. Kasi Muttu says:

¹⁶⁶ Mr. Muthu Samy (Organic small scale farmer, Tamil Nadu). Notes taken during the interview, February 7, 2010.

¹⁶⁷ Mr. Aravind (Organic small scale farmer, Tamil Nadu). Notes taken during the interview, February 6, 2010.

¹⁶⁸ Mr. Rama Mortty (Organic small scale farmer, Tamil Nadu). Notes taken during the interview, February 12, 2010.

¹⁶⁹ Mr. Fachurtwen (Conventional small scale farmer, Tamil Nadu). Notes taken during the interview, February 13, 2010.

”I do not have values because I say that we are all dependent on the rain, without the rain there is no agriculture a all, so I think it is difficult to answer. If there is no water, there are no values because the water is the soul. There is no hope because of the climate change. You can then use as much chemical fertilizers as you please but there is no help without rain. I am constantly planning to plant different crops but it all goes to loss when there is no rain.”¹⁷⁰.

He clearly values a better nature and environment but he does not see it himself. He seems to have lost hope and can not see how to effect the climate change or change the direction that his life follows. This is an interesting aspect when looking at why the organic farmers make the choices they are doing. Is there a difference in the mentality of organic- and conventional farmer that makes the organic farmers take the opportunity to change their livelihood situation?

8. Discussion

I have been looking at aspirations, opportunities, values and possible difficulties of the small-scale farmers to better understand the context of the organic small-scale farmers, using conventional farmers as a reference group. Doing so, I have used the Sustainable Livelihood Approach as a theoretical framework as well as an analytical tool. The theoretical framework of SLA requires a holistic understanding of the context around the farmers looking at their economical and social capital¹⁷¹ but most of all to focus on the poor people perspectives¹⁷².

In my analysis and result three main points (all connected to each other) came out of these different aspects.

¹⁷⁰ Mr. Kasi Muttu (Conventional small scale farmer, Tamil Nadu). Notes taken during the interview, February 15, 2010.

¹⁷¹ Scoones, I. (1998); 7

¹⁷² Carney, D. 2003; 11

The first is *knowledge* (which I also see as an overall point) where many of the organic farmers are seeking knowledge through different opportunities in actors such as Kudumbam, government and school (through higher educations). The second point is *solidarity* and the ground thought of 'better together than alone' which is a crucial thinking to survive as a farmer. This you can see under the aspects of becoming a member of a self-help group and through the cooperation between neighbors. Both these aspects has an effect on increasing the chances for a better livelihood in terms of production (get knowledge about new techniques that can improve the production and helping each other out in the fields saving money on labor), food consumption (through learning more about kitchen gardens for example) and savings of the farmers (among other things through a chance to have monthly savings, kitchen gardens that makes you buy less in the market and saving money on labor). These points also effect the chance of making the farmers more self-sufficient which in turn effect the food security of the farmer¹⁷³. The third point is the difference in *mentality* between the organic- and conventional farmers which is crucial for the choices the farmers take. The organic farmers seem to be more open minded, taking opportunities through the different actors. Can it be that the farmers have different mentality where the organic farmers seem to be more open minded? Is this an indicator of organic farmers being more open for opportunities which becomes a virtuous circle where better education leads to more knowledge that leads to taking other opportunities for investment in organic farming and a sustainable livelihood that leads to more education that leads to improvement of the livelihood of the farmers?!

¹⁷³ Cf with the concept of Food Security at: http://www.fao.org/wfs/index_en.htm 2010-05-13

9. Conclusion

The Green revolution in the 1960s increased the production of food grains and made India more self-sufficient¹⁷⁴. The long term negative environmental consequences require another more sustainable farming system¹⁷⁵. Who is taking the responsibility and how to implement sustainable development has created many discussions among the different actors involved¹⁷⁶. Implementing sustainable development through local government management was one suggestion where the local politicians would know their own surrounding and people living in the neighborhood better¹⁷⁷. Guidelines for local sustainable management got represented in the Agenda 21 protocol founded at the Rio conference in 1992¹⁷⁸. NGOs got popular as a complement to the government, working with local implementation of *Sustainable development* in a more direct way¹⁷⁹. The idea of local governance handling these types of questions has been both accepted and disapproved. The people against local governance emphasize on that they do not see the holistic picture and might not take surrounding governments environmental goals in consideration¹⁸⁰. The local decisions could then cause a negative effect on the environment for its surrounding neighbors. To see the holistic picture you need a trans-disciplinary approach that combine the relation between humans and nature accordingly to Kemp and Martens¹⁸¹. Then it does not matter if it is on a global or a local level, as long as the outcome leads to a social change without harming nature¹⁸². A sustainable agriculture approach such as organic farming could be one solution to the problem, providing sufficient food without damaging nature¹⁸³.

¹⁷⁴ Pdf: "Technology and Development" 2008; 4

¹⁷⁵ Desai, V and Potter, R.B. 2002; 157f, Agoramoorthy, G. 2007; 503, Singh, R.B. 2000; 98, Pretty, J. 2002b; 170 (regenerating agriculture) In Desai, V. and Potter, R.B. and Das, R.J. 1998/2002; 58

¹⁷⁶ See Conwal, G. 1998; 164

¹⁷⁷ Desai, V. & Pooter, R.B. 2002; 289 and see Pdf: "Towards a Sustainable Growth Framework Incentives" 2009; 83

¹⁷⁸ Gibbs, D. & Jonas, A.E.G. 1998/2000; 299 and <http://www.sfn.se/press/nyheter-fran-fn/2007/fyra-framtidsscenarioer-for-klimatfragorna/> 2010-04-30

¹⁷⁹ Wanmali, S. & Islam, Y. 2002; 168 (food security) in Desai, V. & Potter, R.B.

¹⁸⁰ Desai, V. & Potter, R.B. 2002; 289f

¹⁸¹ Kemp, R. & Martens, P. 2007; 8

¹⁸² See Kemp, R. & Martens, P. 2007; 10 and Ness, B., Urbel-Piirsalu, E., Andersberg, S. & Olsson, L. 2006; 499ff

¹⁸³ Conwald, G. 1998; 163

In this paper the sustainable livelihood approach have worked both as a theoretical framework as well as an analytical tool for the holistic view where I looked at what opportunities, aspirations and values organic farmers have in relation to their economic and social context. Looking at these aspects the result shows that the most crucial aspects are *knowledge, solidarity* and *mentality* among the farmers. Here the value of the farmer is very important to be able to understand the context of the farmer, which in turn is important to be able to improve the livelihood of the small-scale farmers. According to Pretty *sustainable development* can lead to a better social and economical capital but it can also lead to food security, welfare and better livelihoods for the farmers if it is done in the right way¹⁸⁴. If the western concept of sustainable development is applied on a different country with a different value system it will not succeed. To gain knowledge, education is not only important for the farmers but for actors on all levels in the society. According to many researchers this is a crucial aspect to make a change possible¹⁸⁵. To accomplish a long term effect cooperation between all levels in the society is required.

10. Opportunities for future studies

India has today the largest public agricultural research service in the world that is led and managed by the Indian Council of Agricultural Research (ICAR)¹⁸⁶. Still there is a need to integrate both private and public research institutions in the research system for agriculture, in India. The public sector research needs to increase their focus on addressing the problems concerning poor farmers, especially in less-endowed regions such as rain fed areas.¹⁸⁷ A lot of new institutions and organizations are needed for the development within the knowledge-intensive and new technologies areas¹⁸⁸. There is a big need for new sustainable agricultural tools since the old tools are inefficient and gives the farmers a lot of physical pain and health problems.

¹⁸⁴ Pretty 2002b, p. 174

¹⁸⁵ See Kemp, R. & Martens, P. 2007; 10 and Ness, B., Urbel-Piirsalu, E., Andersberg, S. & Olsson, L. 2006; 499ff and Pretty 2002b, p. 173f

¹⁸⁶ The World Bank 2005; xvii

¹⁸⁷ The World Bank 2005; xxi

¹⁸⁸ Mruthyunjaya, S.P. & Joshi, P.K. & Saxena, R. 2006; 111

How can you make a progress in developing modern techniques at the same time as it should be sustainable? To be sustainable in development within farming techniques is to be able to maximize the production without harming people and nature¹⁸⁹. According to Pretty there are five ways of achieving this challenge.

1. Better use of natural resources such as containers that keeps the rainwater, composting the animal dung and irrigation schedule for example.
2. Development of single farming which means that you change single farming to double farming system. You culture vegetables among the rice for example.
3. Diversification in farming or combine regenerative components. You can bring diversity into the natural capital through introducing fish in the rice field or trees next to the field.
4. Take social capital like forming groups and helping each other in digging new wells or canals in consideration.
5. Education is the last important key to a development without hurting people or damaging nature. To be able to build up the knowledge, skills and analytic ability to be able to run a sustainable farming system and have more control over it.¹⁹⁰

The second main area is *knowledge* on all levels to gain a better cooperation and understanding for each other as well as an understanding of the holistic picture. This includes more research on the mentality among farmers. Why they make the choices they do? Which farmers take opportunities and which does not and why? To be able to help small-scale farmers in general it is important to understand their perspective and what they value.

¹⁸⁹ Pretty 2002b, p. 171

¹⁹⁰ Pretty 2002b, p. 172ff

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11.3 Images

Map 1.

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Map 2.

http://upload.wikimedia.org/wikipedia/commons/thumb/9/9a/India_Political_Map_South_India.svg/235px-India_Political_Map_South_India.svg.png

Map 3.

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Map 4.

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11.6 Observations

Non- participant observation 1 (on the road). February 7, 2010.

Non-participant observation 2 (after interview). February 7, 2010.

Non-participant observation 3 (after interview). February 9, 2010.

Non-participant observation 4 (on the road). February 15, 2010.

Non-participant observation 5 (after interview). February 16, 2010.

Participant observation: Mr. Rajendran (Organic small scale farmer, Tamil Nadu). Oral communication during a visit. February 14, 2010.

Appendix 1



The stone outside Kolunji Farm



Peanut field, peanuts where one of the main crops that the farmers where cultivating.



A field of Black Gram which was also one of the main crops that was cultivated among the farmers.



Black Gram



A Tamarin tree. Tamaring was very common in Indian cooking, used in different sambals.



Tamarin



Henna (you pick the leaves and crush them, then you get a henna paste to color your hands.



Coconut tree



Mango tree



Hybrid Mango (the tree is much smaller).



Hybrid Mango



Bana tree



Pumkin



Amla tree



Amla (that the women and children where drying in a picture in the main text).



Sita, used in cooking.



Sugarcane



Maril, picked from the agro-forestry area. Its juice is used for curing ear-pain.



Paddy (rice), which was the most common crop among the farmers.

Appendix 2

Questionnaire for the organic farmers:

Date:

Farmer:

Name:

Age:

Acres:

What kind of farm:

Village:

- *What values does the farmer have towards the environment?*
 1. How did you start with organic farming?
 2. For how long have you been doing organic farming?
 3. What did you do before organic farming?
 4. What do you value most?
 5. (If the farmers used fertilizers before): Have you notice any change in soil, health, animals and surroundings, since you changed from western farming to organic farming?
 6. Where do you get your knowledge from? Farther? Kudumbam?
- *How is the farmer's economical situation?*
 1. What kind of fertilizers did/do you use then and now?
 2. Which technology do you use?
 3. What kind of animals do you have and how many?
 4. How big is the production?
 5. How big was last year's harvest? (The year before that? Why bad, epidemics or natural disasters?)
 6. What kind of crops do you use?

7. What is the value of these crops?
8. How much water do you use? Which crops needs more water than others for example?
9. Where does the money go? School? Food? Seeds? Fertilizers?
10. Are you a member of any self help group?
11. How long will it take to pay back the loans?
12. Do you have any payments savings?
 - *The social life of the farmer?*
 1. Do you have a good relationship with your neighbors?
 2. Are you cooperating with them when it is time for planting or harvest?
 3. Do you share crops and food with your neighbors?
 4. How big is your household (how many family members)?
 5. How many generations do the family contains of?
 6. Engagement - What kind of tasks do they have in the farming system?
 7. Do you children work as well or do they go to school or both? (Until which grade do they go to school)?
 - *How is the farmer's health?*
 1. How does a normal day look like for you? When are you doing what and how often?
 2. Do you have any problems with your body? Stomach, leg, arms, head, heart, wounds, tiredness?
 3. How often do you see the doctor if you are sick? (How much does it cost)?
 4. Are you using natural medicine from your own crops, surroundings to cure diseases?
 - *Questions for the women.*
 1. Farming methods – what are their tasks in the farming system, family and household?

2. How does a normal day look like for you? When are you doing what and how often?
3. Are you tired during your work or do you have any other health problems like leg, head, heart, wounds, arms?
4. What does the daily food contain of?

Questionnaire for the non-organic farmers:

Date:

Farmer:

Name:

Age:

Hectare:

Type of farm:

Village:

- *What values does the farmer have towards the environment?*
7. For how long have you been doing farming?
 8. Do you do anything else than farming?
 9. What do you value most?
 10. Where do you get your knowledge from? Government? Father?
 - *How is the farmer's economical situation?*
 13. What kind of fertilizers did/do you use?
 14. Which technology do you use?
 15. What kind of animals do you have and how many?
 16. How big is the production (how many bags)?
 17. How many bags goes to workers/himself and selling?

18. How big was last year's harvest? (The year before that? Why bad, epidemics or natural disasters?)

19. What kind of crops do you use?

20. What is the value of these crops?

21. How much water do you use? Which crops needs more water than others for example?

22. Where does the money go? School? Food? Seeds? Fertilizers?

23. Are you a member of any self help group?

24. Do you take loans?

25. Do you have any payments savings?

- *The social life of the farmer?*

8. Do you have a good relationship with your neighbors?

9. Are you cooperating with them when it is time for planting or harvest?

10. Do you share crops and food with your neighbors?

11. How big is your household (how many family members)?

12. How many generations do the family contains of?

13. How big is your house, how many rooms?

14. Engagement - What kind of tasks do they have in the farming system?

15. Do your children work as well or do they go to school or both? (Until which grade do they go to school)?

- *How is the farmer's health?*

5. How does a normal day look like for you? When are you doing what and how often?

6. Do you have any problems with your body? Stomach, leg, arms, head, heart, wounds, tiredness?

7. How often do you see the doctor if you are sick? (How much does it cost)?

8. Are you using natural medicine from your own crops, surroundings to cure diseases?

- *Questions for the women.*

5. Farming methods – what are their tasks in the farming system, family and household?

6. How does a normal day look like for you? When are you doing what and how often?

7. Are you tired during your work or do you have any other health problems like leg, head, heart, wounds, arms?

8. What does the daily food contain of?