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The impacts on Indian farmers when converting to organic cotton production

- an organisation theory perspective

Malena Hedin
Mastaneh Mashouri



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Malena Hedin and Mastaneh Mashouri

Supervisor Sweden: Richard Ferguson, Swedish University of Agricultural Sciences,
Department of Economics

Supervisor India: Pramod Singh, IKEA,
Better Cotton Initiative

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Abstract

Changes in the environment are affecting the world market, and pressures from several stakeholders' are forcing different enterprises to adjust to the current situation. Farmers' difficult working conditions and environmental impacts of the conventional cotton production in India have been highlighted. The small-scale production that is characterising India's cotton farmers implies an insufficient competition power. Conventional farming is thus, and due to high input costs, leaving farmers with a low and uncertain income. A suicide wave was reported by media, as a consequence of the high debts that the farmers ended up with when borrowing money to afford the chemicals.

By interviewing six farmers about the change to organic certified cotton production, this thesis takes an organisational perspective to investigate farmers' living and working situation. Through semi structured interviews, qualitative data from six farmers in Warangal, district of Andhra Pradesh in India, was collected.

The thesis concludes that the main differences of the change to organic cotton production are the pest control and the fertilising process, since organic production implies no use of synthetic chemicals. In order for a farmer to go through with the change new information and knowledge is required, and which the study states is a limiting resource that farmers need help with. Thus, different NGOs are working to support farmers in the changing process. However, the corporation with an organisation will put farmers in a new situation where they need to adjust to a third party.

Throughout the interviews it became clear that the farmers' main reasons to go through with the change were to receive a higher and more secure income. In conjunction with the change the farmers became a part of a network, which they highly appreciate. The network provides them with access to knowledge and also a better power on the market, since they are buying their inputs and selling their harvest in a group. The change has further, mainly affected the farmers basic needs, this has probably to do with their difficulties in meeting those before the change. As a result of the change, some farmers did however state that they also feel more self-confident.

Sammanfattning

Miljöförändringar påverkar världsmarknaden och påtryckningar från olika intressenter driver olika företag till att anpassa sig nuvarande situationen. Miljöpåverkan av den konventionella bomullen samt böndernas dåliga arbetsförhållanden har uppmärksammats. Bomullsodlingarna i Indien präglas av småskalighet, vilket innebär att bönderna får en låg konkurrenskraft på marknaden. De höga kostnaderna för insatsvarorna i det konventionella jordbruket ger bönderna en låg och osäker inkomst. Media rapporterade för några år sedan om en självmordsvåg bland bomullsodlare i Indien, som en följd av de höga skulderna från de dyra kemikalierna i det konventionella jordbruket.

Intervjuerna i uppsatsen antar ett organisationsteoretiskt perspektiv, där jordbrukarnas syn på förändringen till en ekologisk certifierad bomullsproduktion har undersökts med ett fokus på förändringarna i deras familj- och arbetssituation. Kvalitativ data har samlats in genom semi-strukturerade intervjuer från sex bomullsbönder i Warangal, ett distrikt i Andhra Pradesh i Indien.

Studien bekräftar att de huvudsakliga förändringarna med övergången var skadedjursförändringen samt gödslingsprocessen, som numera görs utan syntetiska kemikalier. För att en jordbrukare ska kunna genomföra förändringen kräver hen tillgång till ny kunskap. Studien visade även att kunskap är en begränsande resurs för bönderna och att en förändring kräver hjälp utifrån. Flertalet frivilligorganisationer arbetar därmed med att hjälpa bönderna. Detta innebär dock att bönderna hamnar i en situation där de måste anpassa sig till en annan part.

De intervjuade böndernas främsta orsak till att börja odla ekologiskt var för att få en högre och säkrare inkomst. Förändringen gav även bönderna tillgång till ett nytt nätverk, vilket visade sig vara högt värderat av dem. Nätverket ger bönderna tillgång till kunskap, men även en möjlighet till en starkare marknadskraft, då bönderna i nätverket tillsammans köper sina insatsvaror och säljer sin bomull. Förändringen har huvudsakligen påverkat jordbrukarnas möjligheter till att uppfylla människans grundläggande behov, förmodligen då det fanns svårigheter i att uppfylla dessa behov redan före förändringen. Förändringen tycks dock även ha påverkat några bönder till att känna sig mer självsäkra.

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1 Introduction

The following chapter will describe the basis of the thesis by including a problem background, problem, aim and finally the limitations of the thesis. Starting with a description of the problem background introducing the difficult situation for cotton growers in India, this rises from a lack of information, knowledge and an insufficient support by the government. Furthermore, high input costs and the farmers' small scale production leaves farmers with a weak position on the market. In order to enhance the farmers' situation, a change can be considered as necessary.

1.1 Problem background

The awareness of environmental problems has increased the last century. Pressure from various stakeholders is gradually encouraging and forcing the world market to adjust to a new situation, in order to reach a sustainable environment. The human living and working situation today is, one of the most important aspects in the concept of sustainable environment (Ammenberg, 2012).

Due to the large amount of chemicals used in cultivation, the agricultural sector has a great impact on the environment (Moss & Scheer, 2011). Moreover, cotton is one of the most agrochemical demanding crops grown in the world; India is one of the world's leading producers of the cotton (internet, WWF 1, 2005). The Indian government abolished subsidies for cotton cultivation, in 1997. This makes India less competitive on the cotton market against other leading cotton producers, such as USA and China, who still subsidize their cotton farmers (Engvall, 2008). Additionally, the farmers in India are poorly organised, with little networking, which leaves intermediaries with the power to control prices on cotton, and not the farmers who are carrying the costs (Ahlberg, Hedling, Hjort, & Svedlund, 2011).

Approximately 40 million households are involved in cotton production in India (Osakwe, 2009). The small-scale cotton farmers in India are to the poorest in the country (internet, WDR, 2008). Ray (2005) states that 82 per cent of the farmers in the rural parts of Andhra Pradesh, are indebted, which is the highest percentage of all indebted farmers in the Indian states. The situation is largely due to the Indian government's lack of agricultural advisors. Furthermore, the lack of education and relevant information regarding new technologies and an understanding of the minimum support price mechanism is very acute among farmers in India (internet, The Times Of India, 2011). Cotton producers, therefore, face numerous challenges in order to make a living. Hence, different organisations are trying to improve the situation for cotton producers in India. In order to reach out to 40 million households and provide them with the necessary information and support, a need for financial support and direction is essential (Rieple & Singh, 2009; Ray, 2005).

The increasing cost of chemicals and seeds alongside the declining price of cotton is the main reason the Indian farmers borrowing money, from either a bank or a third party with a high interest rate (Ray, 2005). Most commonly, the farmers cannot afford to repay the loans which are why they have been put in a critical situation with high debts (Stone, 2011). Consequently, many

farmers have committed suicide, which is confirmed by the biggest wave of human suicide in recorded history (Internet, National Post, 2013).

The chemicals that these farmers use have a negative impact on the health of farmers working in the fields. Exposure to the chemicals can cause headaches, skin rashes and blurred vision. Furthermore, the exposure can lead to more serious diseases, for instance, cancer, kidney issues, sterility, and sometimes even death (Abhilash & Singh, 2009).

The farmers in India are in need of better conditions in order to survive and to continue their cotton production. Organic methods of producing cotton can reduce problems that may occur for the farmers as a result of their use of chemicals. Therefore, different non-governmental organisations (NGOs) are promoting organic production by supporting farmers that are interested in converting from conventional to organic production (Eyhorn, 2005). MARI, Modern Architects for Rural India is an organisation, based in Warangal working to improve the farmers' living situation. In 2003 they started a project, where they support and encourage farmers to become organic certified cotton producers (internet, MARI, 2012).

1.2 Problem

Organic certified cotton may offer a higher market price, reduced environmental inputs, and reduced chemical exposure for farmers. At the same time converting to organic production requires access to new knowledge and changes in farming practices. NGOs have been trying to support these needs by starting different projects. In order for such a transition to be successful, the farmers need to be committed and have a trustful relationship with the NGO (Eyhorn, 2005). This implies that the farmers are dependent on someone else and may therefore have to follow different requirements and rules, in contrast to when they were growing on their own. Thus, they may not be able to make their own decisions and can therefore be considered working on someone else's mission, the NGO's. This in turn can lead to a conflict between the different parties since their goals with the change may differ. Therefore there is no guarantee that the change will improve the farmers' current living and working situation.

1.3 Aim

The aim of this study is to find out how different farmer's working and living situation changes after converting to certified organic production. More specifically, this study will focus on the changes and adjustments that are required from the said farmers, and their process to acquire the necessary knowledge and equipment to meet the requirements.

There is also an interest in understanding the extent to which the farmers are following the organic restrictions, and how NGOs are involved in the process. Moreover, the authors are particularly interested in hearing the farmers' own accounts of their experiences of the change and how they have tried to adapt to the new restrictions.

The specific problem addressed in this study focuses on the changes a cotton grower undergoes when participating in an organic certification programme: From an organisational perspective, what actual changes occur at the farm level when a producer converts from a non-certified production situation, to a situation where they have to adjust their production to the certification's and the NGO's requirements.

Thus, issues in rational decision making at a individual level such as issues with chemicals and price levels will be in focus. In addition, more contextual problems such as changes in power-dependency relationship and entrepreneurial opportunities will be discussed.

The thesis will concentrate on the farmers' perspective, and address the following questions:

- Why the farmers decided to go through with the change?
- How have changes in production affected the farmers' living and working situation?
- How do farmers cope with the new requirements and rules?
- What are the farmers' experiences of the organic production?

1.4 Limitations

The empirical base of this thesis is limited to small scale organic cotton growers in Warangal, district of Andhra Pradesh, India. Because of the complexity of this study area and the scope of the project, several demarcations have been made.

The cotton fields of the visited farmers were all located in the same area, and the farmers were all collaborating with the same NGO, MARI. Due to the limits of the project and the restricted budget, farmers living in other cities or cooperating with other organisations are not a part of this study. However, this could have provided the study with a broader perspective on the impacts of the change to organic production.

Even though it is common to grow more than just one single crop (Bilalis, Patsiali, Karkanis, Konstantas, Makris, & Efthimiadou, 2010), this study is only focusing on cultivation of the cotton crop, since the aim was to find out what changes a farmer implements when converting from conventional to organic cotton production. However, since organic methods can imply cultivation of other crops, relevant empirical data of the farmers' other crops were used, when required in the analysis.

This study has not investigated any economic changes or comparisons. Supporting information was however collected through other references. The empirical data is only focusing on changes in input prices and the farmers' household income that may affect the farmers' living situation.

The supply chain of cotton is, due to many intermediaries, a complex and time consuming area to study. Hence, this study has only taken into account those aspects of the chain that are directly affecting the farmers. The availability of drinking water, as well as the water required for

irrigation in agriculture, is of great concern in India. However, the scope of the project was not enough to include this problem. Lastly, in order to find out why the farmers chose to implement the change, only farmers who already have implemented the change are a part of the study.

2 Frame of reference

This chapter will present information from theories as a basis for a thorough analysis and discussion of the change that a farmer undergoes when converting to organic production. Furthermore, the theories were selected to be able to answer the thesis' three main topics of its aim; understanding the underlying reason of a change, understanding the change process and understanding the implications of change.

There is extensive literature when it comes to decision-making. Among others there are famous work from; Simon & March 1958; Brunsson 1990; Ajzen 1991; Ohlmér, et al 1993. Thus, the chosen references of this thesis had to be limited to a few theories that would provide a coherent and complementary base which in turn could answer the aim of the study. Maslow's theory provides an ability to find explanations for the farmers' individual and rational factors to go through with the change. With the entrepreneurial, evolutionary, teleological and the principal agent theories, contextual factors that are affecting the farmers can be found and analysed.

2.1 Understanding the underlying reason of a change

An organisational change can be driven by internal and external forces (Bakka, Fivesdal & Lindkvist, 2006). By adapting Maslow's need hierarchy the farmers individual motivations that can be seen as the internal reasons to go through with the change can be explained. There may however be other reasons to carry out the change. According to the theories of population ecology, there is pressure from the surrounding environment that forces the farmers to implement the change. Thus, an alternative explanation to understand the farmers reason to change can be highlighted.

2.1.1 Maslow's need of hierarchy (part one)

In 1943, Abraham Maslow's theory of human motivation was launched (Bakka et al, 2006) and is still today a well-used theory within many different areas (Bakka et al, 2006). According to Maslow the actions of human beings are driven by their interest in getting their needs satisfied (Maslow, 1987). The different needs in the theory are most often divided into five different categories (Figure 1), with the most basic needs at the bottom of the pyramid.

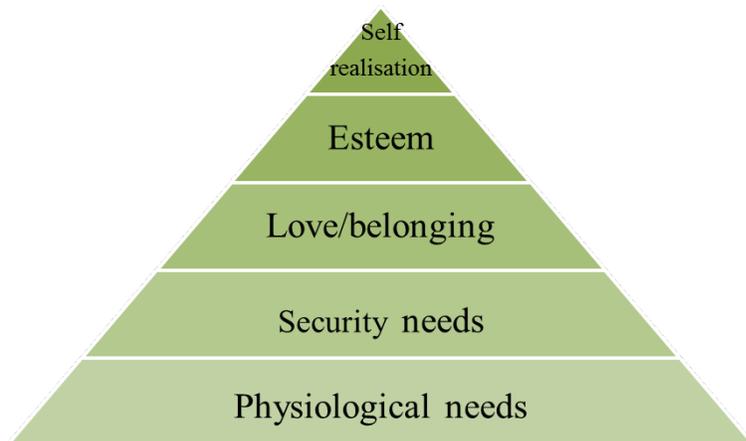


Figure 1. Maslow's need hierarchy (own version according to Bakka, Fivesdal and Lindkvist, 2006).

The most basic and vital needs required for survival are considered as primary needs and should be satisfied first (Maslow, 1987). Without the physical needs such as air, water, food, sex and sleep (Bakka et al, 2006), being fulfilled the individual does not care about other higher needs like belonging. Once these basic needs are satisfied, other more secondary needs which are vital for survival can be met. Though Maslow ranks these needs in the pyramid, they can be satisfied in a different order, or at the same time. However, his ranking is due to the fact that the needs are most often pursued in the order shown in the diagram above (Maslow, 1987).

The theory suggests that once the physical needs are relatively satisfied the individual will strive towards secondary needs, most of which have occurred as a result of the social structure in society (Maslow, 1987). Safety is the second level in the pyramid and can be divided into two different types; physical and material safety. A shelter that will permit the individual to feel safe or will provide a secure base relates to the material safety. The physical safety regards maintaining stability in life and not feeling threatened despite our changing world (Maslow, 1987). The next level of human needs is love/belonging (Maslow, 1987). These needs are particularly strong for children, since our childhood has a great impact on how we evolve as adults (Maslow, 1987). These needs can be met through different groups such as families, groups of friends or by sharing an interest with others just to feel a sense of acceptance, understanding, participation and non-sexual love. According to Maslow, humans need to love and feel loved. We can survive on our own, but essentially we are herd animals, which make this level in the pyramid central.

The three needs mentioned above are deficiency needs. The individual will feel anxious and dissatisfied if those are not met (Maslow, 1987).

2.1.2 Evolution theory - Population ecology

Darwin's theory of evolution, with its survival of the fittest, from the biological frontier, has become an inspiration for other research areas that attempt to explain changes as a result of adaptation to the surrounding environment (Van de Ven & Poole, 1995). The theory claims that a change occurs in a continuous cycle of variation, selection and retention, from which new forms

will result. The power of a change is explained to be both natural and blind and changes will appear randomly (Hannan & Freeman, 1977).

By applying Darwin's theory to organisational changes, a search for answers to why and how enterprises are heading in the same direction as the rest of their population is possible. In the organisational aspect a population refers to companies in the same industry and locality (Hannan & Freeman, 1977). The main focus in the theory will be on the structure of the organisations. Evolution theory is mostly used with a global aspect of a change, yet the theory has also been used to explain strategic plans within organisations. In an organisational view of a change, the theory should be used more restrictively. In contrast to the biologic view, organisational changes are a result of the structure of an organisation in its own community, industry or the society.

By specifying which forms of laws, rules and processes that are interacting to change enterprises, an analysis through an evolutionary point of view can be done (Van de Ven & Poole, 1995).

The theory focuses on a change for an entire population, where change will appear by small individual events, and gradually change the nature of a larger population. A "mutation" will not be sudden or dramatic. It will happen over time and depend on prescribed rules that will determine if the mutation will be persistent, and over time change the population. The theory of population ecology will see a change as an on-going and evolving process, where there will be no creation of a permanent equilibrium. For an enterprise to survive, it will have to adjust to the changes within the environment (Hannan & Freeman, 1977).

Survival of an organisation is dependent on competition for scarce resources, where the environment will determine what type of organisation is best suited for the location, based on the enterprise's resources and opportunities. An organisation in change needs to exist in a physical and social location, where the scarce resources for survival are available for everyone in the population. The forces will then produce a number of organisational forms that will be maintained and interact in a self-reinforcing loop of variation and selection. One cannot predict which organisational form will survive and which will not (Van de Ven & Poole, 1995). In conclusion, changes in organisation will explore how social and environmental conditions are influencing the rate at which new organisations are created, changed and dead (Singh and Lumsden, 1990).

2.2 Understanding the change process

The process of the farmers' organisational change implies following different requirements and rules from an NGO and acts toward a predetermined outcome, since the goal is to change from conventional to organic growing. In order to understand this, the teleological theory that sees a change as a planned process that eventually will lead to a desired end will be applied. However, the farmers' situation can also be considered as a situation where opportunities for a change are developed in a creative learning process. Thus, the change process can also be seen as an entrepreneurial act that will have an impact on the farmers living and working situation.

2.2.1 The teleological theory

The teleological theory focuses on the process of a change through predetermined goals, set by an organisation (Van de Ven & Poole, 1995). It can either be applied to a single individual, a group of people, or at an entire organisation, as long as they act in union (Van de Ven & Poole, 1995). All changes will be reaching towards an estimated end-stage, and when one goal is reached, another one will be set. Moreover, the goals of an organisation will be repeatedly formulated, implemented, evaluated and modified as the process of the change develops. Further process is on-going and an organisation will never appear in a static stage or in a permanent equilibrium. A cycle for change starts with a dissatisfaction, which will lead to a search, and consequently to an implementation of a change in the organisation (Van de Ven & Poole, 1995).

As organisations reach towards their goals it is possible that the goals will change. Enterprises are assumed to act purposefully and adaptively, where the progress can be monitored and analysed. Yet it is possible that an enterprise will face external limitations due to the environment or its availability of resources. For an enterprise to obtain the end-stage there are some functions that must be fulfilled, some accomplishments that need to be done and some components that must be incorporated. When analysing these factors one can see if and how an organisation will develop towards its goals (Van de Ven & Poole, 1995).

In the teleological view of change it is not important how an event in a change occurs. The main focus will be on the factors that leads an enterprise forward towards its goal. Factors that will be important in the theory are the decision making process, social construction, adaptive learning, strategic planning and goal setting (Van de Ven & Poole, 1995).

2.2.2 Entrepreneurial changes

When a new business is created an entrepreneur needs to carefully consider different factors, in order to receive a positive outcome, which most often implies a higher income. Experience and access to information are especially vital. It is further important, not being too optimistic about an idea and to be aware of possible problems that may arise (Landström & Löwegren, 2009).

A new business idea is often created by ineffectiveness on different markets, changes in prices or by the availability of new knowledge and technology. The preconditions to act entrepreneurial vary on different markets and they are affected by the possibilities to receive support and help from role models. A new business can be started alone or together with other entrepreneurs, existing businesses or similar. By having a good network and collaborating with others, knowledge, experiences and capital can be shared (Landström & Löwegren, 2009).

It is moreover, important that the entrepreneur acts responsibly when working with a new business idea, since other parts can be affected. When the decisions are affecting the entrepreneur's family, even greater risks are taken, which may imply that the entrepreneur needs approval from his or her family (Landström & Löwegren, 2009).

In order to ensure that the business can be submitted to the next generation, the family business tend to prior the survival of their business and their family members' needs ahead of business growth (Alsos, Carter, Ljunggren, & Welter, 2011).

The entrepreneur's risk of failing with the business idea will affect his interest to continue with the process (Landström & Löwegren, 2009). When an enterprise has a significant limitation in the resource base, an entrepreneurial act can be considered as an even greater risk. This is particularly a concern in family businesses, where the families' survival is depending on the business (Alsos et al, 2011). The risks from an entrepreneurial act can however, be seen as less risky when the business idea is imitating an existing business model, compared with starting a new and innovative business (Landström & Löwegren, 2009).

2.3 Understanding the implications of change

In order to analyse the farmers' experience of the change, Maslow's hierarchy of need can be used in this part as well. With the secondary motivational factors of the theory, other essential aspects of the possible changes in the farmers' individual development can be highlighted. Other essential aspects in this study might be the possible changes within the farmers' capability to reach a certain level of self-esteem as well as self-realisation, which according to Maslow's theory can be possible once the basic needs are satisfied. The farmers are further, collaborating with an NGO, which means they will have to make some decisions in accordance with another party, which in turn will affect the farmers' experience of the organic production. The principal-agent theory can enhance the understanding of different problems that may occur when working on someone else's mission.

2.3.1 Maslow's hierarchy of need (part two)

The two last levels in Maslow's hierarchy of needs are not seen as basic needs, yet they are required to achieve any individual development. Esteem is the fourth level and is related to status, prestige and appreciation and is fulfilled once you get appreciation by an achievement, which in turn contributes to self-esteem. There are two types of self-esteem; outer and inner (Maslow, 1987). The inner implies that the individual will develop more trust in her/him and therefore start believing that she or he is capable of carrying on with things. The outer self-esteem comes when the confirmation is formalised and received from outside. As a result of these occurrences the person may feel pleased with her/his experienced eigenvalue. A lack of appreciation can lead to frustration and a feeling of inferiority (Maslow, 1987).

Self-realisation is the final step and refers to what a person feels his/her full potential is and the realisation of that potential (Maslow, 1987). This level presupposes that one gets the opportunity to evolve under the right conditions, which may be through education, career or simply by engaging yourself in something you feel is meaningful (Maslow, 1987). In conclusion, Maslow proposed that this level is about accomplishing everything that one is capable of (Maslow, 1987).

2.3.2 Principal-agent theory

When one or several individuals hire an organisation or a person to carry out a mission a principal-agent relationship occurs (Hagen, 1990). The agent will perform the job that he or she has received from the principal and is also expected to promote the principal's goals (Laffont & Martimort, 2002).

Further on, the theory describes two problems that may occur between the principal (employer) and the agent (employee). The first problem is concerning their goals. Regardless of personality and relationship, a divergence will occur between the principal and the agent, in terms of striving towards different goals and having different incentives to implement different tasks (Coughlan, Anderson, Stern & El-Ansary, 2006). Secondly, the theory argues that the risk attitude between the two parties differs (Eisenhardt, 1989).

Since the agent's behaviour will affect the principal's activity (the organisation) it will also influence the principal. The agent will have to make efforts to perform his or her job, which will imply sacrifices in terms of time and other individual sacrifices. This in turn will make the agent want to minimize his or her efforts. Therefore, at the outset, the principal and the agent may have opposing interests (Hagen, 1990).

To solve the above mentioned problems there are two types of instruments that can be employed (Eisenhardt, 1989). In order to minimize the self-centred behaviour of the agent, both the principal and the agent can sign a result-based contract which will determine their relevant rewards. A second way is to implement an information system that will provide the principal with information about the behaviour of the agent, and in this way reduce the agent's egoistic behaviour (Harris & Raviv, 1978).

Furthermore, the theory can be divided into two different strands, where the first is described as positive and focuses on finding solutions to any problems that may occur. The second is the "principal-agent research" method where the purpose lies in identifying which one of the above mentioned solutions are the best. In contrast to the positive path the "principal-agent research" is not only relevant for the principal manager's overall analysis, but the theory can also be used on for example, the relationship between a broker and his client (Harris & Raviv, 1978).

In the problems that may arise due to the agent-theory two aspects of information asymmetry are highlighted. The first is called Moral Hazard, which implies that the agent's effort is not equal to the principal's expectations. An example of this is a pharmaceutical company that hires a researcher for a very complicated project. Because of the complexity of the project, the principal (the company) does not have the ability to control or follow up the amount of work being performed by the agent (the researcher). In this case, the solution may be a result based contract to change the agent's behaviour. The other aspect is referred as Adverse Selection, where the agent is dishonest about his or her skills. The company can only evaluate the researcher's skills once he or she has started working. But by applying an investigative procedure beforehand it can be possible to reveal the agent's skills in advance (Harris & Raviv, 1978).

3. Method

The following chapter will introduce how the study was performed and explain why the chosen methods were used.

3.1 Methodological choices

This study investigates a complex situation, without a clear hypothesis to test. Thus, a qualitative base was preferable, as a quantitative approach requires a clearly defined hypothesis. Moreover, a qualitative approach will facilitate a richer analysis of empirical evidence, which in turn can provide a deeper understanding of a phenomenon than a quantitative study (Johannessen & Tufte, 2007). On the other hand, a quantitative approach may have provided a better understanding for the overall situation of the farmers, where general conclusions could have been made. However, maybe this study can provide an insight that could lead to clear hypotheses that could be tested in future studies.

The overall interest of the study is to develop an understanding of how farmers' situations have been affected by the change from conventional to organic cotton production. With a "how"-type of research questions Yin (2009) claims a case study methodology is particularly well suited as it will explain, describe, illustrate and enlighten the area. Primary data from a case study may enhance an understanding of the actual situation for the target group, by listening to their stories with their opinions and feelings. On the other hand, a case study is limited to the case and can further not generalize the findings for the population. A problem with case studies is to retain the study objective, as the researchers will need to be subjective in order to describe the case. In order to ensure objectivity the literature review, other complementary has been included to the study (Yin, 2009).

In a case study, data is reasonably collected through multiple semi-structured interviews, where an interview guide provides a standardised base, and at the same time allows the possibility to pursue other relevant questions as they arise (Yin, 2009). To realise the aim of the essay, a multiple semi-structured questionnaire with approximately 35 questions was constructed. This made it possible to pursue other relevant questions than those in the interview guide (Johannessen & Tufte, 2007).

The official language in India is Hindi. However many other local languages are also spoken in the country. Our contact person at MARI therefore informed that an interpreter would be necessary. Hence, this was taken into account while constructing the interview guide. A semi-structured method therefore helped to ensure that the questions were asked so both the interpreter and the respondent would understand them correctly (Johannessen & Tufte, 2007).

To obtain basic understanding about each farmer, the first part of the questionnaire was based on general questions about the farmers, their family situation and their past production. The guide was then continued with questions based upon the change and the differences between organic and conventional farming.

In conclusion, the interviews were focused on the following four topics; the relationship with MARI, relationship with others, impacts of organic production, and market and economy. The entire interview guide is attached in the appendix.

3.2 Literature review

In order to understand the problem and to create a relevant interview guide, literature was reviewed before the interviews. Other relevant literature was thereafter collected in order to provide the study with further essential information. In order to provide the thesis with an interesting analysis and in an attempt to choose relevant theories, the theoretical frame was revised after the interviews were finished.

Information was mainly found in peer-reviewed journals, and from the search engine; Primo. Keywords used were: Organic, cotton, India, farmer*, cultivation and rural. Some information was also collected from larger newspapers and from a few organisations' webpages, in order to provide the thesis with up to date facts and reports.

3.3 Interview process

The empirical data for this study was collected in the south of India in Warangal, a district of Andhra Pradesh, which is a part of the cotton belt in India. Together with one of MARI's employees, the farmers were visited over a nine day period. The villages were chosen by MARI, and the time frame of the project enabled six interviews. Some of the interviews were made at MARI's field office, while others were made at the farmers' houses.

Despite the assistance from the interpreter there were, at times, difficulties in understanding, for both the authors and the interpreter. Therefore, after the first interview the interview guide was revised, including changes in the choice of words and removal of repeated questions.

Before the interviews started, the interpreter was asked to explain the purpose of the interviews to the farmer. This, in order to provide the farmer with a better understanding of why they would be asked questions regarding their life situation, and also in an attempt to get an more open relation with the farmers.

The two authors took turns leading the interviews and the average duration for an interview was three hours. The interviews were documented by voice recording and written notes. Moreover, sitting face to face with the farmers facilitated the possibility to take into account the farmer's body language and facial expression, as well as the surroundings.

3.4 Methodology reflections and quality assurance

Some differences were experienced between the Indian culture and the Swedish that may have influenced the study. For example, according to MARI Indian women do not commonly travel alone without their families. The authors did not find this as a problem, it can be noted that the authors were in company with a male staff from MARI who arranged the interviews. Still, since the interviewers were foreign females, it could have affected the farmers' way of answering the questions. The farmers did not seem to be disturbed by the fact that the interviews were recorded (internet, journalism, 2013), however the interviews were always started by ensuring that it was accepted to record the interviews. There was also a risk that the farmers' answers would reflect their expectations of what was expected to say, and not their true feelings and opinions (Häger, 2007).

During all of the six interviews, other family members were present, which at times was experienced as disruptive for the interview process. This may have to do with the fact that they found it interesting that foreign people were visiting them. Furthermore, it was not unusual that the other people present wanted to participate and answer the questions, which required us to repeatedly remind the interpreter that the purpose was to hear the farmer's answers and not the others. Hence the other people might have affected the given answers. On the other hand, this may have provided a further and deeper answer from the respondent, since someone else might have reminded him/her of an important aspect.

There is a risk in open-ended interviews of asking leading questions, especially with inexperience in interviewing, and it is perhaps an even higher risk when the questions are translated by an interpreter (Häger, 2007). As mentioned before there were some language issues during the interviews, and the authors experienced the lack of knowledge for cotton farming in India as a problem. In order to compensate for this, and in an attempt to ensure that the questions and the answers were understood correctly, the interpreter were sometimes asked to explain. This check was necessary, since there sometimes were misunderstandings between the authors and the interpreter. To further ensure that the noted information was correct the authors went through the entire interviews together afterwards, clarifying that all information was understood in the same way. Otherwise, the authors went back and listened to the recordings and, when needed, even contacted the interpreter.

Since the interpreter works for MARI, it was recognised that he might influence the answers due to his expert knowledge, or if he had any self-interests in the matter. In particular, it was expected that the questions regarding the relationship with MARI could be affected by this.

However, during one interview the respondent's son was the interpreter, since the interpreter from MARI was not present. Since the given answers during this interview were quite similar to the other interviews some assurance was provided that the answers had not been overly biased by the interpreter. Another problem with a study where the information sought comes from experiences in the past is that the answers will be reconstructed or manufactured. Therefore there is no guarantee that the farmers' given answers to the changes are the actual ones, or if they have been influenced by new information and feelings which may have affected their answers (Johannessen & Tufte, 2007).

4. Cotton growing in India - a brief literature review

In order to provide the reader with a better understanding of the cotton growing situation for the farmers in India, a review of literature regarding cotton growing is presented in this chapter. This information will enable a deeper analysis of the empirical data, and together with the theories fulfil the aim of the thesis.

4.1 Conventional cotton

About 20 years ago, cotton cultivation occupied four per cent of India's agricultural land and was at the same time responsible for 40 per cent of the pesticide used in the country (Rieple & Singh, 2010).

Cotton crops require approximately six months until the cotton is ready to be picked. The long growing period will therefore expose the crop to a variety of different pests and insects. Pest control methods used in conventional growing will also kill the insects that are naturally protecting the cotton crop from the undesirable pests. This in turn, will make farmer spray even more pesticides on the crops. The need of chemicals to control pests is therefore significant in conventional cotton cultivation.

The chemicals in the pesticides have proven to be carcinogenic and they can also cause allergic reactions for those exposed to them. They are also causing problems for animals, soil in terms of decreased nutrient and by reducing the capacity for water retention. Finally, they are a contributing factor to pollution of the groundwater. Because of this, there is concern that the conventional forms of cultivation are harming the biodiversity of the surroundings (internet, WWF 1, 2005; IMG, 2012).

4.2 Organic cotton

In contrast to the conventional growing, organic cotton is grown without the use of synthetic chemicals such as pesticides and fertilisers (Rieple & Singh, 2010). One reason for using organic methods and materials is to take the environment and the social aspect into account. Instead of using chemicals for pest control, the organic production includes a variety of different methods. One method is using cover crops, which will protect the fields from unwanted pests. The cover crops can thereafter be used as either fertilisers, by being incorporated in the soil, or be used as animal food (Bilalis et al, 2010). Furthermore, organic methods require cultivation of different crops and crop rotations, which implies that the crops at the field will be alternated in order to reduce the pest level and to contribute to a more fertile soil. Fertilisers used on the organic fields are made from their own compost of farm waste and cow dung (internet, WWF 1, 2005). In addition the reduced use of chemicals has also given farmers a better health, which has reduced their need for medical treatment (Rieple & Singh, 2010).

4.3 Changes in the farming and the profit

Required time for weeding and applying fertilisers is approximately the same for the organic and conventional methods. However, the pest management for organic cultivations requires approximately 40 - 65 per cent less labour hours (Rieple & Singh, 2010). Bilalis et al (2010) concluded that there are no significant differences between the two growing systems in terms of yield, growth or the quality of the fibre. One difference between the two methods is however that the staple length of the organic cotton fibre is a little bit longer than the average length of the conventional cotton. Since the demand for cotton with longer staple length is higher, the organic cotton is more desirable (internet, WWF 1, 2005).

The change to organic production is often considered as a major change for the farmers in India. When converting to organic growing the yields will decrease with 10-20 per cent the first two to three years of cultivation. This is one crucial reason why some farmers do not carry out the change. Yet the cost of growing organic cotton is estimated to be 13-20 per cent lower due to changes in the pest management. However, the organic methods are, over time more profitable than the conventional methods. The income will increase by 10 – 20 per cent after the transit period. Moreover the long-run effects of organic cotton is also increasing the quality of the yields and reducing crop failures (Rieple & Singh, 2010).

The minimum support price of cotton, set by the government in India is, this year, 3,600 Indian rupees (INR)/quintal, (0.67 USD/kg), and 3,900 INR/quintal (0.73 USD/kg) for cotton fibre with longer staple length. Thus, organic farmers will receive this higher price (internet, TTW, 2012; Euroinvestor, 2013).

Table: 1 The Indian market price of cotton

	INR/quintal	USD/kg
Short staple length	3,600	0.67
Long staple length	3,900	0.73

5. Empirical case

This chapter will present relevant information from the interviews of the six farmers. In order to provide a better understanding for each of the farmers' situation, significant information about them will introduce this chapter.

5.1 A brief presentation of the farmers

The six interviewed farmers live in the following three villages; Parvathagiri, Sadyathanda and K.K Thanda. They are located in the same area, approximately 38 kilometres from Warangal city.

Bhasolia Pullamms is the only female among the interviewed farmers. She and Bandarapu Sammaiah do not have any formal education from school. The 62 years old Bandarapu Sammaiah is the oldest of the interviewed farmers. In contrast, Moddu Ramesh is 28 years old and the youngest of the farmers. He has, with three years of study at university, the highest educational level of the farmers.

The youngest to start with the agriculture is Madu Sadjya, he was only ten years old when he began to cultivate. Moddu Bhask, was the oldest one starting to cultivate and he was 25 years old at that time. The farmer who was the last one to start with organic production was Kollufi Swamy, since he has cultivated organic cotton for four years.

Table: 2 Farmers demographics

Name	Age	Education	Years of farming	Organic since	Acre	Production
Moddu Bhasker	55	10th class	30	2003	3.5	2 cotton 1.5 paddy
Bhasolia Pullumms	54	None	35	2004	3	1 cotton, 0.5 maize 0.5 groundnut 1 paddy
Moddu Ramesh	28	12 th class and 3 years university	8	2003	2	2 cotton
Madu Sadjya	46	5th class	36	2004	5	3 cotton, 2 paddy
Bandarapu Sammaiah	62	None	40	2008	10	2 org. cotton 3 conv. cotton 3 paddy, 2 grass
Kollufi Swamy	35	10th class	19	2009	6	2 org. cotton 2 conv. cotton 1 paddy, 1 turmeric

5.2 External parts involved in the change

For over two decades MARI has been working on different projects in the rural parts of Warangal, in order to improve the farmers' living situation and their aim is to "to build an egalitarian society with justice, peace, equality and safe an environment" (internet, MARI, 2012).

Problems regarding cotton cultivation started around 40 years ago, at that time cotton cultivation became popular in the district and the profit for cotton was higher. However, as farmers were encouraged by the sellers to buy expensive chemicals, they became indebted. This in turn made MARI start their non-pesticide management (NPM) project in 1996. When starting the project MARI experienced that the farmers were open-minded to new cultivation methods and they only needed support to go through with change (Menon, 2003).

MARI's organic cotton project started in 2006 in cooperation with World Wide Foundation (internet, WWF 2, 2013). MARI is educating and encouraging cotton farmers in chosen villages to become a member of a group with other organic cotton farmers in their village. MARI is arranging meetings and training in how to cultivate cotton in a sustainable and environmentally friendly way. The project is since 2008, sponsored by a big clothing company named Marks and Spencer and the aim of the project is to develop a sustainable ecosystem and to provide a better health and livelihood for the farmers in Warangal (internet, WWF 2, 2013). According to MARI the time frame of the project is depending on the financing companies' interests. Further, as the situation for the farmers gets improved, MARI will focus on starting and supporting other projects.

Moreover, IMO is an organisation that certifies groups of smallholder organic farmers, and has certified the farmers in this study. The farmers will be controlled by IMO's own controlling system, where only a representative percentage of the farmers are externally inspected directly by IMO. In order to receive the certification, the group needs to be homogeneous in terms of location, production system and products. They also need to have a common marketing and an internal controlling system (internet, IMO, 2013).

5.3 Understanding the process and the underlying reason to change

All of the six interviewed farmers mentioned the high cost of inputs as a reason for choosing to convert to organic farming and five of the six farmers explained that the high costs were specifically due to the expensive chemicals that they used in their conventional growing. However, it was not only the high input costs that were a reason. Another recurrent problem was the health issues associated with the use of chemicals. The chemicals caused some of the farmers' rashes, headaches and made them feel nauseous. Moreover, past generations of the interviewed farmers only used natural materials in their production and since this worked for them, many of the interviewed farmers believed in the organic methods.

The NGO MARI, and other organisations, had visited some of the farmers to explain and encourage them to start growing organic instead of conventional cotton. MARI told Bandarapu Sammaih that he could try to grow organic cotton on one small plot, and if he saw a positive difference he could decide to continue with the rest of his land. It was also common that recommendation to convert came from neighbours or farmers from neighbouring villages, who already had carried out with the change. Furthermore Moddu Bhasker mentioned the damage on the environment, as a result of the used chemicals, as a reason for why he chose to implement the change.

5.4 Understanding the implications of change

The transit implies several changes regarding the farmers' cultivation methods, which also have influenced their family situation.

5.4.1 Changes in the cultivation

As the farmers decided to convert there were some changes in their working methods that they had to adopt. Instead of using synthetic chemicals to get rid of the pests the farmers are now using other crops, such as maize, that is attracting pests that will protect the cotton crop. In the conventional growing, the chemicals would not only get rid of the intended pests, they were also killing the crops' natural pest protection. Today, however the unwanted rates of pests are kept down by the natural protection.

The weeding process for both the conventional and the organic growing is the same. The farmers use integrated cultivation, where their animals graze the weeds.

The farmers have been taught that the synthetic fertilisers that they would apply on their soil three to four times a year were contributing to a less fertile soil. Hence, they are now producing non- synthetic fertilisers made of cow dung, and which they only need to apply once a year. This information, received from MARI, has significantly reduced input costs. The farmers have also been encouraged to rotate their crops amongst different plots on their land, to further increase the fertility of their soil. Preparation of non-synthetic fertiliser is more labour intensive than buying it, the working hours has therefore increased by a few hours. However, three of the six interviewed farmers have experienced improvements in their soil fertility.

Formerly, when the farmers were in need of any input resources, such as seeds or chemicals they had to travel to Warangal city. Today however, MARI provides them with seeds and other necessary materials at the beginning of the growing season. The organisation also buys the cotton at harvest, which the farmers experience as a great help since they feel secure knowing their cotton will be sold. This also means that they do not need to spend money or time on this process any more.

Moreover, since MARI is buying the organic cotton from all of the farmers that they are collaborating with, they have a greater market power, which has resulted in a better profit for the farmers. As the farmers had very little or no competitive power when they sold their cotton individually, this was a major problem with the conventional cotton. Madu Sadjya explained that since his conventional cotton was difficult to sell, he sometimes had to overnight in Warangal until he managed to sell his cotton, often accepting a price below the current market value.

5.4.2 Changes in the living situation

Some farmers mentioned that the diversity of crops, which is a consequence of the organic growing, is improving their food security. And even if the farmers receive a poor harvest one year, they can still survive, since the other crops also will provide some income.

According to MARI's staff, the educational level in the rural parts of India is increasing. The farmers increased and more secure income is giving them a possibility to invest more money in a higher and better education for their children. Kollufi Swamy mentioned that he has a wish that one of his children will become a doctor and that the other one becomes an engineer.

Furthermore, Bhasolia Pullamms and Madu Sadjya, lived in a "kutcha" before the change, which is a simple house, made of dry leaves, bamboo sticks, mud, and twigs. Due to their increased income, they had the possibility to invest more money in rebuilding their houses. Those who have rebuilt their houses have built a house called a "pakka", which is a safer and stronger house, made of cement, iron and bricks.

5.4.3 The new community and the education

The availability of information meetings or other educative occasions were not something the farmers had access to before the collaboration with MARI started. However, today's meetings are providing them with knowledge, which is highly appreciated by all of the six interviewed farmers. The educational level of the farmers varied greatly. Some of the farmers could only write their names, while others had finished secondary school.

A monthly society meeting with 20 farmers and the president of the village is organised by MARI's field advisor. The president of the village will inform about any progress or problem that has occurred. Furthermore, the meetings will focus on education and training in organic production. The farmers are also welcome to ask questions, which MARI will try to answer. However, if MARI does not know the answers they will note this, and at a later time discuss the question with the headquarters and finally come back to the farmers and give them the answer to their question. The meetings also give the farmers the chance to present any ideas or recommendations that they might have.

The purpose of the meetings is not only to inform about organic cotton, but also to provide farmers with more general training and information, and encouragement to work together to create better living conditions in the village. For example, Bhasolia Pullamms said, that after receiving information about how to develop their own health insurance-system, she and twelve

other women have accomplished this. As a result, they now have a bank account where money is collected monthly. If someone's family member or friend becomes ill, they can borrow money from the account, with a lower interest rate than the bank or a third part offers.

The advisors are visiting every farmer, two to three times a week, in order to see how their work is progressing. One purpose of these check-ups is to control how the farmer's work is proceeding and another is to support the farmers if they have any problems with, for instance, pests. The field advisors are also providing support in how to grow organically. They will also demonstrate how the farmers should work with for example, the soil, in order to obtain a good outcome for the crops. At these visits the farmers have the possibility to ask questions that they may have.

The farmers felt that MARI's society meetings are providing them with good training and demonstrations on organic farming. They describe their relationship with MARI as good and trustful. However, the organic cotton project will eventually end. At that point the farmers will be left on their own again. Yet, MARI is indicating that they will go on with other projects at their villages, and therefore not fully leave them alone with the organic production.

Before the change, Madu Sadjya explained himself as a person without courage to speak up or to make his own decisions. Today however, he is the president of his village and has on some occasions visited other farmers in cities such as, New Delhi, in order to find out how they were managing their production. This was a great experience for him and which he got to share with the other farmers at the meetings afterwards.

6 Analysis and discussion

This chapter will link the chosen theories with the empirical data and the literature reviews, in order to analyse and discuss the following questions of the thesis;

- Why the farmers decided to go through with the change?
- How have changes in production affected the farmers' living and working situation?
- How do farmers cope with the new requirements and rules?
- What are the farmers' experiences of the organic production?

6.1 The underlying reasons to change

With support from the theory of population ecology, and the basic needs in Maslow's hierarchy, the reasons for why the farmers changed their production will be analysed. The analysis is introduced with changes in the environment that may have influenced the farmers to change, followed by the farmers' primary motivations to become an organic cotton producer.

6.1.1 Changes in the environment

Environmental problems have, in recent decades, led to changes in the market. Hence, different enterprises and organisations will have to adjust to the new market situation, in order to survive. As the evolution theory claims, different forces in the surrounding environment will affect in what direction a change of an enterprise will go. By adjusting to the surrounding, the farmers' ability to survive may increase (Van de Ven & Poole, 1995). Further, these changes in the environment have made it possible for the organisation MARI to carry on with their activity.

MARI visited the villages and explained their project and the new methods for the farmers, in order to convince them to go through with the change. According to some of the interviewed farmers, their neighbours were one great reason for why they decided to change from conventional to organic production. Bandarapu Sammaih was the first to start with the transition, and when the good result was showed, other villagers also chose to implement the change. By considering the evolutionary theory, that claims a change will occur through individual activities contributing to a change in a larger population, it is clear that the empirical evidence matches the theory.

The change in pest controlling process, has improved the farmers' health issues. This was another driving factor for the farmers to carry out the change. In order to survive, the evolutionary theory states that one has to change with its environment (Van de Ven & Poole, 1995), which the farmers do. The chemicals that the farmers used in the conventional farming were carcinogenic and thus dangerous for the farmers' health. Continued use of chemicals could therefore endanger the farmers' lives. A single conventional farmer, in a changing village would therefore find difficulties in surviving since the other farmers in the village have a better potential to gain a greater competitive power on the market. Moreover the change improves their

health issues, soil problems and even reduces their high costs because they no longer use any chemicals.

According to population ecology the chance of an organisation to survive is depending on scarce resources. The theory is further stating that the resource needs to be scarce for the entire population, to be considered as a limiting resource (Van de Ven & Poole, 1995). In order to start the organic production the farmers need relevant knowledge and information of how and why the change is necessary. Furthermore the education level of the rural parts of India is poor (Rieple & Singh, 2010). This can therefore also be seen as an indicator that the farmers' access to knowledge and education is a limiting and a scarce resource for them. In this case MARI is providing the farmers with the needed resource, and is thus contributing to making the transition possible. However, since India is a developing country and since the world is constantly changing (Ammenberg, 2012), what is a scarce resource today, might not be the same in the future (Van de Ven & Poole, 1995).

Since it is difficult to predict the direction of a change, it is also difficult to predict what the farmers will do in the future. However, according to the evolutionary theory, the farmers' future growing methods will be decided by their access to resources and the demand on the current market (Van de Ven & Poole, 1995). One risk is though, that when MARI's mission in the farmers' villages, has come to its end, the farmers will have to stand on their own. They will have to make their own decisions, which they most likely will do according to their own preferences, after their own capabilities and without any help or support. If they do not continue to cooperate in a group and if they are striving towards different interests, without any leader in charge it is even more difficult to predict their future actions and outcome.

In order to maintain the benefits with working in a group, a possible scenario when MARI's project ends, is if another organisation offers them a new corporation with support and better conditions, which the farmers may accept since they can avoid arranging an organisation themselves. The new possible project will however, also come to its end sooner or later.

Therefore, another possible solution for the farmers when MARI's project ends, is if they create their own organisation. This scenario implies that the farmers have to develop an organisation and arrange activities regarding for example the selling and buying process. The process of creating an organisation will most likely require time for planning and to agree on what decisions to make, in order to satisfy the interests of the whole organisation.

6.1.2 Primary motivations to change

The interviews provided a clear picture of the farmers' main reason of the change. The majority of the interviewed farmers were primarily hoping to receive and maintain a higher income, since the conventional farming occasionally hardly provided the farmers with any profit. This was mainly due to the expensive chemicals that they were investing their money in. Money can therefore be considered as another scarce resource for the farmers and is motivating them to go through with the change.

Maslow's theory (1987) is well suited to illuminate the farmers' individual needs and how they have changed since the farmers converted to organic growing. The first three levels of the pyramid are met by their farm, which will provide them with food, shelter and the possibility to be close to their families. However, before the change, a poor harvest could imply a hard time for the farmers, since it could be difficult to satisfy their need of food. Now on the other hand, they have the possibility to eat their other crops, which implies that they have a greater chance to survive a poor harvest.

Moreover, the farm is both a home and the place of work for the farmers. It is therefore providing them with a place to live and a security, in terms of having a job. Even the ability to meet these needs have been improved by the change. Bhasolia Pullamms and Madu Sadjya have rebuilt their houses with materials that better protects their families against sun and rain. Due to their more sustainable way of farming and the greater market power that they receive by selling their cotton as a group, they feel more certain about being able to continue farming. Thus, the above mentioned factors can also be seen as factors helping the farmers to feel more secure.

The relationship with MARI and the regular meetings with the other villagers have built a stronger relationship between the farmers. This has in turn provided them with an emotional support, if a family crisis would occur. The farmers were not a part of an organisation and they did not have access to any information meetings before the change. Thus, the last level of the deficiency needs, love/belonging will also be improved by the change.

6.2 The processes in change

The change to organic production has affected the farmers' methods of cultivating and in turn their family's situation. By applying the teleological theory and the theory of entrepreneurial changes an analysis in how the new process is affecting the farmers and how their goals are developed, is presented.

6.2.1 Changes in the cultivation

The rules and requirements of MARI, which the farmers had to adopt in order to receive the certification from IMO implies several differences in the farming process, and is therefore assumed to be a major change for the farmers. With the support of MARI, who can be considered as a role model, and by imitating an existing cultivation method the change was done. The risk of the farmers, who followed the change after the others had started, is likely to be less since they could get an indication of how the new growing methods were working before making a decision (Landström & Löwegren, 2009).

One great change in process for the farmers is the pest control, which is undertaken with new rules and implies the exclusion of chemicals in their agricultural. Another change in the farmers' process is how they sold their cotton and they bought their seeds. This change was not mandatory, but by adopting the new process the farmers will receive a higher income and thereby fulfil their main goal with the change. However, as the teleological theory suggests,

changes is an on-going processes, without any permanent stage (Van de Ven, 1995). Thus, it is likely that the process will evolve and in turn comprise other rules than the above mentioned. When considering the farmers as entrepreneurs, who are adopting a new business idea, it is important to be aware that the change may cause problems in the future, because of uncertainties in the environment (Landström & Löwegren, 2009).

The great change for the farmers implies access to a new and valuable a network with their neighbours and the supporting organisation MARI. This improves their possibilities to exchange information, knowledge and it is also providing them with a better market power. However since they are working together as group they also need to take responsibility and consider the other farmers, in order to continue being a part of the network (Landström & Löwegren, 2009). If a new supporting organisation comes to the village and offers one of the farmers to change his current collaboration to a new project with better preconditions and support, the farmer might lose the connectedness with the other farmers in his village. It is also possible that the farmer in turn, no longer satisfies his or her need to belong to a group (Maslow, 1987), yet still chooses to join the new project because it improves his or hers' living conditions.

6.2.2 Changes in the family situation

The change that the farmers undertook had several predetermined goals, set by MARI, in how the cotton should be produced. Thus, MARI can be viewed as the organisation in charge of the change. The teleological perspective of an organisational change, suggests that the goals of an enterprise can be set either by a single individual, or by an entire organisation (Van de Ven, 1995). However, the two separate organisations in this study will consider the two parties as separate organisations with individual goals and driving forces. Furthermore, as earlier mentioned, the primary goal of the farmers was to receive a higher income. Since this goal is probably not one of MARI's main goals, it can be considered as a separate goal for the farmers. While the farmers were reaching towards the goal of obtaining a higher income, other positive change within their family situation has also occurred. Due to the higher income, Bhasolia Pullamms mentioned that the she can afford to invest more money in higher education for her children. Kollufi Swamy wants one of his sons to become a doctor and the other one an engineer. Since the costs of education in India is financed by the family, without any other support, it is possible that a higher profit has contributed to their dreams and hopes of being able to invest more money in their children's education. Moreover the entrepreneurial view claims that family business tend to place the families need ahead of the business growth, and in this case we can see that the farmers have chosen to invest money in their children, instead of directly in their business (Alsos et al, 2011).

When a change is moving towards its goal, the teleological theory states that new goals may occur, that in turn could affect the origin goal. It is possible that the health insurance system, started by Bhasolia Pullamms and some other women in the village, is an outcome of their attempt to achieve their main goal, that is, to earn a higher income from organic farming. As long as there are problems experienced by the farmers or their business, new goals will be set. Changes will be required and implemented by those who understand the importance of the problems and have the right support (Van de Ven & Pool, 1995).

6.3 The implications of change

This section will analyse possible problems considering risk, control and goal conflicts between MARI and the farmers. Finally, the chapter will end with an analysis of how the implications may have affected the farmers' motivations.

6.3.1 Goal conflict problems

If assuming that the farmers' children would, due to higher education, get a job, there is a likelihood that the location of the job would be in a city, and that the salary would be higher than the farm income. Hence, it is possible that the children will support their parents instead of taking over the land, which in turn may imply that the family would sell their land. MARI's goal is to provide the farmers with the right preconditions and support to enable them to continue farming in the long run. However this might be affected by a conflict between the goals of the two separate parties and the situation can be defined as a typical principal-agent problem (Coughlan et al, 2006). MARI can be seen as the principal who is providing the agent, in this case the farmer, with the mission to grow organic cotton, which has to be implemented by the farmers. However, since the farmers' goal is to obtain a higher profit, increasing profits in conventional farming could imply that some farmers would go back to the old way of farming. Especially if the farmers have the intention to sell their land in the future, this can be facilitated further if the cities began to expand. This may even increase the demand on their land for other purposes than to cultivate. Hence, the farmers might not see the use of chemicals decreasing the fertility of their soil as a problem anymore.

Moddu Bhasker on the other hand, said that a sustainable environment was one of his goals with the change, which also is one of MARI's goals. Thus some farmers might seek to maintain the organic production. MARI's education may thus have affected the farmers to strive towards more environmentally friendly farming practices.

6.3.2 Risk taking and controlling problems

Since MARI is not able to predict or control the farmers in every step of their work, they might not be able to see if the farmers have used other methods than the approved ones, in their production. MARI is preventing this risk, partly by observing that the regulations are followed when they visit the farmers, and partly by using a result based contract which encourages the farmers to act on the behalf of their interests. This type of controlling system is suggested by the principal-agent theory, which is an attempt to solve any problems regarding the different goals of two parties (Harris & Raviv, 1978). However, since MARI is checking up on the farmers, there is a risk that they may feel controlled and therefore also affect their acting.

MARI is familiar with the farmers' goal to obtain a higher income. However, in order to receive a higher income, the quality and quantity of the farmers' harvest needs to be good, which is depending on how well the cotton has been grown and how well the requirements have been followed. Hence, this may provide some assurance for MARI that the farmers will grow according to the requirements and rules, since the farmers will strive towards receiving a higher

income. Moreover, by informing and demonstrating examples in farming practices, MARI can, and is, convincing the farmers to work hard and to follow their advice. However, the farmers, that in this case are the agents, who according to principal-agent theory are likely to minimize their efforts and maximize their profit (Hagen, 1990). Yet, since they have seen evidence that MARI's requirements and rules are improving their production, it is hard to believe that they will diminish their efforts, since this may influence their profit.

If conditions change, and assuming that MARI is the agent with the mission to provide the farmers with the best possible deals in the selling process, a Moral Hazard situation may occur. MARI may have their own interests and therefore decide who they want to cooperate with in order to enhance their own preconditions. Additionally, as MARI has partnerships with other groups, they could influence their behaviour which can imply that MARI would not fully work on the farmers' behalf (Harris & Raviv, 1978). The same presumption can be made when the farmers' inputs are bought.

If the organic methods of controlling pests failed, the farmers could risk losing their income, which would put them in a problematic situation. The organisation MARI would however not be affected by a single farmer's failure in growing. Hence, the risk that the individual farmers can be exposed to, can be considered as higher than MARI. However, if several farmers would have problems with their farming it could influence MARI's reputation, and in turn, lead to losses in terms of projects and financial support. Thus, MARI and the farmers have different risks to consider as they are performing their activity. Furthermore, they will most likely favour their own needs in the first place (Eisenhardt, 1989).

6.3.3 Impacts in the farmers' motivation

The education that the farmers receive by carrying through with the change has had a great impact on the farmers' motivation. First, the education provided by MARI motivates the farmers by giving them a further understanding of how and why they should change their cultivation methods. This in turn can lead to better inner self-esteem, partly because they learn more about the organic methods and partly since they might see a further meaning in why they should adopt the new methods. Moreover, by adopting the organic requirements and rules, the farmers will receive a certification from IMO, which will help them to fulfil their outer self-esteem (Maslow, 1987).

Secondly, the education is mostly provided in meetings, where the farmers, apart from getting information, are able to discuss and come up with their own ideas about how to solve problems discovered on their farms. Madu Sadjya, who before the change expressed himself as a farmer without courage to speak up or make his opinions heard is today, however the person who the other farmers will look up to. Hence, he might feel that he is a meaningful person, who has been able to accomplish things he did not believe he could. By adopting the change he might also have satisfied the final need in the hierarchy, which is self-realisation. Independently by the inner and outer self-esteem another need that is satisfied by the meetings is belonging, that the farmers will receive by going to the meetings where they meet other persons who are engaged in the same thing as themselves.

On the other hand, since the farmers seem to appreciate belonging to a group it is possible that they will continue to participate on the meetings even if they feel that they have the knowledge and the information that they need. The meetings may therefore imply an indirect cost in terms of time that could have been spent on other activities to increase their profit.

7 Conclusions

Our aim has been to investigate how small scale cotton farmers working and living situation would change after converting to organic certified production. And hence, find out what motivational factors drew the farmers to go through with the change.

The problematic situation for cotton farmers in India and the encouragement from MARI made the farmers change their production from conventional to organic cotton cultivation. A recurrent argument to go through with the change was the high costs of the conventional farming and the interest in receiving a higher income. Money is a motivating factor, since it gives the farmers a more secure income, which in turn makes them feel more confident about managing their household economy. If there were any money left, it would be invested in their children's education or in building a safer house. Another reason to implement the change was the health issues carried with the chemical usage, which the farmers today experience is reduced.

Since the farmers have gone from buying their inputs and selling their cotton alone, to belonging to a group with other cotton farmers, they have a better possibility to compete on the cotton market. The new economies of scale situation, in which the farmers are today, give them a higher profit for their harvest and a better price and quality for their inputs.

The farmers access to knowledge and information that may have been the most limiting resource, in order to go through with the change, has increased significant. Primary by the monthly meetings, held by MARI and also by their new possibility to exchange knowledge and experience with each other, since they are working together as group. The support and access to information that the farmers now receive has clearly improved their living situation. However, it is unclear if the meetings still are providing them with necessary information, or if the farmers could make a better use of their time by spending it directly on their production instead.

Throughout the interviews it was revealed that the farmers' lives had not only been altered by the direct changes in the process, and by the outcome from the organic production. The new network and meetings have also enhanced their confidence and self-esteem. Bhasolia Pullamms would probably not have courage enough to develop and manage the health security society without the support from MARI. Further, the previously shy and non-confident Madu Sadjya, who today makes his voice heard, would maybe not have been in this position without MARI's support. However, even though the farmers may have fulfilled some secondary needs, it seems that they were driven by fulfilling the primary needs of Maslow's hierarchy (1987), since these needs hardly were met before the change.

All of the farmers seemed positively affected by the change to organic production. This results from the higher and more reliable income, their better health, and the network that they are a part for now. However, there is no security that the improving situation will maintain when the cooperation and support from MARI ends, since the farmers will have to make their own decision and may therefore make different priors.

It is possible that the farmers will enter a new project with a new supporting organisation when the MARIs project ends. Another possible scenario is if the farmers succeed to create their own organisation. This will however imply that they manage to start and run an organisation by themselves, which will need their fully engagement.

In conclusion, as the aim of this study is to find out how the farmers' living and working situation is changed and influenced by the transit, a further study that will investigate the farmers living situation after MARIs project has come to its end would be interesting.

Bibliography

Literature and publications

- Abhilash, P.C. & Singh, N., 2009. Pesticide use and application: An Indian scenario, *Journal of Hazardous Materials* 165, 1–3, 15, 1–12.
- Ahlberg, I., Hedling, I., Hjort, A. & Svedlund, I., 2011. Bomullsbönder i södra indien satsar på fairtrade, *Röda korsets Folkhögskola*.
- Alsos, G.A., Carter, S., Ljunggren, E. & Welter, F., 2011. *The Handbook of Research on Entrepreneurship in Agriculture and Rural Development*. Edward Elgar Publishing.
- Ammenberg, J., 2012. *Miljömanagement – miljö- och hållbarhetsarbete i företag och andra organisationer*. Studentlitteratur.
- Bakka, J.F., Fivelsdal, E. & Lindkvist, L., 2006. *Organisationsteori: struktur, kultur, processer*. Liber.
- Bilalis, D., Patsiali, S., Karkanis, A., Konstantas, A., Makris, M & Efthimiadou, A., 2010. Effects of cultural system (organic and conventional) on growth and fiber quality of two cotton (*Gossypium hirsutum* L.) varieties, *Renewable Agriculture and Food Systems* 25(3), 228–235.
- Coughlan, A., Anderson, E., Stern, L.W. & El-Ansary A., 2006. *Marketing Channels: International Edition*. Pearson Education.
- Eisenhardt, K.M., 1989. Agency Theory: An Assessment and Review, *The Academy of Management Review* 14, 1, 57-74. Available from: <http://www.jstor.org/stable/258191>
- Engvall, M., 2008. SwedWatch – Den blinda klädimporten, *Naturskyddsföreningen* 21.
- Eyhorn, F., 2005. Organic Cotton Project Guide, 1st Edition, *Research Institute of Organic Agriculture FiBL, Frick*. Available from: <http://www.fibl.org/fileadmin/documents/en/development-cooperation/production-systems/organic-cotton-project-guide.pdf>
- Hagen, K., 1990. *Principal-Agent Teori; Implikasjoner for offentlig styrning og politikk*. LOS-sentret.
- Hannan, M.T. & Freeman, J., 1977. The Population Ecology of Organizations, *American Journal of Sociology* 82, 5, 929-964. Available from: <http://ssrn.com/abstract=1505878>

- Harris, M., & Raviv, A., 1978. Some results on incentive contracts with application to education and employment, health insurance, and law enforcement, *American Economic Review* 68, 20-30.
- Häger, B., 2007. *Intervjuteknik*. Liber.
- Johannessen, A. & Tufte, P.A., 2003. *Introduktion till samhällsvetenskaplig metod*. Daleke Grafiska AB.
- Laffont, J-J. & Martimort, D., 2002. *The Theory of Incentives: The Principal-Agent Model*. Princeton University Press.
- Landström, H. & Löwegren, M., 2009. *Entreprenörskap och företagsetablering -från idé till verklighet*. Studentlitteratur AB.
- Maslow, A.H., 1987. *Motivation and personality*. Harper & Row.
- Menon, M., 2003. Organic Cotton Re-inventing the Wheel, Deccan Development Society Kalpavriksh.
- Moss, D. & Scheer, R., 2011. Agriculture's Impact on the Environment, *The Environmental Magazine*.
- Osakwe, E., 2009. *Cotton fact sheet: India*. Available from: http://www.icac.org/econ_stats/country_facts/e_india.pdf
- Ray, S., 2005. Situation Assessment Survey of Farmers. Indebtedness of Farmer Households. *National Sample Survey Organisation Ministry of Statistics and Programme Implementation Government of India* 498 (59/33/1). Available from: http://planningcommission.gov.in/sectors/agri_html/Indebtness%20of%20farmer%20household%2059%20round%202003.pdf
- Rieple, A. & Singh, R., 2010. A value chain analysis of the organic cotton industry: The case of UK retailers and Indian suppliers, *Ecological Economics* 69, 2292–2302.
- Singh, J.V. & Lumsden, C.J., 1990. Theory and Research in Organizational Ecology, *Annual Review of Sociology* 16, 161-195.
- Stone, G.D., 2011. Field versus Farm in Warangal: Bt Cotton, Higher Yields, and Larger Questions, *World Development* 39, 3, 387–398.
- Van de Ven, A.H. & Poole, M.S., 1995. Explaining Development and Change in Organizations, *The Academy of Management Review* 20, 3, 510-540.
- Yin, R.K., 2009. *Case study research: design and methods*. SAGE.

Internet

Euroinvestor, [ww.euroinvestor.se/](http://www.euroinvestor.se/)

1. *Valuta*, 2013, <http://www.valuta.se/>, 2013-05-03

IMG, I am Greeny, <http://www.iamgreeny.com/>

1. *Truth about conventional cotton*, 2012, <http://www.iamgreeny.com/truth-about-conventional-cotton/>, 2013-04-26

IMO, The Institute for Marketecology, <http://www.imo.ch>

1. *Smallholder Group Certification*, 2013, http://www.imo.ch/logicio/pmws/indexDOM.php?client_id=imo&page_id=smallholder&lang_is_o639=en, 2013-04-13

Journalism, www.journalism.about.com

1. *Interviewing: Notebooks vs. Recorders - Which is Better in Most Situations?*, By; Rogers, T., 2013, <http://journalism.about.com/od/reporting/a/notebookrecord.htm>, 2013-05-22

MARI, Modern Architects for Rural India, www.mari-india.org/mari/

1. *Welcome to MARI*, 2012, <http://mari-india.org/mari/>, 2013-04-14

National Post, www.nationalpost.com/index.html

1. *The myth of India's 'GM genocide': Genetically modified cotton blamed for wave of farmer suicides*, By: Abid, R., 2013, <http://news.nationalpost.com/2013/01/26/the-myth-of-indias-gm-genocide-genetically-modified-cotton-blamed-for-wave-of-farmer-suicides/>, 2013-05-04

The Times Of India, www.timesofindia.indiatimes.com

1. *AP farmers in perpetual debt*, 2011, http://articles.timesofindia.indiatimes.com/2011-12-02/hyderabad/30466778_1_farmer-households-average-outstanding-loan-debt-trap, 2013-04-26

TTW, The Team Work, www.theteamwork.com

1. Government of India – Minimum Support Price of Cotton, 2012, <http://www.theteamwork.com/articles/2016-2077-government-india-minimum-support-price-cotton.html>, 2013-05-04

WDR, World Development Report 2008, web.worldbank.org

1. *Agriculture for Development*, 2008, <http://siteresources.worldbank.org/INTWDRS/Resources/477365-1327599046334/8394679-1327614067045/WDRover2008-ENG.pdf>, 2013-04-29

WWF, World Wide Foundation, www.wwf.se

1. *Bomull - en ren miljöprodukt*, 2005, <http://www.wwf.se/source.php/1120565/Bomullsrapport.pdf>, 2013-04-11
2. *What we do*, 2013, http://www.wwfindia.org/about_wwf/reducing_footprint/thirsty_crops/what_we_do/, 2013-04-13

Personal messages

Bhasker, M. 2013-04-29 Parvathagiri

Pullamms, B. 2013-05-01 Sadyathanda

Ramesh, M. 2013-04-29 Parvathagiri

Sadjya, M. 2013-04-30 K.K Thanda

Sammaiah, B. 2013-05-04 Narayanapurm

Swamy, K 2013-04-30 K.K Thanda

Appendix 1 - Interview guide

1. Demographics

- 1.2 Farmer's name (age and education):
- 1.3 Years farming:
- 1.4 Family members (name, age, education, active in farm):
- 1.5 Hectare:
- 1.6 Production (including, share):
- 1.8 Other family security (other income recourses, other family members support)?

2. History

- 2.1 Other past production:
- 2.2 Organic since:
- 2.3 For what reason/reasons did you convert from conventional growing to organic growing?
- 2.4 What were your expectations?
(market, price, production, in-put resources, network, health)
- 2.5 How long did it take to convert to organic farming?
- 2.6 How did you learn about what was required to become organically certified?
- 2.7 What did the conversion entail (investments learning, inspections, relationships)?

3. Family (Now and before organic farming)

- 3.1 What share of household income comes from farm income?
- 3.2 Which family members are working with the farming?
 - 3.2.1 - What are their duties, and how much of their time?
 - 3.2.2 - What non-farm activities are they occupied with?
- 3.3 Has your family's working situation changed after converting?
 - 3.3.1 -If yes, does the family have more, less or different working duties?
 - 3.3.2 -Is organic growing more or less labour intensive?
- 3.4 Have the restrictions any negative impacts or obligations for the family business?
- 3.5 If the regulations are limiting your business are you able to change/affect them?
 - 3.5.1 -If yes, does the NGOs approve with this?
- 3.6 Did you have access to medical treatment before working together with MARI?
- 3.7 Do you have an better access to medical treatment now, since the cooperation with MARI?
- 3.8 Has the immigration for your family to urban area increased or decreased since the transit to organic farming?

4. Relationship with MARI

4.1 Can you describe your relationship with MARI?

4.1.1 - How many years have you worked together with MARI?

4.3.1 - How do you communicate with MARI?

4.3.3 - Is the information from MARI easy to understand?

4.4 Do you feel that you can get in contact with MARI when you need to?

4.4.1 -How often do you contact them?

4.5 Does MARI do any "follow-up" on you/check your organic farm (no chemical use)?

4.5.1 -If yes, what kind of "follow-up"?

4.6 Do you feel you get the help and support that you need from MARI, when you need it?

4.6.1 If you feel that something regarding the organic production is bad, can you tell suggestions and discuss them with MARI?

4.7 Is it the same or different contact persons from MARI from time to time?

4.8 Have your possibilities changes since beginning working together with MARI (e.g since new roads, water and electricity security, decreased debt)?

5. Relationship with others (how the network has changes for the farmer)

5.1 Do you meet with other organic farmers (when, where, how, how often)?

5.1.1 -How does this contact help you?

5.2 Have you changes suppliers with conversion to organic production?

5.2.1 - What do eventual new suppliers contribute?

5.3 Do you have contacts with other NGOs than MARI?

5.4 Do you have contact with others who contribute to or influence your production (e.g. moneylender (old debts), labour pool, authorities)?

6. Impacts of organic production

6.1 How has the change in growing affected in put recourses (e.g. seeds, the use of chemicals, irrigation, cultivation/weeding, changes in use of equipments)?

6.2 Is there more or less paperwork or other new demands?

6.3 How has the change in growing affected production outcome (e.g. volume produced, income received (price, buyer), increased demand,)?

6.4 How has the change in growing affected your and your families health (e.g. exposure to chemicals, labour in-put, stress, health insurance)?

- 6.5 How has the change in growing affected your outlook for your farm?
- 6.5.1 - Changes in farm development (e.g. tilled acreage, different crops)?
- 6.5.2 - Changes in income/profitability?
- 6.6 Changes in market stability (e.g certainty of buyer, price)?
- 6.6.1 - Changes in prospects for your children's futures?

7. Market and economy

- 7.1 How has organic production affected your farm compared to when you were growing conventional?
- 7.2 Do you get a better/worse price for your production?
- 7.3 How does quality affect price (organic certified; grade; other factors - wasted)?
- 7.4 Are your costs of production higher/lower?
- 7.5 Are your yields higher/lower?
- 7.7 Is quality of production more/less predictable?

- 7.8 Are you promised any minimum price for the harvest in advance?
- 7.8.1 -What are the terms (e.g price guarantee, payment in advance, promise of delivery)?
- 7.8.2 - Do you receive any premium for your organic yields (from MARI or others?)

- 7.9 How (well) can your family survive a poor harvest?
- 7.9.1 - How do you manage a bad yield year?

- 7.10 Would you recommend other farmers to convert to organic growing's?
-Explain
- 7.10.1 Can anything for the organic production be better for you?