Factors Motivating Farmers to Switch from Conventional to Organic Farming Methods

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Abstract— ***Agriculture is a field which has undergone constant and rapid changes. These changes are often attributed to newer farming techniques, impact of technology and the way farmers view farming.***
Often changes in the outlook of the society also influence farmers to adopt new and improved farming methods which are sustainable. Conventional farming practices due to certain deficiencies are paving the way for organic farmers.
The study explores the different motivating factors which influence the farmers to switch from conventional farming to organic farming methods which are sustainable. Factors such as concern for the environment, moral and social responsibility, and economic considerations are studied through a qualitative research method. One of the most fertile belts of Central Kerala has been taken for this study
Results show that subjective norms have less impact on any farmer who chooses to switch, and that farmers give high importance to soil health and soil fertility than the moral, economic and social concerns. Contrary to a widespread belief, farmers also suggest that cost of farming has very little influence on them when they chose organic farming over conventional farming. This paper further explores certain unexpected results like the influence of the nature of crops and demand in the motivation to switch.

Keywords — **Organic farming, Moral and social concerns in farming, normative beliefs about organic farming, Organic farming in india**

I. INTRODUCTION

Agriculture has been a way of life for people from long times back. Traditional farming systems which considered earth as a living being moved the way for modern agriculture. This switching was mainly because of the increased demand for food which forced people to adopt modern techniques like the use of high yielding variety seeds, use of fertilizers etc.

Now modern agriculture practices are paving the way for sustainable agriculture. It is the type of farming which produces abundant food without depleting the resources of earth. The extensive use of chemicals for crop production has made the agricultural land so polluted. These high use of pesticides and chemicals are not only causing environmental damages but also causing serious effects to the producers and consumers health. Organic farming is considered to offer solutions for problems associated with conventional agriculture such as environmental problems, biodiversity loss, food safety, animal welfare.(*Haring et al,2004;Lampkin,1994)*. Governments which includes central and state are coming up with new policies and programs to support and sustain organic farming. "HARITHAKERALAM" is one such program implemented by government of Kerala to support organic farmers. Agricultural departments are providing trainings, educational materials for farmers all around Kerala. Several studies show that adoption of organic farming are subjected to several social concerns, economic reasons etc (*Mzoughi, 2011).*

Hence this study investigates the reasons behind why the farmers switch from conventional farming methods to organic farming practices. The identification of these factors will be helpful for the farmers to know the benefits of organic farming and also other related issues of conventional farming. Since the policy makers encourage the promotion of organic farming, the study will help them to understand what factors motivate them to switch.

II. LITERATURE REVIEW

Organic farming is rapidly increasing in every part of the world. Organic industry growth has reported at a rate of 30 percentage per annum and it is worth 33 billion dollars.(*Rural Industries Research and development corporation,2006)* and the study conducted by Assocham and TechSci research shows that the organic food market in India is growing at a rate of 25-30 %. Several factors influence the farmers to switch from conventional farming to organic farming. People believe that switching to organic farming and related crop protection techniques will give them a better status in the society. They wanted to be known as someone who has immense care for land and soil. Farmers are influenced by social concerns and moral concerns than the monetary benefits. (*Rigby et al,2001; Carlsson et al,2007)*. Moral concerns are those which are within an individual which includes ethics and personal satisfaction whereas social concerns are those which influence the individual's behavior because of similar people in the reference group; may be farmers of the same cluster or region. More than monetary benefits farmers take up this one as an environmental good. Increasing number of papers are focusing on the moral and social concerns of people when adopting a certain practice.(*Venkatachalam,2008;Frey and Stutzer,2008).*

Burton et al (1999) states that farmers characteristics mainly age, gender and access to information are very important. The study identified that farmers who have concern on environment and

environmental issues are more likely to adopt organic farming. *Sheeder and Lynn (2009)* indicates that non financial considerations such as farmer value, attitudes and perception towards farming can play a role in the switching decision by farmers. Farmers believe that this is a sort of involvement to land and sustainable agriculture and they give high value for that than the economic enhancement they will be having by following conventional practices. For example *Sheeder and Lynn (2009)* states that even while facing economic difficulties many agricultural producers have maintained an attitude and ethic that treats farming and related activities as a way of life than as a business or venture to maximize economic benefits.

Growing concern for health and need of consuming healthy food products is making the customers to buy organically produced food products. This changing consumer behavior also has an impact on farmer to switch. Changing consumer attitudes have also made the organic farming groups more organized, formation of organic farmer clubs and farmer clusters are examples. Marketing of organically produced fruits and vegetables also got influenced by these changing purchase patterns of consumers. Research has supported the attitude intention relationships showing that environmental attitudes do have an impact on consumers green purchase intentions. (*Alwitt and Pitts,1996).Squires et al (2001)* also confirms this finding that consumers who hold self confessed green attitudes purchase more organic products than those without green attitudes.

Consumers prefer organically produced food products rather than products produced using synthetic chemicals. The benefits of consuming organic food products are health, nutritional value, animal welfare and environmental protection (*Paul and Rana,2012;Doorn and Verhoef,2016*). Belief on high quality and better tastes along with consciousness on health are found to be the primary drivers behind the purchase of organic food products.(*Paul and Rana,2012;Vermier and Verbeke,2006*).These are the self oriented consumer characteristics which makes them to purchase organically produced food products. Consumers who have concern for the environmental health will be motivated to purchase more of organic food. *Grunert and Juhl (1995)* defines an environmentally concerned consumer as the one who knows the production, distribution, use and disposal of products leads to external costs and who evaluates such external costs negatively, trying to minimize them through his/her own behavior.

Getting high yield through organic farming is considered to be another reason for the conversion of farmers. But prior research indicates that these high yield factors are limited to only certain crops. For example *Seufert, Ramankutty, and Foley(2012)* indicates that under certain conditions, that is with good management practices, particular crop types and growing conditions, organic systems can nearly match the conventional yields but not for all the crops at present. But organically produced food products have larger shelf life than conventionally produced crops. Soil health and soil fertility are two major motivating factors for farmers which makes them switch to organic farming and sustainable agricultural practices. Agriculture, depending on uncontrolled use of fertilizers and other chemicals are causing serious effects on public and environment (*Pimentel et al,2005.*). Usage of chemicals on the agricultural land is reducing the soil fertility and in succeeding crop seasons farmers are forced to use more of chemicals to get the same yield as received before. Farmers use the chemical inputs since they are getting the high yields. But the negative impacts are equally important to be considered. Continuous use of chemical inputs such as pesticides and fertilizers have caused damage to the environment, human ill health, negatively impacted agricultural health and caused problems to the environment and agricultural sustainability.(*Pimentel et al 1992; Pimentel and Greiner,1997*).

Results of pilot survey done as a part of the study indicates that certain farmers in the inner villages of Kerala have found a better acceptance for the product when they label it as organically produced ones. Survey suggests that farmers spend large amounts on procurement of chemicals and for the application they were forced to hire skilled labor which caused financial problems to them. These reasons also motivated them to switch to organic farming.

III. CONCEPTUAL MODEL

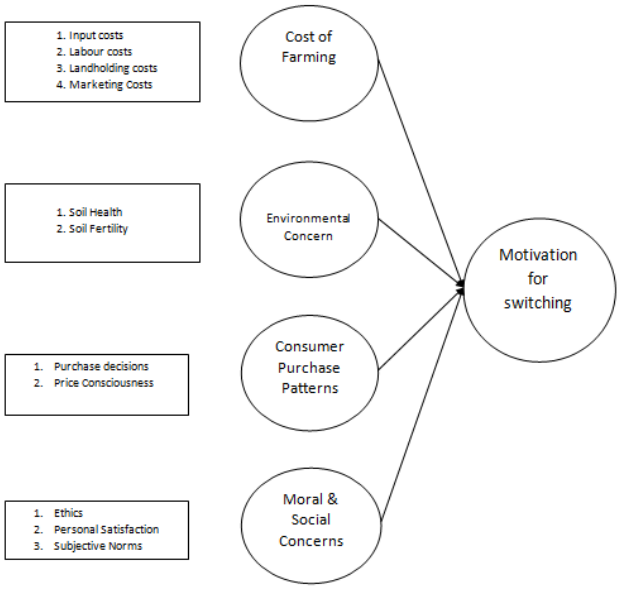

Figure 1

IV. METHODS AND PROCEDURES

The population for this study included 13 informants from central Kerala which consists of three districts Ernakulam, Palakkad, and Thrissur and were selected using snowball sampling Informants had different crops in cultivation and they fall under different age groups also. Certain factors such as rainfall distribution and type of inputs farmers use for the crops also differed among these three districts, hence helped to have a mixed sample for the study. To complement the previous studies factors such as the landholding & number of years of experience in farming was also taken into consideration. The farmers were selected with the help and coordination of centre for E-

Learning, Kerala Agricultural University (KAU), Mannuthy. KAU provided with a list of 30 farmers out of which 13 were selected which was enough to arrive at a solid pattern for the purpose of the study. For the interviews respondents were visited by the interviewer at their respective houses and for taking down the field notes farms of the respondents were visited.

Interview Protocol

Semi structured interviews using an interview guide was used to understand the informants motivation in switching from conventional to organic farming methods and the factors that affected them. Interviews were 30 to 50 minutes in duration and were digitally recorded. Responses which were in Malayalam (regional language of Kerala), were transcribed and those served as the primary source of data. After interviews field notes were taken to stress on relevant points to confirm the dependability of data. Field notes were analyzed as primary data. Interview protocol was developed from *Tress and Trexler (2011) and Trexler (1993).*As participants explained their motivating factors to choose organic farming, probing questions were asked to explore some unidentified dimensions of the study. After some initial responses some open ended questions were added to have a deep understanding of the farmers switching behavior.

V. RESULTS

The informants for the study cultivated different crops and are practioners of mixed cropping also. The major crops in cultivation included coconut, areca nut, rubber, plantain, different varieties of vegetables, fruits also. Majority of the informants cultivated crops which gave yield in all crop seasons. Analysis of the farmers motivation based landholding given in Table 1 and based on crops is given in Table 2, 3 and 4.

Classification based on landholding size:

	Most Critical Factor								
Size of Land Holding	Consumer Purchase Pattern		Cost of Farming		Environmental Concern		Moral and Social Concern		**Grand Total**
	Male	Female	Male	Female	Male	Female	Male	Female	
<6 acres	1				3			1	5
6 – 10 acres	2		1		2	2			7
>10 acres			1						1
Grand Total	3		2		5	2		1	13

Table 1

Classification of crops:

Coconut

Gender	Number of respondents	Most Critical Factor
Male	5	Soil Health
		Soil Health and
Female	2	Soil Fertility

Table 2

Rubber :

Gender	Number of respondents	Most Critical Factor
Male	3	Soil Health and Soil Fertility
Female	1	Cost of Farming

Table 3

Other crops & Vegetable:

Gender	Number of respondents	Most Critical Factor
Male	10	Soil Health and Soil Fertility Consumer Purchase Pattern
Female	3	Consumer Purchase Pattern Social Concern

Table 4

Of the 13 respondents, it was found that environmental concern is the key reason which influences the farmers to switch from conventional farming to organic farming. This pattern emerged irrespective of the number of years of experience, crops they cultivate and the size of the land holding. Under environmental concern, soil fertility and soil health were the variables analyzed during the in-depth interviews. Further, moral and social concerns which included ethics, personal satisfaction and subjective norms of the farmers were found to be the least influencing factor for farmers to switch from conventional farming to organic farming.

Consolidated Results Table

Construct	Cost of Farming	Environmental Concern	Consumer Purchase Patterns	Moral & Social Concerns
Variables	Input costs Labour costs Landholding costs Marketing Costs	Soil Health Soil Fertility	Purchase decisions Price Consciousness	Ethics Personal Satisfaction Subjective Norms
No. of farmers	**2**	**7**	**3**	**1**

Table 5

VI. RECOMMENDATIONS

The paper provides a better understanding on the factors that influence the farmers to switch to organic farming. Soil health and soil fertility was found to be the key reasons for the farmers to switch. Farmers suggest that use of chemicals inputs are causing problems to farming lands. Regulators may take into account the efforts farmers are making to

continue with organic farming. Subsidies for organic farming inputs and regular and effective distribution of inputs to farmers i.e. making the products available are some ways to encourage them to continue with organic farming. Policy makers can take initiatives to introduce organic manure brands at a lower cost and effectively distribute it through agricultural offices. Government aided retail shops organic products will also help to capitalize on consumers positive attitude towards organic farming.

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