

FACTORS INFLUENCING ORGANIC FARMING IN THENI DISTRICT IN TAMILNADU

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ABSTRACT

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This study is discussing about impacts of organic farming in the research area. According to this study, impacts are categorised in economical, environmental, organisational and finally others. Main objectives are (a) to understand various organic farming projects, programmes and schemes (b) to find out vital reasons for follow this type of farming and (c) to identify major inconvenience in this cultivation. This study is based on primary data and secondary data. It is gathering from Theni district in Tamilnadu. Samples are selected on the basis of purposive random sampling techniques. Researcher visited 15 villages in this study area and totally 50 samples collected for this investigation. Those who are actively following organic farming method and they are eligible to collect the data. It is analysed by hierarchical clustering statistical techniques. This technique is calculated by within group linkage method and measures the interval through Pearson Correlation Analysis and it calculated results are explained by dendrogram.

Keywords: Organic, Sustainable, Hazardous Chemicals, Soil Fertility

1. INTRODUCTION

All the nations would like to achieve self-sufficiency in all area like agricultural, industrial and service sectors (**FAO in India**). They are following various development strategies and one of the strategies is sustainable development. This development is based on eco-friendly activities and optimum utilisation of renewable and non-renewable natural resources (**Chel & Kaushik, 2011**). Main feature of this development is organic farming and it focuses on utilisation of nearby, easily obtainable, cheap cost or free of cost and natural or own resources. Basic idea of this farming is environmental friendly production of agricultural and its allied sector (animal husbandry). Main objective of this cultivation is avoid using of synthetic and inorganic fertilisers and pesticides and genetically modified seeds. It helps to maximise consumption of organic materials and microbial fertilizers to enrich soil strength and increase yield. It has longest historical background. But, this system of cultivation has rapidly increased in recent periods (**Mette Wik et.al., 2008**)

Important distinguished characteristics of organic farms are follows: (a) maximum or sustainable consume of indigenous natural resources (b) avoid to buy inputs from strangers (c) protecting the fundamental biological functions of ecological system.(d) helps to sustain a diversity of farming and animal husbandry as a source of

natural equilibrium and economic constancy (e) creating all type of landscape and providing satisfactory to rural people (f) sustainability of soil efficiency by development of environmental conditions for biological activity within the soil (g) optimum utilisation of potential resources for all activity (h) produce organic commodities, emphasise careful process, and controlling approaches with the intention of sustain the organic reliability and necessary qualities of the commodities at the entire stages of production (**Abraham, Ansu, 2008**)

This kind of farm has various tactics to meet out the sustainable agricultural development. Many procedures are following in this farm like inter-cropping, mulching and combination of plants and animal husbandry are familiar to several cultivation methods (**UNCTAD, 2003**) and traditional way of cultivation system was continuing and functioning in old nations like India. It has different kind of laws and certification programmes, which is emphasised to ban the usage almost all synthetic and inorganic inputs, and also strength of the soil is accepted as the basic theme of this method and it consists of bio-fertilizers, bio diversity and biotechnology.

2. Development of organic farming in India

Organic farming is closely related from the prehistoric India and various Indian ancient literatures like Kautilya Arthashastra, Thirukkural, Rig Veda, Ramayana and Mahabharata are pointed out. In India, modern organic farming developments started after 1980's. During 1984, Association for Propagation of Indigenous Genetic Resources (APIGR) conducted the first conference of NGOs on organic farming in India at Warda. All over India several meeting conducted between 1984 -1990. Indian organic farming movement was started at Bardi Conference in Maharashtra. Rajasthan College of Agriculture conducted a meeting on organic agriculture with the support of state government in the year 1992. In 1993 and 1995, two national level conferences were conducted by United Planters' Association of South India for the development of organic farming (**Narayanan, 2005**).

Agricultural Renewal in India for a Sustainable Environment was established in 1995 at a national conference of organic farming held at Auroville. It became a major organisation in the country and it engaged for back-up of organic farming activities. It includes of an encouraging network of regional groups aiming at sustainable environment by protecting bio-diversity, promoting organic agricultural practices building technology, alternative energy research, wasteland development, afforestation and organic agriculture.

Developed countries are willing to buy organic products and it creates large quantity of demand. This type of cultivation is followed by 162 countries and 37 million hectares and it managed by 1.8 million farm holds. In year 2011, worldwide trade transaction reached 63 Billion US Dollars. According to Agriculture Processed Food Export Development Authority (APEDA) statement, India has 723039 hectares are cultivating organic farming method. For this purpose, Madhya Pradesh state is cultivating more than 2 lakhs hectares.

3. Aims of the Study:

For this study, there are three objectives are framed (a) to understand various development programmes and schemes for organic farming (b) to find out very important motivation to follow this type of farming and finally (c) to categorise key factors of bottle necks in this cultivation.

4. Methodology of the Study:

This study is based on primary data and secondary data. Primary is collected from Theni district in Tamilnadu. Secondary data gather from various books, journals, articles, working paper and electronic media. Primary data is decided on the basis of purposive random sampling techniques. Researcher visited 15 villages in this study area and totally 50 samples collected .for this investigation. Those who are actively participating organic cultivation method and they are eligible to collect the data. These respondents collected from various sources of information (a) Panchayati Raj Institutions Personnel (b) Farmers (c) Villagers (d) Sellers of organic inputs (e) Buyers of Organic products, (f) banking sector, Insurance (crop) Offices and finally (f) Non-governmental Organisations. This data is computed by Statistical Package for Social Sciences (SPSS). It is analysed by hierarchical clustering statistical techniques. This technique is calculated by within group linkage method and measures the interval through Pearson Correlation Analysis and it estimated outcomes are clarified by dendrogram

This portion of investigation gives details about impacts of sustainable farming in Theni district. In this place, fundamental economic activities are related to agricultural and its allied sector. But, it is suffered by diminish rate of production and productivity. Several grounds prior to the low production and productivity specifically (A) this district has partially well irrigated and qualitative soil lands and remains do not have this facility for their lands (B) inappropriate usage and lack of knowledge about organic inputs (Bio-fertilisers and Bio-Pesticides).

5. Various Organic Farming Projects and Programmes

5.1. National Program for Organic Production (NPOP) (2000): This programme is launched by Ministry of Commerce and Government of India. Main purpose of this programme is to identify the scope for cultivation and to find out the possibilities for organic product export to other countries. This ministry framed policy on accreditation system for this product (**NPOP, 2001**).

5.2. National Project on Organic Farming (2004): In the year 2004-05, Ministry of Agriculture established National Centre for Organic Farming at Ghaziabad. Principal function of this project is to make easily available institutional support like Banking and Insurance facilities to organic farmers. It encourage organic crop farming and to provide suitable logistics of knowledge and organic inputs like bio-fertiliser and bio-pesticides (**ncof.dacnet.nic.in/**).

5.3. Rastriya Krishi Vikas Yojana (RKVY): In the period of 2007 – 2012 or 11th five year plan period, this programme was funded and launched by central government and it was functioned by state governments. It is started under the guidance of the National Development Council (NDC). It tries to attain percent annual growth in agriculture sector through enlargement of agriculture and its allied sectors. The scheme is fund annually a state plan scheme. Main motivation of this scheme is increasing usage of sustainable or organic farming and minimise the dependency of inorganic or synthetic chemical inputs (**RKVY, 2014**)

6. Analysis

This following chapter broadly portrays about factors influencing organic farming. For this study, respondents are selected from Theni District and those who are involved in organic farming only. This research is based on primary data. It is analysed by clustering analysing techniques. Objective of this analysis is to conduct clusters in such a way that objects within the same cluster are relatively homogenous and objects between clusters are relatively heterogeneous. It have made to use of the “within group linkage method and measures the interval through Pearson Correlation Analysis”. This analysis has been applied in the current research to find out the constructive reason to follow the organic farming by respondents and to realise “what are the factors deteriorating this farming?” Answers obtained from these respondents and the responses are explained in the form of dendogram. Number of respondents who said ‘Yes’ or ‘No’ for a question and it percentages are given in the form of two – way and multi-way tables.

6.1. Reasons for following organic farming

Various aspects are motivated to continue this cultivation and they are as follows: (1) **Economic Aspects** (2) **Environmental Aspects** and (3) **Other Aspects**. The dendogram are given in figure no. 1. It is cluster code is given in table No. 1 and it is summary of statistical information are given in table no. 1 & 2.

Figure No. 1

**Constructive Reasons For Following Organic Farming
Dendrogram Using Average Linkage (Between Groups)
Rescaled Distance Cluster Combine**

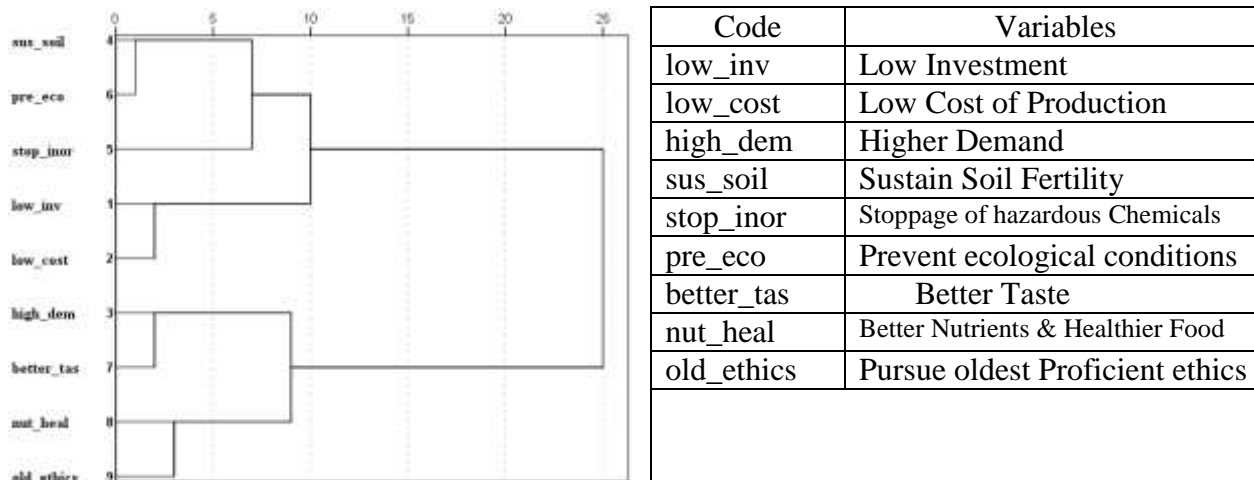


Table No. 1.

Constructive Reasons For Following Organic Farming

Sl. No.	Variables	Particulars	Yes		No	
			Freq.	%	Freq.	%
1.	Economic	Low Investment	37	74	13	26
		Low Cost of Production	35	70	15	30
		Higher Demand	31	62	19	38
2.	Environmental	Sustain Soil fertility	43	86	7	14
		Avoid hazardous Chemicals	50	100	0	0
		Prevent ecological conditions	43	86	7	14
3.	Other	Better Taste	22	44	28	56
		Better Nutrients & Healthier Food	18	36	32	64
		Pursue oldest proficient ethics	11	22	39	78

Source: Primary Data: Freq. – Frequency: % - Percentage

Table No. 2.

Cluster Analysis for Constructive Reasons For Following Organic Farming

Cluster	Variables	Yes Range (%)	No Range (%)
1.	Sustain Soil Fertility, Prevent Ecology Conditions & Avoid hazardous Chemical	86 – 100	0 – 14
2.	Low Investment & Low Cost of Production,	70 – 74	26 – 30
3.	High Demand & Better Taste	44 – 62	38 – 56
4.	Better Nutrients & Healthier Food & Pursue Old Ethics	22 – 36	64 – 78

Above analysis shows that reasons to following organic farming in the study area. There are four clusters are obtained from this analysis. **Cluster – I** represents that soil is the main source of nutrients essential by growth of plants. Various natural nutrients are available in soil and they are as follows: phosphorous, nitrogen, potassium, oxygen, calcium, magnesium and sulphur. Plants also need small quantities of iron, manganese, zinc, copper, boron and molybdenum and it organically exists in cultivatable land. These nutrients and ecological systems are

preserved by this method of farming. In this reason, it saves useful microorganism, birds, animals and environmental conditions.

About 70 – 74 per cent of respondents felt that organic farming is inexpensive method. Because, organic farming inputs are based on locally available materials and it is mostly obtainable from their own land (**Cluster – II**).

Cluster – III illustrates that almost 45 – 62 per cent of samples are accepted that natural taste and aroma should uphold by this farming and demand for this product is high. Remaining respondents do not aware food quality and they do not know proper marketin and distribution structure.

The following cluster (**Cluster – IV**) obtains the least percentage to compare with other clusters. Because, about 22 – 36 per cent respondents are willing to do tradional way farming method and they wants to cultivate better nutrient and healthier food for human wellbeing.

Hence, it is concluded that respondents are giving more importance for environmental conditions and they are well aware and wants to sustain the ecological conditions. If farmers are using excessive quantity of inorganic chemicals for cultivation, it will spoil nutrients. It leads to provide poisoning food for consumers and cultivable soil will become infertility.

6.2. Factors of Affecting Organic Farming

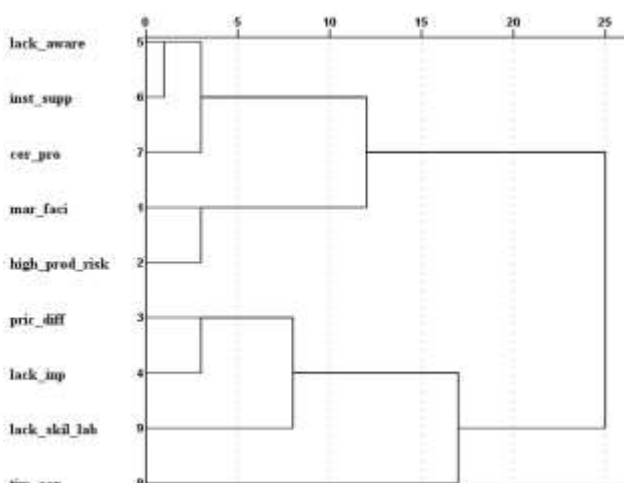
It is interest to know that factors of affecting organic farming in the study area. The answers obtained from these respondents are subjected to cluster analysis techniques and the responses are explained in the form of dendrogram and statistical tables.

Figure No. 2

Factors of Affecting Organic Farming

Dendrogram Using Average Linkage (Between Groups)

Rescaled Distance Cluster Combine



Code	Variables
low_inv	Low Investment
low_cost	Low Cost of Production
high_dem	Higher Demand
sus_soil	Sustain Soil Fertility
stop_inor	Stoppage of hazardous Chemicals
pre_eco	Prevent ecological conditions
better_tas	Better Taste
nut_heal	Better Nutrients & Healthier Food
old_ethics	Pursue oldest Proficient ethics

Table No. 3.

Factors of Affecting Organic Farming

Sl. No.	Variables	Particulars	Yes		No	
			Freq.	%	Freq.	%
1.	Economic	Lack of Marketing Facilities	32	64	18	36
		High Production Risk	30	60	20	40
		Price Differences	19	38	31	62
		Lack of Inputs	21	42	29	58
2.	Organisational	Lack of awareness Creation	40	80	10	20
		Lack of Institutional Support	40	80	10	20
		Certification Procedures	38	76	12	24
3.	Other	Time Consuming	10	20	40	80
		Lack of Skilled labour (Intensive)	24	48	26	52

Source: Primary Data: Freq. – Frequency: % - Percentage

Table No. 4.

Cluster Analysis for Factors of Affecting Organic Farming

Cluster	Variables	Yes Range (%)	No Range (%)
1.	Lack of Institutional Support, Certification Procedure, & Lack of Awareness	76 – 80	20 – 24
2.	Lack of Marketing Facilities, & High Production Risk	60 – 64	36 – 40
3.	Lack of Skilled Labour, Lack of Inputs, Price Differences & Time Consuming	20 – 42	58 – 80

There are three clusters prevalent from Virudhunagar district on the subject, 'various aspects of interrupting organic farming activities. These clusters may be classified into "High Range", "Medium Range" and "Low Range".

High Range of Cluster: About 76 – 80 per cent of respondents are affected by institutional factors. They are expressed that (a) Role of central and state governments, implementing agencies and non-government organisations are played very meagre to instigate this farming. (b) Banking sector and insurance sectors are not interested to provide credit and crop insurance facilities. (c) Government of India has lot of modus operandi to provide official recognition related to organic agricultural products.

Medium Range of Cluster: Nearly 60 – 64 per cent of organic farmers are disturbed by following factors: There is no appropriate marketing and distribution facility and common administrative set-up between these cultivators and they are scattered. They did not aware of internal and world markets. Respondents are remembered that they are facing lot of problems in the time agricultural production. Because, new or unknown insects or pests may be attack the plants.

Low Range of Cluster: About 38 per cent of respondents are accepted they are getting better prices for their products to compare with inorganic products. Remaining respondents did not aware these price differences in this study area. More than 40 per cent (42 per cent) of respondents accepted that they are not getting proper and

suitable inputs from markets and own production. In this reason, 48 per cent of organic cultivators agreed that they did not get sufficient and skilled labours for the production of inputs (organic manures and pesticides) and cultivation activities. Just 20 per cent of samples felt that this type cultivating has lengthy procedure to prepare land and organic chemicals.

7. Conclusions:

In India, tremendous changes were happen in agricultural sector after implementation of green revolution. This revolution provided some of positive and negative effects in this sector. Positive effects are (a) production and productivity increased (b) export large quantity of farm products (c) more income and employment opportunities (d) uncultivated lands were converted into cultivable lands (e) extended irrigation facilities.

Negative effects are production and import of inorganic chemicals (Fertilisers and Pesticides for cultivation activities) increased rapidly. Because, multi-national companies (MNCs) and private manufactures were recommended, encouraged and motivated to utilise large or excessive quantity of these materials. In this reason, farmers' utilisation of this product was increased in India. It was proved by statistical data related to consumption of these chemicals. MNCs were getting more profits and they were trying to become monopoly in Indian market. It created various dark effects in Indian economy and environmental system. (a) Indian economical survey reports that declining trend in agricultural production and productivity, over dependency of other nations, imbalanced situation in foreign exchange and balance of payments. (b) Indian environmental survey provide evidences related to ecological degradation, soil infertility, illness and diseases of human, plants, animals and birds.

But, India has huge potential to produce indigenous organic materials. These materials did not create any harmful effects to ecological system. It helps to reduce consumption or demand for inorganic chemicals. It will automatically cut down the production. It must be executed by central and state governments with the participation of rural residents, Panchayati Raj Institutions (District level, Block level and Village level), non-governmental organisations and private sectors.

8. Suggestions:

- Government of India should take necessary steps to promote and encourage these farmers. It will establish by well organised marketing and distribution system for these products.
- Both governments (Central & State) should provide tax exemption for these types of products (GST & Customs Duty).
- Government of India should take necessary steps to provide uninterrupted supply of organic inputs (Fertiliser and Pesticides).
- Government and private institutions and NGOs should give essential awareness, education and guidance related to organic inputs and farming.

- Private sectors should invest more investment on improvement of organic farming and its techniques.
- Market related information like trends of demand and supply, availability of inputs and price must be easily accessible by farmers and consumers.
- Government and Private Sector should sponsor for establishment of green (Organic) markets in all over India.
- Government should minimise the production risk. This risk may be reduced by following points (a) it should provide insurance facilities at minimum cost of premium and (b) it should fix the optimum price for these products.
- Administrative authorities should do vigorous campaign related to green farming through televisions and social media.

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