CHAPTER V

SUMMARY AND CONCLUSION

A Study of Organic Farming in Tamil Nadu

INTRODUCTION

Agriculture is the life line of humanity. Any change in agriculture will result in a corresponding change in the life of people and of nature and vice versa. There has been a very rapid change in the way we farm in the past few decades. It is characterized mainly by the dominance of machinery and chemical technology in agriculture, replacing the traditional wisdom, which has altered our society considerably.

Over the years agriculture has undergone several changes, thus drifting away from nature. The changes in agriculture have taken a quantum jump during Green Revolution. Such changes have resulted in environmental pollution, degradation of soil health, loss of bio-diversity and others.

Because of these, a new agricultural technology is needed which will protect the soil, enable it to absorb precipitation, allow for perennial surface run off, also provide the food, fibre, fuel and other materials needed to
sustain the population, save energy, increase production and productivity and it will also be economically viable at the small farm's level, environmentally friendly and socially acceptable, in so doing the technology should not fail to take full advantage of the knowledge of the traditional farmers.

This is possible only by switching over to Organic Farming from Conventional Farming. In our country a few farmers are turning towards Oruanic Farming because the efforts taken by the Non Governmental Organisations. The present research aims to study Organic farming in Tamil Nadu with special reference to the Horticultural crops in Kodaikanal Block with the following objectives.

Objectives of the Study

01. Cross section analysis of farmers and examining the pattern and level of Organic Farming practiced in their farms.

02. To evaluate the Organic Farming in terms of productivity and cost effectiveness.

03. To examine the problems and prospects of popularizing Organic Forming and to suggest appropriate policies for extension supports and

04. To study the future of Organic Farming.
Stratified Random Sampling Procedure was used to draw the Sample Conventional Farmers.

From the records it was found that there were 12,478 farmers and 120 sample Conventional Farmers were selected based on the proportion of marginal, small and big farmers who constituted the Conventional Farming population.

Random sampling of Organic Farmers was not possible because of the difficulty in locating exclusively Organic Farmers. So 30 Organic Farmers were purposively selected with the help of the Assistant Directorate of Horticulture and Kodaikanal Organic Farming Association.

All these respondents were personally interviewed with well structured and pretested questionnaires. Apart from these many experts were also contacted for the study.

Findings of the Study

General Information

Close to 35 percent of the Conventional Farmers and 50 percent of the Organic Farmers were illiterate.
A little less than 40 percent of the Conventional Farmers and a little over 20 percent of the Organic Farmers had agriculture as their only occupation. The average size of the families of the Conventional Farmers and Organic Farmers were 4.20 and 5.00 respectively. The sex ratio of the Conventional Farm family members was 906 females for 1000 male and it was 1125 females for 1000 males in Organic Farm family members.

Nearly 40 percent of the sample Conventional Farm families reported that they were living below the poverty line.

The gross cropped area of the surveyed Conventional Farms was 281 hectares and the net cultivation area was 149.2 hectares with 22 different crops and the cropping intensity (Number of crops raise from the same space at different time from a year) was 41.43 percent.

Peas, potato, beans, carrot and radish were cultivated by 57.50 percent, 76.67 percent, 76.67 percent and 52.50 percent of the Conventional Farmers respectively followed by other crops.

Areawise, carrot (17.22 percent) occupied the major area followed by beans (19.16 percent), peas (13.58 percent), potato (12.10 percent) and garlic (6.47 percent).
The gross cropped area of the surveyed Organic Farms was 125 hectares and the net cropped area was 57.2 hectares with 18 different crops. The cropping intensity (number crops raise from the same space at different time from a year) was 39.34 percent.

Carrot, potato, peas, beans and garlic were cultivated by 76.67 percent, 70 percent, 63.33 percent and 50.00 percent of the Organic Farmers respectively followed by other crops.

Arcawisc carrot (19.52 percent) occupied the major area followed by beans (15.36 percent) potato (13.92 percent), peas (8.96 percent) and garlic (5.16 percent).

The average number of bullocks and cows per hectare in Conventional Farmers were 1.29 and 0.53 whereas they were 1.87 and 0.73 in Organic Farmers. Close to 80 percent of the Conventional Farmers and 60 percent of the Organic Farmers had horses.

About 65 percent of the Conventional Farmers had four and less than four species of crops whereas about 60 percent of the Organic Farmers had five and more than five species of crops.
A little more than 45 percent of the Conventional Farmers had more than four tree species whereas above 75 percent of the Organic Farmers had more than four tree species.

Knowledge and Adoption of Organic Farming

A higher percentage of medium Conventional Farmers had knowledge or Organic Farming practices with reference to land preparation, manure management and plant protection as compared to the small and large Conventional Farmers.

All the Farmers in Organic Farming reported having knowledge of compost and mixed cropping. Ninety percent of the Organic Farmers had knowledge of summer ploughing and green leaf manuring.

Ninety percent of Conventional Farmers had knowledge of compost making. Apart from that more than 75 percent of Conventional Farmers reported to have knowledge of summer bloughing, levelling (even land surface) and green leaf manuring.

As compared to other practices the Organic Farmers had least knowledge of bio-fertilizer and seed treatment, whereas the Conventional
Farmers had least knowledge of vermicompost, bio-fertilizer, cover cropping, mulching, seed pelleting and other seed treatments.

With reference to plant protection a greater number of Organic Farmers had knowledge of different Organic Farming practices than the Conventional Farmers. More than 50 percent of Organic Farmers had knowledge of various Organic Farming plant protection practices, with the exception of very few practices.

Except for seasonal cultivation and planting disease resistant varieties, the Conventional Farmers had less knowledge of Organic Farming plant protection practices.

Organic Farming practices such as land preparation manure management and plant protection were adopted by a higher percentage of medium Conventional Farmers. Varmicomposting and seed treatment were practiced exclusively by the medium Conventional Farmers only. Compost and mixed cropping were followed by most of the farmers in all the categories.
The reason for the better adoption of Organic Farming practices by medium Conventional Farmers could be due to the devotion they had for farming in general and Organic Farming in particular.

Hence the government should focus its attention towards medium farmers in order to develop Organic Farming.

Seventy percent or more Organic Farmers practiced Organic Farming practices such as summer ploughing leveling farmyard manure, compost, crop-rotation, mixed cropping and seed pelleting.

From the correlation studies it could be seen that there existed correlation between the knowledge and adoption of Organic Farming practices among all the categories of the Farmers.

**Economic of organic Farming and Conventional Fanning**

Pears, hillbanana, lemon, orange, plums, beans, brinjal, potato, radish, garlic and coffee were the crops cultivated both in Organic Farming and Conventional Farming. Chowchow, cauliflower, cardamom and pepper were the crops covered only in Conventional Farming.
The per hectare expenditure on all the crops in Conventional Farming was more than in the Organic Farming. Labour constituted the major share of the expenditure for both kinds of farming. The share of labour for Conventional Farming ranged from nearly 35 percent (potato) to about 70 percent (brinjal). The share of labour for Organic Farming ranged from nearly 40 percent (potato) to about 75 percent (lemon, beans and brinjal).

Chemical fertilizers and pesticides formed the next major expenditure for Conventional Farming, which ranged from about 10 percent (radish) to about 40 percent (pear), whereas manure constituted the next major share for Organic Farming which ranged from about 10 percent (hill banana) to about 30 percent (pear).

The cropwise yield of the main product of the conventional Farming was more than the Organic Farming for all the crops. The gross income and the net income of each crop in Conventional Farming was more than the Organic Farming. The benefit - cost ratio for all the crops except pear, lemon, beans and radish were higher in the conventional Farming than in the Organic Farming.

In the overall economic comparison conventional Farming did better than Organic Farming in the short - run. This is because Organic Farming is
in the early stage of its implementation. Within another three to four years the economic break through in Organic Farming is expected to be achieved. Though Conventional Farming is more economic than Organic Farming, it will not be environmentally friendly and sustainable as compared to Organic Farming, in the long-run.

It is expected that the Organic Farming will have positive impact on soil, animal stock, farm economy and social justice it could have negative impact primarily on the chemical and machinery industries.

**Problems of Organic Farming**

Unlike conventional Farming, personal presence and a thorough knowledge of Organic Farming practices are necessary. Production of traditional varieties of seeds, generation of organic manure, bio-fertilisers, bio-pesticides and botanical pesticides are some of the major challenges Organic Farming has to face. These problems can be overcome by sustained efforts of the farmers and with the help of the Organic Farmers' co-operatives, Government as well as the Non-Governmental Organisations. As Organic Farming practices are location specific, decentralized research should be carried out in the farmers fields.
In the first two to three years after the introduction of Organic Farming, there will be a decline in the yield. Farmers Co-operatives could offer a helping hand in this regard for the first two to three years. In order to get better prices for Organic Farming products, special markets should be established in appropriate places.

All the state Agricultural Universities should be encouraged to take up experiments on the performance of Organic Farming. The State Agricultural Universities could recommend the Government Extension Agencies to promote Organic Farming, wherever possible. In the meanwhile the Non-Government Organisations such as low External Input Sustainable Agriculture (LEISA) Network, Kodaikanal Organic Farmers Association (KOF A) should try to educate the farmers about the advantages and the methods of Organic Farming. As Organic Farming is highly location specific the roles of Non-Governmental Organisations and other Farmer's Association are very much important.

**Suggestions to promote Organic Farming**

From the past experiences and from the study it is understood that only Organic Farming can bring sustainable Development in the long-run. Hence efforts must be taken to promote Organic Farming and the following are the suggestions to promote Organic Farming.
Organic Farming zones can be identified and such zones should be protected from poisonous agro chemicals. However such zoning is possible only in the case of Co-operative Farming and Corporal Farming.

1. Farmers should be trained to produce bio-fertilizers, bio-pesticides, botanical pesticides and vermicompost.

2. Green manure seeds, bio-fertilizers and bio-pesticides should be made available to the farmers at an affordable price.

3. Urban wastes should be properly collected, composted and made available to the farmers.

4. Social forestry and Agroforestry should be promoted.

5. Steps should be taken to increase the number of farm animal units on farms.

6. Suitable research should be taken to improve local breeds which could be affordable by the farmers.

7. State Agricultural Universities and other Research Institutes should be encouraged to take up Research in Organic Farming.

8. Agricultural research and development should be nature oriented.

9. Holistic planning for agriculture at grass-roots level should be encouraged.
10. Separate markets should be established for Organic Farming products.

11. Consumers should be educated about the advantages of Organic Farming products.

12. Absentee landlordism should be discouraged.

13. Organic Farmers, cooperatives and Organic Farming societies should be promoted.

14. Voluntary Agencies should be encouraged to include Organic Farming as one of their important components in Rural Development.

15. Government should withdraw the subsidies given to chemical fertilizers and pesticides.

**Future of Organic Farming - Scenarios**

First scenario foresees the end of farming in kodaikanal, where farming itself is under great threat and hence Organic Farming cannot have bright future. The end of farming is predicated because of the following reasons.

At present context profitable farming is a 'Herculean task'. As kodaikanal is a tourist centre it has great potentials for business. Hence most of the farmers are leaving farming in order to take up business. It is
understood that already more than 40 percent of the cultivable land has been converted to houses and summer resorts and the trend may extend further and further.

Second scenario views the natural declining of Conventional Farming and the slow and steady growth of Improvement and extension of further advancement in the "Green Revolution" technologies are expected and described here in the third scenariio.

In the near future, with sufficient Research and Development and extension backup, the Green Revolution can continue to increase productivity with increasing awareness regarding the environment. Along with the application of integrated nutrient management and integrated pest management practices, the ecological crises can be postponed for some more time.

Being the life sustainer, at all costs farming in general and Organic Fanning in particular should be preserved. One cannot forget the popular Tamil Postry.
Which is translated in English as

"However they roam, the world must follow still the plougher's team
though toil some, culture of the ground as noblest toil esteem".

Thirukural - 1031