Chapter: V

Summary and Conclusions
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### Summary and Conclusions

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5.1 Introduction:

The present chapter gives the brief summary of each chapter and thereafter conclusions of the study, suggestions made by the researcher on the part of government as well as farmers for development of organic sugarcane farming, future of organic farming and scope for future researcher are also given.

5.2 Summary:

At the beginning of the research chapter first states the brief history of organic farming in India, then global scenario of organic farming, different forms of agriculture, meaning and definitions of organic farming, scope, importance, objectives, hypothesis, limitations of the present study, thereafter, research methodology, methods and chapter scheme of thesis are given.

The chapter second is split between two sections, the first gives the detail information about how to develop ‘Youth Self Help Group Model’ at a small village; its marketing strategy and economic benefits achieved by the model are also given. Therefore, the section second takes in to account views, field experiments, studies and evaluation of organic farming by agricultural universities, researchers, scientists, agronomist, environmentalist, and different national and international organizations.

Chapter third presents the socio-economic background of Organic Sugarcane Farmers (OSF) and Conventional Sugarcane Farmers (CSF) in terms of their age group, level of education, annual income, size of land, source of water and so on. Thereafter, comparison is made between the two types of farming on the basis of collected primary date in terms of per acre land preparation cost, seed cost, plantation cost, irrigation cost, inter-cultivation cost and weeding cost, fertilizer cost, total cost of cultivation, yields, cost of production per tonne, total revenue and net retunes or profits of organic and conventional sugarcane farming from 2004-05 to 2013-14. Economic benefits of organic sugarcane farming are stated and opportunity cost is shown in two types of farming.

Chapter fourth evaluates the benefits of organic sugarcane farming and conventional sugarcane farming on the basis of analysed primary data in terms
of average and percentage of land preparation cost, seed cost, plantation cost, inter-cultivation and weeding cost, irrigation cost, total cost of cultivation, yields, price, cost of production per tonne, total revenue and net returns or profits. The chapter showed that organic sugarcane farming gives many economic benefits such as lower land preparation cost, seed cost, plantation cost, inter-cultivation and weeding cost, irrigation cost, total cost of cultivation, cost of production per acre and increased the net returns or profits of organic sugarcane farmers.

5.3 The conclusions of the study:

The conclusions of the study are as follows:

Agriculture is one of the most important sectors of the Indian Economy. It is the only means of living for almost two thirds of the population in India. The agriculture sector of India has occupied 43 percent of India’s geographical area, and is contributing 13 percent in country’s GDP. Agriculture still contributes significantly to India’s GDP despite decline of its share in our GDP. There are number of crops grown by farmers in our country. These include different food crops, commercial crops, oil seeds etc; sugarcane is one of the significant commercial crops grown in India.1

India is one of the largest sugarcane producers in the world. Sugarcane is the raw material for the production of white sugar, jaggery (gual) and khandsari. It is also used for chewing and extraction of juice for beverage purpose. The sugarcane cultivation and sugar industry in India plays a vital role towards socio-economic development in the rural areas by mobilizing rural resources and generating higher income and employment opportunities. About 7.5 percent of the rural population, covering about 45 million sugarcane farmers, their dependents and a large number of agricultural labours are involved in sugarcane cultivation, harvesting and ancillary activities.

The sugarcane growing may be broadly classified into two agro climatic regions mainly tropical and sub-tropical. The tropical zone includes five States, viz; Maharashtra, Andhra Pradesh, Tamil Nadu, Gujarat and Karnataka. The sub-tropical zone includes four States namely; Uttar Pradesh, Bihar, Punjab and Haryana. There are a number of varieties that are grown in India depending on the suitability of the soil. The area, output and yield and sugarcane cultivation is
subjected to fluctuate in response to policies of the government and also conditions of cultivation.²

The sugar season 2013-14 of India has just ended with sugar output of 24.50 million tonnes. The Sugar Industry of Maharashtra state has contributed about 32% (7.70 million tonnes) share of national sugar production by 157 operating sugar mills with sugarcane crushing of 67.60 million tonnes.³ The important findings of the study are as follows:

1. The observation shows that the total cost of cultivation in OSF is lower by 33 percent than the total cost of CSF. It is Rs 189,152 in OSF instated of Rs 280,702 in CSF. The higher cost of cultivation under CSF is the result of more cost for seeds, plantation, inter-cultivation, weeding practices and chemical fertilizers.

2. It is observed that the net return from organic sugarcane farming is Rs 769,567 and Rs 687,855 in conventional sugarcane farming. This is 12 percent higher in OSF than CSF. It is higher because of cost of cultivation is lower by 33 percent in OSF.

3. Organic sugarcane farmers receive only one percent lower yield as compared to the yield receives by conventional sugarcane farmers. The yield received during the 10 years in OSF is 529 tonnes and under CSF from the same period is 532 tonnes.

4. The requirement of water is less in organic sugarcane farming than the requirement of water in conventional sugarcane farming. Because water holding capacity of land is improved under organic sugarcane farming. Sugarcane crop requires water after every 12-15 days in OSF and after every 8 days in CSF. The irrigation cost is Rs 42,232 in OSF and Rs 47,282 in CSF, which is lower by 11 percent in OSF than CSF.

5. Organic farming is labour intensive because it uses more labour for different cultivation practices than conventional farming. But the labour cost for sugarcane crop is higher in CSF by 15 percent than OSF. The labour cost is Rs 54,156 and Rs 63,652 respectively OSF and CSF.
6. The study reveals that cost of production per tonne in OSF is Rs 3,789 and Rs 5,426 in CSF, which is lower by 30 percent in OSF. It is lower because total cost of cultivation is lower by 33 percent in OSF.

7. The fertilizer cost in OSF is Rs 47,435 and Rs 118,243 in CSF, which is higher by 60 percent in CSF than OSF. This cost is lower due to organic sugarcane farmers make all kinds of fertilizers on their own farms.

8. Inter-cultivation and weeding cost is higher by 8 percent in CSF than OSF. It is Rs 40,352 in OSF and Rs 43,890 in CSF.

9. The study shows that total revenue is higher in Organic Sugarcane Farming (OSF) by 1.4 percent than Conventional Sugarcane Farming (CSF). It is Rs 958,889 and Rs 944,868 respectively in Organic Sugarcane Farming and Conventional Sugarcane Farming (CSF).

10. The economic benefits are higher in Organic Sugarcane Farming (OSF) as compared to Conventional Sugarcane Farming (CSF) under cultivating the sugarcane crop. These benefits like reduce the total cost of cultivation, gives sustainable yield, less labour cost and finally increase the net returns.

11. The opportunity cost is higher in organic sugarcane farming than conventional sugarcane farming by cultivating land under sugarcane crop at different regions. This cost was higher by Rs 83115 in 2004-05 and Rs 274823 in 2013-2014 in organic sugarcane farming.

12. Organic sugarcane farmers are selling their sugarcane to traditional sugar factories due to lack of special sugar factories for organic sugarcane growers.

13. Organic sugarcane farming gives long term benefits in terms of conservation of water, improves the quality of soil and stability in income of the farmers.

14. According to organic sugarcane farmers, many foreigners visited their farms and demanded organic jaggery (gual) because there is huge demand for organic jaggery product in international markets. These foreigners buy
organic products from India at lower price (as compared to higher Indian market price) and sell it at higher price in their home country. For this purpose one organic sugarcane farmer sent their relative to European country for the higher study and preparing survey report on demand for organic jaggery in European country.

15. Lack of premium price for organic sugarcane product or for all kinds of organic products creates hurdles in the process of development of organic farming practices in India. Organic sugarcane farmers are selling their sugarcane crop to traditional sugar factories and receive same price as given to conventional sugarcane farmers.

But in developed countries like USA, UK, Australia etc. premium price is available for all organic products. This price is higher by 25 to 30 percent for organic products than the price of conventionally grown products.

16. Most of the organic sugarcane farmers are well educated, having proper scientific and technological knowledge about organic farming practices than the conventional sugarcane farmers. They also maintain all kinds of records regarding farm practices.

17. Lack of proper or effective marketing of organic product creates barriers in the sale of organic products and future development.

18. Nowadays consumer’s awareness about food safety, environment and organic product are increasing day by day. This is because consumers are aware of their own health, the environments health. This study will create awareness among organic sugarcane farmers too.

19. The study shows that organic Sugarcane Farmers are not enthusiastic about organic certification. Only 55 percent organic sugarcane farmers have obtained certificates from different institutes or organisations. Other 45 percent organic sugarcane farmers have argued that applying for certificate is waste of time and money because there is no benefit of opting certificate.

20. The source wise distribution of irrigated area shows that tube wells are important source of irrigation for sugarcane cultivation in the study area.
But power failures, lack of adequate power supply affect the irrigation which in turn affects the output in terms of weight of sugarcane.

21. The study shows that 90.91 percent conventional sugarcane farmers buy fertilizers from market. Whereas only 18.18 percent organic sugarcane farmers buy fertilizers from market.

22. The ‘Youth Self Help Group’ model achieves many economic benefits such as it reduces transportation cost, certification cost, commission of middlemen and increases the income of participated farmers.

23. Land preparation cost is lower in Organic Sugarcane Farming (OSF) by 35 percent than land preparation cost in Conventional Sugarcane Farming (CSF). That is Rs 13,202 and Rs 20,205 respectively in organic sugarcane farming and conventional sugarcane farming.

24. The study shows that seed cost is higher in Conventional Sugarcane Farming (CSF) by 33 percent than the seed cost in Organic Sugarcane Farming (OSF). It is Rs 11,808 and Rs 17,664 respectively in CSF and OSF.

25. The observation reveals that the plantation cost is lower in OSF by 51 percent than CSF. It is Rs 5,993 in OSF and Rs 12,276 in CSF.

26. According to organic sugarcane farmers written books are main source of information about organic farming practices. This accounts 63.64 percent.

27. It is indicated that 81.82 percent organic sugarcane farmers and 54.55 percent conventional sugarcane farmers are under the age group of 46 to 60 years. It means most of the organic sugarcane farmers are older than conventional one.

28. As per the information given by both the farmers that Agrowon newspaper is important source of getting day to day information on modern agriculture practices. That accounts 72.73 percent followed by mobile and radio (27.27 percent). Therefore, only 27.7 percent farmers are used computer and internet (27.3 percent OSF and 18.2 percent CSF).
29. The study shows that most of the organic sugarcane farmers earn extra income (Rs 5,000 to 50,000) from inter-crops, while cultivating sugarcane crop. On the other hand this income is not available for conventional sugarcane growers.

30. It shows that organic farming techniques vary from farmers to farmers or place to place. It means different organic sugarcane farmers follow the different cultivation techniques for the same crop. But most of the conventional sugarcane farmers are use similar technique or methods for cultivation.

5.4 Suggestions:

1. There is need to provide premium price for all organic products which are produced by organic farmers. Due to premium price is most important factor for receiving higher profit in organic sugarcane farming.

2. Government needs to provide subsidy to the organic farmers for buying organic manures or organic fertilizers and so on as like conventional farmers.

3. There is need to establish separate sugar factories for organic sugarcane farmers as a result more farmers will be encouraged towards to produce organic sugarcane.

4. Many organic sugarcane farmers are enthusiastic about producing organic jaggery (gual) but they do not buy expensive machinery for it. So, there is need to provide credit facilities to such farmers for buying advanced machinery.

5. There is need to provide technical knowledge regarding timely and effective control of weeds; insects and diseases to all organic farmers including organic sugarcane farmers through frequently organising training and field visits for organic farmers.
6. Our government has been introducing various schemes and policies for organic farmers but proper implementation is main problem or these are not implemented properly. Notwithstanding, proper implementation is needed.

7. There is need to spread more awareness among the consumers and farmers in rural as well as semi-urban areas about organic products and benefits of organic farming through electronic and print media.

8. There is also need to provide training by government to existing as well as new organic farmers regarding effective cultivation practices, about how to preparing different organic manures and so on.

9. Public sector and private sector have to establish the research institutes for the research of organic farming. Agriculture Universities, colleges and private institutions have to play important role in research in organic farming.

10. Government and NGOS have to organize conferences, workshops, seminars, and study tours for organic farmers through this they get more knowledge about organic farming methods.

11. There is need of fix price policy such as Minimum Support Price (MSP) for all organic products including organic sugarcane crop. It means Government has to determine higher price for organic products than conventionally grown products.

5.5 Future of Organic Farming:

- According to Organic Market Report (2013) global sales of organic products continue to rise. The Asian market for organic products is growing at a steady rate, as growing awareness of organic production methods increases demand. Organic Monitor also indicates that organic food and drink sales worldwide increased by 25 percent during 2008 to 2011.4
• Bablad B. indicates that there is tremendous growth in demand for organic food in the last few years.

• Morgera E., Caro C. and Durán G. (2012) reveal that organic agriculture has seen tremendous economic growth in the last decade. This has been mainly demand-driven, as consumers have become increasingly concerned with the safety of conventionally-grown foods and the ethical downfalls of industrial agriculture.\(^5\)

• IDC Organic Project Literature Review (2007) asserted that interest in organic agriculture has shown remarkable growth over the last ten to twenty years, internationally as well as at a local level. The reasons for this growth revolve around environmental, health and social concerns in terms of consumer demand. For producers, factors such as farmers’ health and that of farm workers, increased environmental concerns, degradation of resources as a result of conventional farming systems, reduced input costs and price premiums influence their decision to pursue organic farming.\(^6\)

• The Economic Times (2013) published a survey report on "Rising demand of Organic products in Metropolitan cities" is undertaken by the Associated Chambers of Commerce and Industry of India (ASSOCHAM). The survey report indicates that rising awareness of healthy food apart from increase in disposable income has ensured that nearly 62 percent of households in the upper end segment prefer to have organic products. There has been a major shift in for organic products, especially fruit and vegetables in the cities as about 62 percent of metropolitans buy organic, an increase of 95 percent in the last 5 years.\(^7\)

The future of organic farming is quite good because consumers are aware of their own health, the environments health and the crises and emergencies of conventional products are reported worldwide. So that demand for organic product including organic sugar and organic jaggery (gual) will increase in the near future and that leads to increase in economic benefits for organic farmers.
5.6 Guidelines for Further Studies:

In the near future researchers can scope to focus upon sugarcane crop and the requirement of water for organic sugarcane crop and conventional sugarcane crop. Micro in depth study on inputs required for organic sugarcane farmers and conventional sugarcane farmers will be a great guidance for the sugarcane farmers.
References:


6. IDC Organic Project Literature Review (March 2007), Final Draft, Institute of Natural Resources, USA, pp 106