CHAPTER - VIII
SUMMARY OF FINDINGS AND CONCLUSION

FINDINGS

The highest 62.5% of the respondents were male followed by 37.5% of the respondents were female. It is clear that the more number of farmers are men in the selected area.

The highest 31.9% of the respondents were in the age group between 51-60 years. Followed by 27.1% of the respondents were in the age group of 41-50 years, followed by 21.3% were in the age group of above 60 years, 13.1% were in the age group of 31-40 years and 6.6% of the respondents were in the age group of below 30 years. It is clear that the more number of farmers are in the age group between 51-60 years.

The highest 33.75% of the respondents were having high school background followed by 19.37% of the respondents were having middle school background followed by 17.50% of the respondents were illiterate followed by 15.32% were having primary school background and 14.06% of the respondents were having graduate and above as the educational qualification in the age group between 51-60 years. It is evident from the findings the highest number of farmers in Thanjavur delta region are were having high school background.

The highest 60.94% of the respondents are living in rural areas followed by 24.06% of the respondents are living in semi-urban areas and 15.0% of the respondents are living in urban areas. 33.75% of the respondents were having high school background. It is evident from the table that the maximum number of farmers are living in rural areas.

The highest 70.31% of the respondents were having their own land followed by 29.69% of the respondents were having leased land. It is
evident from the table that the maximum numbers of farmers are having their own land.

The highest 57.81% of the respondents were growing coconut followed by 42.19% of the respondents were carrying out coconut based agriculture. It is evident from the table that the maximum number is farmers are growing coconut in the selected area.

It is evident from the table that the highest 33.44% of the respondents were having above 20 years of experience in coconut cultivation followed by 39.06% of the respondents were having 15-20 years of experience in coconut cultivation followed by 18.75% of the respondents were having 10-15 years of experience in coconut cultivation followed by 11.88% of the respondents were having 5-10 years of experience in coconut cultivation followed by 6.87% of the respondents were having less than 5 years of experience in coconut cultivation. It is evident from the table that the maximum numbers of farmers are having 20 years of experience in growing coconut in Thanjavur delta region.

The highest 63.12% of the respondents were involved in the agriculture followed by 36.88% of the respondents were involved in the non-agricultural activity. It is evident from the table that the maximum numbers of farmers are engaged in agriculture only.

The highest 38.12% of the respondents were having a monthly income ranges from Rs. 9001- 12000, followed by 20.62% of the respondents were having a monthly income ranges from above Rs. 12001, followed by 10.0% of the respondents were having a monthly income ranges from Rs. 3001-6000 and 4.38% of the respondents were having a monthly income range from Rs. 1000-3000.
The highest 34.37% of the respondents were earning Rs. 90001-120000 per annum as the total value of coconut products produced, followed by 20.31% of the respondents were earning Rs. 60001-90000 per annum as the total value of coconut products produced, followed by 20.31% were earning above Rs. 120001 per annum as the total value of coconut products produced, followed by 14.38% of the respondents were earning Rs.10000-30000 per annum as the total value of coconut products produced, followed by 12.18% were earning Rs. 30001 – 60000 per annum as the total value of coconut products produced. It is evident from the table that the maximum numbers of farmers are having an income base of Rs 9001-12000.

The highest 57.82% of the respondents were having less than 4 members in their family followed by 42.18% of the respondents having 4 members or more than 4 members in their family. It is evident that the highest 57.82% of the respondents were having less than 4 members in their family.

The highest 60.93% of the respondents were having 0-5 acres land followed by 39.07% of the respondents were having above 5 acres of land. It is evident that the highest 60.93% of the respondents were having 0-5 acres.

The highest 33.76% of the respondents expressed that alluvial plain is the type of agro econological region in which the coconut being cultivated by them. Followed by 27.50% of the respondents expressed that plain is the type of agro ecological region in which the coconut being cultivated by them. Followed by 19.69% of the respondents expressed that upland is the type of agro ecological region in which the coconut being cultivated by them. And 8.43% of the respondents expressed that
low lying land is the type of agro ecological region in which the coconut being cultivated by them. It is evident from the table that 33.76% of the respondents that alluvial plain is the type of agro ecological in which the coconut being cultivated by them.

The highest 33.76% of the respondents were cultivating coconut in alluvial plain or red sand followed by 27.50% of the respondents were cultivating coconut in plain, followed by 10.62% of the respondents were cultivating coconut in coastal plain, followed by 8.43% of the respondents were cultivating coconut in low lying plain. It is observed that the highest 33.76% of the respondents were cultivating coconut in alluvial plain or red sand and this type of sand is seen in Thanjavur, Pattukkottai and peravurani areas. It is evident from the table that 33.76% of the respondents expressed that they were cultivating coconut in alluvial plain or red sand.

The highest 55.0% of the respondents expressed that the drainage facility in which the coconut being cultivated by them was good followed by 20.32% of the respondents expressed that the drainage facility in which the coconut being cultivated by them was moderate followed by 14.68% of the respondents expressed that the drainage facility in which the coconut being cultivated by them was poor. It is clear from the table that the highest 55.0% of the respondents expressed that the drainage facility in which the coconut being cultivated by them was good. This is due to presence of river Cauvery in the Thanjavur delta region.

The highest 37.50% of the respondents expressed that the soil texture was poor followed by 32.50% of the respondents expressed that the soil texture was high and 30.0% of the respondents expressed that the soil texture was medium. It is clear from the table that the highest 37.50% of the respondents expressed that the soil texture was poor.
The highest 39.06% of the respondents expressed that the vegetation was mixed comprising both coconut and Agriculture followed by 32.82% of the respondents expressed that the vegetation was agriculture only and 28.12% of the respondents expressed that the vegetation was coconut only. It is clear from the table the highest 39.06% of the respondents expressed that the vegetation was mixed comprising both coconut and Agriculture.

The highest 70.31% of the respondents expressed that the type irrigation was canal irrigation followed by 29.69% of the respondents expressed that the type of cultivation was rainfed. It is evident from the table that the highest 70.31% of the respondents expressed that the type of irrigation was canal irrigation.

The highest 42.19% of the respondents expressed that the crop condition was medium followed by 29.69% of the respondents expressed that the crop condition was high and 28.12% of the respondents expressed that the crop condition was poor. It is evident from the table that the highest 42.19% of the respondents expressed that the crop condition was medium.

The highest 46.26% of the respondents expressed that they were growing Hybrid variety coconut followed by 38.12% of the respondents expressed that they were growing Dwarf variety of coconut followed by 10.0% of the respondents expressed that they were growing east coast tall. It is evident from the table that the highest 46.26% of the respondents expressed that they were growing Hybrid variety of coconut. The farmers in the Thanjavur delta region were happy with the productivity of coconut was high with the hybrid variety of coconut.
The highest 64.06% of the respondents expressed that the self-raised as the source of plant followed by 35.94% of the respondents expressed that the private nurseries as the source of plant. It is evident from the table that the highest 64.06% of the respondents expressed that the self raised as the source of plant.

The highest 51.56% of the respondents expressed that they use of coconut for Nut and Fibre followed by 35.94% of the respondents expressed that they use of coconut for Nut and 12.50% of the respondents expressed that they use of coconut for Fibre. It is evident from the table that the highest 51.56% of the respondents expressed that they use of the coconut for Nut and Fibre.

The highest 57.81% of the respondents expressed that the tolerance to pest / disease capacity of the coconut was different followed by 42.19% of the respondents expressed that the tolerance to drought/ pest/ disease capacity of the coconut was no different. It is evident from the table that the highest the highest 57.81% of the respondents expressed that the tolerance to drought/ pest / disease capacity of the coconut was different. They were expressed that the due to different tolerance to drought/ pest/ disease capacity of the coconut, the production of coconut was different. The farmers expressed that Thanjavurvadal disease caused by Thanjavur wilt is affecting the coconut badly and the overall production of coconut is also affected. The farmers felt that the following problems ware faced by them.

Initial symptoms of Thanjavur wilt (Ganoderma wilt) start with withering, yellowing and dropping of the outer whorl of leaves. This is followed by exudation of reddish brown fluid from the basal portion of
the trunk. The issues below the patch decay. The roots decay, the stem tapers and the crown reduce to small size with gradual decrease in yield. Towards the basal portion on the trunk, the sporocarp of the fungus emerges & the palm succumbs to death within 2-3 years. It is evident from the table that there are only two distinct varieties of coconut, the tall and the dwarf.

The highest 36.56% of the respondents that the performance of hybrid variety of coconut was high followed by 24.06% of the respondents expressed that the performance of hybrid variety of coconut was medium and 36.56% of the respondents expressed that the crop condition was poor. The tall cultivars that the extensively grown are the West Coast Tall and East Coast Tall. The dwarf variety is shorter in stature and its life span is short as compared to the tall. Tall x Dwarf (TxD), Dwarf X Tall (DxT) are the two important hybrids.

There are 10 different combination of hybrids, developed by Kerala agriculture University and Tamilnadu University and released for commercial cultivation. They are high yielders under the good management conditions. Laccadive Ordinary, Andaman Ordinary, Philippines, Java, Cochin-China, Kappadametc, are the other tall cultivars under cultivation.

**PROSPECTS FOR COCONUT PRODUCTS**

A number of factors are likely to shape the prospects for the coconut sector in the coming years. The most important at global level are likely to be:
Global demand for vegetable oils, which in turn will be driven by the effect of population and income changes on demand for food, and (largely policy) driven demand for befolks:

**Competition from other vegetable oils in world market;**

Development of, and consumer acceptance of, newer coconut products, in domestic and world markets, such as ‘virgin’ or cold pressure coconut oil, or organic coconut cream;

Domestic demands for coconut products in producing countries, including biofuel demand and Development of coconut timber technology and markets.

**PROSPECTS FOR INDIA**

Indian coconut products are rated as premium quality products in the world. Coconut oil has a huge potential in Gulf, Europe, and America, due to presence of large ethnic Indian population.

Activated carbon has been increasing its share in the bio-energy segment and the demand from USA, UK, Germany, France, and Japan has been increasing. Processed and packaged tender coconut water has an increasing demand in Gulf countries and UK, China is also a growing market for coconut and its various products. Russia is emerging as one of the major buyers of coconut oil and virgin coconut oil. Germany is an emerging market particularly for desiccated coconut powder, and coconut milk powder. Handicrafts, ice cream cups and spoons made from coconut shell are increasingly being exported to European countries’ and hold good potential.
With more than 10 million people in the country depending on coconut cultivation, processing, marketing and trade related activities of their livelihood, the sustainability of coconut industry poses a big question before the Indian Agriculture.

Coconut is unique in all respects among other horticulture crops grown in the country as a source of food, drink, shelter and a variety of raw materials for industrial exploitation. The crop assumes considerable significance in the national economy in view of rural employment and income generation.

Major share of the coconut production in the country is contributed by millions of small and marginal farmers who form the backbone of coconut culture. The economy of the region is interlinked with the prospects of the crop wherever coconut is grown. With an area of 1.89 million hectares and production of 12,998 million nuts, coconut contribution Rs. 7000 crore annually to the GDP.

The raw material for coir industry is derived from coconut husk and the country earns valuable foreign exchange to the tune of Rs. 292 crore by way of export of coir and coir products. In addition nearly Rs. 10 crore is earned through export of products other than coir.

The multi product aspect of coconut is its biggest asset. Its products are eco-friendly. Apart from all this, the coconut oil has much health and nutritional benefits, which are being increasingly recognised. Recent studies show that coconut can be used as an anti virus agent.
SUGGESTION

The marketing intervention by coconut marketing complex and other co-operative and government agencies need to be strengthened, need to develop varieties resistant to diseases and adaptable to changing climate and to improve yield of coconut in Thanajyur delta region.

India’s export to neighbouring SAARC (South Asian Association for regional cooperation) countries were either decreasing or stagnated. Hence, it should aim not only to capture the new markets but also to arrest the declining trend and to increase the export to existing traditional markets like Sri Lanka, Nepal, and Bangladesh.

Majority of small farmers were growing coconut on less than an acre of land, keeping in view this aspect, the policy makers should frame the policy both for increasing the production and marketing facilities.

Lack of remunerative prices and price fluctuation were the problems experienced by majority of the respondents. The government should have proper mechanism to control prices by declaring minimum support price or fix rate based on cost or production.

Coconut is a commercial crop, so production strategy needs to be developed in order to increase the production at state level.

Seed treatment and selection of the variety are the important technical practices for increasing the yield of coconut which was not realised by farmers. Hence, the extension agencies should take-up suitable training programme on these aspects to those farmers are properly educated.
The prices of coconut products by the farmers in Thanjavur delta region are dependent on produce arrival in the market at a time and demand from consumers. A suitable marketing method need to be evolved which estimate middlemen by bringing producer direct contact with consumers with right vested in the hand of farmers to determine the price.

The Government should setup a separate godown in each taluk to stock coconut and ensure the direct link between the farmers and consumers, thus eliminating the middlemen.

CONCLUSION
This thesis is considered a successful undertaking which is achieving most of its objectives and holds promise to achieve all objects in long run. Canals wells and tube wells and played as sources of irrigation and helped to develop the agriculture. Physiographical this is an area of plain region. Cauvery River and its branch Grand Anaicut canals are supply the sources of irrigation climatically this region comes tropical conditions and receivers moderate rainfall.

However, the modification as suggested when gets implemented helps to overcome the coconut marketing problems of the farmers in the Thanajvur delta region.

The processing of copra into coconut oil functions satisfactorily and within industry specific performance standards. A major drawback occurred in the form of unresolved institutional arrangement. The coconut sector in Thanjavur delta region which continue to affect not only the cost efficiency of coconut marketing, processing of coconut byproducts and
trading but also appear ineffective in providing incentives to the coconut. In spite of the constraints copra production has increased to approach the “high” growth rate in the years to come.

A shortcoming is that the new coconut marketing complex is not yet firmly established since the technical operation, financial management and marketing still depend on cooperation from the farmers. The needed cooperation from the farmers was not consistently available right now.

The study on coconut marketing problems and prospects carried out in the Thanajvur delta region generates economic benefits offered by the coconut marketing and contribute to the national economy. The farmers in the selected region constitute an optimum approach in a situation in which both the inputs and the output can be locally traded. Institutional arrangements have to be reviewed and adapted to permit flexible and commercially oriented decision making on exporting copra as well as oil depending on prices and marketability.

The institutional implications sought to be fully assessed and interagency relationship between the farmers and traders should be defined, agreed upon it appraisal and followed through.

The provision of consultant services offered by the coconut development board contributed to the successful operational and financial performance of coconut while pricing. It is important that suitably experienced coconut development board services continue to be employed in the Thanjavur delta region to increase the revenue earning capacity of the farmers during the harvest of coconut.
The Tamilnadu Government support such as fixing the price for coconuts, providing marketing support for the farmers in the Thanjavur delta region helps the farmers to maximise the return during the production and marketing of coconuts.

More systematic and persistent efforts are needed on the part of the Government and the coconut marketing complex to train the farmers to increase the productivity of coconut in the coming months. Since suitably experienced farmers is of crucial importance, the necessary resources have to be allocated to either attract locally available expertise of farmers to increase the productivity of coconut in the Thanjavur delta region. The functions of Tamilnadu Government agencies in the coconut sector, especially the marketing and purchasing arrangements, the copra price stabilisation scheme and cost and revenue sharing ought to be reviewed in view of the costly burden and questionable benefits derived from present procedures and institutional arrangements. The objectives should be to maximise the benefits to the regional economy.

The processing of copra would be financially advantageous for farmers and the processing and trading margins earned would contribute to the national economy. Therefore, the Tamilnadu Government should make all necessary logistic and administrative arrangements to facilitate such trade. Any further expansion of the coconut production capacity and the possibility of production of coconut oil derivative have to carefully examined not only in financial terms but also in the context of the national economy by the farmers in the Thanjavur delta region.
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