Chapter - 7

SUMMARY, CONCLUSION AND POLICY OPTION
The present study entitled “Economics of Production and Marketing of Coconut in Karnataka” has been designed to examine the trends in production of coconuts, factors associated and their relative contribution in the yield of coconut existing market system and price policy of coconut in the important coconut growing districts in Karnataka.

In this study, the data on area, production and productivity of coconut has been collected from the Directorate of Economics and Statistics, Directorate of Agriculture, Coconut Development Board and Government of Karnataka. The data on marketing costs and price spread in different market situations were collected through six market channels having intermediaries one to five. The wholesale price of coconuts in Karnataka as well as in the different districts of the State for the period 1980-81 to 2004 were collected from the Directorate of Economics and Statistics, Government of Karnataka. The data relating to the inputs used and output produced among the coconut growers were collected from a cluster of villages of Arasikere block in Hassan district. The specific objectives of the study are as follows.

1. To study the trends in area under production and productivity of coconut in major producing states of India as well as the districts of Karnataka.
2. To analyze the factors like fertilizer, human labour, irrigation and planting materials and their relative contribution in the production of coconut.
3. To identify the agencies involved and the channels they form in the process of marketing of coconut in Karnataka.
4. To study the marketing costs, margins and price spread in the marketing of coconut in various marketing channels.
5. To study the structure of coconut prices in Karnataka markets.
6. To estimate the cost of production of coconut and to compare it with its market prices.
The results along with the major conclusions drawn in the state are recapitulated below.

1. The compound growth rates of area under coconut during 1980-81 to 2002-03 is found to be highest in Kerala, recording 6.69 per cent per annum followed by Karnataka, Tamil Nadu, Andhra Pradesh, 5.50 per cent, 5.39 per cent, 4.2 per cent respectively. The production growth rate of coconut is found to be highest in Kerala recording 8.83 per cent, followed by Tamil Nadu (7.39 per cent), Karnataka (7.1 per cent) and Andhra Pradesh (6.30 per cent) during 1980-81 to 2002-03. But the productivity growth rate in Karnataka is 8.15 per cent as compared to 9.5 per cent in Lakshadweep, 9.41 per cent in Maharashtra, 9.4 per cent in West Bengal, 9.43 per cent in Pondicherry, 9.26 per cent in Assam, 9.0 per cent in Andhra Pradesh, 8.50 per cent in Orissa, 8.57 per cent in Kerala. Among the major coconut growing districts of Karnataka, positive and statistically significant growth rates in area are recorded in all the districts over the year. But the production and productivity growth rates are statistically not significant indicating the stagnation or decrease in all these districts over the years.

2. The multiple regression analysis has been carried out to examine the factors associated and their relative contribution in the yield of coconut in different size group categories of farmers in Hassan district of Karnataka. The response of output to various inputs such as seedling, fertilizer used, cost incurred in hoeing, manures used, chemicals applied, cost of irrigation, cost incurred for cleaning the plants, expenses incurred in fencing and cost incurred in engaging labour for different cultural practices have been estimated by using linear production function. In the process of analysis, the factors like human labour, biofertilizers, manures and irrigation are found to be very important in influencing the yield of coconut in the study area.
3. Coconut marketing in Karnataka is carried out by a large number of intermediaries varying from one to five in each market channel. Besides a good number of facilitating intermediaries such as truck owners, bullock cart owners, rickshaw owners, mill owners also perform some vital function in the present market spectrum.

4. Marketing costs, margins and producers net share per 100 nuts have been analyzed in six identified marketing situations in Hassan district of Karnataka. The six identified marketing situations are as follows:

i. Producer – Consumer: It is a market channel, having no involvement of middlemen in the marketing process.

ii. Producer – Village Trader – Consumer

iii. Producer – Village Trader – Retailers – Consumer


On an average producer’s net share was 84.33 per cent in the market channel having no middlemen (direct selling) and it declined to 58.33 per cent in the market channel having 3 middlemen. The profits in the trader appropriated by the intermediaries for their various services in the marketing process increased with increase in middlemen in the market channel. It was 11.29 per cent in the market channel having one middlemen and increased to 28.95 per cent in the market channel having 3 middlemen. Similar trend was also observed in respect to the marketing cost incurred by the intermediaries.
5. The coconut growers in the study area receive a price varying over space, time and market channel.

6. The wholesale price of coconut during 1980-2004 in Karnataka market reveals that the coconut prices are lower in winter and higher in summer in all the districts of Karnataka during the years under investigation (1980-2004). The regression co-efficient of monthly trend of wholesale prices of coconuts in Belgaum, Chamarajanagara, Chickmagalur, Dakshina Kannada, Gadag, Hassan, Mandya, Tumkur and Udupi are more than the significance in monthly prices in the districts as compared to other districts of the state.

7. The costs of cultivation in different size class farmers in Hassan districts have been analyzed. The cost of cultivation among the farmers having 0-150 coconut plants comes to Rs. 12156.16 per farm as compared to Rs. 10,066.54 and Rs. 8334.72 per farm among the size class second and third respectively. On an average, the cost of cultivation of coconut per farm comes to Rs. 10,037.45 in the study area.

8. The cost of production of 100 nuts has been estimated which comes to Rs. 392 among size group first categories of coconut growers as compared to Rs. 262 and to Rs. 199 among farmers of size group second and third respectively. On an average, the farmers of Hassan district incurred Rs. 284.33 to produce 100 nuts as cash input. It is further estimated that on an average, the farmers of Hassan district incurred Rs. 2.79 as cash input to produce one nut.

It is further estimated that the farmers of the study area received Rs. 209 and Rs. 316.33 per 100 nuts respectively at farm-gate price and market price in Arasikere market during the marketing period.
Findings of the Present Study

1. The growth rates of area, production and productivity of coconut in Karnataka as well as in the districts under study area found to be statistically significant indicating the higher adoptability as expansion of area under coconuts. The significant production growth is more attributed to expansion of area rather than rise in productivity. Thus, it clearly indicates that a technology suitable to the different coconut ecosystems should be developed for shifting the level of productivity.

2. The regression co-efficient with agro-chemicals number of irrigation required for crop growth, quantum of biofertilizers, quantum of manures and required number of labours involved in the process of productivity play crucial role in the production of coconut. In such a situation, a proper package of practices indicating the type and quantum of biofertilizer required, water requirement, type of pesticides and insecticides required, types of cultural practices, labour required for crop along with other practices may be developed in local language so that farmers can easily adopt it for shifting the level of productivity. If necessary, special training programmes in different cultural practices of coconut may be imparted, in coconut growing areas for transferring the technical know-how developed with the scientists to its users.

3. The results of resources productivity indicates that hoeing, biofertilizer, irrigation, cleaning plant, manures would influence on production of coconut. The regression co-efficient was less than unity in almost all size groups farmers which show input was operating at diminishing returns for most of the size groups. This analysis further indicates that only few inputs show the significance. Most of inputs show the negative
contribution. It means that most of the inputs are not utilized for the coconut plantation.

4. The allocation efficiency shows that most inputs are not utilized and also shows a negative return on seedling, biofertilizer, cleaning plant, irrigation fencing and human labour.

5. Technical efficiency results shows that more than 80 per cent of small and medium farmer have not the technical efficiency. All size group farmers do not use fertilizer because of lack of capital.

6. Analysis of cost of marketing for different size groups of farmers indicated a direct relationship between area under coconut and marketing cost. Small producers incurred lower marketing costs, while it is highest for large farmers. In case of market intermediaries net benefit is more for vendor.

7. The price spread analysis reveals that coconut producer got net price 84.33, 79.9, 72.91, 71.29, 65.23, 58.33. Average percent of the consumer rupee in channel I, II, III, IV, V and VI.

8. The primary objective of the study is to investigate the feasibility of rising coconut plantation in Karnataka, in general and in all the districts of Karnataka. In this regard, the study has attempted to estimate the cost of cultivation of coconut plant, production and productivity of coconut gross returns, net income with the help of primary data collected from the sample farmer.

9. A large number of intermediaries involved in the process of coconut appropriate a major share of the price paid by the consumers. The marketing cost and margins increase with the rise in intermediaries in the
market channel. It is mainly due to the absence of government interference in the coconut trade. Steps can be taken for vertical increase in marketing activities so that the number of intermediaries involved in the process of marketing can be reduced. This needs to establish coconut growers consortium in producing areas which will not only provide a dependable market support to the coconut growers, but will ensure supply of key farm inputs. Such a consortium can provide facilities of processing, packing and exporting so that the additional price gained through the process can be distributed among the members of the consortium who are the real producers.

10. In the existing marketing system, the producers receive to the extent of 50 to 90 per cent of the price paid by the consumers in different market situations. Such a marketing environment where the intermediaries play a major role can be changed with establishment of consortium at the producing areas. The marginal coconut growers can even avail such facilities by becoming a member in the consortium. The consortium can be able to process and export directly which will not only more foreign exchange, but will also create demand for coconut among growers. This will create a healthy atmosphere in the marketing environment providing a remunerative price to the producers and a reasonable price to the consumers. Such arrangement will induce the small and marginal farmers in entering the export market.

11. In the existing market scenario, the margins appropriated by the intermediaries and the costs incurred by them play a vital role in discriminating the coconut growers in receiving a normal price over space, time and market channel. This environment can be changed by establishing the coconut growers consortium with introduction of mobile
procurement programme, where small and marginal farmers can be benefited by selling their marginal surplus through mobile procurement. Further, it will reduce the number of intermediaries in the market channel and costs incurred in the process too. The coconut growers in the state do not enjoy a uniform price. It is mainly due to the absence of Market Information System (MIS) in the state. In such a situation, a computerized market information system should be developed which will not only provide market prices at the national level, but will provide the price that exists in different international markets.

12. Major problems faced by the producers are lack of capital, price fluctuation, problem of remunerative price, problem of grading, problem of irrigation, high electricity charges, lack of storage facility, in market long chain of agencies or intermediaries, high commission and market charges and miscounting etc.

13. A stochastic seasonal autoregressive intergrades moving process (ARIMA) was found to be appropriate model for all the districts markets. Month-wise wholesale price in Karnataka, non-seasonal autoregressive and moving average process were obtained for all markets. The presence of significant, auto regressive terms in all the coconut markets indicated that the current prices of coconut were related to linearity to one or more prior values of the previous year. Whereas, the presence of moving average terms implied that the current prices were influenced by one or more prior values of the stochastic terms in the previous years. Seasonal auto regression implying that the values in particular month were affected by the values of the corresponding months in previous years. Seasonal moving average terms also indicated that the current prices of coconut were influenced by the error terms of the corresponding months in
previous years. The forecasting values of coconut prices using ARIMA model showed fluctuating trend in all the markets.

14. Coconut industries are not developed in the district level. Therefore, by-products of coconut are not profitable for the farmers.

15. Since coconut plants take 7-10 years to harvest, a long term price policy may be developed to ensure the coconut growers to get a fair and stable price for their produce. Since the support price for agricultural crops declared prior to the sowing season, steps can be taken to project the market price of such plantation crops for a period of 7 to 10 years.

Conclusion

On the basis of the findings of the study, appropriate conclusion has been drawn for the development of coconut economy in Karnataka.