ECONOMIC ANALYSIS OF PRODUCTION, MARKETING AND PRICE BEHAVIOR OF COCONUT

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ABSTRACT OF THE THESIS
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ABSTRACT

Coconut (*Cocos nucifera* L.) is an important crop cultivated in Kerala which covers 39 per cent of net area sown in the state and contributes 15 per cent to the state agricultural GDP. Even though the state has the largest area under coconut cultivation, per palm productivity is very low at 42 nuts per tree. Now the state is losing its share to other competitive states like Tamil Nadu which ranks first in production. Hence the present study was carried out to analyse the trend in area, production and productivity and price behaviour of coconut in Kerala along with an understanding of production and marketing structure.

Kozhikode district was selected as the study area which has the largest area under coconut cultivation in Kerala. Based on the list of farmers collected from Krishibhavans, 40 farmers were randomly selected from the two selected blocks making a total sample size of 80. The information was also collected from 25 market intermediaries including wholesalers, retailers and millers.

Trend analysis was done to understand the growth pattern of coconut in terms of area, production and productivity both at national and state level from 1980-01 to 2015-16. In India, area, production and productivity of coconut showed an increasing trend. The analysis on the growth performance of coconut in India revealed that area, production and productivity of coconut had shown an increasing trend, with the exception of growth in area and production during Period I. During Period II, in spite of a higher growth in productivity, the growth rate was lower for production due to stagnant growth in area. However, the growth in area, production and productivity during the overall period under study was significant and positive. In case of Kerala, productivity-based growth of output was observed which means that the growth in production of coconut was mainly by the contribution of growth in productivity rather than in area.

The price behavior of coconut and copra in major markets of Kerala viz., Alappuzha and Kozhikode were analyzed by decomposing the monthly price data into four components viz., secular trend, seasonal variation, cyclical variation and
irregular variation assuming a multiplicative model of time series. The price of coconut and copra in these markets showed an increasing trend in the long run. While analysing the seasonal variation it was noticed that during the Period I (1980-01 to 1995-96), price of coconut showed wide fluctuations in both the markets but it was considerably low in Period II (1995-96 to 2015-16) whereas, the seasonal variation of copra price in both the markets showed a similar pattern. Three to four cycles were seen in both the market prices but the length of cycles was observed to be varying. Co-integration analysis of coconut prices in the above two markets were carried out and it was revealed that both the markets were integrated. In order to provide additional evidence as to whether and in which direction, price transmission was occurred Granger causality test was carried out and the results proved the existence of unidirectional causality between Kozhikode and Alappuzha market prices in the long run.

Since coconut is a perennial crop, its yielding phase was assumed to be 50 years, with a non-bearing phase of 7 years. The cost and returns were estimated taking into account the establishment cost and the maintenance cost. The cost of cultivation per hectare was Rs.1,01,989 with a net return of Rs.24,011. It was noted that human labour accounted for 50 per cent of the total cost. To evaluate resource use efficiency in coconut cultivation, Cobb-Douglas production function was fitted. Manures, fertilizers and plant protection chemicals were found to be significantly contributing towards the yield. Moreover, an increasing returns to scale in coconut production was observed in the study area which implies that there is ample scope to increase the profit of farmers by proper adoption of technology and by optimal allocation of resources.

Marketing plays a predominant role in agricultural development and is as important as production to any producer. Thus, an efficient marketing system can increase the level of income of producers and raise the satisfaction of consumers. Marketing of coconut needs further attention in Kerala, the land of coconut as it serves the lives for more than 80 per cent of the people in the state. The most common marketing channel identified in the study area was channel I (Producer-
village trader- wholesaler- retailer- consumers). It was found that lack of storage facilities and fluctuating prices drive the producers to sell raw nuts immediately after harvesting instead of waiting for a higher price for their produce.

Major constraints identified in the study area were wide fluctuations in coconut prices, high labour cost, pests and diseases attack and inadequate procurement scheme. In order to tackle these problems, it is necessary to encourage coconut farmers to replant old and senile trees by providing subsidy and ensure high production by strengthening the existing procurement scheme. Strategies emphasizing implementation of comprehensive coconut rejuvenation programmes, enhancing productivity through better technology integration and value addition through product diversification to ensure better price for farmers are suggested.