Chapter - 7

SUMMARY AND POLICY IMPLICATIONS
A brief review of the present study along with the salient findings is presented in this chapter based on the empirical evidences. The policy implications suggested would help planners and policy makers to formulate appropriate policy measures.

India has been a predominantly agrarian economy and agriculture continues to be main stay of our economy even today. With the globalization the agriculture sector has opened up with new avenues, especially for horticulture enterprises.

Coffee, is one of the important commercial plantation crops of South India. It is also a social, institutional and cultural fabric of southern states of India. Coffee has a wide range of use, both as a beverage and preparation of food such as chocolate.

Coffee is cultivated in India in Chikmagalur, Kodagu and Hassan districts of Karnataka, Wayanaad, Idikki and Palakkad districts of Kerala, Nilgiris and Yercaud in Tamil NAdu, Srisailam and Visakhapatnan in Andhra Pradesh, Bastar in Chattisgarh, Koraput in Orissa, West Khasi hills in Meghalaya, Haflong and Mizoram, Dimapur and Mokokchung in Nagaland and Deomali in Arunachal Pradesh. Presently coffee is cultivated on 0.35 million hectares in India with a production of 0.33 million. Coffee consumption in India is only 550000 tonnes / year or 18.3% of the total production.

Small farmers account for 98% of total holdings and contribute to 60% of coffee production. The remaining 2% is contributing to 40% of the coffee output from 11 lakh ha (Anon, 1988a).

In Karnataka, coffee is commercially grown in the districts of Kodagu, Chikmagalur and Hassan. Coffee productivity in a given situation is dependent on agro-climatic factors, production technologies employed and managerial practices
adopted. The agro-climatic factors include soils, topography, rainfall, temperature, humidity and day length. In the current scenario of falling prices the farmers should be more competitive and know how to maximize quality output from a given area with minimum cost.

The overall objective of the study was to examine the economic feasibility of investment in coffee. The Specific Objectives of the Study are:

1. To study the trends in area, production and productivity of coffee in Chikmagalur district and also in the state of Karnataka with a view to analyse the commercialization of plantation crops or growth of capitalistic farming of commercial crops.

2. To study the viability of coffee farming and estimate the average cost of cultivation of coffee, production, productivity, income received and input-output ratio in Chikmagalur district.

3. To derive the implications of coffee farming on standard of living and social development of coffee planters.

4. To study how international variations in coffee prices affect Indian coffee cultivation and marketing.

Methodology

Chikmagalur district was selected purposively as it stood first in area of coffee. Two taluks namely Chikmagalur and Mudigere were purposively selected since they are considered as the coffee belt in Chikmagalur district. Four villages from each taluk were selected based on random sampling method.

To accomplish the objectives of the research, the survey had been conducted with the aid of a questionnaire. Random sampling was used to select 240 coffee planters for survey.
Primary data was collected from the planters for the year 2006. The data needed for the study were collected from the planters by personal interview method using pre-tested questionnaires.

The secondary data on area, production and productivity of coffee in different states of India, different districts of Karnataka, different taluks of Chikmagalur and only production of coffee in major coffee producing countries were collected for a period of 10 years from 1995-2005 from different sources namely District Coffee Board, District Statistics Office and UPASI (United Planters Association of South India), CCRI (Central Coffee Research Institute) etc.

Tools of Analysis

Compound growth rate was used to analyze the growth in area, production and productivity of coffee in different taluks of Chikmagalur district, different districts of Karnataka state and different states of India and only the trend of production in major coffee producing countries. Tabular analysis was used to compute sample means and percentage was used to study the general characteristics of sample respondents. Cost of cultivation of coffee was analysed using multiple regression method.

Major Findings

1. The regression co-efficient of production under coffee during 1995-96 to 2004-05 is found to be highest in Brazil, which records 1515.4 per annum followed by Vietnam, Colombia, Ethiopia, Peru, India with a value of 199.01, 1135.86, 99.21, 168.26 and 16.81 respectively.

2. The results of trend equation estimated for area of the coffee in different states for the 10 years from 1995-96 to 2004-05 is found to be the highest in Karnataka recording 3856.46 per annum followed by Kerala, Andhra
Pradesh, Orissa, with 289.5, 1651, 143.51 respectively. Tamil Nadu and Non-conventional areas showed decreasing trend in area of coffee. The production regression co-efficient of coffee is found to be the highest in Karnataka recording 6188.2, followed by Kerala, Tamil Nadu, Andhra Pradesh, Orissa 1600.7, 270, 279.23, 24.61 respectively. But, the productivity regression co-efficient of coffee in Karnataka is 13.85 as compared to 16.85 in Kerala. Karnataka, Kerala, Tamil Nadu, Andhra Pradesh and Orissa show positive values.

3. The regression co-efficient of area under coffee during 1995-96 to 2004-05 is found to be highest in Chikmagalur 2272.83 per annum followed by Coorg, Hassan with 762.88, 722.05 respectively. The regression co-efficient for Coorg district shows significant increasing trend. In the regression co-efficient of production under coffee all the four districts showing positive values, indicating the entire districts acceleration trend for production of coffee. But, in the productivity Chikmagalur and Coorg districts have been showing positive values. In Hassan and Mysore districts negative regression co-efficient was noticed confirming a decreasing trend for yield of coffee has been noticed.

4. The regression co-efficient of area under coffee during 1995-96 to 2004-05 is found to be highest in Chikmagalur with 1538.4 per annum followed by Mudigere, Koppa, N.R. Pura respectively with 411.73, 1141.88, 492.76. Only Koppa taluk had shown a significant increase in area of coffee. The regression co-efficient of production under coffee is found to be highest in Koppa taluk recording 1223.98 per annum followed by Mudigere, Chikmagalur, N.R. Pura with 1025.8, 588.63, 390.56 respectively. But the regression co-efficient of productivity are statistically not significant (except Mudigere and Kadur taluks) indicating the decrease in all these taluks over the year.
5. Multiple regression co-efficient in respect of input variables included in the production function contributed substantially in the production of coffee as indicated by the higher values of co-efficient of multiple regression ($r^2$). The estimated $r^2$ for the study area was highly significant and the ‘F’ value is 157.968. The cultivation of coffee in Chikmagalur was significantly influenced by the use of land, fertilizers, application of plant protection chemicals and use of human labour as indicated by the regression coefficients. However, the application of fertilizers and plant protection chemicals significantly influenced the production of coffee in the study area.

6. The average size of holding was 28.11, 7.69, 3.11 acres in large, medium and small arabica coffee planters respectively and in robusta coffee planters it was 21.7, 8.27 and 3.29 acres for large medium and small planters respectively.

7. The total establishment cost was highest in Large robusta coffee planters (Rs.64785.8) followed by large arabica coffee, medium robusta, medium arabica, small robusta and small arabica was Rs. 39,584.1, Rs. 61,303.1, Rs. 26,472.61, Rs. 40,504.01, Rs. 22,290.73 respectively.

8. The cost of maintenance during the bearing period worked out to be the highest (Rs.13613.58) in the large robusta planters followed by large arabica coffee, medium robusta, medium arabica, small robusta and small arabica with Rs.13,017.28, Rs. 10,968.09, Rs. 91,62.22, Rs. 58,72.02, Rs. 6,668.38 respectively.

9. In all the categories labour cost was the major component of the maintenance cost. Moreover, the cost of labour was more than half in comparison with the total cost. It could be inferred that the coffee plantation is relatively labour intensive.
10. The average yield of arabica coffee in large, medium and small planters was 8.90, 6.83 and 6.35 respectively. In robusta coffee for large, medium and small planters it was 18.78, 16.84, 11.58 respectively.

11. The average net returns per acre of coffee in the large robusta planters (Rs.36867.06) followed by large arabica planters, medium arabica planters, medium robusta planters, small arabica planters, and small robusta planters was Rs. 26004.77, Rs. 19756.00, Rs. 22004.63, Rs. 16798.04 and Rs. 16975.32 respectively.

12. It is quite interesting to note that majority of the small, medium and large planters had borrowed money. The total average amount borrowed by the small arabica, small robusta, medium arabica, medium robusta, large arabica and large robusta coffee planters from the various sources was Rs. 44,411.77, Rs. 39,516.13, Rs. 1,52,452.83, Rs.1,69,242.43, Rs. 4,77,777.78, and Rs. 5,69,736.84 respectively. The majority of the small, medium and large planters borrowed funds from financial institutions. The average amount borrowed by the small arabica, small robusta, medium robusta, large arabica and large robusta coffee planters from commercial bank was Rs. 4,044.12, Rs. 8,709.68, Rs.38,301.89, Rs.1,18,181.82, Rs. 2,88,888.89, Rs. 5,22,368.42 respectively, which accounted for 9.10%, 22.04%, 25.12%, 69.82%, 60.46% and 91.68% of the total amount borrowed. The average amount borrowed by the small arabica, small robusta, medium robusta, large arabica and large robusta coffee planters from co-operative bank was Rs. 38970.59, Rs. 29193.55, Rs. 111509.43, Rs. 50606.06, Rs. 188888.89 and Rs. 47368.42. The amount borrowed from this source accounted for 87.74%, 73.87%, 73.14%, 29.90%, 39.53% and 8.31% of the total amount borrowed. Rest of the amount was borrowed from relatives/others.
Owner's equity in case of small arabica, small robusta, medium robusta, large arabica and large robusta coffee planters was Rs. 17,910.45, Rs. 23,806.45, Rs. 69,622.64, Rs. 84,616.61, Rs. 3,41,055.56 and Rs. 3,30,842.11 respectively.

13. It was found that most of the planters had the mainly primary, Middle school and college level education. Only a very small number of planters (11.25%) studied up to degrees. Majority of the respondents belonged to middle aged groups i.e., 50s.

14. 82.50% of the planters were from nuclear families and 17.50% of the sample respondents, belonged to joint families.

15. Most of the planters expressed about the problem of timely availability of rain at the time of blossom (68%).

16. About 65.42% of the respondents had grown coffee arabica and only 34.58% of the respondents had grown coffee robusta in the study area.

17. Nearly 41.25% of the respondents had small land holdings (0-5 acres), only 22.92% and 35.83% of the respondents had large (10 and above) and medium (5-10 acres) holdings respectively in study area.

18. 50.42% of the respondents had discussed with Extension Department, Research Department, other consultancies and almost an equal percentage of respondents had their own ideas own experiments.

19. About 72.91% of the coffee planters faced lack of transportation facilities. Due to lack of transportation facilities and non-availability of transportation facilities at time, they did not get better prices for their produce. So it is necessary to provide transportation facilities at cheaper rates when required by planters.
Policy Implications

1. Consumption of coffee both at domestic and international market was almost stagnated. In this regard promotion, consumption both in coffee producing and consuming countries as well as, in emerging markets is really a good long term solution that will mitigate the effect of global glut. Strong internal market should be created by resorting to coffee promotion by aggressive methods, by making available good quality coffee throughout the country that increases coffee consumption.

2. The infrastructural facilities should be developed in the coffee area so that the environment should be able to retain the labourers in the rural areas.

3. The government should come out with a policy of giving extra incentive for the grower who produces crop beyond certain limits of productivity.

4. Parallel research programme should be taken up by private bodies on the subjects like how to reduce cost of cultivation and by the method one can get maximum benefit per unit area.

5. By going for diversification and by growing multiple crops in the coffee area, the burden on cost of cultivation can be reduced.

6. Plant protection is the prime factor that contributed significantly to the yield of coffee. Therefore, attention needs to be given for the use of chemicals and growth regulators to coffee through different extension techniques. Educational programmes need to be drawn to create awareness and to improve the knowledge of coffee growers in this line. The other cultivation practices like more inter cropping, irrigation techniques, training and pruning, post harvest technologies including marketing need to be made known to the coffee planters for getting better economic returns.
7. Non-availability of scientific storage facility was one of the major factors contributing to lower returns from coffee. Therefore, suitable storage facilities are essential to stabilize the returns of coffee growers by increasing the storage life of the coffee.

8. Most of the planters expressed the incidence of pest/disease as a major problem, the gravity of which has increased due to lack of technical guidance. Hence, there is an urgent need to evolve an integrated pest management programme besides strengthening the extension system in imparting knowledge about prevention and control of pests and disease that attack coffee.

Conclusion

Based on the above findings of the study appropriate policy implications have been drawn for the development of coffee economy in Chikmagalur district, Karnataka state.