



Volatility in Price of Rubber Crop in Kerala

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ABSTRACT

Rubber is an important plantation crop cultivated in Kerala. The state holds a dominant position both in area and production. It is the main source of income for majority of farmers. Any volatility in the price of rubber put them in a miserable situation. Recent years witnessed unprecedented volatility in rubber price. Declining trend in the prices of rubber has pushed natural rubber production the lowest in the country. The study revealed that prices were so low so that the rubber cultivators cannot even pay workers wages and the recent unprecedented volatility in prices declined rubber production leads to the falling standard of living of the rubber farmers in Kerala.

Key words: Kerala, Price, Rubber, Cultivators, Volatility.

INTRODUCTION

Major rubber producing states in India are Kerala, Tamilnadu and Karnataka; other includes Tripura, Assam, Meghalaya, Nagaland, Manipur, Goa, Andaman and Nicobar Islands. Kerala is in the forefront and is one of the most plantation crop cultivated. Of the total rubber produced in the country 92 per cent, and in area 84 per cent is the contribution of Kerala.

Rubber cultivators in Kerala are mainly small growers and any financial constraints, fluctuations in price or backwardness in technology will affect the growers considerably. In the state, 10 lakh farmers directly and indirectly depended upon and the capital employment opportunity ratio the rubber providing is 40 per cent employment for one crore rupees and is a main source of tax to state governments. The manufacturing units using rubber were facing problems because of the volatility in the price of natural rubber. About 11 lakh small rubber growers are facing crisis due to fall in price. Price of natural rubber is determined by international market. In Kerala, the price of one kilogram of natural rubber had decreased from Rs. 245/- in 2011 to Rs. 102/- in 2016. However, the cost of cultivation in this sector is increasing. Therefore, the main objectives of the

study was to analyse the trend in volatility of price of rubber and its effect on rubber production and productivity and problems faced by small growers in Kerala.

MATERIALS AND METHODS

The study used both primary and secondary data. The primary data were collected through sample survey from Kerala with the help of a well structured questionnaire. The secondary data were collected from official website of Rubber Board, Rubber Board office and publications of Govt. of Kerala and India. Growth rate and percentages are used for data analysis. Compound Growth Rates (CGR) of area, production and productivity of rubber for the period were estimated with the following exponential model.

$$Y = abt$$

The growth rate (GR) has been computed using the formula: $GR = (\text{Antilog } b-1)100$

The F test has been applied to test the significance of b.

RESULTS AND DISCUSSION

During 1960's, the first five main crops in terms of area were rice, coconut, tapioca, rubber

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and pepper in the descending order of shares to the total cropped area. But at present, rubber occupied second position in area compared to other crops. The percentage increase in area under rubber was 328; among the districts Thiruvananthapuram recorded highest percentage increase in area. The growth of rubber-output decomposed in real and monetary terms (Karunakaran, 2015) revealed the dominance of monetary growth over real growth; the overall growth is actually monetary growth rather than real growth.

Volatility in the price of rubber in Kerala

Natural and synthetic rubber is interchanged for various usages. When price of natural rubber rises automatically the demand for synthetic will increase. In addition, petro-chemical products used for making synthetic rubber also have an indirect effect on natural rubber price.

The average farm harvest price of rubber in Kerala during 2000 to 2015 is presented in Table 1. The highest price was noticed during the year 2011-

12; after that fast decline noticed.

Trend in the volatility in price of rubber in Kerala

The marketing and export of rubber is commonly adopted through different channels. The leading export markets are China, Malaysia, Indonesia, Turkey, Sri Lanka, Spain and Nepal. More than 90 per cent of the rubber produced in India is from Kerala. 80 per cent of the area under rubber in Kerala is accounted by small holdings and is generally grown in the midlands and highlands. The small holding under rubber in Kerala is mainly homestead planting and is lying adjacent to each other.

Data (Table 2) show the volatility in rubber price of Kerala in terms of growth rate during the period 1961-2015. It clearly revealed that there is an increasing and decreasing trend in price. Rubber price showed an increasing trend in 1991 and this continued up to 1995. Since then there was a negative trend in growth rate. After 2001,

Table 1. Average farm harvest price of Rubber in Kerala.

Sr. No	Year	Price (Rs/q)	Annual Growth rate (per cent)
1	2000-01	3,036	-
2	2001-02	3,228	1.92
3	2002-03	3,919	6.91
4	2003-04	5,040	11.21
5	2004-05	5,570	5.30
6	2005-06	6,699	11.29
7	2006-07	9,204	25.05
8	2007-08	9,390	1.86
9	2008-09	10,112	7.22
10	2009-10	11,498	13.86
11	2010-11	19,003	75.05
12	2011-12	20,805	18.02
13	2012-13	17,682	-31.23
14	2013-14	16,602	-10.80
15	2014-15	13,257	-33.45

Source: Computed from Rubber Board office, Kottayam, Kerala.

Rubber Crop in Kerala

Table 2. Growth rate of Rubber price in Kerala (1961-2015)

Sr. No	Year	Growth rate (in percent)
1	1961-1965	-2.75
2	1966-1970	6.67
3	1971-1975	8.11
4	1976-1980	4.31
5	1981-1985	6.07
6	1986-1990	4.44
7	1991-1995	9.31
8	1996-2000	-13.58
9	2001-2005	9.09
10	2006-2010	8.34
11	2011-2015	-8.66

Source: Computed from Rubber Board office, Kottayam, Kerala.

growth rate again increased; but the present trend is negative (-8.66 percent).

Effects of volatility in rubber price of Kerala

The analysis revealed unprecedented volatility in rubber price. So there was a sharp decline in rubber production and productivity in Kerala. Table

3, 4 show the area, production and productivity of rubber during 1960-61 to 2014-15. Production and productivity has declined during 2013-14 to 2014-15.

Originally rubber was introduced into areas with degraded forests; from there it spread all over. It replaced natural vegetation, tapioca, cashew nut, fruit trees and coconut (Chattopadhyay, 2015). The area, production and productivity of rubber crop had tremendously increased (Table 3, 4). From 2013-14 to 2014-15, production and productivity has declined tremendously due to sharp fall in price and consequent reduction of tapping by rubber growers.

The rubber farmers cultivate in more than 60 per cent of their land and considerable investment has been done to maintain the plantations. The major share of their income is from this crop. The expenditure for maintaining the holdings is increasing and the cost of cultivation is very high irrespective of the decrease in price. Decrease in income has compelled the farmers to reduce expenses on fertilizers and other inputs used. The analysis revealed certain important results: (i) the decrease in price reduced confidence among rubber growers which compelled them to shift to other crops, (ii) the wide fluctuations in the price of rubber and the consequent reduction in income of

Table 3. Area, production and productivity of Rubber in Kerala

Year	1960-61	1970-71	1980-81	1990-91	2000-01	2013- 14	2014- 15
Area (000 ha)	122.9	179.3	237.7	411.6	474.4	548.2	549.9
Production (000t)	23.0	78.7	140.3	307.5	579.9	648.2	507.7
Productivity (kg/ha)	187	439	590	747	1222	1182	923

Source: Computed from Rubber Board office, Kottayam, Kerala.

Table 4. Compound growth rates of area, production and productivity of rubber in Kerala.

Sr. No.	Item	1960-69	1970-79	1980-89	1990-99	2000-15	1960-2015
1	Area	3.65	1.99	6.49	1.41	1.08	3.08
2	Production	*	6.11	7.64	7.35	4.01	6.71
3	Productivity	10.73	3.82	1.09	5.85	3.02	3.20

* Significant at probability level 0.01

the farmers put them in a miserable situation. Some rubber growers were found unable to complete the construction of their house, marriage of children, education of children started, etc during the period due to decrease in price and (iii) when the price of rubber came below cost of production, cultivation became unprofitable to farmers.

Table 5. Income to farmers from rubber cultivation (in percent)

Sr. No	Amount (in Rs)	Percentage
1	Below 10,000	44
2	10,000-20,000	46
3	20,000-30,000	6
4	Above-30,000	4
5	Total	100

Source: primary data

Most of the farmers are tapping rubber trees between 100 to 200 numbers and rubber sheet is below 10 in number. 46 percentages of farmers are earning income between Rs. 10000-20000 and 44 percent below Rs. 10000 (table 5). The percentage of rubber cultivators using labour skill is very small. The efficiency of labour depends on the education

and training imparted to them and wages. Tapping wages constitute a major component of cost of production.

CONCLUSION

Rubber is an agro-industry based product in which 10 lakh farmers are directly involved. There is a scarcity of 2 lakh tonne of natural rubber in the world market today. The farmers in Kerala are facing many problems due to volatility in price; so a scheme that guarantees minimum price of Rs. 150/-kg. for natural rubber sheets produced was implemented by state government. The government should provide more incentives to protect the small rubber growers and also stop the import of natural rubber; otherwise there will be a shift from rubber growing to other crops.

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