

PLANTATION SECTOR IN KERALA: AN ANALYSIS OF TREND IN AREA, PRODUCTION AND PRODUCTIVITY

JEAN MARIA GEORGE
Assistant Professor,
Department of Economics,
Christ College (Autonomous), Irinjalakuda, Thrissur,
Kerala, India.

Abstract : A plantation is a large piece of land or a group of commercial crops of perennial nature, cultivated extensively in a tropical or semitropical area. These crops are explicitly planted for extensive commercial sale. It needs employment of labour throughout the year and the products of which are usually consumed after processing. The crops grown include fast-growing trees, cotton, coffee, tea, cocoa, sugar cane, sisal, oil seeds (e.g. oil palms), rubber trees, and various fruits. The large size of plantation sector offers the advantage of economies of scale. It is crucial to maintain adequate nutrition programs to ensure high productivity, reduce losses, pollution and to take advantage of good management practices to replenish soil fertility. Plantation crops like tea, coffee and rubber are high valued commercial crops, which constitute around 15 percent of total agricultural export earnings in India. The sector has a very high export potential along with sufficient domestic supply. Being a highly labour-intensive sector, it plays a major role in the livelihood of thousands of labourers. The aim of this paper is to study the trend in area, production and productivity of plantations crops in India as a whole and in the state of Kerala in particular.

IndexTerms - Plantation sector, Plantation crops, Area, Production, Productivity, Plantation agriculture.

1.1 INTRODUCTION

Plantations are fundamentally large agricultural endeavours with many industrial characteristics. It provides the silver lining to our agriculture sector, with high level of productivity and employment, apart from their catalyzing contributions towards rural development. Being a highly labour-intensive enterprise, supplying modern technology and management tactics, plantation sector makes the optimum use of the marginal land resources and also generate considerable foreign exchange earnings by way of export.

Plantation crops fall into the category of plantation agriculture where a single crop is raised on a large area. Plantations are cultivated on an extensive scale in a large contiguous area, owned and managed by an individual or a company. The agricultural economy of the state has been undergoing a noticeable process of diversification in the last few decades. A significant feature in the pattern of agricultural development witnessed since the early 1970s is the shift in the cropping pattern in favour of commercial crops. Food crops, largely the small farm sector, unable to withstand the domination of commercial or plantation crops, naturally lost the pride of place it once enjoyed and have become less remunerative compared to the more patronized plantation crops. The relatively higher profitability of cash crops and plantations, exemption of plantation crops from land reforms act and the promotional activities of the government are the main factors which account for the shift in the cropping pattern observed in the state. In the past, the choice of the crop was largely guided by agronomic considerations whereas the current emerging trends show that, more than anything else it is the economic forces that acts as the important determinant in decision making on the agricultural front.

An estimate by the Ministry of Commerce explains that more than two million people are involved in plantation sector directly and also another six million are engaged indirectly in the plantation sector. The major plantation crops growing states in India are Kerala, Karnataka, Tamil Nadu, West Bengal and North Eastern states. Due to the highly significant role played by the plantation sector in economic development, it is important to analyse the trend in area, production and productivity of plantation crops in India as well as in the state of Kerala. This is important to understand the role and economic importance of plantation sector in an economy as well as in the lives of large number of people, depending on these plantations alone for their livelihood.

1.2 OBJECTIVES

The important objective of this paper is to understand the trends in area, production and productivity of three major plantation crops, which includes tea, coffee and cardamom in India and in Kerala and relate this to the altering marketing system.

1.3 METHODOLOGY

The present analysis is made on the basis of time series data from 1990-91 onwards. Data are obtained from the publications of Directorate of Economics and Statistics, Department of Agriculture and co-operation, Tea Board of India, Coffee Board of India, The Spices Board, Reserve Bank of India, latest Economic survey and Kerala Economic Review, District Handbook and Agricultural Statistics of Kerala.

1.4 REVIEW OF LITERATURE

Looking into the origin of plantations in the state, Raman (1986) and Hayami and Damodaran (2004) explains the historic background of the plantation sector. According to them, plantations were a product of colonialism and plantation crops exhibits a dualistic structure of production, with large area of holdings and also small holdings

Uma Devi (1984) analyses certain historical and quantitative aspects connected with the area of plantation production and economic development of Kerala. The study uses quantitative techniques and looks at the impact of plantations on Kerala as a whole after 1947. The empirical results show that the wage and employment multiplier of the plantation sector is low.

George Tharian K. (1982) made a detailed study on the tea plantations in South India. According to him, the Indian tea industry, in general and the South Indian tea industry, in particular were passing through a serious crisis, which mainly centres around cost escalation and failing or stagnant prices. The crisis assumed more significance considering the relatively declining auction prices and the stiff competition from the emerging rival producers whose cost of production was comparatively low.

Mary Tiffen and Michael Mortimore (1990) review the theoretical and actual role of plantations in economic development in comparison with smallholder production of plantation crops. The constantly changing political, social and economic environment of plantation agriculture in the third world countries necessitates to carry out such a review. Moreover, the progressive integration of the global economic system in which the historic plantation played an important part is increasingly affected by the activities of the transnational corporations (TNCs).

Darvishi, G. A., & Indira, M. (2013) explains the changing pattern in area, production and productivity of coffee and tea plantations in India during the pre and post liberalization period. The growth pattern and a detailed trend analysis over the years is made. The impact of different trade liberalization policies adopted in India with the introduction of New Economic Policies on the plantation crops is also analysed.

K. J. Joseph (2013) examined the evolving nature of interaction between economy, ecology and innovation on sustainable development of plantation sector in Kerala and finds that the emerging trajectory appears to be one that promotes sustainability notwithstanding instances of institutional inertia within the sector towards evolving a sustainability-oriented innovation system.

N.K. Krishna Kumar, T Janakiram, M Anandarai and Lio Thomas (2104) explains the significant role of plantation sector in the overall economic development. The study examines the role of the sector in different phases of growth like foreign exchange earnings through exports, direct and indirect employment provisions, contribution towards the agrarian economy of the nation, etc. The paper also examines the sectoral trends in plantation sector over the years, analysing the area, production and productivity of major plantation crops in India. It also explains the major challenges faced by the sector and the livelihood security of the labourers and brings out policy options for the future.

1.5 NATIONAL TREND VIS-À-VIS PERFORMANCE OF KERALA IN THE AREA, PRODUCTION AND PRODUCTIVITY OF PLANTATION CROPS

Agriculture and allied sector play a significant role in rural livelihood, employment and national food security in a developing country like India. It happens to be the largest source of livelihoods in India. Proportion of Indian population depending directly or indirectly on agriculture for employment opportunities is more than that of any other sector in India. As high as 70 percent of its rural households still depends primarily on agriculture for their livelihood, with 82 percent of farmers being small and marginal (Source: FAO, India at a glance).

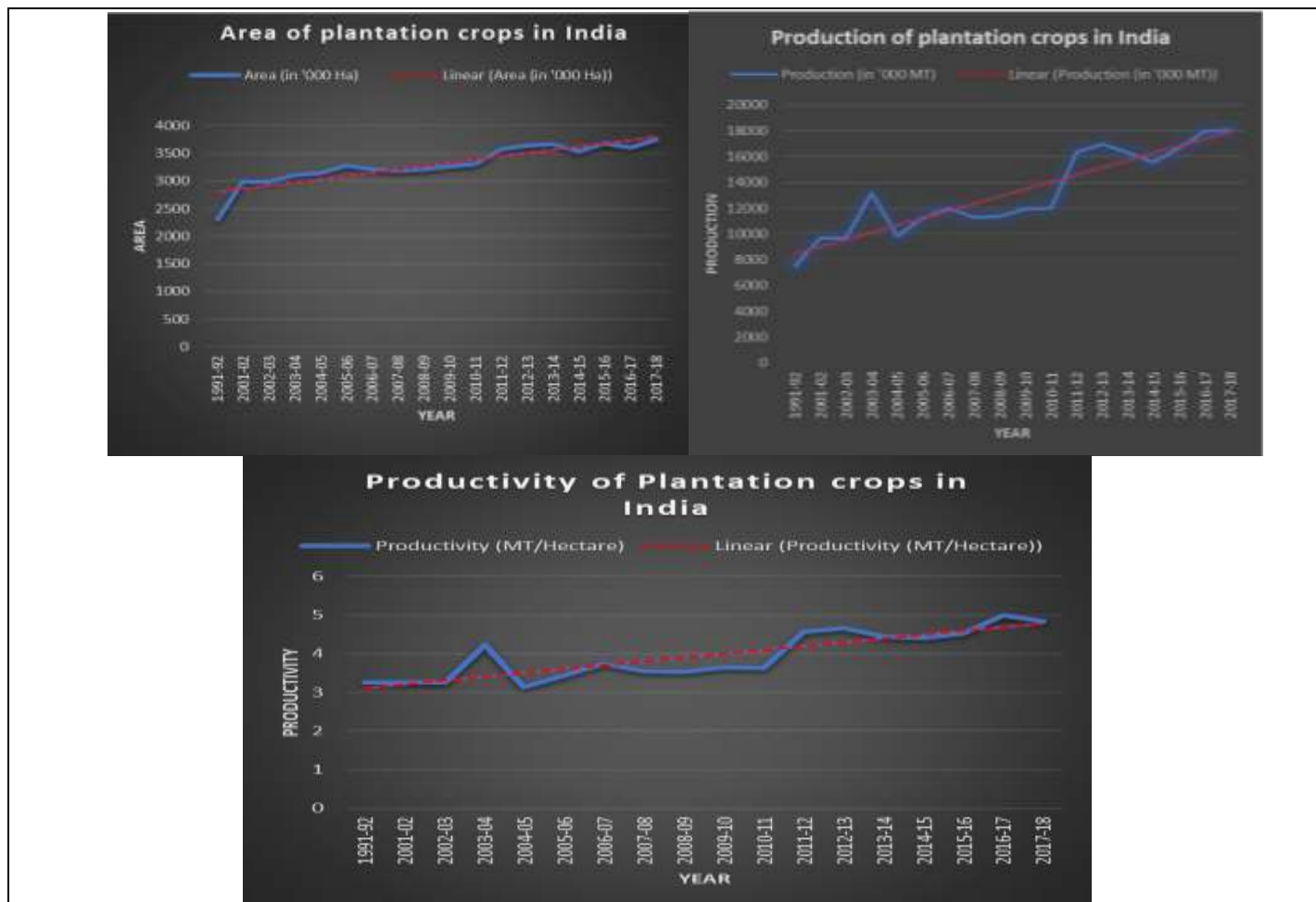
1.5.1 Area, production and Productivity of Plantation crops: India

Table 1.1: All India Area, Production and Productivity of Plantation Crops over the Years from 1991-92 to 2017-18

Year	Area (in '000 Ha)	Production (in '000 MT)	Productivity (MT/Hectare)
1991-92	2298	7498	3.26
2001-02	2984	9697	3.25
2002-03	2984	9697	3.25
2003-04	3102	13161	4.24
2004-05	3147	9835	3.13
2005-06	3283	11263	3.43
2006-07	3207	12007	3.74
2007-08	3190	11300	3.54
2008-09	3217	11336	3.52
2009-10	3265	11928	3.65
2010-11	3306	12007	3.63
2011-12	3577	16359	4.57
2012-13	3641	16985	4.66
2013-14	3675	16301	4.44
2014-15	3534	15575	4.41
2015-16	3680	16658	4.53
2016-17	3598	17972	4.99
2017-18	3744	18082	4.83

Source: Horticultural Statistics at a Glance 2018, Department of Agriculture Cooperation & Farmers' Welfare, Government of India

Fig.1.1: Area, Production and Productivity of plantation crops in India



The area, production and productivity of plantation crops from 1991-92 to 2017-18 shows an increasing trend over the years. In terms of area, the plantation crops occupy an area of 2298000 hectares of land in 1991-92, which has increased to 3744000 hectares by 2017-18. This shows an increase of 1446000 hectares over a period of 27 years. The production of plantation crops in Indian economy shows that it was 7498000 million tonnes in 1991-92 which has become 9697000 MT by 2001-02 and further increased to 18082000 MT by 2017-18. It reflects an increasing trend in the production level of plantation crops over the years. The period 2003-04 shows a sudden high increase in production and productivity of plantation crops in India, which then shows a downward trend in the next year 2004-05, followed further in an upward direction from 2005-06 period onwards.

The productivity level was 3.26 MT/ha in 1991-92. There was no tremendous change in productivity till 2002-03 period. It was 3.25 MT/ha in 2001-02 as well as in 2002-03. This has increased to 4.24 MT/ha in 2003-04, which again falls to 3.13 MT/ha in 2004-05. After 2005, there seems a continuous increasing trend, though with slight variations, in the productivity of plantation crops till 2018, with the productivity level reaching to 4.83 MT/ha by 2017-18.

1.5.2 GROWTH TRENDS OF AREA AND PRODUCTION OF PLANTATION CROPS IN INDIA

Table 1.2: Annual Growth Trends of Area and Production of Plantation Crops in India

Plantation crops	2010-11 over 2009-10		2011-12 over 2010-11		2012-13 over 2011-12		2013-14 over 2012-13		2014-15 over 2013-14		2015-16 over 2014-15		2016-17 over 2015-16		2017-18 over 2016-17	
	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production
	1.3	0.7	8.2	36.2	1.8	3.8	0.9	-4	-3.8	-4.5	4.1	7	-2.2	7.9	4.1	0.6

Source: Horticulture Statistics Division, Department of Agriculture Cooperation & Farmers Welfare

Fig 1.2: Annual Growth Trends of Area of Plantation Crops in India

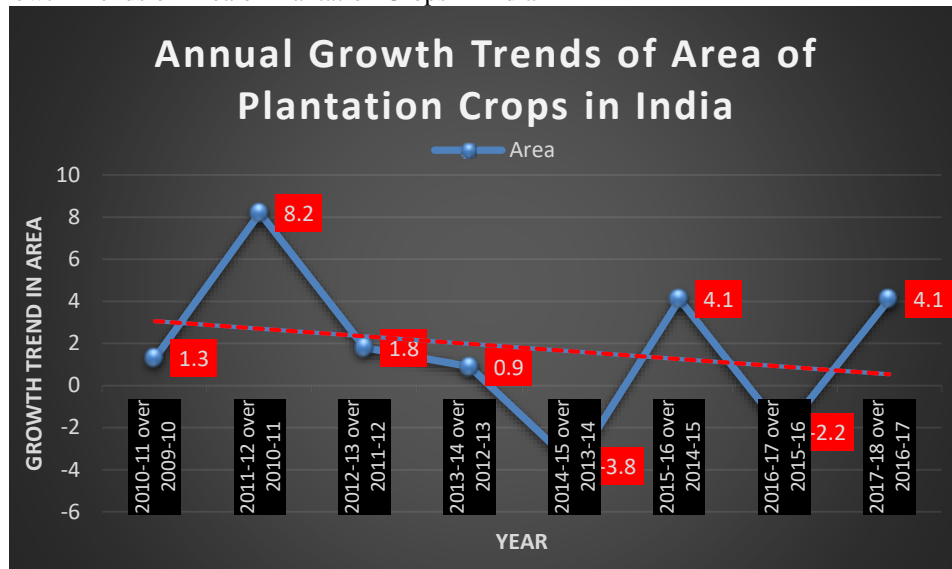
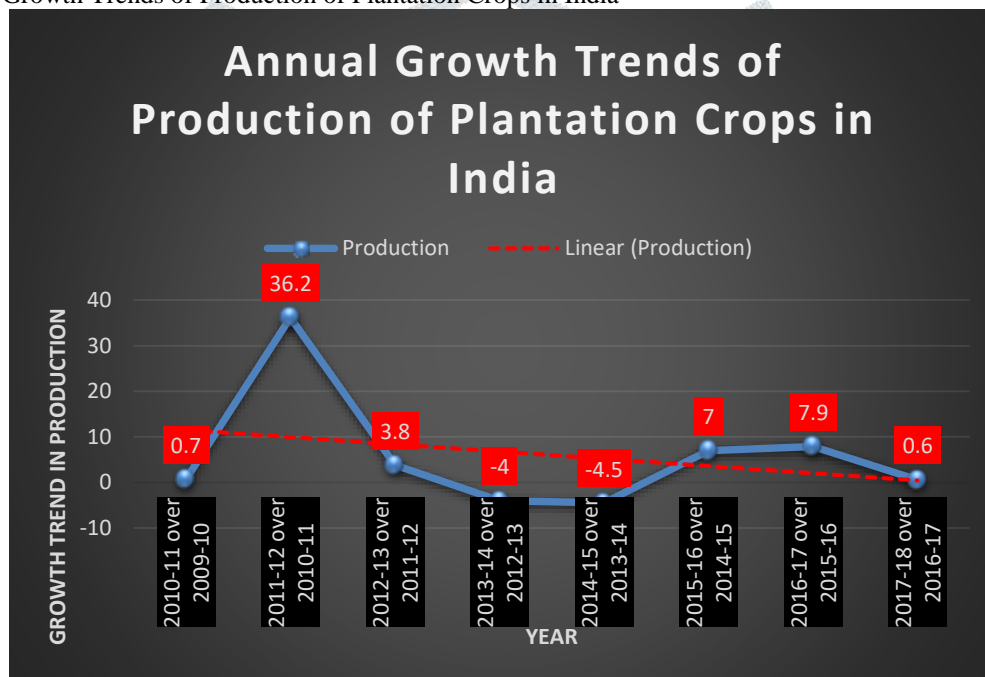


Fig 1.3: Annual Growth Trends of Production of Plantation Crops in India



The above table shows the annual growth trends of area and production of plantation crops in India over the last 10 years from 2009 to 2018 period. Overall trend in growth rate with respect to area as well as production shows a downward movement over the years (Fig 1.2 & Fig 1.3). The growth in area and production during the 2010-11 period over 2009-10 is 1.3 and 0.7 respectively. This growth trend becomes 4.1 and 0.6 in terms of area and production by 2017-18 period over 2016-17 period. The growth trend in area and production during the 2011-12 period over 2010-11 is at its highest rate of 8.2 and 36.2 respectively. A negative growth trend in production of plantation crops was seen during two periods, that is, in 2013-14 over 2012-13 (- 4.0) and in 2014-15 over 2013-14 (- 4.5). Similarly, the growth in the area of plantation crops also exhibits a negative trend during the years 2014-15 over 2013-14 (- 3.8) and during 2016-17 over 2015-16 (- 2.2). Currently, in the last year 2017-18, the production growth trend seems to be very low (0.6) compared to the previous year 2016-17, which exhibits a growth trend of 7.9 in the production of plantation crops.

1.5.3 Area, production and Productivity of Plantation crops: KERALA

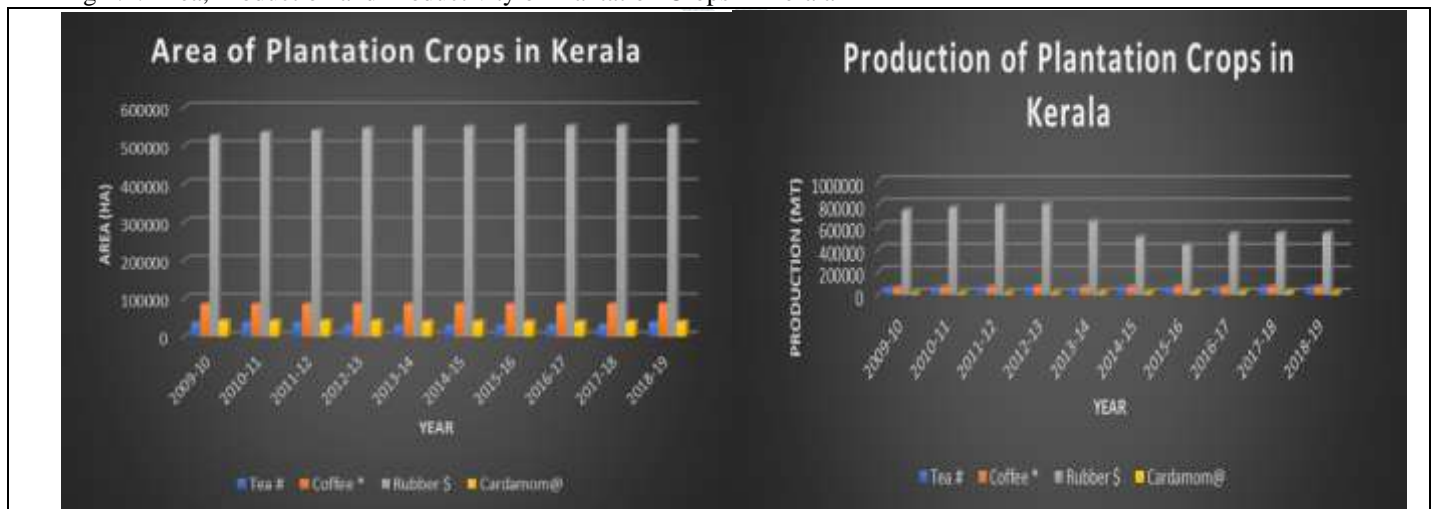
In Kerala economy, the plantation sector occupies a key position as they absorb nearly one quarter of the net cropped area in the most productive and ecologically high-altitude regions in the State. Kerala has a considerable share in the four plantation crops, which include rubber, tea, coffee and cardamom. Together these occupy 7.05 lakh hectares accounting for 34 per cent of the net cropped area in the state and 38 per cent of the area under these crops in the country during 2018-19. 83.7 per cent of rubber, 60.7 per cent of cardamom, 21.9 per cent of coffee and 5.3 per cent of tea in the country is also produced in Kerala alone (Source: Directorate of Agriculture, GoK).

A detailed analysis about major crops including plantation crops in Kerala with respect to area, production and productivity is significant. Following table explains the area, production and productivity of plantation crops in Kerala over the last few years.

Table 1.3 : Area, Production and Productivity of Plantation Crops in Kerala

Plantation Crops- Area, Production and Productivity (2013-14 to 2018-19)										
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
AREA (Ha)										
Tea #	36840	36965	37028	30205	30205	30205	30205	30205	30205	36473.9
Coffee *	84796	84931	85359	85359	85359	85359	84987	84976	84976	84976
Rubber \$	525408	534230	539565	545000	548225	549955	550840	551050	551115	551115
Cardamom @	41593	41242	41600	41600	39730	39730	39730	39080	39080	38882
PRODUCTION (MT)										
Tea #	57810	57291	57903	62963	62938	65174	57898	61505	62230	60760
Coffee *	59250	65650	68175	68175	66645	67700	69230	63476	66465	64676
Rubber \$	745510	770580	788940	800050	648220	507700	438630	540400	540775	540775
Cardamom @	7800	7935	10222	10222	14000	16000	19500	17147	18350	11535
PRODUCTIVITY (Kg/ha)										
Tea #	1569	1550	1564	2085	2084	2158	1917	2036	2060	1666
Coffee *	699	773	766	799	781	793	815	747	782	761
Rubber \$	1419	1442	1931	1903	1182	923	796	981	981	981
Cardamom @	188	192	246	246	352	403	491	439	470	297
# Tea Board, *Coffee Board, \$ Rubber Board @ Spices Board. Source; Directorate of Economics and Statistics										

Fig 1.4: Area, Production and Productivity of Plantation Crops in Kerala



Productivity of Plantation Crops in Kerala

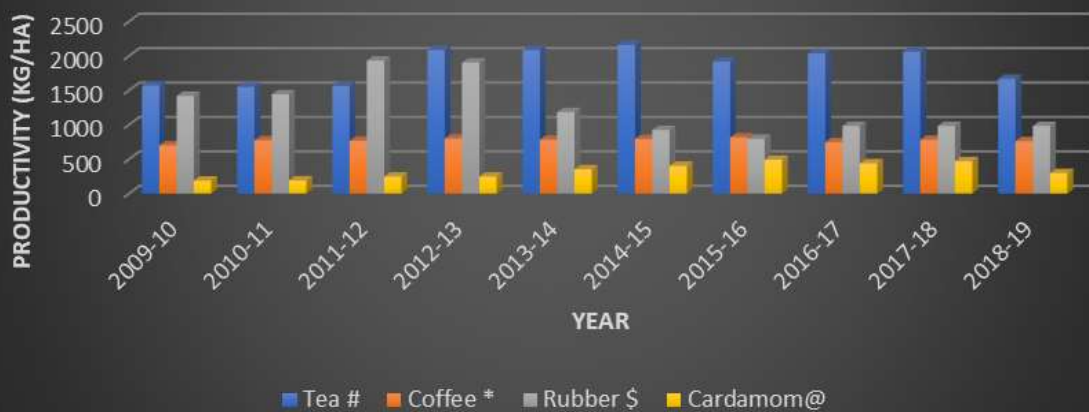


Table 1.3 shows the relative significance of Kerala in the production of Plantation crops in India. The area used for plantation crops in Kerala remains more or less the same for the last 10 years. In the case of tea, the area occupied is 36840 hectares in 2009 and increased to 37028 Ha. by 2011. It then declined to 30205 Ha in 2012 and continues till 2017. During the 2018-19 period, the area under tea cultivation increased to 36473.93 Ha, an increase of 6268.93 Ha. of land area within 1 year. Coffee production occupies more or less the same area of production, with slight fall and rise in some years. This was 84796 Ha. in 2009, increased to 85359 Ha in 2011 till 2014 but was reduced to 84987 Ha in 2015-16 and further to 84976 in 2016-17 and remained same till 2018-19, a fall in 383 Ha of area under coffee within 3 years (from 2014-15 to 2016-17). In the case of rubber plantation, there is an increasing trend in the area under cultivation over the last 10 years. Cardamom also shows a slight decreasing trend in the area over the last 10 years. It was 41593 Ha area in 2009, falls over each year and became 39730 Ha. by 2013, again to 39080 Ha in 2016 and 2017. In 2018-19, the area under cardamom cultivation became 38882 Ha.

The production level of plantation crops in Kerala shows an upward trend over the years from 2009-10 to 2018-19. The tea production was 57810 MT in 2009, which was increased to 62963 MT in 2012, becoming 65174 in 2014, but was followed by a sudden fall to 57898 MT in 2015. This was again revamped to 61505 MT in 2016 and further to 62230 MT in 2017 and later fell to 60760 MT in 2018-19. Rubber production shows a downward trend, though the area under cultivation increases over the periods. From 2016, there seems to be an upward trend in the production level to 540400 MT in 2016 and further to 540775 MT in 2017 and remained so in 2018 also. Cardamom production shows an increasing trend over the years, though with some exceptions. The production was only 7800 MT before 10 years in 2009 which then started to increase over the years. After 2016, there was a fall in production level to 17147 MT in 2016, again raised to 18350 MT in 2017. But as against the flow, cardamom production shows a steep fall to 11535 MT in the 2018-19 period.

The productivity of plantation crops in Kerala shows only a slight increase in the productivity rate. The productivity of tea was 1569 kg/ha in 2009 and become 2036 kg/ha and 2060 kg/ha in 2016 and 2017 respectively. In the 2018 - 19 period, it further fell to 1666 kg/ha. In the case of coffee, the productivity level stands at 699 kg/ha in 2009, increases over the years and becomes 815 kg/ha in 2015. After this, it again falls to 747 kg/ha in 2016, 782 kg/ha by 2017 and falls slightly to 761 kg/ha in 2018-19. Rubber shows a fall in productivity level from 1419 kg/ha in 2009 to 796 kg/ha in 2015. In 2016 the productivity level shows an increase to 981 kg/ha and remains at the same level till 2018-19. Cardamom crop shows a continuous increasing trend in the productivity level over the years from 2009 till 2017-18. But in the latest 2018-19 period, there seems a tremendous fall in the productivity rate to 297 kg/ha, which may be due to the falling trend reflected in the production level and also in the area of cardamom cultivation.

According to the Association of Planters of Kerala, labour cost of Kerala tea plantation is the highest in the nation whereas the productivity is the lowest. They blame trade union leaders for not allowing a cut down in the wages. In the current scenario, the employment is more important than the wage levels and therefore, the workers and trade union leaders cannot close their eyes to what is happening across the borders. A state like Kerala should learn from the past mistakes of having long and protracted strikes or lock outs which has ultimately forced the industries to close down. This should not happen in the plantation sector which is highly labour intensive and located in rural areas where alternative employment is just not an easy task to find out. Plantation sector is the largest single employer in Kerala.

1.6 CONCLUSION

One special peculiarity of the sector is that they are mostly produced for commercial purposes and not meant for domestic consumption. A major portion of the plantation crops produced in Kerala is exported and only a little share is used for consumption. Plantation crops are very important from the national point of view with its substantial contribution for export or import substitution. This highly significant role of plantation sector in the economic development makes it vital to analyse the trends in its area, production and productivity in India and in Kerala. This analysis is also imperative to realize the role and importance of plantation sector in any economy and also in the existence of large number of people who were solely depending on plantation sector for their livelihood and sustenance.

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