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Growth and Trends in Production and Marketing of Natural Rubber in Kerala, India

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Natural rubber, production, marketing, export, CAGR

A B S T R A C T

India is the fourth largest producer of natural rubber in the world. The production of natural rubber in India during 2011-12 was 903700 tonnes. India stands first in terms of productivity of natural rubber in the world. The productivity of natural rubber in India during 2011-12 was 1841 kg/ hectares. Kerala is the largest producer in India. Kerala accounts for 78% of the area and 90% of total rubber produced in India. The production of natural rubber in Kerala during 2011-12 was 788940 tonnes. The marketing of natural rubber in Kerala is commonly adopted by small holders and estate sectors. Small holders and estate sector sell natural rubber to traders or dealers through a marketing channel. Export of natural rubber from India rose from the low level of 6,995 tonnes in 2001-02 to 75,905 tonnes during 2003-04. But in 2004-05 export partially slide to 46,169 tonnes and the decrease in the quantity of export of natural rubber was due to the reduced rate of incentive and lesser price difference in the domestic and international market. The leading export market of Indian natural rubber are China, Malaysia, Indonesia, Turkey, Srilanka, Spain and Nepal. In this paper an attempt is made to analyse the growth and trends in production and marketing of natural rubber in Kerala. Compound Annual Growth Rate (CAGR) is adopted to analyse the growth rate in area, production, productivity and export of natural rubber from India.

Introduction

Agriculture is man's single most important activity across the world. The progress in agriculture is normally regarded as a prerequisite to economic development. The success of any agriculture activity has to be measured in terms of the net returns to the farmer. Nature has not provided any other

industrial raw material of plant origin as natural rubber. Processing and marketing of natural rubber as value added products can ensure a remunerative price to the producers which can sustain their interest and faith in the industry. The crop now provides the basic raw material to over

35,000 products from eraser to air craft tyre. India is the fourth largest producer and the second largest consumer of natural rubber. The rubber plantation occupies 0.4 per cent of the gross cropped area and contributes to 0.19 per cent to the national GDP. Natural rubber forms the back bone of commercial agricultural scenario of the state and rubber plantations have profound influence on the economic and social status of the people.

The following objectives were concentrated for this study, that includes to analyse the growth on area, production and productivity of natural rubber in Kerala. And also to examine the marketing of natural rubber by different levels of producers in Kerala. To examine the degree and direction of export of natural rubber from India.

Methodology

The study is based on secondary data. Secondary data has been collected from Rubber Board. The data regarding area, production and productivity of natural rubber in India and Kerala has been collected from the year 2000-01 to 2011-12. The data regarding export of natural rubber from India to other countries has been collected from the year 2005-06 to 2011-12. Compound Annual Growth Rate is adopted to analyse the growth in production of natural rubber in Kerala and other countries.

International Scenario

Asian countries dominated the natural rubber sector occupying 93 percent of the total area under rubber cultivation in the world. Indonesia is having the largest area under rubber cultivation followed by Thailand, Malaysia, and China and finally

India is in fifth position with an area of 734780 hectares during the year 2011-12. Globally about 81 percent of the world natural rubber production is in South East Asia i.e. Thailand, Indonesia, Malaysia, India, China and Vietnam.

Thailand is the world's largest producer of natural rubber. The production of natural rubber in Thailand was higher during 2009. The production during this year was 3164 thousand tonnes. The production of natural rubber in Thailand declined to 2.9% in 2010 due to adverse climatic conditions. The CAGR in production of natural rubber in Thailand was 2.92%. Indonesia is the second largest producer of natural rubber. The production of natural rubber in Indonesia was higher during 2010. The production during this year was 2829 thousand when compared to 2440 thousand tonnes in 2009. The CAGR in production of natural rubber in Indonesia was 6.42%. Malaysia which is the third largest producer of natural rubber has produced 939 thousand tonnes in 2010. The production of natural rubber in Malaysia was lower during 2009. The production during this year was 856 thousand tonnes. The CAGR in production of natural rubber in Malaysia was 0.26%. India is the fourth largest producer of natural rubber in the world. The production of natural rubber in India was higher during the year 2008. The production during this year was 881 thousand tonnes. The CAGR in production of natural rubber in India was 3.39%.

Domestic Scenario

India's natural rubber production has been increasing steadily over the past decade. The production grew at the rate of 4.8% in 2011-12. The production of natural rubber in 2011-12 was 903700 tonnes. India stands first in productivity of natural rubber in the

world. The productivity of natural rubber during 2011-12 was 1841 kg/hectares when compared to 1806 kg/hectares in 2010-11. Rubber production of the country is contributed mainly by the smallholders. There are more than one million smallholdings accounting for 88 per cent of the total area and 92.5 per cent of the total rubber production.

The area under natural rubber was higher during the year 2011-12. The area under natural rubber during the year 2011-12 was 734780 hectares. India produced 852895 tonnes in 2006-07, but the production of natural rubber has declined for the first time in 2007-08. India's natural rubber production in 2007-08 was 825345 tonnes. The productivity of natural rubber was higher during the year 2006-07. The productivity during the year 2006-07 was 1879 kg/hectares. The CAGR in area under natural rubber was 2.576%, production 3.491% and productivity 1.592%.

Natural Rubber Production in Kerala

Kerala is the largest producer of natural rubber in India. Kerala accounts for 78% of the area and 90% of total rubber produced in the country. The area under natural rubber during 2011-12 was 539565 hectares and the production during the year 2011-12 was 788940 tonnes and the productivity during the year was 1462 kg/hectares. In Kerala 40% of the area and 45% of natural rubber production comes from mainly three districts ie: Kottayam, Ernakulam and Pathanamthitta. These three districts are the major producers of natural rubber in Kerala.

The CAGR in area under natural rubber was 1.309% and the CAGR in production of natural rubber in Kerala was 3.097% and productivity 1.750%.

Marketing of Natural Rubber in Kerala

Marketing is a very wide subject involving various techniques, methods and procedures. A suitable marketing strategy is the key for successful marketing. To involve into marketing strategy, one should essentially possess upto- date knowledge of this market. This will facilitate the building up of a picture of the market and would also provide guidelines for making a realistic sales forecast for future. For this purpose details on the following aspects are the basic requirements;

1. Size of the market
2. Demand
3. Market structure
4. Buying habits
5. Market share
6. Overseas market

The activities of rubber marketing system connected with the movement of rubber from the primary producers to the ultimate consumers. There are distinct differences in the primary marketing system in the small holding and the estate sectors.

Marketing by Small holding sector

The small holders are not favorably placed to large estates in marketing. The marketing system commonly adopted by the small holders for sheet rubber and latex sold through village level dealers or merchants. They buy small holders sheet rubber in ungraded loads with a price differential determined by market demand. These village level dealers include co-operative societies and rubber producer's societies. The small growers have the flexibility to return from latex to sheet making when the price of the latex becomes unattractive.

Marketing by Estates

The estates market their produce more efficiently. They have an improved marketing system which assures better price realization. Big plantation companies have the facility for processing different types and grades of rubber. These companies also have centralized marketing set up enabling them to make direct sales to consumers. By adopting this way they are avoiding margins taken by intermediaries. Such companies generally follow a system of direct sales, tender or auction.

Export of Natural Rubber from India

Export of natural rubber from India rose from the low level of 6,995 tonnes in 2001-02 to 55,311 tonnes during 2002-03 and 75,905 tonnes during 2003-04. But in 2004-05 export partially slide to 46,169 tonnes and the decrease in the quantity of export of natural rubber was due to the reduced rate of incentive and lesser price difference in the domestic and international market. In 2005-06 exports regained their lost ground rising to 73,830 tonnes. 56,545 tonnes of natural rubber were exported during 2006-07, down from the previous year as the Indian prices were high compared to the prices in international market. A major change in the natural rubber trade during 2005 has been the introduction of Value Added Tax (VAT) in most of the rubber centers particularly Kerala, the state which accounts for more than 90% percent of the production. Value Added Tax had an impact in both exports as well as domestic trade. The export of natural rubber from India during 2010-11 was 29,851 tonnes.

The leading export markets of Indian natural rubber are China, Malaysia, Indonesia, Turkey, Srilanka, Spain and

Nepal. Historical data shows that natural rubber exports from India maintains a regular trend to Nepal ie: its share was 93% in 1995-96 and gradually slides to 81% in the year 1998-99; around 10% in 2001-02 and presently Nepal's share in natural rubber export remains 2.5 to 3% and the Compound Annual Growth Rate (CAGR) of export of natural rubber to Nepal was -15.77%. Indonesia was the third leading export market up to 2002-03 with 16.5% share. The fast growing economy in the world, China remained the leading export market for India. The CAGR (Compound Annual Growth Rate) of export of natural rubber to China was -31.06%. Though the total exports declined in 2004-05, China's share remained the highest at 35% of total exports in 2004-05, Srilanka next at around 22%. The CAGR (Compound Annual Growth Rate) of export of natural rubber to Srilanka was -14.29%. Malaysia, Spain, Nepal are the other potential markets where further exports may be encouraged. Exports in 2006-07 shot up and included exports to countries like Vietnam, Belgium, Germany, apart from Srilanka and Turkey. China's share dropped to 29% , while 18% of the total exports were made to Malaysia. In 2011-12, export of natural rubber decreased to 27145 tonnes as compared to 29851 tonnes in 2010-11. Srilanka's share in the total export increased to 24.4% with 6623 tonnes as compared to 2619 tonnes last year. Malaysia continued to remain the second largest export destination for India at 4273 tonnes and 15.7% in 2011-12 as compared to 6555 tonnes and 22% share in 2010-11. The CAGR (Compound Annual Growth Rate) of export of natural rubber to Malaysia was -9.11%. China was pushed to third spot with a fall in share of 10.6% in 2011-12 as compared to 28.30% in 2010-11.

Table1 Country wise Production of Natural Rubber during 2001 to 2011
(Thousand Tonnes)

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	CAGR
Thailand	2320	2615	2876	2984	2937	3137	3056	3090	3164	3252	3394	2.92
Indonesia	1607	1630	1792	2066	2271	2637	2755	2751	2440	2736	2982	6.42
Malaysia	882	890	986	1169	1126	1284	1200	1072	856	939	996	0.26
India	632	641	708	743	772	853	811	881	820	851	890	3.39
Vietnam	313	331	364	419	482	555	606	660	724	752	812	10.76
China	478	527	565	573	510	533	590	560	644	665	707	3.12
Others	1020	703	729	792	806	792	783	1022	1054	1204	1193	4.19
Total	7252	7337	8020	8746	8904	9791	9801	10036	9702	10399	10974	4.08

Source: Rubber Board, Kottayam-2012

Table.2 Area, Production and Productivity of Natural Rubber in India during
2000-01 to 2011-12

Year	Area in hectares	Production in tonnes	Productivity in kg/hectares
2000-01	562670	630405	1576
2001-02	566555	631400	1576
2002-03	569667	649435	1592
2003-04	575980	711650	1663
2004-05	584090	749665	1705
2005-06	597610	802625	1796
2006-07	615200	852895	1879
2007-08	635400	825345	1799
2008-09	661980	864500	1867
2009-10	687000	831400	1784
2010-11	711560	861950	1806
2011-12	734780	903700	1841
CAGR	2.576	3.491	1.592

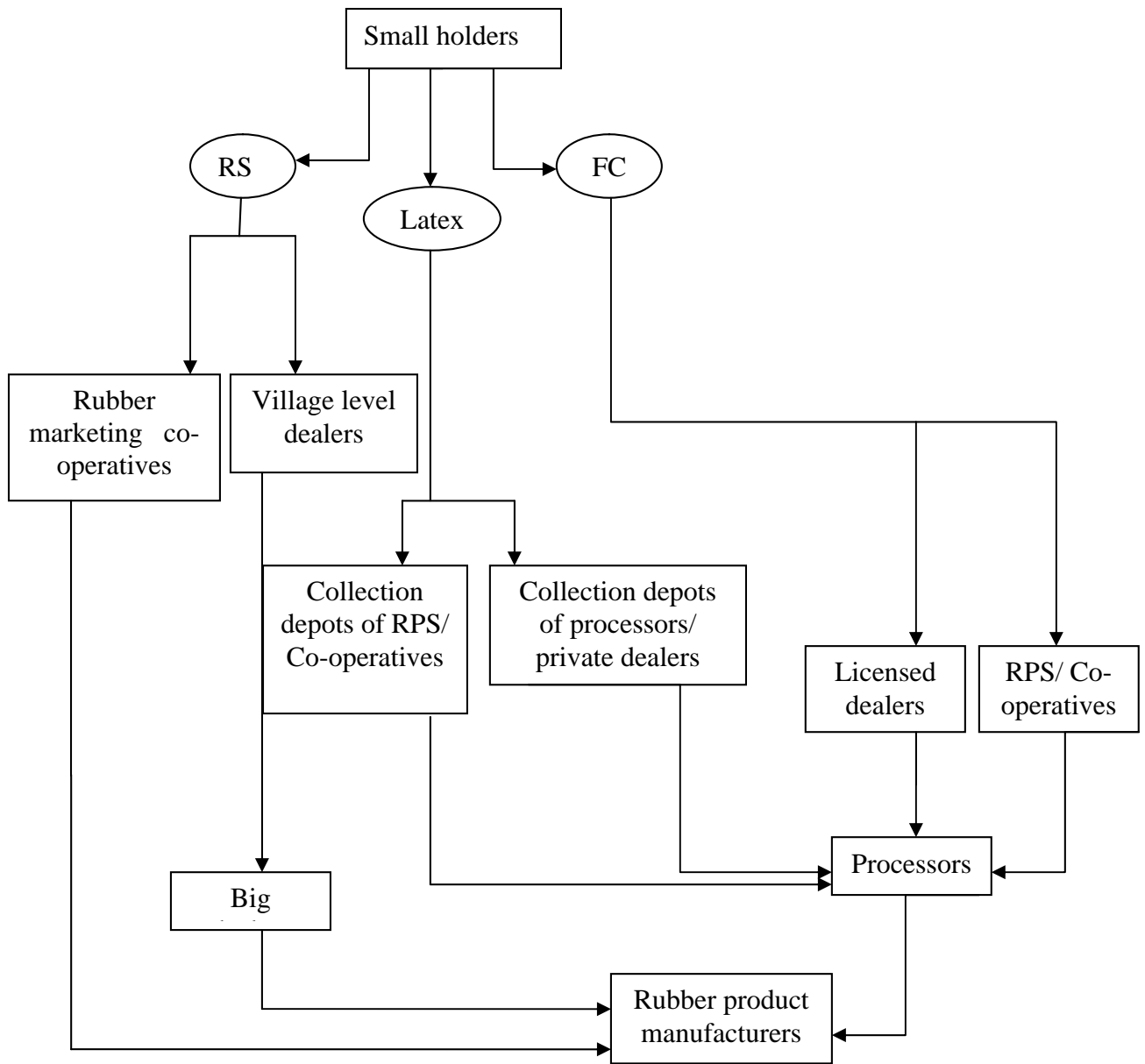
Source: Rubber Board, Kottayam-2012

Table3 Area, Production and Productivity of Natural Rubber in Kerala during
2000-01 to 2011-12

Year	Area in hectares	Production in tonnes	Productivity in kg/hectares
2000-01	474365	579866	1222
2001-02	475039	580350	1222
2002-03	476047	594917	1250
2003-04	479602	655135	1369
2004-05	485610	690768	1437
2005-06	493800	739225	1495
2006-07	502740	783275	1554
2007-08	512045	753135	1471
2008-09	517475	782685	1514
2009-10	525408	745510	1419
2010-11	534230	770580	1442
2011-12	539565	788940	1462
CAGR	1.309	3.097	1.750

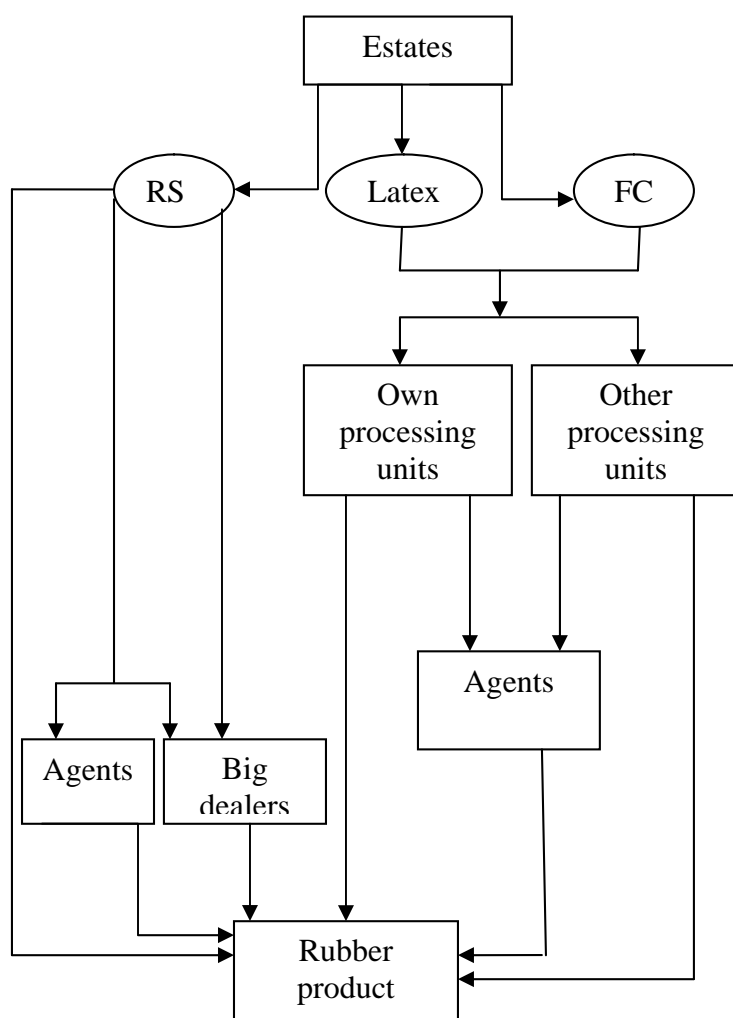
Source: Rubber Board, Kottayam-2012

Chart.1 Marketing channels for Small holders



Source: George P.J. and Kuruvilla Jacob C.- Agro Management and Crop Processing-2000

Chart.2 Marketing channels for Estates



Source: George P.J. and Kuruvilla Jacob C.-Agro Management and Crop Processing-2000

Table.4 Export of Natural Rubber from India to other countries during 2005-06 to 2011-12
(Quantity in tonnes)

Country	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	CAGR
China	26251	16592	20222	5518	1747	8463	2890	-31.06
Srilanka	7556	4760	2789	1982	182	2619	6623	-14.29
Malaysia	6363	10412	12092	13510	6925	6555	4273	-9.11
Germany	5680	2658	2480	1296	1276	1375	2732	-13.86
Belgium	2501	2324	2873	2046	876	950	1613	-14.21
Turkey	2355	1751	1178	902	502	348	265	-31.60
USA	1954	1567	4888	8289	3076	1075	254	-23.05
Spain	1634	1204	1052	1106	384	644	982	-12.64
Nepal	1201	656	685	983	309	409	432	-15.77
Others	18065	14621	12094	11294	8813	7413	7081	-14.79
Total	73830	56545	60353	46926	25090	29851	27145	-16.82

Source: Rubber Board, Kottayam-2012

Findings of the Study

India is the fourth largest producer of natural rubber in the world. Kerala is the largest producer of natural rubber in India. Kerala accounts for 78% of the area and 90% of total rubber produced in the country. The marketing system commonly adopted by the small holders is that they sell sheet rubber and latex through village level dealers or merchants. These village level dealers include co-operative societies and rubber producer's societies. The rubber producer's societies provide different services such as collection of latex, sheets and scrap from the members and selling them at remunerative prices to the processors. The Rubber Board supplies the necessary equipment such as platform balance to weigh latex, sheet and scrap. These services are crucial as they constitute the income base of small rubber growers. The estates market their produce more efficiently.

They have an improved marketing system which assures better price realization. Big plantation companies have centralized marketing set up enabling them to make direct sales to consumers. By adopting this way they are avoiding margins taken by intermediaries. Such companies generally follow a system of direct sales, tender or auction. The leading export markets of Indian natural rubber are China, Malaysia, Indonesia, Turkey, Srilanka, Spain and Nepal. China was the leading export market of Indian natural rubber till 2007-08, but China was put to third spot with a fall in share of 10.6% share in 2011-12 as compared to 28.30% in 2010-11. Srilanka is the leading export of Indian natural rubber in 2011-12 with a share of 24.4% and Malaysia continued to remain the second largest export destination for India with a share of 15.7%.

Recommendations

- Focus on major export markets such as China, Malaysia, Indonesia, Turkey, Srilanka, Spain, Nepal etc and deepen the market share through quality route.
- The Rubber Board may perform the functions of adviser to the Government by collecting the statistics of production, consumption and stocks from estates, dealers and manufacturers and make projections for future supply and requirements.
- Active encouragement is given by the Rubber Board in the form of technical and financial assistance for processing rubber into better quality sheet through a network of extension offices.
- The Rubber Producers Societies should undertake and assist group marketing of member growers produce at remunerative prices by offering grade differentials.
- Proper tapping techniques and proper usage of fertilizers should be adopted to increase the productivity of natural rubber.

Conclusion

The natural rubber sector in India is quite different from that of the other major producing countries like Indonesia, Malaysia and Thailand who mainly export natural rubber. India apart from being the major producer is also the major consumer of natural rubber. The Rubber Producers Societies have been found effective in transferring new technologies generated by the Rubber Board. These Societies provide good quality inputs at a subsidized rate due to the financial support from the Rubber Board. Rubber Producers Societies help its

member-farmers in getting better prices. Production of uniform export quality sheets through combined efforts would help the producer-farmers to fetch better prices. The probable determinants of volatility in natural rubber prices in domestic market are state administered procurement programs, inconsistent import and export policies and global market trend. The period from 1994 to 1998 was the most turbulent in domestic price trend of natural rubber. In June 1995 RSS-4 price shot up sharply to Rs.6,171 per quintal from Rs.2,599 per quintal in March 1995. The probable reason of this sudden price hike was decline in world production of natural rubber in main producing countries. Immediately after May 1995 India's import of Natural rubber also increased. The maximum natural rubber import during 1991-92 to 2003-04 was 51,635 MT. The removal of the quantitative restrictions from 1st April 2001 aggravated the declining price trends. The probable reason behind this firming up of natural rubber prices are up trend in global market, global natural rubber supply fails to catch up with growing demand—particularly from China. The prices have reached to Rs.18,807 per quintal as on June 2012. Demand for Rubber is most evenly distributed over the years but due to absence of production in monsoon, supply shrinkage occurs. During rains tapping of rubber trees disrupted and production falls. Resultantly prices would rise at that time, unless there is an acute economic depression or similar negative factors.

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