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## Contents

# Trade Reforms and Crisis in India's Plantation Industry: an analysis of Tea and Rubber Plantation Sectors

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**Abstract**

*This paper attempts to make a critical assessment of the impacts of trade reforms and the resultant crisis on India's plantation industry with reference to tea and rubber sectors. First of all, it provides a review of the development of tea and rubber plantation agriculture in the world and India's status. It then makes a critical assessment of the contingencies that have been widely identified as the proximate causes and outcomes leading to the 'crisis in the plantation sector' in India in the post-reforms period. It critically examines the various aspects of the crisis, the immediate responses and the outcomes on the production sectors at the grass root level. Finally, the paper brings out the case for searching for an alternative institutional model for the tea plantation sector in particular, for sustaining the economic dynamism shown by the sector in the pre-trade reforms era. In doing so, the paper suggests that the institutional model as being tried in the case of rubber could offer highly useful and time-relevant lessons for the tea sector in India.*

## I. INTRODUCTION

Plantation sector consisting of crops, viz., tea, coffee, natural rubber (NR), cashew and spices assumes special significance in India's agricultural trade. Though these crops together constitute hardly 2 per cent of India's agricultural exports, the sector commands a dominant position in the regional economies of Southern India, *viz.*, Kerala, Tamil Nadu and Karnataka as well as North/North-Eastern states of West Bengal, Assam, Meghalaya, Tripura, Himachal Pradesh, etc. Historically, plantation

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agriculture has emerged in India under the colonial patronage and European financial capital. Most of these crops, except rubber had been promoted as export oriented products, mainly to cater the requirements of the colonial rulers. The export- orientation of the sector thus, has left a strong imprint on the mode and systems of production organisation with focus on high-end markets; though with relatively weaker infrastructure and institutional linkages for promoting value addition with quality control. Notably, a more or less similar scenario had continued in the post-independence era as well, as exports of plantation products was a major earner of foreign exchange and thereby laying a strong foundation for resource based industrial development in the country.

Though the plantation sector in India did flourish under a legitimate policy environment of domestic support and protectionism post-independence, there are distinctions across crops as regards the structure and orientation of production systems as they evolved over time. In particular, the cases of tea and natural rubber (NR) are distinct as tea was promoted as an export product in sharp contrast to rubber, which still remains a strategic raw-material catering the growth of the automotive tyre manufacturing industry in the country. The two crops also differ in terms of their production structure and geographical concentration in area and production. While a vast majority of tea plantations (80%) are owned and operated by medium and large estates/ companies or corporate entities (Tirkey, 2005), almost 88 per cent of rubber production comes from smallholder sector dominated by small and marginal holdings with an average holding size of 0.5 ha (Viswanathan *et al*., 2003; Viswanathan, 2006).

Certainly, the protective state polices which continued until the commencement of economic reforms in India in 1991, have been instrumental in strengthening the domestic production sectors of the plantation crops. As of now, tea, rubber and coffee in particular support a vast population of about 2.58 million[1]. Especially in the case of rubber, the state policies have also been very proactive in terms of launching rubber development programmes in the North Eastern Region (NER) guided by the twin objectives of: a) achieving self-sufficiency in rubber production facilitating growth of the automotive industry; and b) rehabilitation of the shifting cultivation dominated tribal communities in the region (Viswanathan and Shivakoti, 2007). As a cumulative effect of the state





policies along with crop- specific R&D/ extension and institutional interventions[2], the total production of tea and rubber had reached the levels of 1126.3 million kg and 831.4 million kg during 2011-12 (Tea Board, India (website); Rubber Board, 2011). Moreover, India continues to be one of the five dominant producers in tea with 25.1 per cent of the production in the world (ITC, 2012). Similarly, the economic dynamism cast by the rubber sector has been exemplary, as the sustained R&D activities initiated by the Rubber Board coupled with R&D, extension and financial support, technology transfer and advisory services had enabled India to emerge as the fourth largest rubber producer in the world next to Thailand, Indonesia and Malaysia (FAOSTAT, 2010).

***The context: trade reforms and impact on plantation crops***

However, the trade reforms and liberalisation policies initiated in the post-WTO context started adversely affecting the Indian plantation sector in general and the tea and rubber production sectors in particular. One of the most explicit impacts had been the emergence of market uncertainties leading to high volatility or steep fall in the international and domestic prices of these commodities due to the removal or dilution in tariff and non-tariff trade barriers. For instance, the extent of decline in prices from the peak levels reported during the decade 1990-2001 has been the highest for rubber (42%) and tea (28%). The instability in prices (expressed as coefficient of variation (CV) from the peak level prices) has also been the highest for rubber (26%) and tea (17%) as reported in Viswanathan (2005). Further, the decline in commodity prices triggered its adverse effects on the tea and rubber production and trade sectors leading to an unprecedented crisis affecting the two plantation sectors. For instance, there was a steep decline (37 %) in India's tea exports from US$ 594 million during 1990 to US$ 378 million during 2004 (Sathe and Deshpande, 2006). In the case of rubber, the liberal trade policies led to removal of quantitative restrictions (QRs) which in turn, enabled the rubber products manufacturers to directly import rubber through the duty free channels as an incentive for export of rubber products. The policy changes in the post-reforms period thus paved the way for increased imports of rubber and rubber products into India, which have virtually affected the prospects of the Indian rubber sector. Reportedly, almost 96 per cent of the total quantity of rubber imported in the 1990s was routed through the duty-free channels, especially through

the advance licensing scheme (ALS) (George *et al*., 2002).

The impacts of the decline in the prices of tea and rubber have been far and wide, as the plantation communities (medium and large tea planters and rubber small producers) had responded vehemently to the crisis in terms of adopting stringent measures to overcome the impasse. The coping mechanisms adopted by the tea and rubber planting communities have broadly included cost saving and labour displacing measures, such as dilution and even discarding of scientifically recommended agro-management practices, labour retrenchment, lockouts and resistance to routine tripartite wage negotiations, etc in the case of large plantations (George and Joseph, 2005; Viswanathan and Rajasekharan, 2001). A large number of medium and small-scale tea estates were closed in the major tea growing regions in India due to the crisis and troubled labour relations. Besides the dilemmas of the big planters and the smallholder producers as stated above, the crisis has severely affected the livelihoods of the labourers and the dependent communities, as it resulted in a reduction in employment, and or non-payment of wage and non-wage benefits and other social security measures.

### *Objectives, data and methods*

While the crisis in the plantation sectors continue to persist in some form or the other, it is important to note that there have not been any serious attempts at understanding the crisis in a holistic perspective of the plantation agriculture system *per se*. Of course, attempts have been made by researchers to examine the impact of trade liberalization in the case of tea and natural rubber sectors (Viswanathan and Rajasekharan, 2001; George *et al*, 2002; George and Joseph, 2005; Mohanakumar and Chandy, 2005; Tirkey, 2005; Mohandas *et al*, 2007). These studies, besides highlighting the change in export, import, and prices, have discussed some of the structural issues ailing these sub-sectors as well as the short-term responses to overcome the crisis in tea and rubber plantations. However, most of these studies (though with few exceptions) have been confined to the macro-level reflections of the impact of liberalisation on the plantation agriculture in general and the tea and rubber sectors in particular. More importantly, the issues and challenges confronting the tea and rubber production sectors need to be understood and discussed in a broader






perspective beyond the confines of the conventional analytical framework of supply and demand analysis (market instruments), prices and trade.

This paper is addressed in the backdrop of the persistent crisis in India's tea and rubber plantation sectors. It tries to examine the important issues and challenges facing the two plantation sectors in the country in the context of global market integration and the changing trade regimes, based on the responses from various stakeholders. The two plantation crops have significant share in terms of: a) providing employment (tea and rubber); b) sustaining livelihoods of smallholder communities (rubber); c) share in global commodity trade (tea); d) growth of the domestic automotive industries (rubber), etc. The objectives are to:

(i) Trace the development and growth of plantations in India in the post-colonial period and the role; the influence of policy and institutional factors on the development process; and India's status in the global plantation industry and trade sectors;
(ii) Understand the major aspects of the crisis in the plantation sectors and the responses of these sectors to overcome the crisis and their wider impacts on different segments of the tea and rubber plantation sectors; and
(iii) Explore the case for an alternative institutional model aimed at revamping the tea and rubber plantation sectors in the post-trade reforms era to sustain the economic dynamism cast by these sectors in the pre-reforms era.

The paper is based on analysis of both the macro and micro levels data pertaining to the two plantation sectors gathered from published sources as well as case studies. The paper also uses cross-country time series data on the two plantation sectors for meaningful comparison between India's plantation sector and the other dominant plantation producing countries. Certain indicators are also used to show the relative performance of the two plantation crops both at the domestic as well as international levels. The time series data as used covers the period of 51 years from 1960 to 2011 and has further been divided into three sub-periods, *viz.*, a) 1961-1975; b) 1976-1990; and c) 1991-2011. Of the three sub-periods, the period 1991-2011 enables us to capture the impact of the trade reforms on the Indian plantation sector.

Rest of the paper is organised into three sections. *Section II* provides a review of the development of tea and rubber plantation in the world and India's status. It then examines the trade or market structure of the major tea and rubber producing countries in order to understand the level of integration of the economies, especially, India with the external markets. The section also examines the regional dimensions of growth in tea and rubber plantation sectors in the Indian context, which enables to streamline the focus of the paper in delineating the critical issues and challenges affecting the two plantation sectors. *Section III* makes an assessment of the contingencies that have been widely identified as the proximate causes and outcomes leading to the 'crisis in the plantation sector' in India. The section then reviews various aspects of the crisis, the immediate responses and the outcomes on the production sectors at the grass root level as dominated by the plantation workers and the planters with diverse resource endowment status. *Section IV* concludes the paper highlighting the major challenges confronting the tea and rubber plantation sectors in the Indian context and their implications. The section also brings out the case for searching for an alternative institutional model for the tea plantation sector in particular, for sustaining the economic dynamism shown by the sector in the pre-trade reforms era.

## II. GROWTH IN TEA AND RUBBER PLANTATIONS IN THE WORLD AND INDIA'S STATUS

As stated already, plantation systems as they developed in the world have been an outcome of the interface between the European financial capital and the Asiatic production environments. While the Europeans brought the capital and knowledge, the Asiatic countries contributed soil (land) and the natives, their labour (Waibel, 1941). The penetration of the plantation system has thus resulted in a structural transformation in modes of production in these economies from a peasant mode to an expanded cash crop production system. Thus, the process of transition was essentially characterised by large-scale export oriented plantation crop production rooted in massive force of regimented labour, imported technology and foreign capital. In fact, expansion of the plantation system has exposed these countries to the western economic system ever since the second half of the 19th century. The wide scale expansion of the plantation system in the tropics has greatly influenced the socio-economic life of the






communities dependent on the plantation systems. Reportedly, plantation tree crops, comprising coconut, rubber, coffee, oil palm, tea, cocoa and various fruits currently occupy over 25 per cent of the value of agricultural produce in their main growing regions of Southeast Asia (Food and Agriculture Organization, 1995, as cited in Barlow 1996) and a higher share of farm exports in the total merchandise trade.

Among the major plantation crops, tea and rubber have been developed in the tropical countries of South Asia, Latin America and Southern Africa. The Dutch introduced tea to Europe in the seventeenth century, more than a thousand years after it had become an article of commerce in China. But only in the eighteenth and nineteenth centuries that tea drinking became widely popular in the Western world. Tea was introduced in the coffee houses in England by about 1650 and it rapidly gained popularity in the world, including the American colonies, replacing coffee as the most favored beverage.

### *II.1. Trends in area, production and productivity of Tea and Rubber*

For analytical easiness, the paper uses historic data pertaining to five major producing countries (India, China, Sri Lanka, Kenya and Indonesia) in the case of tea and six countries (India, Indonesia, Thailand, Malaysia, China and Sri Lanka) in the case of rubber. The selection of the major countries is justified on the grounds that these countries also have greater stake in the external trade sectors in the respective plantation crops. This would also provide scope for further discussions as regards the changing dimensions of global trade in the these two products, issues of comparative *vs* competitive advantage, trade related bilateral, multilateral and preferential trade agreements, changing institutional and policy regimes, etc.

#### *Tea plantations*

Though tea is produced in about 45 countries, 10 major producers account for 91 per cent of the tea production in the world. Still, almost 81 per cent of the world's tea harvested area has been confined to five major countries, viz., China, India, Sri Lanka, Kenya and Indonesia (Table 1).

**Table 1: Trends in tea harvested area in major tea producing countries, 1961-2011**

| Year | Tea harvested area (% share) | | | | | | World ('000 ha) |
|---|---|---|---|---|---|---|---|
| | China | India | Sri Lanka | Kenya | Indonesia | Five countries | |
| 1961 | 26.0 | 24.2 | 17.4 | 1.3 | 7.8 | 76.8 | 1366.13 |
| 1970 | 31.1 | 21.4 | 14.5 | 2.4 | 5.3 | 74.7 | 1668.29 |
| 1980 | 45.1 | 16.1 | 10.3 | 3.2 | 3.6 | 78.4 | 2369.48 |
| 1990 | 37.3 | 18.4 | 9.8 | 4.3 | 4.2 | 73.9 | 2260.33 |
| 2000 | 37.7 | 20.6 | 7.9 | 5.1 | 5.1 | 76.3 | 2383.55 |
| 2005 | 39.9 | 18.5 | 8.0 | 5.3 | 4.4 | 76.1 | 2652.81 |
| 2006 | 41.2 | 18.1 | 7.8 | 5.4 | 4.3 | 76.8 | 2711.58 |
| 2011 | 46.5 | 17.8 | 6.8 | 5.8 | 3.8 | 80.7 | 3256.76 |

*Source:* Estimated from www.faostat.org

There has been more than two fold increase in tea harvested area in the world from 1.37 million ha to 3.26 million ha during 1961-2011. Similarly, global tea output had increased substantially from 0.98 million ton to 4.4 million tons during the same period (Table 2). As evident from Tables 1 and 2, India and Sri Lanka have been losing their comparative positions in area and production of tea, while China and Kenya have been gaining their dominance in both area and production. It is important to note that India lost much in terms of production compared to decline in area. On the other hand, China's share in the global tea harvested area has increased by 20 per cent and share in production almost increased by four fold during 1961-2011(Table 2).






**Table 2: Trends in tea production in major tea producing countries, 1961-2011**

| Year | Tea production (% share) | | | | | | World |
|---|---|---|---|---|---|---|---|
| | China | India | Kenya | Sri Lanka | Indonesia | Five countries | ('000 Tonnes) |
| 1961 | 9.9 | 36.0 | 1.3 | 21.0 | 7.8 | 76.0 | 983.79 |
| 1970 | 12.7 | 32.5 | 3.2 | 16.5 | 5.0 | 69.9 | 1286.76 |
| 1980 | 17.3 | 30.1 | 4.7 | 10.1 | 5.6 | 67.9 | 1893.53 |
| 1990 | 22.3 | 27.3 | 7.8 | 9.2 | 6.2 | 72.8 | 2524.17 |
| 2000 | 23.7 | 27.9 | 8.0 | 10.3 | 5.5 | 75.4 | 2964.51 |
| 2005 | 26.9 | 23.4 | 9.3 | 9.0 | 4.8 | 73.4 | 3542.88 |
| 2006 | 28.8 | 24.5 | 8.5 | 8.5 | 4.7 | 75.1 | 3640.19 |
| 2011 | 36.5 | 25.1 | 8.5 | 7.4 | 3.2 | 80.7 | 4449.31 |

*Source:* Estimated from www.faostat.org

**Table 3: Trends in tea productivity in major tea producing countries, 1961-2011**

| Year | Tea productivity (Kg./ha) | | | | | |
|---|---|---|---|---|---|---|
| | India | Kenya | Sri Lanka | China | Indonesia | World |
| 1961 | 1070 | 712 | 869 | 273 | 721 | 720 |
| 1970 | 1174 | 1020 | 878 | 315 | 721 | 771 |
| 1980 | 1491 | 1174 | 782 | 308 | 1232 | 799 |
| 1990 | 1658 | 2031 | 1051 | 667 | 1650 | 1117 |
| 2000 | 1686 | 1963 | 1618 | 784 | 1341 | 1244 |
| 2005 | 1695 | 2325 | 1491 | 901 | 1475 | 1336 |
| 2006 | 1822 | 2112 | 1461 | 939 | 1475 | 1343 |
| 2011 | 1667 | 2012 | 1475 | 1083 | 1161 | 1434 |

*Source:* Estimated from www.faostat.org

India though has had fairly high productivity among the major producing countries, since 1990 Kenya has emerged as forerunner with significant rise in tea productivity (Table 3). China though has the lowest productivity among the five major producing countries; it had the highest turnaround in productivity of about four times in past five decades.

### *Rubber plantations*

The indigenous rainforest dwellers of South America have been using rubber for generations. It was in 1839 that rubber had its first practical application in the industrial world[3]. The development and growth of rubber plantations on a commercial scale has begun from the early 1900s and the earliest countries to adopt rubber were Malaysia, Indonesia, India, Thailand and China. India first started growing rubber on a commercial basis by 1902 when rubber plantations were developed as larger estates by the European plantation companies in Southern India. However, as will be discussed in the following, the development of rubber plantations gathered momentum in India when native peasantry entered into rubber planting. Rubber cultivation expanded rapidly in the 1930s, consisting mainly of smallholdings controlled by the Chinese, Thai, and Thai Malays rather than large, European-owned plantations, as had been the case in Malaysia and India. In China, rubber was first planted in 1906 from rubber seed brought home by an overseas Chinese from Malaya (Viswanathan, 2006; 2008).

Currently, rubber is grown in more than 25 countries, though six countries, *viz*., Indonesia, Thailand, Malaysia, India, China and Sri Lanka account for 81 per cent of the rubber planted area and 82 per cent of the rubber production in the world (Table 4). Rubber area in the world has increased more than two and half times from 3.88 million ha to 9.82 million ha, rubber production has increased by more than five times from 2.12 million ton to 11.28 million tons between 1961 and 2011. Among the major rubber producers, though Indonesia has the largest share in rubber harvested area (35.2%), Thailand has the largest share in production (29.7%). Productivity trends indicate that India has achieved highest reported yield, leaving most of the major producing countries way behind (Table 5).





**Table 4: Trends in area and production of rubber in the world, 1961-2011**

| Year | Indonesia | Thailand | Malaysia | India | China | Sri Lanka | World | Six countries (% share) |
|---|---|---|---|---|---|---|---|---|
| ***Rubber harvested area ('000 ha)*** | | | | | | | | |
| 1961 | 34.9 | 10.3 | 33.5 | 1.2 | Na | 5.5 | 3880 | 85.4 |
| 1970 | 30.1 | 17.6 | 32.5 | 3.0 | Na | 5.0 | 4622 | 88.1 |
| 1980 | 29.8 | 22.9 | 29.8 | 3.6 | Na | 4.1 | 5412 | 90.2 |
| 1990 | 28.0 | 21.0 | 24.2 | 4.3 | 5.9 | 3.0 | 6656 | 86.5 |
| 2000 | 31.7 | 20.1 | 17.1 | 5.3 | 5.6 | 2.1 | 7582 | 81.8 |
| 2006 | 32.2 | 21.1 | 15.0 | 5.5 | 5.7 | 1.4 | 8259 | 80.9 |
| 2011 | 35.2 | 20.8 | 11.4 | 4.9 | 7.2 | 1.3 | 9821 | 80.8 |
| ***Rubber Production ('000 Tonnes)*** | | | | | | | | |
| 1961 | 32.7 | 8.8 | 37.3 | 1.3 | 0.2 | 4.6 | 2121 | 84.8 |
| 1970 | 26.9 | 9.6 | 42.5 | 3.0 | 1.6 | 5.3 | 2986 | 88.9 |
| 1980 | 27.2 | 12.4 | 40.8 | 4.0 | 3.0 | 3.6 | 3748 | 91.0 |
| 1990 | 24.4 | 27.1 | 24.7 | 5.7 | 5.1 | 2.2 | 5225 | 89.2 |
| 2000 | 22.5 | 33.3 | 13.0 | 8.8 | 6.7 | 1.2 | 7151 | 85.5 |
| 2006 | 23.7 | 31.8 | 12.9 | 8.4 | 5.4 | 1.1 | 9919 | 83.4 |
| 2011 | 27.4 | 29.7 | 8.8 | 7.9 | 6.8 | 1.4 | 11282 | 82.0 |

*Source:* Estimated from www.faostat.org

The foregoing discussion on disaggregate level - trends in area, production and productivity of tea and rubber across the major producing countries reveal some interesting points. In the case of tea plantations, Kenya has shown tremendous strides in the important parameters of crop performance, while the growth rates have been only moderate for India. More importantly, India has experienced a slowdown in growth in production and productivity of tea during the post-reforms period (1991-2011). This slow down may be attributed to the emergent crisis that have seriously affected the tea plantation sector in India. China on the other hand has attained significant growth in its tea sector, which may pose potential challenges for the Indian tea sector.

**Table 5: Trends in Rubber Productivity in the world, 1961-2011 (Kg./ha)**

| Year | India | Thailand | China | Malaysia | Sri Lanka | Indonesia | World |
|---|---|---|---|---|---|---|---|
| 1961 | 600 | 465 | Na | 607 | 454 | 512 | 546 |
| 1970 | 651 | 354 | Na | 846 | 692 | 577 | 646 |
| 1980 | 771 | 375 | Na | 947 | 599 | 633 | 693 |
| 1990 | 1028 | 1013 | 678 | 800 | 568 | 684 | 785 |
| 2000 | 1575 | 1560 | 1143 | 714 | 555 | 671 | 943 |
| 2006 | 1847 | 1811 | 1145 | 1038 | 937 | 883 | 1201 |
| 2011 | 1835 | 1640 | 1080 | 892 | 1246 | 894 | 1149 |
| Increase (times) | 3.1 | 3.5 | 1.6 | 1.5 | 2.7 | 1.7 | 2.1 |

*Source:* Estimated from www.faostat.org

The rubber sector of India has shown consistent growth over time along with Thailand and China in particular. Given the close correspondence in the three major indicators (area, production and productivity) of plantation growth performance between India, Kenya and China in the case of tea as well as India, Thailand and China in the case of rubber, it may be observed that the future growth of the Indian plantation sector will be contingent upon a host of factors determining the performance efficiency of the crops *vis-à-vis* the major competitors.

### *II.2. India's share in global trade in plantation products*

This sub-section provides a brief description about the market/ trade orientation of India *vis a vis* other major tea and rubber producing countries. The analysis confines to the review of trends in trade (export and import) of tea and rubber by the major producing countries as considered above. While the database stretches over a period 50 years in the case of trade in tea, the database for rubber covers only 20 years as comparable time series data are not available for all the six countries considered.

India has been the largest exporter of tea until 1990, followed by Sri Lanka, China and Kenya. However, since the 1990s, India's share in the





global tea exports had declined substantially and by 2011, India's ranking has receded to the fourth position after Sri Lanka, China, and Kenya (Table 6). Tables 7 and 8 show the trends in the quantity and value of exports earnings realised by the major rubber producing countries and their relative shares in the global exports since 1991. The tables show clear decline of Malaysia, who has been the largest exporter and value earner of natural rubber in 1991. By mid 1990s, Thailand emerged as largest exported of natural rubber and now accounts for 87 per cent of the world export market. Thailand's contribution in the value of global exports has increased from 14 per cent to 76 per cent during 1991 to 2011. Rest of the four countries, including India and China are having very low shares in the global trade.

**Table 6: Trends in Value of Tea Exports, 1961-2011 (% share)**

| Year | Sri Lanka | India | China | Kenya | Indonesia | Five countries (% share) | World (Million US $) |
|---|---|---|---|---|---|---|---|
| 1961 | 34.3 | 38.0 | 6.0 | 1.8 | 3.8 | 83.8 | 682.75 |
| 1970 | 27.1 | 28.2 | 6.6 | 5.8 | 2.6 | 70.4 | 693.53 |
| 1980 | 18.4 | 28.7 | 12.7 | 8.5 | 5.6 | 73.8 | 2026.35 |
| 1990 | 21.1 | 25.4 | 19.8 | 3.7 | 7.7 | 77.8 | 2338.48 |
| 2000 | 24.3 | 15.4 | 13.9 | 16.4 | 4.0 | 74.0 | 2810.16 |
| 2004 | 23.9 | 12.3 | 15.2 | 15.1 | 3.8 | 70.3 | 3064.79 |
| 2010 | 29.0 | 14.7 | 17.1 | 24.7 | 3.8 | 89.3 | 4712.09 |
| 2011(P) | 19.0 | 11.6 | 18.5 | 25.2 | 4.1 | 78.4 | 4916.25 |

*Source:* Estimated from www.faostat.org

**Table 7: Share of major countries in world exports of natural rubber, 1991 - 2011 (% share)**

| Year | India | Indonesia | Malaysia | Sri Lanka | Thailand | World ('000 MT) | Five countries (% share) |
|---|---|---|---|---|---|---|---|
| 1991 | 0.7 | 14.0 | 44.9 | 0.1 | 24.3 | 423.80 | 84.0 |
| 1994 | 0.2 | 9.3 | 31.5 | 0.2 | 39.0 | 379.02 | 80.2 |
| 1998 | 0.1 | 2.8 | 13.4 | 0.0 | 63.1 | 659.05 | 79.3 |
| 2000 | 0.1 | 1.8 | 15.2 | 0.0 | 53.5 | 603.96 | 70.6 |
| 2002 | 0.3 | 0.9 | 7.9 | 0.1 | 73.8 | 991.76 | 82.9 |
| 2004 | 0.5 | 1.0 | 6.5 | 0.2 | 75.2 | 1134.33 | 83.4 |
| 2005 | 1.0 | 0.4 | 5.0 | 0.2 | 73.6 | 1106.83 | 80.2 |
| 2011 | 0.7 | 0.8 | 3.3 | 0.5 | 86.6 | 1163.41 | 92.2 |

*Source:* Estimated from www.faostat.org

**Table 8: Value of natural rubber exports of major rubber producers, 1991-2011 (% share)**

| Year | China | India | Indonesia | Malaysia | Sri Lanka | Thailand | World (Million US$) | Six countries (% share) |
|---|---|---|---|---|---|---|---|---|
| 1991 | 2.4 | 0.4 | 12.7 | 46.4 | 0.1 | 14.0 | 459.72 | 76.0 |
| 1994 | 4.4 | 0.3 | 8.3 | 31.7 | 0.2 | 34.4 | 491.67 | 79.4 |
| 1998 | 4.9 | 0.1 | 3.1 | 19.7 | 0.0 | 48.4 | 446.13 | 76.4 |
| 2000 | 4.6 | 0.2 | 1.6 | 19.9 | 0.0 | 53.6 | 437.07 | 80.0 |
| 2002 | 2.1 | 0.7 | 1.2 | 15.2 | 0.2 | 65.3 | 492.36 | 84.8 |
| 2004 | 1.7 | 0.7 | 1.4 | 11.5 | 0.2 | 73.3 | 972.52 | 88.8 |
| 2005 | 1.7 | 2.0 | 0.5 | 9.2 | na | 73.8 | 1024.69 | 87.3 |
| 2011 | 0.6 | 1.3 | 0.5 | 5.3 | 0.7 | 76.0 | 1571.88 | 84.5 |

*Source:* Estimated from www.faostat.org

The overall trends reflect that India continues to be a major player in the global tea sector in terms of contributions to area, production and exports of tea, though it has been losing its relative position in recent years. It appears that the dominance of Sri Lanka and emergence of China and Kenya would have significant impact on India's performance in the global





tea industry. In the case of rubber, India has been a net importer of rubber and rubber products ever since past few decades. However, the country has been devising various strategies for strengthening the domestic rubber economy to meet the requirements of the fast growing automotive and other rubber products manufacturing industries. As a result, India had emerged as one of the significant players in the global rubber sector with relative contributions of 5.3 per cent in area and 8 per cent in the production of natural rubber. Further, India's highest reported productivity may also help the country strengthen its hold on the global rubber production scenario in due course.

### *II.3. Plantation growth: Institutional, geographical and sectoral dimensions*

In this regard, it is important to examine the regional dimensions of growth of tea and rubber plantations in India, so as to have a better understanding of the socio-economic significance of the two plantations in the regional contexts.

In India, the development of plantation crops, such as tea, coffee, pepper, cardamom, cashew, rubber, etc may be traced back to the colonial era. Tea was the second major plantation crop (after coffee) to be introduced into India and it was first introduced in Assam and North Bengal as early as 1820s and in Southern India in early 1850s[4]. Slightly there was a shift to Southern India, where the phase of development of tea plantations was confined to the Nilgiris. Later, Chinese tea seeds seem to have been planted in Kerala on a commercial scale. Later by 1900, Kannan Devan Company has emerged as the single largest producer of tea in Kerala, which had already developed 19 tea estates by then (George and Tharakan, 1985). An important reason behind the rapid expansion of tea cultivation in the South Indian state of Kerala was the massive damage of the coffee plantations caused by the leaf disease in the 1870s, which had also affected the entire South Indian and Sri Lankan plantations. The effect was such that many coffee planters turned to tea cultivation after trying with very little success with cinchona (Gadgil, 1946: 81). By around 1900, a large number of tea estates have been established in Travancore in South India as by the time tea could command higher value over coffee as an export item of Travancore.

### *Role of state and specialised institutions*

It was around this time that the first commercial rubber planting was made by the colonial powers in Central Kerala in 1902. The plantation crops, particularly, tea, coffee, pepper, cardamom, and rubber have been highly promoted by the native rulers in terms of free land grants and other support measures favouring the planters' interests. This was continued in the post-colonial/ post-independence period as well when the Government of India and the respective state governments have introduced various policy and institutional support measures to protect the big planters, including a planter-friendly land reform policy as implemented by the Government of Kerala. One of the important measures has been the establishment of various institutional bodies aimed at the systematic development and expansion of plantation crops. These institutional bodies, which function as 'crop-specific promotional agencies' mainly included the Commodity Boards, viz., Coffee Board, Tea Board, Rubber Board and the Cardamom (Spices) Board which were established in 1942, 1953, 1954 and 1968 respectively.

As a result of the interventions by the colonial administration followed by the state agencies since Independence, there has been commendable progress in the expansion of area under tea and rubber plantations in India. Given the fact that growth of plantations needed suitable agro-climatic conditions, like adequate rainfall, elevation, soil suitability, etc; Accordingly, tea plantations have been mostly concentrated in the ideal environment of North and North Eastern states of West Bengal, Assam, Tripura, etc as well as the South Indian states of Tamilnadu, Kerala and Karnataka. Whereas, rubber plantations have been initially developed in the most favourable tracks of the South Indian states, viz., Kerala, Tamilnadu and Karnataka, followed by further expansion since late 1980s to the non-traditional regions of the North Eastern region, Maharashtra, West Bengal, etc.

### *Geographical dimensions: Tea plantations*

Table 10 shows the trends in growth of tea plantations in India after Independence. The trends relate to number of plantations, area and the average size of plantations.





**Table 10: Development of Tea plantations in India, 1951-2011**

| Year | North India | | | South India | | | All India | | |
|---|---|---|---|---|---|---|---|---|---|
| | No of estates | Area (ha) | Avg. size (ha) | No of estates | Area (ha) | Avg. size (ha) | No of estates | Area (ha) | Avg. size (ha) |
| 1951 | 2305 (37) | 248583 (78) | 107.85 | 3909 (63) | 68252 (22) | 17.46 | 6214 (100) | 316835 (100) | 50.99 |
| 1981 | 2561 (19) | 309066 (81) | 120.68 | 10849 (81) | 74563 (19) | 6.87 | 13410 (100) | 383629 (100) | 28.61 |
| 1995 | 5340 (14) | 339233 (79) | 63.53 | 31979 (86) | 87832 (21) | 2.75 | 37319 (100) | 427065 (100) | 11.44 |
| 2004 | 60629 (47) | 406190 (78) | 6.70 | 68398 (53) | 115213 (22) | 1.68 | 129027 (100) | 521403 (100) | 4.04 |
| 2011 | 1145 | 459,610 (79.3) | | 1145 | 119,740 (20.7) | | 1527* | 579,350 | |

*Note:* Figures in parentheses are respective shares at the All India level; * figures exclude smallholdings of <10.12 hectares; *Source:* Estimated from Tea Statistics (various issues), Tea Board.

As evident, North India dominates in area under tea plantations with an absolute share of 79 per cent and production share of 78.5 percent. The trend of area expansion has become interesting as there has been proliferation of smallholding plantations. In recent years the tea sector of India has shown significant stride in production and productivity growth. However, in terms of tea productivity, tea plantations in South India show definite advantage over tea plantations in the North. The region-wise distribution of area, production and productivity of tea plantations as given in Table 11 provides a holistic view of the geographical concentration.

**Table 11: Trends in Tea production and productivity in India, Region-wise**

| Year | Tea Production (Million Kgs.) | | | | Tea productivity (Kg./ha) | | |
|---|---|---|---|---|---|---|---|
| | North India | South India | Total | North India (% share) | North India | South India | Total |
| 1961 | 273.3 | 81.1 | 354.4 | 77.12 | 1064 | 1398 | 1221 |
| 1981 | 437.8 | 122.6 | 560.4 | 78.12 | 1416 | 2540 | 1794 |
| 1991 | 562.9 | 191.3 | 754.2 | 74.64 | 1631 | 2107 | 1768 |
| 2001 | 650.8 | 203.1 | 853.9 | 76.22 | 1679 | 2107 | 1769 |
| 2006 | 753.2 | 228.6 | 981.8 | 76.72 | 1631 | 1875 | 1685 |
| 2011 | 875.6 | 240.2 | 1115.7 | 78.48 | 1905 | 2006 | 1925 |

*Source:* Tea Board [http://www.teaboard.gov.in], Government of India (estimated).

It may be further useful to examine the relative shares of the individual states in the Northern and Southern regions in area under tea plantations. Four states namely Assam (51.5 %), West Bengal (22.5 %), Tamil Nadu (16.9 %) and Kerala (6.9 %) account for 98.2 percent of total production of Tea in India (2011 data).

***Structure of tea plantations***

The proliferation in the number of tea smallholding as observed since 1990s (Table 10 & 12) is an important dimension and it signifies the changing structure of tea plantations in India. In this regard, it may be noted that the structure of tea plantations as defined by the Tea Board identifies a plantation area up to 10.12 ha as smallholding. It appears that the tea smallholdings account for almost 99 per cent of the tea plantation units, but account for 28 per cent of the planted area and 26 per cent of the tea production in the country as evident from Table 12.

Overall the big estates still dominates the country's tea production structure and it is often related to the high levels of vertical integration enjoyed by the big planters in terms of their scale economies attached to processing and manufacturing of tea[5]. It is this skewed production structure that makes the Indian tea plantation sector distinct from the tea production





sectors in Sri Lanka, Kenya and Indonesia in particular. Moreover, the Indian tea plantation sector also differs significantly from that of rubber plantations within the country dominated by the smallholders.

**Table 12: Structure of Tea Plantations in India**

| Structural features | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2011 |
|---|---|---|---|---|---|---|---|---|
| 1. Share of small growers (up to 10.12 ha) in total no. of plantations (%) | 98.6 | 98.6 | 98.7 | 98.7 | 98.7 | 98.8 | 98.8 | 98.9 |
| 2. Total number of Tea plantations including big planting units ('000 nos) | 112.0 | 115.3 | 127.8 | 129.0 | 129.0 | 140.7 | 143.2 | 159.2 |
| 3. Share of small planters in total tea planted area (%) | 16.9 | 19.9 | 20.6 | 21.1 | 21.25 | 25.7 | 27.1 | 28.2 (2008) |
| 4. Total Tea planted area ('000 ha) | 490.2 | 509.8 | 515.8 | 519.6 | 521.4 | 556.8 | 568 | 579.4 |
| 5. Share of small Planters in total tea production | 14.31 | 19.2 | 21.2 | 20.9 | 20.57 | 19.47 | 19.2 | 26.3 |
| 6. Total Tea production ('000 Tonnes) | 935.9 | 853.9 | 838.5 | 878.1 | 892.9 | 945.9 | 981.8 | 1115.7 |

*Source:* Estimated from Tea Statistics (Tea Board), various years.

***Geographical dimension: Rubber plantations***

In 1902, J.J. Murphy, J.A. Hunter and K.E. Nicoll and C.M. F. Ross formed the Periyar Syndicate in Travancore and started planting with *para rubber* which has generally proved by far the most suitable variety for cultivation in south India and by 1914, it practically ousted other trees from production. Though rubber planting was taken up on a commercial scale in other parts of the country, it was Travancore (present Central Kerala) which became the leading centre of rubber production (George *et al*., 1988: M158).

Though commercial rubber planting was started as early as in 1902, the process gathered momentum especially since the late 1950s when there was a large-scale adoption of rubber by the native peasantry[6]. This in fact stimulated the process of structural transformation and geographical concentration of rubber production in Kerala (Table 13). Table 13 shows that Kerala accounted for more than 94 per cent of the rubber planted area in India, followed by Tamilnadu and Karnataka (5.5 %) during 1961. The dominance of Kerala continues unparalleled even now as the state holds the major share in rubber planted area (82%), production (92%) and the highest in productivity (1948 kg/ha) compared to Tamilnadu (1612 kg/ha) and the average productivity at the national level (1867 kg/ha) during 2008-09.

The productivity in Kerala may be attributed to the synergy between various factors, especially, the state policies and the institutional and R&D interventions made by the Rubber Board. Unlike the Tea Board, the institutional interventions by the Rubber Board aimed at promotion of rubber expansion in India have been highly beneficial for the smallholders as the interventions essentially included high levels of domestic protection along with research and development (R&D) programmes, extension activities, and financial support. This had resulted in the disintegration (caused by fragmentation) of the estate-based rubber plantation systems, leading to the emergence and proliferation of a smallholder sector in the country. Notably, towards the end of the colonial era, the estate-based rubber plantation sector occupied almost 66–68% of the rubber planted area in India (Sarma 1947; Bauer 1948). However, over time, the smallholder sector has emerged as the dominant stakeholder in rubber production whose share in rubber production has steadily increased from 27 per cent in 1955–1956 to as high as 91 per cent in 2005–2007 (Rubber Board, 2007).

Of late, commendable efforts have been made by the Rubber Board for expansion of rubber towards the agro-climatically suitable regions and the North Eastern (NE) region has emerged as the second largest rubber growing region in the country with a remarkable rise in its relative share from 1.6 to 10.55 per cent in the last two decades[7] (Table 13).






**Table 13: Trends in Rubber Plantation Development in India (Area in hectares), 1960-2011**

| Year | Kerala | Tamilnadu & Karnataka | Southern States | North Eastern States[A] | Other states[B] | All India |
|---|---|---|---|---|---|---|
| 1960-61 | 135809 | 7915 | 143724 | —- | 181 | 143905 |
| | (94.4) | (5.5) | (99.9) | | (0.13) | (100) |
| 1990-91 | 407821 | 31145 | 438966 | 33619 | 2498 | 475083 |
| | (85.8) | (6.6) | (92.4) | (7.1) | (0.53) | (100) |
| 2000-01 | 474365 | 38445 | 512810 | 46885 | 2975 | 562670 |
| | (84.3) | (6.8) | (91.1) | (8.3) | (0.53) | (100) |
| 2006-07 | 502240 | 45268 | 547508 | 64883 | 2809 | 615200 |
| | (81.6) | (7.4) | (89.0) | (10.6) | (0.46) | (100) |
| 2007-08 | 512045 | 48240 | 560396 | 71480 | 3524 | 635400 |
| | (80.6) | (7.6) | (88.2) | (11.2) | (0.55) | (100) |
| 2011-12 | 539565 | 61378 | 600943 | 128470 | 5367 | 734780 |
| | (73.4) | (8.4) | (81.8) | (17.5) | (0.73) | (100) |

*Note:* Figures in parentheses are respective shares at the All India level. A- North Eastern states comprise of Assam, Meghalaya, Tripura, Arunachal Pradesh, Nagaland, Sikkim and Manipur. B- Other states include Maharashtra, Orissa, Andhra, and West Bengal.
*Source:* Rubber Board, Government of India.

### *II. 4. Plantations and Employment effect*

An important socio-economic aspect of tea and rubber plantations development in India has been its greater employment potential directly and indirectly. While these plantations require massive labour force for production and routine agro-management operations (production workers), they are also vertically integrated in terms of processing and manufacturing of the plantation products (factory workers) as well as management workers. The employment potential also has a gender dimension that plucking of tea leaves has always been the task performed mostly by women workers and almost 50 per cent of the rubber tappers in the organised rubber plantations are females.

However, it may be observed that an overwhelming majority of the estate based plantations producing both tea and rubber are still operating under 'captivated and controlled labour regimes', thus perpetuating the colonial system of labour management. In fact, historically, the plantation estates have been operating with immigrant labour[8], who were regimented to cater the labour requirements for performing the major operations, like plucking of tea leaves in the case of tea plantations as well as tapping the rubber trees in the case of rubber. As the workers have settled down on the estates with their families, the sourcing of labour has become easy for the plantation owners and in most cases, family turns to be the unit of recruitment into the labour force. With the workers remained as captive and regimented, the planters could easily keep away from the market forces in fixing wages, thus enabling them produce the plantation output at a lower wage rate (Ravi Raman, 2002). This being so, the plantation wages are always considered significantly lower than the prevailing agricultural as well industrial wage rates in the plantation dominant regions of the country.

The employment intensity of tea and rubber plantations is evident from the fact that on an average 0.71 million numbers of daily employment is generated in the country in tea plantations, followed by 0.44 million employment in the rubber plantations (Table 14).

**Table 14: Trends in average daily employment in tea and rubber plantations, 1991 - 2008**

| Year | Average daily employment in plantations ('000 mandays) | | | | |
|---|---|---|---|---|---|
| | Tea | Rubber | Total | Tea (% share) | Rubber (% share) |
| 1991 | 997 | 293 | 1657 | 60.2 | 17.7 |
| 1995 | 1220 | 322 | 1846 | 66.1 | 17.5 |
| 2000 | 903 | 348 | 2133 | 42.3 | 16.3 |
| 2002 | 666 | 354 | 2106 | 31.6 | 16.8 |
| 2005 | 721 | 388 | 1687 | 42.7 | 23.0 |
| 2006 | 735 | 397 | 1714 | 42.9 | 23.2 |
| 2007 | 610 | 420 | 1785 | 34.3 | 23.6 |
| 2008 | 714 | 445 | 1785 | 40.1 | 25.0 |

*Source:* Tea Board, Rubber Board and Labour Bureau, Government of India.





Table 14 reveals that of the total daily employment generated in the plantation sector, tea and rubber plantations together account for about 66 per cent. Rest of the employment in the plantation sector is mostly generated by coffee, cardamom and other plantations. While the employment effect has been significant for both the tea and rubber plantations, a disturbing trend is that there has been significant decline in employment especially in tea plantations since the 1990s. This is a major issue needing detailed analysis in terms of their potential implications on productivity of plantations as well as livelihood security of the plantation workers in the future. A detailed discussion on the various aspects of the employment decline in the plantation sector will be attempted in the next section.

## III. PLANTATION CRISIS: RESPONSES AND OUTCOMES

This section unfolds the contingencies that have been widely acknowledged as the important causes and outcomes giving shape to the 'crisis in the plantation sector' in India. The section examines the various aspects of the crisis, the immediate responses and actions taken by the planting communities to tide over the crisis and their implications on the plantation dependent communities, especially, labourers.

Arguably, there are several questionable concerns about the 'crisis' that loomed large in India's plantation sector since the mid 1990s. For instance,

a) What were the important causes and indications that have precipitated the crisis in the plantation sector?
b) What were the immediate and long-term responses of the planting communities to overcome the impasse?
c) Did all the plantation crops and producing regions experience the same challenges as typified by the crisis?
d) Was it a crisis *per se* so to effect such a major shake up in the routine management of the plantations as being magnified by the planting communities leading to untold miseries and hardships to the plantation workers?
e) Were the post 'crisis' management interventions made by the big and corporate plantation entities have been disguised in terms of a thorough overhauling of the plantation sector and thereby to displace the labouring communities who have been the mainstay of the 'dynamic plantation activism' in the post-

independence era? In fact, these are some of the critical questions that would need answers to arrive at an objective assessment of the crisis. This section of the paper tries to reflect at least on some of the concerns.

### *III.1. Crisis: impacts on prices and trade*

It may be that crisis in the plantation sector has been triggered by both exogenous and endogenous factors. Exogenous factors mostly included the Asian financial crisis (1997), trade reforms resulting into removal of trade barriers and provision of easy market access, etc. On the other hand, the endogenous factors mostly related to the structural and operational issues confronting the two plantation sectors.

From a macro perspective, an immediate cause of the crisis has been the perceptible decline in international and domestic prices of plantation products, particularly, tea. In case of tea, the decline in international price has been caused by such factors, as recovery of Kenya's production from a past damage in the late 1990s coupled with the loss of Iraqi market due to the war (Hayami and Damodaran, 2004). The trends in domestic producer prices of tea in equivalent US dollars during the 1990s revealed that tea prices in India has declined by almost 14 per cent from 0.213 US$ per kg (1991) to 0.184 US$ per kg (2000). This was in sharp contrast to very marginal decline in China from US$ 1.253 to US$ 1.222 per kg, significant rise in Kenya (43%) from US$ 1.40 to US$ 2.0 per kg, and 27 per cent rise in Sri Lanka from US$ 1.13 to US$ 1.43 per kg during the same period. Moreover, the average tea prices reported for India during the 15 year period (1991-2005) was US$ 0.206 compared to US$ 1.589 for Kenya, US$ 1.285 per kg for China, and US$ 1.19 per kg for Sri Lanka.

The decline in tea prices at the international markets had resulted in corresponding decline in value realised from tea exports till 2006-07, though there has been a great recovery thereafter as evident from Table 15.






**Table 15: Trends in India's Exports of tea in historic perspective (1960-61 to 2011-12)**

| Year | Qty ('000 tons) | Value (US$ million) | Unit value (US$/Kg) |
|---|---|---|---|
| 1960-61 | 199.2 | 260 | 1.31 |
| 1970-71 | 199.1 | 196 | 0.98 |
| 1980-81 | 229.2 | 538 | 2.35 |
| 1990-91 | 199.1 | 596 | 2.99 |
| 2000-01 | 202.4 | 433 | 2.14 |
| 2005-06 | 162.9 | 391 | 2.40 |
| 2006-07 | 185.6 | 435 | 2.34 |
| 2010-11 | 213.8 | 657 | 3.08 |
| 2011-12 | 214.4 | 690 | 3.22 |

*Source:* GOI, Economic Survey various years

A comparison between India and other major tea producing countries in terms of the quantum of export reveal significant decline of India's share in the world market. During the year 2006, 1588.8 million kg of tea (44.4 percent of the world's total productions) had reached the world market. Significant contributions were from Sri Lanka (19.8 percent), Kenya (19.7 percent), China (18.0 percent) and India (13.8 percent). The scenario of the export market in the year 2011, however, changed rapidly. During that year 1718 million kg of tea (40.7 percent of the world's total production) had reached the world market, Kenya and China raising their share to 24.5 percent and 18.8 percent respectively. On the other hand, the share of Sri Lanka (17.5 percent) and India (11.2 percent) in the world market dropped rapidly. India's lost market has been captured by its competitors, mainly Sri Lanka, which makes high value orthodox varieties to be blended with low value fillers collected from India.

Though there has been an increase in India's volume of tea exports since 2006-07 as reported in Table 15, the tea plantation sector has been losing in terms of its relative shares in the gross export earnings (in rupee terms) of the plantation as well as agricultural sectors as evident from Table 16.

**Table 16: Trends in tea exports and its share in India's plantation and agricultural exports**

| Period | Exports of (Rs. Crores) | | | Share of tea plantation in (%) | |
|---|---|---|---|---|---|
| | Tea | All plantation crops | Total agriculture | Plantation crops exports | Agricultural exports |
| 2000 | 1328 | 2079 | 12069 | 63.89 | 11.01 |
| 2001 | 1418 | 2231 | 13418 | 63.55 | 10.57 |
| 2002 | 1339 | 2049 | 16739 | 65.35 | 8.00 |
| 2003 | 1220 | 1979 | 16436 | 61.64 | 7.42 |
| 2004 | 1398 | 2082 | 19476 | 67.15 | 7.18 |
| 2005 | 1347 | 2442 | 22115 | 55.14 | 6.09 |
| 2006 | 1621 | 3063 | 27557 | 52.94 | 5.88 |
| 2010-11 | 3354 | 17260 | 111393 | 19.43 | 3.01 |
| 2011-12 | 4079 | 26284 | 180279 | 15.52 | 2.26 |

*Note:* Figures relate to April - December of respective years. P – provisional
*Source:* GOI, Economic Survey, various years.

The trends in producer prices of rubber in India along with other major rubber producers are shown in Figure 1 and it reveals that producer prices of rubber has declined very marginally in India and other countries between 1991 and 2000, but there were notable fluctuations in prices with peak prices reported during 1995-96. Among other countries while Indonesia, Malaysia and Thailand have reported significant drop in prices, prices in Sri Lanka had increased during the period. It may be noted that the prices remained almost stagnant for almost 6-7 years in Indian and Indonesia during the period from 1998 to 2005, while it had increased in Sri Lanka, Malaysia and Thailand.






**Figure 1: Trends in producer prices of rubber in major producing countries, 1991-2008 (US$/kg)**

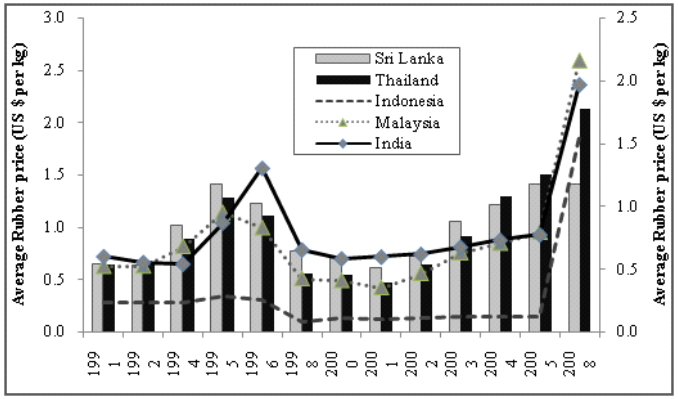
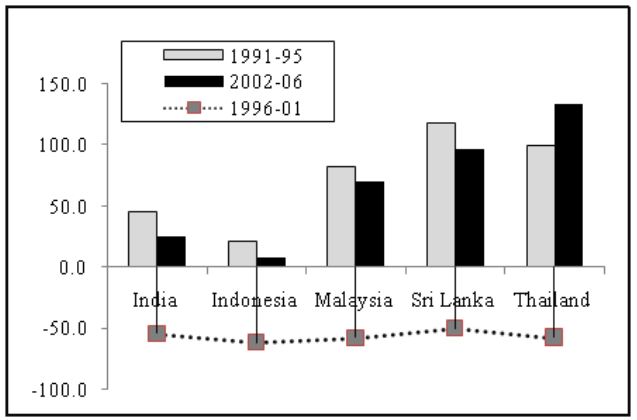



Figure 2 shows that during the 15 year period (1991-2006), rubber prices had declined the most during the six year period from 1996 to 2001 and the drop was almost uniform across the five countries. Though the period since 2001 had shown a revival in the rubber prices, the increase in prices in India and Indonesia was not quite significant in comparison to Thailand, Sri Lanka and Malaysia, indicating that the rubber producers in India and Indonesia had suffered the most as a result.

**Figure 2: Changes in producer prices of rubber in major countries, 1991-2006**



Being a net importer of rubber and rubber products, India's rubber production has been geared towards catering the requirements of the dominant tyre manufacturing industry as well as the diverse non-tyre sector. Trade reforms and the subsequent opening up of the economy have resulted in a surge in imports through duty-free channels under provisions of the advance licensing scheme. Resultantly, between 2001-02 and 2010-11there was more than three-fold increase in India's imports of natural rubber from 49,769 MT to 188,333 MT (www.indiastat.com).

### *III.2. Viability of plantations and labour displacement*

Declining exports and continued production exerted tremendous pressure on prices leading to loss in profitability[1] and loss in foreign exchange earnings in India. Trading by auction is the predominant system of trading in the major tea producing countries, including India. Following the crisis, the Indian tea auction prices have continued to be highly volatile and lower compared to that reported from Kenya (Mombassa) and Colombo (Sri Lanka). During 2010, the tea auction price of India was US$ 2.61 per kg compared to US$ 3.28 in Sri Lanka.

Table 17 shows that the tea auction prices have been oscillating over the last decade with wide variations across the tea auction centres in North and South India. Though there has been some improvement in domestic auction prices in recent years, it is still lower than the international prices. Interestingly, tea auction prices reported from South India has been considerably lower than that reported from North India as well as the prices at the national level.

**Table 17: Trends in Auction prices of Tea in India, 1990- 2012**

| Year | Auction prices (Rs./kg) | | | Ratio of South Indian price to | |
|---|---|---|---|---|---|
| | North India | South India | All India | North India | All-India |
| 1990 | 44.8 | 38.6 | 43.2 | 0.86 | 0.89 |
| 1995 | 50.9 | 41.3 | 48.0 | 0.81 | 0.86 |
| 2000 | 70.3 | 44.6 | 61.7 | 0.63 | 0.72 |
| 2005 | 63.6 | 42.7 | 58.1 | 0.67 | 0.73 |
| 2006 | 71.6 | 50.8 | 66.0 | 0.71 | 0.77 |
| 2012 | 135.6 | 87.4 | 121.8 | 0.64 | 0.72 |

*Source:* Tea Board of India






The crisis in plantations has also been regarded as an outcome of structural issues (besides price decline) in the organisation of large corporate tea and rubber plantations. As stated elsewhere, unlike rubber production, which has already transformed into a smallholder system, tea plantations operate as corporate or private sector entities with a captive and regimented labour market attached to it. The plantations are also bound by the legislations under the PL Act 1951 to protect the labourers with various social and welfare measures. More importantly, a vast majority of the tea plantations in particular, have historically been under severe pressure to cut down operational and management costs as imposed by the structural characteristics of the production system. Tea plantations have also historically been reeling under severe management crisis[10] arising from a host of issues related to low productivity, larger proportions of old and economically unproductive plantations, high operational costs, including provisions for protecting large chunk of the labour force, etc to mention a few.

Given the scenario, tea planters in particular, have adopted various cost cutting and prudent financial management measures to overcome the crisis. Few important measures thus adopted included retrenchment of labourers, abandoning or lockouts of plantations, cutting down on the provisions of the various labour welfare measures, etc. Much of these steps were taken in the guise of abandoning of routine plantation management operations, which gives the planters sufficient reasoning to cut down the size of plantation workers.

As a cumulative effect, there has been drastic reduction in employment in tea plantations, while rubber plantations reported an increase in employment levels during the decade of the crisis (Table 18). As is evident, between 1990 and 2007, employment in tea plantations have declined almost by half of the levels that reported during 1990. The average daily employment declined from 1.02 million (1990) to 0.61 million (2007). In contrast, the aggregate employment levels reported from rubber plantations have increased by one and half time from 0.28 million to 0.42 million. In both the cases, there has been an increase in the share of employment of women workers.

**Table 18: Trends in employment in Tea and Rubber Plantations**

| Year | Tea Plantations ('000 nos) | | Rubber Plantations ('000 nos) | |
|---|---|---|---|---|
| | Avg. daily employment - Total | Share of women (%) | Avg. daily employment - Total | Share of women (%) |
| 1990 | 1025.0 | 51.7 | 282.7 | 38.1 |
| 1994 | 1687.1 | 35.4 | 315.9 | 41.4 |
| 1995 | 1220.5 | 49.5 | 322.3 | 32.8 |
| 1996 | 1012.7 | 51.5 | 328.9 | 39.1 |
| Average (1990-1996) | 1146.9 | 49.1 | 308.3 | 39.5 |
| 1997 | 763.5 | 51.1 | 335.5 | 40.1 |
| 1998 | 894.9 | 48.9 | 341.3 | 33.6 |
| 2000 | 903.0 | 50.1 | 347.7 | 40.4 |
| 2001 | 322.0 | 53.6 | 348.7 | 41.3 |
| 2003 | 615.2 | 53.6 | 372.8 | 42.2 |
| 2007 | 610.0 | 55.0 | 420.0 | 38.8 |

*Source:* Tea Board, Rubber Board (Estimated).

However, the aggregate level increase in employment as reported in the case of rubber plantations need to be related with the corresponding rise in area under rubber, especially that under the smallholder sector. A disaggregate level analysis of employment growth in rubber plantations with respect to the organised plantation sector (comprising corporate, private and public sector plantations) reveals a different story of drastic reduction in employment over the last one and half decade as evident from Table 19. The data shown in the Table pertains to a survey of 40 medium and large rubber estates operating in Kerala, Tamilnadu, Karnataka and Andamans owned by corporate, private and public sector companies.






**Table 19: Trends in employment in organised rubber plantations, 1990 to 2006**

| Year | | Total employment ('000 nos) | | Tapping employment ('000 nos) | |
|---|---|---|---|---|---|
| | | All work-Total | Kerala's share (%) | Tapping-Total | Kerala's share (%) |
| 1990 | | 1738 | 67.3 | 970 | 59.9 |
| 1992 | | 1730 | 67.4 | 922 | 59.6 |
| 1994 | | 1686 | 65.4 | 877 | 53.3 |
| 1996 | | 1685 | 65.6 | 876 | 54.6 |
| 1998 | | 1586 | 65.4 | 805 | 57.6 |
| 2000 | | 1308 | 62.1 | 759 | 56.0 |
| 2002 | | 1175 | 62.8 | 687 | 58.9 |
| 2004 | | 1069 | 64.5 | 634 | 59.7 |
| 2006 | | 953 | 66.0 | 603 | 60.1 |
| Change (%) | 1990-1996 | -3.02 | — | -9.75 | — |
| | 1997-2006 | -42.30 | — | -30.73 | — |

*Source:* Survey of 40 rubber plantations.

The Table clearly demonstrates that the extent of decline in employment in the total workforce as well as tapping labourers (rubber tappers) has been alarming especially during the latter period (1997-2006). The decline in the case of total workforce engaged in the plantations has been 42.3 per cent during the period 1997-2006 as against only 3 per cent during 1990-1996. Similarly, the extent of decline in tapping employment has been 31 per cent during the latter period and close to 10 per cent during the first period. In both the cases, the adversity of employment reduction has affected the plantation sector in Kerala.

### *III.3. Crisis as opportunities of restructuring*

It now becomes evident that labour displacement has been one of the major outcomes of the interventionist strategies adopted by the tea and rubber planters to overcome the impasse caused by the crisis. There is no denying of harsh reality that a larger section of the small and medium scale planters have become bankrupt in the wake of the crisis, which

might have resulted in widespread abandoning of non-viable plantations or closure of the same. In most cases, plantations were abandoned as the prevailing labour laws (as stipulated by the PL Act 1951) do not permit the closure of plantations. In any case, as the evidences increasingly demonstrate, 'labour' has been identified by the planting communities as the triggering factor for the crisis and the interventions were mostly geared towards either displacing the labour or disciplining him (her) or a combination of two.

Reportedly, in 2003, several violent incidents and lockouts taken place across the tea growing regions in the country. About 22 tea estates spread over 3000 ha that employed about 5000 labourers have been closed down in Kerala between 2000 and 2003 as they have become unviable, though a handful of them have become operational later on. While in West Bengal, the number of closed tea estates was over 30, Assam reported closure of about 70 plantations.

The process of restructuring has been taking place in the plantation sector through an array of disquieting developments widely reported from almost all plantation regions in the country. These developments broadly included: a) lowering or stagnant wages; b) non-revision of wages; c) non-provision of bonus; d) increase in workloads, ie., a hike in the minimum quantity of tea leaves to be collected and increase in tapping task (number of rubber trees to be tapped); e) curtailment of non-wage or extra-wage benefits and incentives; f) non-compliance of provisions of welfare measures as stipulated by the PL Act, 1951; g) closure of cresche, health centres; h) non-maintenance of labour lines, etc to mention the most pressing needs impacting the livelihoods of the plantation workers. As a matter of fact, the extent and degree of imposition of these measures varied across plantations depending on the extent to which the planters wanted to maintain their profit margins intact.

The above argument needs little elaboration in terms of examining how the big plantations have maintained their profit margins in tact even in the face of the crisis. For analysis, we consider two major plantation companies, viz., a) the Harrison Malayalam Ltd.[11] (HML), and b) Tata Tea Company[12]. Table 20 shows the major indicators of financial and economic performance of the Harrison Malayalam Plantations during 2001-10, which clearly





demonstrates that the company has managed to weather the crisis and move forward through cutting down on staff expenditure. It may be seen that though the staff expenditure [which also includes the salary and welfare benefits provided to the managerial staff] has been on the increase over time in absolute terms, in relative terms, the company has been able to contain its share around 30 percent since 2007. The wage and related benefits (health, maternity benefits, etc) paid to the workers was found to be hardly 60-70% of the total staff expenditure reported.

**Table 20: Indicators of Performance of Harrison Malayalam Plantations, 2001-2010**

| Year | Financial indicators (Rs. million) | | | | Revenue accrued from | | Staff exp.as |
|---|---|---|---|---|---|---|---|
| | Total Expenditure | Staff expenditure | Total Revenue | Profit after tax | Tea (%) | Rubber (%) | % of Revenue |
| 2001 | 1065 | 567 | 1068 | 108 | 51.36 | 22.03 | 53.04 |
| 2002 | 1434 | 693 | 1412 | 159 | 63.50 | 24.75 | 49.10 |
| 2003 | 1258 | 688 | 1200 | 99 | 54.10 | 31.59 | 57.33 |
| 2004 | 1177 | 624 | 1380 | 52 | 53.41 | 52.58 | 45.25 |
| 2005 | 1198 | 605 | 1460 | 484 | 61.64 | 52.53 | 41.45 |
| 2006 | 1339 | 638 | 1525 | 707 | 58.15 | 47.49 | 41.84 |
| 2007 | 1840 | 657 | 2105 | 141 | 55.01 | 52.25 | 31.22 |
| 2008 | 2579 | 780 | 2924 | 60 | 45.13 | 45.82 | 30.26 |
| 2009 | 3107 | 862 | 3345 | 99 | 43.70 | 44.91 | 27.75 |
| 2010 | 3706 | 972 | 3759 | 39 | 32.76 | 52.05 | 26.22 |

*Source:* http://www.harrisonsmalayalam.com (estimated)

As evident from the Table, the company's revenue from both rubber and tea plantations have been more or less same since 2007 years with an exception during 2010. The company's revenue had increased more than expenditure over the years, though the profit after tax had shown a decline in the later years due to an expansion in plantation activities.

For Tata Tea, the period of crisis has been one of major restructuring and shift in orientation away from producing tea towards being sellers of tea products. Both Tata Tea and the Hindustan Unilever Ltd. (Indian subsidiary

of Unilever) together account for almost 60 per cent (21 and 39% respectively) of the branded tea sales in the country. However, with the crisis, the Company would have realised that their profits could be kept undistributed by selling branded and processed tea products, rather than owning tea plantations. Hence, the company had taken several initiatives to overcome the crisis, one of which being wage cuts and launching of a new business model incorporating the workers into the company's tea production system. The evidences further suggests that the Tata Tea Company had cut its total wage payments by 12.5 per cent (approx. US$ 2.75 million), its provident fund payments to workers by 43 per cent (approx. US$ 3.13 million) and welfare payments by 40 per cent (US$ 4.1 million) during the five year period between 2001 and 2006 (Asian Food Worker, 2007). The company also retrenched a significant number of its workers from the tea plantation sector overtime as also evident from Table 21. While the total income of the company from its tea business had increased by 67%, the employee payment had declined by almost 47% between 2006-07 and 2010-11.

**Table 21: Indicators of Performance of Tata Tea Company, 1995-96 to 2010-11**

| Year | Financial indicators (Rs. million) | | | No of employees$ | Share in Total income (%) | |
|---|---|---|---|---|---|---|
| | Total income | Profit after taxes | Employee payment | | Employee payment | Profit after taxes |
| 1995-96 | 5433 | 461 | 1331 | 58387 | 24.5 | 8.48 |
| 1997-98 | 8960 | 1022 | 1697 | 59015 | 18.94 | 11.4 |
| 1999-00 | 9745 | 1246 | 2095 | 59740 | 21.5 | 12.78 |
| 2001-02 | 8161 | 720 | 2436 | 57736 | 29.85 | 8.82 |
| 2003-04 | 8392 | 915 | 2169 | 55665 | 25.85 | 10.91 |
| 2005-06 | 10401 | 1869 | 1763 | 34596 | 16.95 | 17.97 |
| 2007-08 | 12633 | 3129 | 718 | 2510 | 5.69 | 24.77 |
| 2009-10 | 18368 | 3915 | 950 | 2419 | 5.17 | 21.31 |
| 2010-11 | 19143 | 1806 | 948 | 2373 | 4.95 | 9.43 |

*Note:* $- The drastic decline in the number of employees 2006-07 and 2007-08 was reportedly due to the formation of the KHDP company by making about 12000 of its workers as shareholders of the company.

*Source:* Compiled from Tata Tea Company, Annual Reports.





Following the crisis in the tea sector, the company had launched a major initiative by which all of its workers associated with the plantations in Kannan Devan Hills in Idukki districts in Kerala have been made as shareholders of the new venture, called, the Kannan Devan Hills Plantation Company (KHDP) Pvt. Ltd[13]. As per the company reports, the current strength of the workforce attached to the tea plantations is about 12000 and these workers are also legally the shareholders of the company. However, whether and how the new restructuring initiative of the company had resulted in significant positive impacts on the livelihoods of the workers is an important question needing a critical analysis in the emerging context.

Thus, employment reduction has turned the most ostensible measure as adopted by the tea plantation Companies in the face of the crisis in plantations. Reportedly Hindustan Lever Limited (HLL) also had taken similar measures leading to a reduction of more than 12000 permanent workers from its plantations through a transfer deal signed with McLeod Russel India. In 2006, the HLL reported after tax profits of US$ 464 million, which was an increase of 32 per cent over 2005.

The state of affairs reported from the rubber plantation sector was also not much different. Following the decline in rubber prices since mid 1990s[14], the rubber planters have also been at their earnest efforts to reduce the costs of plantation management which ultimately boiled down to a drastic reduction in employment, including tapping employment. To understand the magnitude of reduction in employment and the resultant cost in the case of rubber, we have gathered time series data on the crucial indicators of plantation performance from about 20 estates located in Kerala, Tamilnadu, Karnataka and Andamans. These plantations are operated by corporate, private, public and joint venture companies. The results of the analysis are presented in Table 22.

**Table 22: Indicators of performance of rubber plantations, 1990 to 2001**

| Year | Rubber output (MT) | Val. of output (Rs. Mill.) | Employment ('000 nos) | | Financial details (Rs. Million) | | | Wages as % of value of output | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | Tapping | Total Exp. | Total Wages | Tapping wages | Total wages | Tapping wages |
| 1990 | 9440 | 215.72 | 1738 | 970 | 116.91 | 54.32 | 28.36 | 25.18 | 13.14 |
| 1992 | 9009 | 218.75 | 1730 | 922 | 151.02 | 66.56 | 34.77 | 30.43 | 15.89 |
| 1994 | 7920 | 223.45 | 1686 | 877 | 171.29 | 79.46 | 39.97 | 35.56 | 17.89 |
| 1996 | 8402 | 330.92 | 1685 | 876 | 230.16 | 104.22 | 52.60 | 31.49 | 15.90 |
| 1997 | 8278 | 286.74 | 1651 | 871 | 248.72 | 116.06 | 58.46 | 40.48 | 20.39 |
| 1998 | 8133 | 220.56 | 1586 | 805 | 240.13 | 115.14 | 58.56 | 52.20 | 26.55 |
| 2000 | 7722 | 213.02 | 1308 | 759 | 264.22 | 114.85 | 59.34 | 53.91 | 27.86 |
| 2001 | 7018 | 198.78 | 1238 | 709 | 239.68 | 117.25 | 62.24 | 58.98 | 31.31 |
| % Change (1990-2001) | -25.66 | -7.86 | -28.76 | -26.92 | 105.02 | 115.85 | 119.48 | —- | —- |

*Source:* Data gathered from 20 rubber plantations in Kerala, Tamilnadu, Karnataka and Andamans.







The Table reveals that value of rubber output has been on the decline since 1997 due to decline in rubber prices which had a spiraling effect on the cost of plantation management. Admittedly, during the period of crisis, the income generated from plantations has been lower than the expenditure as the companies had to maintain the overheads intact. As a result of the cost reduction measures, the extent of reduction in total workforce was 29 per cent and reduction in workers engaged in tapping was about 27 per cent during the 10 year period.

The crisis may have turned out to be a window of opportunity for a major segment of the plantation companies who have strategically implemented a series of economy measures leading to a drastic cut in the wage bills and reduction in employment of plantation workers. Also, it looms large that the post 'crisis' management interventions made by the big and corporate plantation entities have been disguised in terms of a thorough overhauling of the plantation sector and thereby to displace the plantation workers who have been the mainstay of the 'dynamic plantation sector' in India in the post-independence era.

### *III.4. Crisis and mounting social security concerns*

The crisis, its outcomes and the ways and means through which the plantation companies tried to address these problems have in turn created greater concerns about the social as well as sustainable livelihoods of the plantation workers in the plantation sectors. Tea plantations in particular have distinct features in terms of: a) largest workforce and population dependence; b) half of the workforce being women; c) major segment of the workforce being tribals; and d) a greater proportion of workforce being migrants. These distinctive features relating to the workforce and dependent population attached to the tea plantations underscore the fact these are the sections of population who are the most vulnerable to the socio-economic disturbances caused by poverty, illiteracy, lack of access to resources, ill-health, to mention a few. This being so, it is highly likely that the crisis as experienced in the plantation sector would have destabilised the livelihoods of the workforce and the dependent households. Moreover, since plantations are situated in isolated and remote areas, there are no alternative means of earning better livelihoods. Obviously, a loss in employment due to retrenchment or closure of plantations in this regard would mean abject poverty and despair to the households.

Other than retrenchment or closure of plantations, the tea planters also increasingly adopted a new strategy of sub-dividing and fragmenting the plantations into smaller parcels below 10 ha so that they could escape themselves from providing the non-wage benefits and the welfare measures as stipulated by the PL Act. This tendency has been on the rise especially in Nilgiris in Tamilnadu where there has been a surge in the number of registered tea plantations ever since 1993. Between 1993 and 2004, the number of newly registered tea plantations had increased from 25746 to 62145 in the Nilgiris. This in fact has resulted in a gross exclusion of a major chunk of plantation workers from the protective provision of labour legislation.

These eventualities underlie the mounting social security problems in the plantation sectors in the country apparently ignited by the crisis. In fact, there are a number of legislations other than the PL Act 1951, like the Minimum Wages Act, 1948, the Employees Provident Fund and Miscellaneous Act, 1952, the Maternity Benefit Act, 1961, the Payment of Bonus Act, 1965, the Payment of Gratuity Act, 1972 and the Equal Remuneration Act, 1976, which are applicable to the tea and rubber plantations. There are also a number of other legislations related to land laws of the States, revenue, standard of quality of tea apart from the Factories Act, 1948 and the Standard of Weights and Measures Act, 1976 etc.

However, despite such legislations, a vast majority of the plantation companies have become lethargic in provisioning labour welfare and social security measures. Health services are seriously compromised and not extended to all types of ailments and types of workforce. In majority of cases, health care services are extended to minor ailments and major diseases are least attended to or treatments at private health centres are rarely reimbursed in full. All children in the age group of 1-14 do not get enrolled into the schools. Instead, they get enrolled into the plantation workforce as the families find it worth rather than sending their wards to school[15].

The latest report on the working of the PLA (1951) published in 2005 highlight some important aspects of the actual working status of the Act. The data as provided in the report indicates that only 50 per cent of the






plantations are regularly submitting returns about the plantation activities. Hardly 17 per cent of the plantations provide canteen facilities and only 26 per cent of them have crèches. As regards the provision of housing units within the plantations, the report shows that when almost 65 per cent of the 6.7 lakh plantation workers are eligible for housing, only 9 per cent of them have been provided with housing facilities (GOI, 2008).

### *III.4.1. Low-wage trap*

Data reflects that a vast majority of the plantation workers have been deprived of almost all sorts of welfare provisions that they are entitled under the cover of the PLA, 1951. The scenario becomes difficult to comprehend when we realise the fact that plantations in general and tea plantations in particular have been historically entangled by a low wage trap when compared to the wages of semi-skilled workers in the manufacturing and construction segments. The historic trends in plantation wages as captured by the periodic Occupational Wage Surveys (OWS) conducted by the Labour Bureau, (Government of India) reveals the low wage syndrome afflicting the plantation sector in India (Table 23).

**Table 23: Wages of workers in plantations over OWS rounds**

| | | Plantations wages (Rs./day) | | | Tea plantations (Rs./day) | | | Rubber plantations (Rs./day) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OWS | Year | Tea | Rubber | Difference (%) | Male | Female | Difference (%) | Male | Female | Difference (%) |
| First | 1958 | 2.26 | 2.17 | 3.98 | 1.76 | 1.65 | -6.70 | 1.98 | 1.50 | -32.0 |
| Second | 1963 | 3.05 | 1.82 | 40.33 | 3.16 | 1.81 | -74.60 | 1.96 | 1.47 | -33.3 |
| Third | 1974 | 4.67 | 7.79 | -66.81 | 4.74 | 5.00 | 5.20 | 7.95 | 7.51 | -5.9 |
| Fourth | 1985 | 13.33 | 20.71 | -55.36 | 13.65 | 14.22 | 4.00 | 21.4 | 19.38 | -10.4 |
| Fifth | 1993 | 23.68 | 40.53 | -71.16 | 24.21 | 24.29 | 0.30 | 41.37 | 39.29 | -5.3 |
| Sixth | 2006 | 54.27 | 89.77 | -65.41 | 55.76 | 53.62 | -4.00 | 91.43 | 87.5 | -4.5 |

*Note:* OWS – Occupational Wage Surveys; *Source:* Labour Bureau, Government of India (compiled).

As evident from Table 23, wages of tea plantation workers have been higher than rubber plantation workers until the Second Round of OWS. In rest of the OWS rounds, the wage gap between the two plantations has been widening with wages of rubber plantation workers being significantly higher than that of tea plantation workers. Though the gender differences in wages has not been much revealing in the case of tea plantations in the later rounds of OWS, wages of male workers in tea plantations have been significantly lower than that of wages of male rubber plantation workers and the wage gap between the two plantations have also been widening.

It may be relevant to examine how the low wage levels are distributed across the plantation workers. Data of the Labour Bureau (2006) show distribution of plantation workers according to different wage classes. It suggests (Table 24) that almost 74 per cent of the plantation workers belong to the low wage classes below Rs. 75 per day at the aggregate level. The magnitude of the problem of low wages is more revealing in the case of tea plantations where about 78 per cent of the plantation workers receive a daily wage below Rs. 75. Further, within the tea plantation sector, the status of workers in West Bengal and Assam is precarious as more than 90 per cent (98 and 93% respectively) of the workers fall in the lowest wage categories of Rs. 75 and below. The plight of rubber plantation workers appears to be somewhat better as almost 82 per cent of the workers fall in the wage class of Rs. 76-100, the proportion being 88 per cent in Tamilnadu and Karnataka and 82 per cent in Kerala. The wage levels and its distribution seem to be somewhat better in rubber plantations in Kerala where 11 per cent of the rubber plantation workers earn a daily wage in the range of Rs. 100-125 and about 5 per cent of the workers get a wage in the range of Rs. 125-150.






**Table 24: Selected State/Income group-wise distribution of workers based on daily earnings in Plantation industries in India, Sixth OWS (2006)**

| | Rubber Plantations (% of workers) | | | Tea Plantations (% of workers) | | | | All |
|---|---|---|---|---|---|---|---|---|
| Wage class (Rs.) | Kerala | Tamil Nadu & Karnataka | Overall | Assam | West Bengal | Tamil Nadu | Kerala | Overall | Plantations |
| 25-50 | 0.37 | 0.22 | 0.36 | 12.19 | 17.29 | 0.89 | 0 | 12.47 | 10.44 |
| 51-75 | 2.01 | 5.89 | 2.42 | 80.75 | 80.51 | 28.05 | 0 | 65.98 | 62.60 |
| 76-100 | 81.66 | 87.76 | 82.31 | 5.89 | 1.74 | 49.1 | 99.53 | 19.38 | 23.88 |
| 101-125 | 11.14 | 0 | 9.95 | 0.21 | 0.44 | 17.32 | 0.36 | 1.29 | 1.97 |
| 126-150 | 4.55 | 0.71 | 4.14 | 0.41 | 0.02 | 1.74 | 0.11 | 0.37 | 0.61 |
| 151-175 | 0.21 | 0 | 0.19 | 0.21 | 0 | 1.78 | 0 | 0.23 | 0.23 |
| 176-200 | 0 | 0.63 | 0.07 | 0.11 | 0 | 0.39 | 0 | 0.09 | 0.08 |
| 201-225 | 0 | 0.18 | 0.02 | 0.11 | 0 | 0.59 | 0 | 0.10 | 0.09 |
| 226-250 | 0.03 | 0 | 0.02 | 0.08 | 0 | 0.14 | 0 | 0.06 | 0.05 |
| > 251 | 0.03 | 4.61 | 0.52 | 0.04 | 0 | 0 | 0 | 0.03 | 0.05 |
| Total (No) | 57166 | 7064 | 64230 | 487338 | 161911 | 49757 | 103502 | 825192 | 997826 |

*Note:* The Occupational Wage Survey data pertain to only the plantations submitting returns to the Labour Bureau.
*Source:* Labour Bureau, Government of India.

The distribution of tea and rubber plantation workers based on the daily wages as shown in the Table may offer useful insights to draw conclusions about the likely implications of such low paid employment status on the livelihoods and socio-economic security of the workers. There persists a clear vacuum of thorough empirical assessment on various aspects relating to: a) the impact of the crisis on the socio-economic status of plantation workers in region and plantation-specific contexts; b) the coping mechanisms adopted by the plantation workers; c) the implications on their livelihoods, health, nutritional status and poverty, etc. It may be observed that these issues need detailed empirical analysis in a multi-disciplinary perspective.

## IV. CHALLENGES AND WAY FORWARD

This section tries to conclude contemplating on the major challenges that circumscribe India's plantation sector and exploring the possible ways of overcome the impasse. As a matter of fact, crisis in the plantations has overarching implications on heterogeneous segments of population and industrial activities which include the large and small tea as well as rubber plantation producers, plantation workers, processing, manufacturing and export oriented industries.

Evidently, a vast majority of the tea plantations in particular have vehemently responded to the crisis by adopting economy measures leading to a significant reduction in employment. Arguably, it is erroneous to assume that labour has been the major triggering factor behind the crisis in the plantation sector. In fact, the challenges emerging in the wake of the trade reforms and the global economic integration are not only in terms of reducing the costs, especially by labour displacement. Rather the challenges are much larger and more fundamental, which entail an array of issues pertaining to the structure and organisation of plantation crops in question, their market orientation, institutional impediments, resource use and management regimes, etc.

It emerges from the above analysis that the two plantation sectors bring out a sharp contrast in terms of the structure and organisation of production systems as they evolved after the colonial era. While rubber plantations witnessed a significant structural transformation in production from the





plantation mode to the smallholder system, tea production still remains to be a plantation system with all its colonial appendages of control of output and labour by the big plantation entities in the corporate, private and public sectors. The skewed distribution characterised by the predominance of the medium and large plantations in the case of tea is the outcome of the indivisibility of the processing technology and the advantages of vertical integration as provided by such processing technology. Thus, though the tea smallholders outnumbered the medium and large-scale planters in terms of number of plantations, their technological incapabilities always put them at a disadvantageous position, adversely affecting their socio-economic wellbeing and livelihoods despite their pursuit of plantation life over generations.

A comparison between manufacturing of 'black tea' and 'green tea' best explains the technological incompetence of the small tea producers compared to the large tea plantations. The manufacturing of black tea at standardised quality for exports requires a large scale fermentation plant in which fresh leaves need to be fed within few hours of picking. The need for close coordination between farm production and large scale processing underlies the structural impediment that the tea smallholders are facing in India. On the other hand, the case of rubber stands distinct as the rubber processing does not call for a centralised processing and marketing system. As a result, rubber smallholders have also gained competitive advantage on par with the large plantations. The wide-scale of promotion of rubber rollers (rubber sheet making machines) through financial subsidies and incentives by institutional agencies like the Rubber Board has made farm level processing of rubber easier and affordable for smallholders. This, along with the subsidies, institutional, R&D and extension support offered to the small producers by the Rubber Board had resulted in proliferation of rubber holdings leading to the disintegration of the plantation mode of production system in the case of rubber. Whereas, tea plantations did not experience such a structural transformation despite it having an institutional intervention system as offered by the Tea Board.

A yet another structural challenge that augured the crisis in tea plantations in particular pertains to the age profile of the existing tea plantations in the country. In India more than 50 percent tea plantations are unproductive or non-viable as they fall in the upper ages of 40 years and above. This

certainly reflects on the gross neglect of investments by the planters for plantation regeneration activities, especially, replanting and replacement of older and weaker tea bushes on a systematic basis. The case of plantations in South India stands out (about 80% tea bushes in Kerala and 37% in Tamil Nadu are more than 40 years of age) as these states have not been making any significant investments for replenishing the plantation stock over time.

On the other hand, the structural transformation in the rubber plantation sector caused by the large-scale entry of smallholders had resulted in substantial decline in the size of operational holdings, leading to the proliferation of small and marginal rubber holdings below 2 ha. As a result, the average size of operational holdings below 2 ha had declined by almost a factor of two from 0.78 ha in 1955–1956 to 0.44 ha in 2002–2003. The emerging scenario clearly demonstrates that the growing fragmentation of smallholdings on the one hand and the constraints posed by the socio-economic as well as institutional factors and the non-availability of profitable alternate cropping options, rubber has turned into a monoculture system posing greater risks to the farming communities arising from volatility in prices and the threat of cheaper imports of rubber in the context of new trade policy. Further, the proliferation of small and marginal holdings also had its impact on the labour market, as the young and skilled rubber tappers tends to retreat from rubber tapping as they are unable to earn a reasonable daily income by tapping rubber trees from a small/marginal holding[16] (Viswanathan and Shivakoti, 2008). Invariably, this suggests the double dis-advantages of 'competitiveness' in the context of liberalisation and market integration on the one hand, and non-viable holdings along with non-sustainable production system on the other particularly in the case of rubber.

A major challenge before tea plantation sector is to think in terms of alternative strategies of dismantling the existing plantation system and reinvent a new production system under the control of the smallholder co-operatives. The idea that a well organised smallholder sector could make use of India's tea corporate expertise to process, package and market tea for export sales, rather than relying on TNC brands, could be of much relevant in the present context. Certainly, other means of value added supply chains also need to be explored, like the radical transformation






towards implementation of fair trade principles such that the tea smallholders get an assured margin. In this regard, some of the points of Doha negotiations designating agricultural products as 'special products' would help insulate the tea smallholders of India in particular from the threat of cheaper imports. In this regard, both tea and rubber can match the second objective as put forward by the Doha Development Agenda (DDA) so as to consider these crops as 'special products' as they sustain and enhance the employment, food security and livelihood opportunities of millions of small producers.

The loss of competitive advantage in export market, also poses a major challenge, which necessitates that India has to devise a careful strategy to improve and sustain the performance of the tea industry. In fact, Kenya and Sri Lanka provide institutional support to the smallholders to strengthen their stake in the industry. For instance, the small tea holders in these countries are supported through dedicated government institutions, such as the Tea Small Holdings Development Authority (TSHDA) in Sri Lanka and the Kenya Tea Development Agency (KTDA). There are also programmes and projects that are assisted by multilateral financial institutions, such as the World Bank or the Asian Development Bank, who provide all kinds of extension services, training, loans and planting materials. In Kenya, this has resulted in a tremendous growth of smallholder tea production from barely 2 per cent of national production in 1963 to 60 per cent in 2005 (Wal, Sanne van der, 2008). In Sri Lanka, the tea smallholders now contribute 66 percent of total production occupying 44 percent of total tea acreages. The structural changes promoting smallholders are desired by the government for equity reasons and land redistribution policies have been used as a means to enforce this change (Herath and Weersink, 2007).

In sharp contrast, though development of tea plantations in India have been ably supported by the institutional support mechanisms as provided by the Tea Board, the entire development process has ignored the smallholders. A major segment of small tea producers do not even have registrations with the Tea Board, which is mandatory for receiving the institutional support for plantation development. This has been due mainly to the lack of title deeds for cultivable land operated by the tea smallholders. Thus, the absence of title deeds prevents them from registering with the

Tea Board thereby failing to avail themselves of subsidies and financial assistance under various schemes of the Tea Board and other financial institutions.

It becomes also important to understand the domestic as well as trade scenarios whereby solutions may be sought to simultaneously improve the production structure along with better negotiations on the trade front. In other words, it is imperative to explore how far trade liberalisation offers an opportunity to restructure the domestic production scenario in order to enhance the competitiveness on the one hand, and strengthen the stakes of smallholders, and thereby make a better plea for protecting their livelihoods in the context of the trade policy changes. This also calls for a clear understanding of the perceptible shift (if any) in the conventional land use and management policies or diversification strategies as adopted by the tea and rubber planters as a dynamic response to overcome the crisis.

On the trade front, an important development challenge in recent times has been the emergence of various forms of regional trade agreements (RTAs)/ free trade areas (FTAs)/ preferential trade agreements (PTAs). Obviously, the emerging scenario would have serious implications for India's trade in tea and rubber and rubber products in particular. This is because; some of the effective RTAs are signed between India and the countries within the South and South East Asian region, who are also producers of the same plantation crops, particularly, rubber and tea. More importantly, there are serious apprehensions as regards the welfare effects of the RTAs in country-specific contexts as countries differ as regards extending MFN status to the neighbouring countries within the same regional/ geographical contexts. In this regard, it may not be possible to rule out the 'unfair' practices such as dumping[17] or prevalence of higher levels of export subsidies in the competing countries within the RTA network. Incidentally, India's major competitors in both tea and natural rubber are from the Asian region, *viz.*, Sri Lanka, China and Thailand. This scenario calls for examining the impact of RTAs on the domestic production and trade segments and the resultant performance efficiency of the tea and rubber plantations in India.

Last, but not least, the biggest challenge seeking a perennial solution for sustaining the dynamism of the two plantation sectors in India is socio-





economic security of the workers, especially, women workers who account for more than half of the plantation workforce. The labour welfare and social security measures as being provided under the prerogatives of the PLA, 1951 have been proven to be far from satisfactory and time-redundant, thus calling for new innovative means of social security provisions. As emerge from the analysis, the crisis has been turned as an opportunity by the plantation entities to do away with all social security and welfare provisions that have been in place (though with varying degrees of performance efficacies) since the post-colonial period. The emerging scenario invariably calls for devising 'new labour management regime' in place of the 'command and control regime' that currently exist in the plantations. Such new labour management strategies should strive towards incorporating the labour process as an integral aspect of sustainable plantation development programmes. Legislations need to be effected to set appropriate labour standards in which the socio-economic security and sustainability of the livelihoods of the plantation workers and their dependent households should form the basic premises. Moreover, enactments are needed that the plantation companies and individual plantation entities should comply with their corporate social responsibilities.

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**Notes:**

[1] The plantation sector comprise of multiple stakeholders, including big and medium scale tea, rubber and coffee planters, small-scale tea, rubber and coffee producers, and both organized and unorganized plantation and smallholder workers associated with the tea, rubber and coffee production sectors.

[2] The crop-specific promotional agencies have been set up by the Government of India in the post-independence period, which included the commodity boards like the Coffee Board (1942), Tea Board (1953), Rubber Board (1954) and the Cardamom/ Spices Board (1968). These

boards have been set up through various enactments of the Indian Parliament and are under the administrative jurisdiction of the Ministry of Commerce and Industry, Government of India. The major functions of these agencies are to act as catalysts in the process of area expansion, production and productivity enhancement through various R&D and institutional support measures, including subsidy, technical and extension support (Viswanathan, 2006).

[3] In that year, Charles Goodyear accidentally dropped rubber and sulfur on a hot stovetop, causing it to char like leather yet remain plastic and elastic. Vulcanization, a refined version of this process, transformed the white sap from the bark of the *Hevea* tree into an essential product for the industrial age.

[4] The English East India Company which had a virtual monopoly of British overseas trade with China and India and carried out a profitable trade in Chinese tea was forced under various circumstances to develop alternate tea growing area in Guwahati and Brahmaputra Valley in Assam in 1820s and North Bengal in 1830s. Soon after the tracing of indigenous tea plants in Assam in 1823, a few tea plants were sent in 1835 from Calcutta to the Nilgiris, Coorg, Mysore and Madras (George and Tharakan, 1985; Guha, 1991; Gadgil and Guha, 1993; Baruah, 2001; Misra, 2003).

[5] The indivisibility of the manufacturing technology of black tea requires minimum farm size to achieve scale economies (Hayami, 2004; George and Tharakan, 1984).

[6] This was, facilitated by a host of socioeconomic, political, and institutional factors, including land reforms and effective institutional support mechanisms provided by the Indian Rubber Board, in addition to favourable agro-climatic conditions (Varghese 1970; Raj and Tharakan 1983; George *et al*. 1988; Lekshmi and George 2003).

[7] The expansion of rubber cultivation beyond the traditional regions of Kerala, Tamilnadu and Karnataka to the non-traditional areas of the NE states became imperative, because of the non-availability of agro-climatically suitable land for further expansion in the traditional regions. Since majority of the population in the NE states are tribal communities following swidden agriculture, rubber development in the region is being promoted with the social objective of uplifting the tribal






communities and weaning them away from shifting cultivation (Viswanathan, 2006).

[8] Reportedly, the South Indian tea plantations as a whole depended on immigrant labour and as early as 1865, four- fifths of the workers on estates in Nilgiris (in Tamilnadu) came from Mysore (George and Tharakan, 1985).

[9] It has been found that during the late 1990s and after the cost of tea production has been higher than the domestic tea prices by 20-25 per cent as compared to significant levels of profit as reported from Indonesia (64-67%), Sri Lanka (25-31%) and Bangladesh (7-19%).

[10] Certainly, tea plantations have had undergone severe crisis especially in South India during the 1970s and 1980s. There have been incidents of distress sales of tea estates in Kerala and conversion of tea gardens (both small and large) for producing more profitable crops like rubber, thereby reducing the effective area under tea. In fact, the area under tea had declined in Kerala by 10 per cent during the period. The situation has also brought in several new ideas among the planters, such as conversion of weaker and uneconomic plantations into mixed estates of tea, coffee and cardamom. This was thought to smoothen the bad year of tea with other crops which may earn better prices against tea. This was also thought as a strategy to effectively utilize the available labour force in the plantations (George, 1984).

[11] Harrison Malayalam Ltd. (HML) is one of the oldest plantations operating in South India and has a history that goes back to over hundred and fifty years. It has been a pioneer in corporate farming and has, over this period, established and run plantations for Tea, Rubber, Cocoa, Coffee and a wide variety of Spices. Currently, the company cultivates about 14,000 ha comprising 7400 ha of tea (10 estates, 12 factories) and 6000 ha of rubber (10 estates) plantations (www.harrisonsmalayalam.com).

[12] Set up in 1964 as a joint venture with UK-based James Finlay and Company to develop value-added tea, the Tata Tea Group of Companies, which includes Tata Tea and the UK-based Tetley Group, today represent the world's second largest global branded tea operation with product and brand presence in 40 countries. Among India's first multinational companies, the operations of Tata Tea and its subsidiaries focus on

branded product offerings in tea but with a significant presence in plantation activity in India and Sri Lanka. The Company, headquartered in Kolkata owns 27 tea estates in the states of Assam and West Bengal in eastern India, and Kerala in the south. With an area of approx 15,900 hectares under tea cultivation, Tata Tea produces around 30 million kg of Black Tea annually (www.tatatea.com).

[13] The Kanan Devan Hills Plantations Company Private Limited (KDHP) succeeded Tata Tea Limited on 1st April 2005, when the latter exited most of its plantations in Munnar to focus on the growth of its branded tea business. With its 7 extensive gardens covering approximately 24,000 hectares, the company is today the largest tea corporate in South India with an annual production of 21 million kg of tea. Virtually all its 12,000 - plus employees are its shareholders (http://www.kdhptea.com/CompanyProfile.html).

[14] Due to this unprecedented fall in rubber price, rubber planters, especially, small growers in Kerala were finding it difficult to pay even the wages. To minimize cost of production, reduction in workers, wage cuts and deferments in payment of wages or other monetary benefits were resorted to by the planters to continue with rubber production. Several planters had resorted to large scale cost cutting of various plantation related activities leading to reduction in fertilizer use, pesticide spraying, soil developments, land up gradation and even deferring replanting (Viswanathan and Rajasekharan, 2001).

[15] On this and so many other counts the PL Act becomes highly redundant. For instance, the PL Act as amended in late 1980s does not stipulate a minimum age for a worker to be employed in any capacity in the plantations. In sharp contrast, the Child Labour (Prohibition and Regulation) Act 1986, which regulates the employment of children in the informal sector, stipulates 14 years as the minimum age of the employment, but this Act does not cover plantations. This underscores the necessity of amending the PL Act such that children below the age of 14 years should not be employed in the tea gardens.

[16] In other words, the decline in rubber holdings resulted in a decline in the number of rubber trees available for tapping on a daily basis. Since tapping wages are determined on the basis of the number of trees being tapped by a rubber tapper per day, the decline in holding size virtually reduces the number of trees available for tapping from a single holding,






leading to lower daily earnings. There has, reportedly, been a growing trend toward rubber tappers attaching themselves to more than one rubber holding (multiple grower dependence) to obtain an adequate number of trees for tapping (Viswanathan and Shivakoti, 2008:7).

[17] A study by Assocham pointed out that countries like China, Philippines, Malaysia, Indonesia and even Taiwan used Sri Lanka and Thailand as "Conventional destinations" to dump them. The study concluded that due to this Sri Lankan exports to India grew from $90.80 million in 2002-03 to $ 364.39 million towards the end of 2002-03 to $ 364.39 million towards the end of 2004-05 (Assocham 2006). It pointed out that while India's exports to Sri Lanka and Thailand rose by 47 per cent and 19 percent respectively, imports to India from these countries went up by 300 percent and 125 percent respectively, between 2002-03 and 2004-05. At the same time India's exports to non-FTA partners like Bangladesh, Bhutan, Myanmar & Nepal increased at a much higher rate than her exports to Sri Lanka and Thailand.

## References

Actionaid (2005) Tea break: a crisis brewing in India, May 2005, p.11

Asian Food Worker (2007) "Unilever & Tata Tea: Pruning Workers, Reaping Profits", http://asianfoodworker.net/?p=7 (website of the IUF in Asia/Pacific - uniting food, farm and hotel workers)

Barlow, C (1996) 'Growth, Structural Change and Plantation Tree Crops: The case of rubber', Department of Economics, Research School of Pacific and Asian Studies, Australian National University, Canberra, Australia (mimeo)

Baruah, S (2001) 'Clash of Resource Use Regimes in Colonial Assam: A ineteenth Century Puzzle Revisited', *The Journal of Peasant Studies*, April, Frank Cass, London, 28 (3): 109-124

Bauer, P T (1948) *The Rubber Industry. A Study in Competition and Monopoly,* Longman, Green & Co., Ltd, London

Biswas, Sarmishtha, D Chokraborty, S Berman, R N and J Berman (2005) Nutritional Survey of Tea workers on Closed, re-opened and open tea Plantations of the Dooars Region, West Bengal, India, 11p

Gadgil, D R (1946) *The Industrial Evolution in India in Recent Times*, Oxford University Press, Bombay

Gadgil, Madhav and Ramachandra Guha (1993) *The Fissured Land: An Ecological History of India*, Delhi, Oxford University Press

George, K Tharian (1984) 'Historical Roots of the Crisis in the South Indian Tea Industry', *Social Scientist*, 12 (4): pp. 34-50 (April)

George, K T and P K Michael Tharakan (1984) 'Penetration of Capital into a Traditional Economy: The Case of Tea Plantations in Kerala, 1880-1950', *Studies in History*, New Series, 2 (2): 199-230

George, Tharian K and P K Michael Tharakan (1985) Development of Tea Plantations in Kerala, *Working Paper No. 204*, Centre for Development Studies, Trivandrum, Kerala, May

George, Tharian K, V Haridasan and B Sreekumar (1988) Role of government and structural changes in rubber plantation industry in India, *Economic and Political Weekly*, 23(48): M158-166

George, K T, Toms Joseph and Joby Joseph (2002) 'Natural Rubber in Post-QRs Regime', *Economic and Political Weekly*, 37, August 10: 3319-3321

George K T and Joby Joseph (2005) 'Value Addition or Value Acquisition? Travails of the Plantation Sector in the era of globalisation', *Economic and Political Weekly*, June 25, 2005: 2681-2687

Gopalakrishnan, N S *et al* (2007) *Exploring the Relationship between GIs and TK: An Analysis of the Legal Tools for the Protection of GIs in Asia*, ICTSD Programme on Intellectual Property Rights and Sustainable Development, International Centre for Trade and Sustainable Development, Geneva, Switzerland





GOI (2006) Economic Survey, Ministry of Finance, Government of India, New Delhi

GOI (2008) Report on the Working of the Plantations Labour Act, 1951 during the year 2005, *Indian Labour Journal*, 49 (6): 491-505 (June)

Guha, Amalendu (1991) *Medieval and Early Colonial Assam: Society, Polity, Economy*, Calcutta, K.P. Bagchi (on behalf of the Centre for Studies in Social Sciences)

Hayami, Yujiro (2004) Family Farms and Plantation under Globalization, paper presented at the *Fourth Conference of the Asian Society of Agricultural Economics*, 20-22 August 2002, Kedah, Malaysia

Herath, Deepananda and Weersink, Alfons (2007) 'Peasants and plantations in the Sri Lankan Tea Sector: Causes of the Change in Their Relative Viability', *Australian Journal of Agricultural & Resource Economics*, 51(1):73-89

ITC (2012) Annual Bulletin of Statistics, International Tea Committee, London, UK

Joseph T, Chandy B, Viswanathan PK, Lekshmi S (1999) Commercial yield performance of hevea clones in India: a comparative analysis. Monograph, Rubber Research Institute of India, Kottayam, Kerala, India

Lekshmi, S and George, K T (2003) 'Expansion of Natural Rubber Cultivation in Kerala: An exploratory analysis', *Indian Journal of Agricultural Economics*, 58 (2): 217-233

Misra, Udayon (2003) 'Assam Tea: The Bitter Brew', *Economic and Political Weekly*, 38 (29), July 19-25, pp. 3029-32

Mohandas, M *et al*., (2007) "Impact of FTAs/PTAs on Kerala's Agriculture", Report of the research project sponsored by the UNCTAD, Kerala Agricultural University, India (mimeo)

Mohanakumar, S and Binni Chandy (2005) 'Investment and Employment in Rubber Smallholdings: Impact of Market Uncertainty in the Reforms Phase', *Economic and Political Weekly*, 40 (46): 4850-4856, November 12-18

Peter, Sajen (2005) Natural Rubber: Current Trends and the Outlook, *UPASI Annual Conference*, 19 September

Raj, K N and P K Michael Tharakan (1983) 'Agrarian Reform in Kerala and its Impact on the Rural Economy- A Preliminary Assessment', In: Ajit Kumar Ghose (ed.): *Agrarian Reform in Contemporary Developing Countries*, Croom Helm and St. Martin's Press, London, New York, Pp. 31-90

Rubber Board (2011) *Indian Rubber Statistics*, Volume 34, Rubber Board, Kottayam, Kerala, 68p

Sarma, P V S (1947) *A Short Note on Rubber Plantation Industry in India*, Indian Rubber Board, Kottayam, Kerala, 16p

Sathe, Dhanmanjari and R S Deshpande (2006) 'Sustaining Agricultural Trade: Policy and Impact', *Economic and Political Weekly*, December 30: 5337-5344

Tea Board (2012) Tea Statistics, Government of India, Kolkata, West Bengal, [http://www.teaboard.gov.in/]

Tirkey, Lalit Premlal (2005) "Tea Plantations in Darjeeling District, India: Geo-ecological and socio-economic impacts in post-Independence period", Unpublished Masters thesis submitted to the University of Manitoba, Manitoba

Varghese, T C (1970) *Agrarian Change and Economic Consequences: Land Tenures in Kerala, 1850-1960*, Allied Publishers, New Delhi

Viswanathan, P K, K T George and T Joseph (2003) 'Informal Labour Market and Structural Devolution', *Economic and Political Weekly*, 38 (31): 3277-3281





Viswanathan, P K (2005) 'Development Impasse in Kerala's Agriculture: The Emerging Crisis and Conflicting Paradigms in the Post-reforms Era', *Indian Social Science Review,* 2005, Vol. 7, No. 1 (January-June), pp. 72-93

Viswanathan, P K (2006) *A Comparative Study of Smallholder Rubber and Rubber integrated Farm Livelihood Systems in India and Thailand*, Report of the postdoctoral research submitted to the Asian Institute of Technology, Bangkok, Thailand, January 2006, 108p

Viswanathan, P K and Ganesh P. Shivakoti (2007) 'Conceptualising Sustainable Farm-livelihood Systems in the Era of Globalisation: A study of Rubber Integrated Farm Livelihood Systems in North East India', *Social Change and Development,* Volume 5, pp.111-142 (November)

Viswanathan, P K (2008) 'Global Market Integration and China's Rubber Industry: Challenges and the Way Forward', *Asian Journal of Social Science*, 36 (5): 792-826, National University of Singapore

Viswanathan, P K and P Rajasekharan (2001) 'Decline in NR prices and adoption of agro-management practices in smallholdings in India: Some observations', *The Planter,* Vol. 77, 899: 65-76, Kuala Lumpur

Viswanathan, P K and Ganesh P Shivakoti (2008) 'Adoption of rubber-integrated farm-livelihood systems: contrasting empirical evidence from the Indian context', *Journal of Forest Research,* 13:1–14, Springer

Waibel, Leo (1941) 'The Tropical Plantation System', *The Scientific Monthly*, 52(2): 156-160

Wal, Sanne van der (2008) 'Sustainability Issues in the Tea Sector', Amsterdam, Stichting Onderzoek Multinationale Ondernemingen (SOMO), Centre for Research on Multinational Corporations, Report, 108 p

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