CHAPTER – II

REVIEW OF LITERATURE
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This chapter attempts to review the existing literature on the impact of trade liberalization on plantation sector in India with special reference to coffee and tea, and also the literature pertaining to the methodology used for studying similar topics. This review would help to focus on the possible gaps in the current research on the topic and to select the methods appropriate to the present study. The review is presented under different sections as follows:

2.1 Studies relating to trade liberalization

2.2 Studies relating to marketing

2.3 Studies relating to export

2.4 Studies relating to prices

2.5 Studies relating to production

2.1 Studies relating to Trade Liberalization

Mohanakumar (2011) analysed the plantation crops under Trade Liberalization, in the context of Indo ASEAN – FTA. India has completed two decades of economic liberalization in 2010. As a logical extension of trade liberalization on the farm sector, India signed a Free Trade Agreement (FTA) with Association of South East Asian Nations (ASEAN) in August 2009 and it came into effect on 1 January 2010. Under the FTA, it has been agreed to phase out domestic market protection for different commodities within the stipulated period.

Srinivas and Shikha (2011) made an attempt to analyse the impact of international trade liberalization on food price stability. The model used for this paper has several
important features. To analyse the fluctuations of domestic production year to year
world prices were taken into account. The multi-commodity frame work
accommodates the substitution possibility in consumption and storage of rice and
wheat. The findings of this paper are: I. Trade liberalization in food grains reduces
Indian domestic price variability even though international prices are much more
volatile than domestic prices. It also brings greater stability to world prices. II. The
results of qualitative analysis are robust to changes in price elasticity of rice export
and in functional form of domestic demand. III. Trade liberalization allows the use of
variable subsidies on trade to stabilize prices. These are more effective compared to
buffer stocks included in the case of restrictions placed on levies due to GATT
commitments. IV. Stabilization of price through variable levies reduces exports and
increase imports of both rice and wheat. The maximum values of trade tax/subsidy
required for the purpose of price stabilization are not very high. The authors suggested
that Indian policy makers can consider the use of variable levies for the purpose of
food price stabilization in order to reduce costs.

Lingannaswamy and Mahesh (2011) attempted to measure the impact of WTO on
Indian agriculture pertaining to area and production of agricultural commodities. The
study consists of two periods of time, Pre-WTO from 1981 to 1995 and post-WTO
from 1996 to 2009. The results showed that the growth of area under all agricultural
crops was significant in the pre-WTO period but not significant during the post-WTO
period. Whereas, the growth of area of food crops was positive and significant in the
pre-WTO period, it decreased in the post-WTO period as indicated by negative co-
efficient in the model. For non-food crops the area increase was significant during
pre-WTO but positive and insignificant in the post-WTO period. The reason for these
changes is the switching over of farmers from food crops to non-food crops. The
results on production indicate that the growth of all crops was significant because the co-efficient of the model reveals that there is an increase in the production in pre- as well as post-WTO periods. Whereas, the growth of production of food grains was found to be positive and significant in pre- and post-WTO period, nonfood crop production is significant and increased in pre-WTO but not significant in post-WTO period.

**Venkatram and Deodhar (2005)** analysed the relative value realization in the post liberalization period. Since the beginning of the implementation of the WTO agreement, spot export prices of coffee have fluctuated a lot. Results of this study showed that price elasticity of demand for coffee is low. It is much lower in the short run than in the long run. This suggests that temporary price incentive will not achieve any significant demand increase and coffee demand is characterized by habit formation. Therefore demand for coffee can be increased by non-price factors like improving quality standards and communicating the same to the consumers by generic promotion campaigns and brand advertising.

**Bhalla and Singh (2009)** analysed the economic liberalization and Indian agriculture, state-wise. This study showed that the performance of agriculture at the state level in India during the post-reform period 1990-93 to 2003-06 and the immediate pre-reform period 1980-83 to 1990-93, has been characterized by deceleration in the growth rate of crop yields as well as total agricultural output in most states. By ending discrimination against tradable agriculture, economic reforms were expected to improve the terms of trade in favour of agriculture and promote its growth. This paper also discusses the cropping pattern changes that have taken place in area allocation as well as in terms of output value.
Ramesh Chand (2005) made an attempt to analyse the trends in international trade in agriculture under WTO regime. The analysis showed that in the post-WTO period the ratio of import to GDP has increased and the ratio of export to GDP for agriculture sector declined slightly. Based on the trends in exports the author showed that India has not been able to maintain a steady flow of export of commodities like non-basmati rice, wheat, cotton and sugar cane. It is observed that the export of spices, tea and coffee have been affected adversely. From the above it can be observed that there are studies relating to the marketing and export of tea and coffee. But these studies have not focused on changes in the area and productivity. Since both coffee and tea are export oriented crops, liberalization of trade influences area allocation and production of these corps through the influence of prices. Hence, an attempt is made to analyze the changes in the area under coffee and tea, production and productivity of these crops during pre- and post-liberalization periods tracing from the share of plantation crops in the overall agriculture.

Ghosh (2005) explained about trade liberalization affecting Indian agriculture that began in the early 1990s, with the progressive reduction or removal of trade restrictions of various types. Rupee devaluation of mid 1991 heralded the neo-liberal economic reform process that was followed by the removal of export subsidies on agricultural commodities such as tea and coffee. Various other measures affecting trade were also undertaken. The process accelerated from the late 1990s, in tune with WTO agreements and involved liberalization of export controls, liberalization of quantitative control on imports and decontrol of domestic trade. Quantitative restrictions on imports and export restrictions on groundnut oil, agricultural seeds, wheat products, butter, rice and pulses were all removed from April 2000. Almost all agricultural products are now allowed to be freely exported in the current trade policy.


**Jafri (2011)** made an attempt to explain that India has a bitter experience of trade liberalization in edible oil which has resulted in an increasing gap between demand and supply of edible oil in India. In 1980s when the demand and production gap widened India faced a short fall of 2 million tons in 1988 and needed an import of 1.9 million tons valued at 1 billion US dollar. The author also described about the coconut sector that needed to prepare itself to face the challenge. Since livelihoods of millions of small and marginal farmers in the southern states of India are dependent on the coconut economy. With the increasing requirement of edible oil for the burgeoning population in India, there is also a vast growth opportunity for the coconut sector to take the challenge and produce the coconut oil for edible purpose that is now being claimed to be the second best edible oil in the world after olive oil. There is an increasing market for virgin coconut oil in West Asia, Europe and USA.

**Joseph (2009)** explained about the free trade agreement (FTA) between the Association of South East Asian Nations (ASEAN) and India that could be celebrated as a landmark in India’s integration with Asia and the beginning of an end to the isolation from major trading blocks. This FTA could also be considered as part of India’s strategy, in the context of newly emerging markets, to diversify her trading partners. The FTA, however, has to face vociferous dissent from certain sectors in India. About 30 percent of the traded goods subjected to tariff reduction or elimination under the FTA are divided into normal track, sensitive track, highly sensitive and special products, and the exclusion list. In the case of normal track goods, most favoured nation (MFN) tariff rates applied will be reduced and subsequently eliminated. For the sensitive track, all the applied MFN tariff rates above 5 percent will be reduced to 5 percent. Applied MFN tariff rates on special products like refined palm oil, coffee, tea and pepper will be brought down in a
phased manner as follows: coffee and tea from 100 percent to 50 percent and pepper from 70 percent to 51 percent by 2019.

Joseph (2004) analysed trade liberalization in pre- and post-reform period and showed that, the period-wise estimates for the crops enable us to understand the impact of reforms initiated in the 1990s. In the case of coffee, the estimates for short run and long run adjustment coefficient of variation in the pre-reform period were respectively (0.22) and (-0.12), found to be significant at 5 percent level. This trend suggests that even prior to liberalization period coffee market in India has been integrated with world market and that price changes were getting transmitted to the domestic market. However, it may be noted that the estimated values of the coefficient of variation were low, which in turn tends to suggest that the extent of integration has been at a lower level. In Post-reform period, the estimated value of short-term adjustment coefficient (0.25) is almost equal to that of pre-reform period. However the estimated long term adjustment coefficient was (-0.19) indicating a substantial increase in the elasticity as compared to pre-reform period (-0.12). The implications of WTO on market integration could be discerned from the estimated elasticity coefficient from 1996 to 2002. The estimated short run elasticity coefficient of Arabica is 0.54 and that of Robusta 0.58. These estimates may be compared with 0.22 and 0.17 for Arabica and Robusta respectively, obtained for pre-reform period.

Kumari (2012) made an attempt to analyse the trade regime in pre- and post-liberalization periods, effect of economic indicators on export performance and Indian position in the world trade. Indian trade regime has drastically changed in the post-liberalization period. It has shown a favourable trend as the policies have been liberalized and tariffs removed that has helped in uplifting the trade to over-come the deficit balance of payments position. The export performance for the period has
shown an increasing trend in absolute terms but in reality it has been always affected by the increased imports. From the study, it can be concluded that gross domestic product (GDP) is 0.13, per-capita net national income is 0.15 and imports is 0.73, the three major indicators affecting Indian export performance for the given period 1986 to 2011.

Sikdar and Nag (2011) analysed the impact of the trade agreement on India and the ASEAN members. The study used the Global Trade Analysis project (GTAP) for this purpose. The GTAP model is a comparative, static multi-regional computable general equilibrium (CGE) model that used a common global database. A number of simulations were carried out by this study, involving different scenarios of (a) Indian trade liberalization with regard to Malaysia, Singapore and Thailand (b) liberalization with all 10 ASEAN countries and (c) full liberalization if tariffs on all products traded between India and the ASEAN members are completely eliminated. Results of the simulations were then used to assess the impact of liberalization on India and ASEAN members as well as on some other countries. The study also attempted to analyse the long-term effects of the FTA on India. It is argued that after full trade liberalization, India’s allocative efficiency will increase.

Veeramani (2007) studied growth in pre- and post- reform period and has provided a brief view of the pace of Indian export growth in pre-liberalization period 1950 to 1990 and post-liberalization period 1991 to 2005. The pace of growth has increased due to world demand after 1991. This paper determined the various sources of Indian growth of exports before and after 1991, mainly focusing on years after 1993, because in that year government adopted full convertibility of current account. The study is divided into three parts; the first part provides a historical review of export performance before 1991, second part provides a detailed analysis of export trends
and patterns since 1993 and the last part discusses the export growth on the basis of world trade effect, market composition and commodity composition.

**Viswanathan and Shah (2008)** analysed the effects of trade reforms on plantation crops. The launching of trade reforms and liberalization policies under the WTO mandated trade policy regime has seriously affected the Indian plantation sector in general and tea and rubber production in particular. One of the most explicit impacts of the trade liberalization policies has been the emergence of market uncertainties leading to a fall in the international and domestic prices of commodities caused by the removal or dilution in tariff and non-tariff protective barriers. The magnitude of decline in prices from the peak levels reported during the decade 1990 to 2001 has been the highest for rubber (42%) and tea (28%). The instability in prices expressed by coefficient of variation (CV) from the peak level has been also the highest for rubber (26%) and tea (17%).

**Bawa (2003)** studied the impact of WTO on Indian agriculture and concluded that the viability of Indian agriculture in the new international trade regime scenario has to be seen not in isolation in terms of the prospects for each agricultural commodity under the provisions of the WTO, but in the wider context of the liberalization of the Indian economy. The opening up of agricultural trade should be looked at as a major opportunity for raising the overall economic growth rate by exploiting Indian competitive advantage in agriculture for improving the efficiency of resource use in agriculture and for technologically upgrading the rural sectors. It is needed to devise a multi-pronged strategy to face the emerging challenges under WTO regime and make Indian agriculture sustainable and internationally competitive.
Shivashankar (2012) has attempted to analyse agricultural trade performance of India before and during WTO regime. Analysis revealed that, exports of agricultural products witnessed significant difference between pre-WTO and post – WTO periods. Major food grains like rice, wheat and cash produces like coffee, processed fruits have suffered. The commodities which have enhanced export potential after WTO are marine products, sugar, molasses, fruits, vegetables, tobacco, cotton and tea. It is concluded that WTO agreement has put a restraint on export of major crops like rice, wheat, coffee, oil seeds, processed fruits etc. WTO has not helped the country in reducing imports of essential commodities like wheat, cereals and pulses. In fact it has increased import of these commodities that is not good for the country. It is concluded that WTO agreement has negative impact on agricultural trade.

Veeramani and Saini (2010) attempted a quantitative assessment of the impact of recently signed ASEAN – India FTA (AIFTA) for selected plantation commodities like coffee, tea and pepper in India. The results revealed that the AIFTA will cause significant increase in Indian import of plantation commodities. It can be seen that Indian imports are generally higher than exports in coffee and tea, while it was generally the reverse in the case of pepper. Indian coffee imports increased sharply in 2005 and then declined in 2006 and 2007. Indian tea imports showed significant fluctuations throughout the period 1995 to 2008 showing some increase in 2006 and then decline in 2008.

2.2 Studies relating to Marketing

Banker and Mitra (2007) studied online auction in India for trading various grades of coffee. The electronic auction is operated by the International Business Division of ITC limited (ITC – IBD). The authors explained that the online coffee auction is part
of a major initiative, popularly known as e-choupal by ITC limited to transform the agricultural supply chain in India. The e-choupal initiative was originally focused on wheat and soybean farmers and the online coffee auction is part of its new growth phase.

The authors observed that in the coffee supply chain of India there are four major players: (a) planters who are the coffee growers and plantation owners (b) exporters who contract with international trading houses and international roasters (c) domestic roasters who produce coffee for the domestic market. (d) Intermediaries such as agents, brokers and traders. Intermediaries perform several roles like searching buyer, seller and also negotiating deals on behalf of the participants. The Indian Coffee Traders Association (ICTA), a co-operative of coffee planters and traders, holds a coffee auction every Thursday in Bangalore. The auction was controlled by Coffee Board, now represents an independent but important element of the coffee supply chain. It is the major weekly coffee auction held in India, but other auctions are also held in various coffee growing regions of the country.

Hazarika (2009) made an attempt to study tea auction market in India with reference to Guwahati auction centre. In India, marketing process of tea can be divided into two parts that is primary and secondary markets. Primary marketing channels help in moving made-tea from the grower (tea estates) to the bulk tea buyers. It also explains the movement of tea directly from producers to national or international buyers. This channel used to carry tea from producer to auction centers where it changes hands from the producers to the large buyers through brokers. Secondary marketing channels include the movement of bulk tea through auction trading to ultimate consumers. Author mentions that auction happened first time during the 17th century. British East India Company was the most powerful commercial organization in the
world. There are nine auction centres in India, 4 centres in south and 5 centres in north of India. Guwahati Tea Auction centre was established at Guwahati on 25th Sep 1970, the fast developing city of North East. Presently it is the third largest auction centre in the world after Colombo and Mombasa.

Hazarika (2012) mentions about electronic auction or e-auction system recently developed with wide connectivity of computer networks. The world’s first electronic auction of tea was organized jointly by Calcutta Tea Traders Association and Tea Board and was held at Nilhat house which is the headquarters of the country’s largest tea auction firm J. Thomas and Company, on 19th Nov 2008. It is expected that this electronic platform will bring more transparency in auction system so that tea producers get a fair price.

Hazarika (2011) made an attempt to explain the marketing problems of tea in India. Tea growers did not give much attention to the marketing aspect as they always enjoy a readymade market for their product. But in the recent past, due to oversupply of tea against demand, the market strategy has shifted from the seller market to the buyer market. As export market for Indian tea is losing its position, the next alternative will be domestic market, which has a trend of increasing demand. The tea producers should try to understand market demand which is very important for long term sustainability of the industry. If they take proper initiative in the marketing field they can achieve higher margin of profit.

Mercereau (2008) studied the coffee value chain and Graphical Indications in India. According to the author India Coffee Traders Association (ICTA) was created in 1993, just after the liberalization. At first, the auction was “successful” with an average 23000 tons per year being traded at the auction. However, later when growers
started preferring to sell their coffee at the farm gate to exporters or agents of curing
works agents, quantities have shrunk to 10000 tons that is less than 5 percent of the
total production. Moreover from 450 in first five years, the number of members has
decayed to 250.

**Upendranadh and Subbaiah (2012)** made an attempt to study small growers and
coffee marketing issues and perception from the field. The authors observed that price
fluctuation is a major factor that impinges on the coffee sector globally. Short run
validity affects the small growers mostly as it makes more difficult for them to take
any production decisions. The period of 2000-04 saw the worst of coffee prices and it
took a secular growth from 2005 onwards till 2010. Again, the year 2011 saw a dip
thought it is not significant at this stage. During the worst period of crisis, prices did
not even cover the cost of production, farmers were either more heavily in debt or
have been forced to abandon their farms or switch to alternative crops.

**Tejaswi et al. (2006)** studied the constraints in production and marketing of coffee in
Chikmagalur District in Karnataka State. In this study 110 sample respondents were
selected to know the production and marketing problems faced by the planters in the
study area. With regard to exports of coffee, commodity export problems were
collected from four exporters in Chikmagalur and two exporters from Bangalore.
Tabular analysis was employed to analyse data and for determining the problems
faced by the growers in the study area. The main problem in production as expressed
by planters was decline in prices of coffee. The decline in prices of coffee made the
planters not to reinvest their previous year returns because of too less returns. Delayed
and less rainfall and drought situation from past three years resulted in late flowering,
which affected the production of coffee. Coffee exporters had the opinion that there
was very high price fluctuation. The foreign exchange conversion from dollars to
rupee, cut throat competition and quality parameters / standards being set lower for exporting are the major problems in coffee trading.

**Narayana (1993)** studied coffee trade in India and its privatization. Government intervention in coffee trade was in the form of coffee market expansion ordinance of 1940, the subsequent amendment in 1941 and the coffee Act in 1942. This was in response to the demands of the growers to face the low demand situation. Market intervention by the Coffee Board of India involved a cost for running the administration of marketing and transport, storage and other charges. Author explained that commodity prices are known to be highly unstable and coffee is no exception to this rule. The New York price in dollars reported an instability index of 48.45 percent and the Indian export price an index of 33.68 percent. The Indian whole sale price showed a much lower value at 24.57 percent. The producer price of coffee had shown a remarkable stability in comparison with its export price.

**Jain (2013)** examined the various factors responsible for low productivity, high prices and declining share on Indian tea in the world market. The Study also looked at the demand and supply of tea in the global scenario along with Indian share in total world production and exports in the previous years. Tea industry, where India took a lot of pride as the largest producer and exporter, has been facing a lot of glitches since the past two decades which has brought down Indian position in the world trade that are export and production positions 4th and second respectively. The major factors for poor performance are high input cost, the old age of the bushes, unskilled labour and lack of infrastructure.

**Hussain and Hazarika (2010)** explained about the crisis in Tea Industry of Assam. Some of the problems of Tea Industry in Assam are as follows:
• The number of tea garden in Assam is large with area around three lakh hectares. This came down since the latter half of 1990’s with unemployed youth taking up small scale tea production as their profession. There are around 2500 small tea gardens in Assam today with a production of more than 50 tons. But, since they grow in small scale, they cannot go for factory manufacture and can only sell green leaves to the large estates.

• A numbers of tea gardens of the state have gone sick over the period due to lack of infrastructure, modernization and efficient management.

• During the transportation and storage after processing tea absorbs moisture from atmosphere resulting in deteriorated quality.

• Indian tea market is facing yet another paradox which can be explained in terms of the glaring gulf between the price received by producer and the price charged by dealers and retailers.

Gupta and Sharma (1991) tried to analyse tea industry in India through dividend behavior, using five well tested statistical models. It is concluded that tea industry with foreign collaboration is able to maintain better dividends than those without foreign collaboration. The results showed that firms with foreign collaboration, because of the economics of scale in general, technical knowhow, access to institutional and capital market funds, enlightened management and easy access to international market are in a position to maintain regular dividend payment. Firms without foreign collaboration have the national interests in mind but in terms of overall growth they are generally at disadvantage.
2.3 Studies relating to Export

Nagoor (2009) examined the performance of Indian tea exports. Comparison was also made with the other major tea exporting countries. Tea exports from India in 1981 to 2004 showed that, its percentage share in total agricultural exports has declined drastically. During 1981-90 the share was 20.16 percent that declined to 5.78 percent in 2001-04. The export of tea in post-liberalization period has not benefited the Indian tea economy. The factors responsible for poor performance were identified to be the rising domestic demand, slow increase in yield with slow expansion of area under tea cultivation. India was unable to compete with major tea exporting countries because of increase in world supply of tea compared to world demand and more attraction towards domestic market compared to international market. The export of tea by major exporting countries such as Sri Lanka, Kenya, China and Indonesia, have benefited them in both periods.

Nagoor (2010) analysed various trade aspects of Indian coffee. It is observed that Indian coffee is becoming more trade oriented after liberalization. The analysis revealed that during 1950s, the production shares of Arabica and Robusta in India were 82.10 percent and 17.90 percent respectively. By the year 2009-10, the share of production of Arabica and Robusta has changed to 32.67 percent and 67.33 percent respectively. The export share of instant coffee and Robusta parchment has increased. During 2009, around 80 percent of Indian coffee export was instant coffee, Robusta parchment and Robusta cherry. It is also observed that between 2006 and 2007 international Robusta coffee prices were lower than Indian domestic prices of coffee. The author explained that, if International prices are not attractive and lower than domestic market price, the exporters will look for domestic market and also imports will increase. Further, the international coffee prices were highly fluctuating during
1998 to 2009, with a high coefficient of variation (CV) value of 37.09. Indian coffee growers were badly affected by the lower international coffee prices.

Nagoor (2012) studied market integration and changing direction of trade in Indian tea. Tea is mainly produced in China, India, Sri Lanka, Kenya, Vietnam and Indonesia. These countries are major tea exporting countries in the world. Though, U.K, France, and Germany do not produce tea in their home countries, they export substantial quantity of value added tea to the world. In recent years, export of tea by major tea exporting countries has been scattered among many countries. This has made it necessary for these countries to search new markets for tea. Since 1991 the percentage share of top five export destinations in their total tea export to the world have come down. In case of India, the decline in percentage share of top five export destination in total tea export is the highest. For Kenya, Vietnam and India, the percentage share of top two export destinations in their total tea export to the world was around 60 percent during 1991. However, in recent years, among the above said countries, it has come down to 35.8 percent, 40.72 percent and 27.35 percent respectively. In recent years, though the import of tea by Russia, Egypt and Germany from the world has increased in absolute terms, the percentage share of Indian tea export to these countries has been on decline.

Tejaswi et al. (2006) analysed direction of trade and changing pattern of coffee export from India using Markov Chain Analysis. Indian coffee is exported to over 40 countries but major importing countries from India are Russia, Italy, Germany, Belgium, Spain and USA which account for nearly 70 percent of Indian coffee exports. During 1997-98 and 2000-01 export growth rate was 9 percent per annum. The transitional probability matrix of Indian coffee exports demonstrated the losses or gains and Indian retention of previous year market shares to major importing
countries. India could not retain its previous export share to Belgium and Slovenia. But retention was high in case of USA (about 80%) followed by other countries (51%), Russia (36%), Italy (34%), Germany (20%) and Spain (4%).

Patil et al. (2009) analysed the impact of liberalization on Indian imports and exports of agricultural commodities. The results of analysis showed that, the exports of agricultural commodities manifested an increasing trend but this increase in exports is less fast than imports. These results revealed that the liberalization policy of India in 1991 and also WTO commitments had positive impact on export and import of agricultural commodities.

Saravanakumar (2012) analysed the domestic value of tea exports of India. The author has explained, Indian export to major destinations U.K, USA, Japan, Russia, Germany and France during the year 1960-61. They accounted for 57.4 percent of our total exports. The shares of individual country to total Indian export were UK (26.9%), Japan (5.5%), Russia (4.5%), Germany (3.1%) and France (1.4%). During 2010-11, the shares of tea export from India are as follows: UK (6.1%), Japan (6%), Germany (5.6%), Belgium (3.3%), Netherland (2.5%), USA (19.8%) and France (2.2%). These 7 countries accounted for 45.5 percent of total Indian export. Author concluded that, increase in export helps in earning scarce foreign exchange and stimulate the domestic industry to manufacture quality products for the world market. In 2010, India earned foreign exchange equivalent to Rs.3058.3 crores.

Barua and Mazumder (2012) analysed the global tea market and Indian tea export. The export share of tea in the total production of tea in India was 39.19 percent in 1980, it came down to 32.72 percent in 1986 and further reduced to 20.73 percent in 1996 and finally reduced to 20.71 percent in 2008, which is very low considering the
fact that Indian production of tea has grown at an annual compound growth rate (CAGR) of 1.5 percent on the average till 2008. The highest amount of export of Indian tea till 2008 was in the year 1981 when the amount of export was 241.25 tons during the period of 1980-85. Export of Indian tea declined by 4.20 percent from 223.03 tons to 214.02 tons with a negative CAGR of 0.68. During 1986 to 1995, the amount of export of Indian tea again showed a negative growth rate of 1.88 percent. After 1995, the export market showed positive growth rate with CAGR of 1.37 percent till 2008, which, however, is not very significant for a major tea producing country like India.

Shil (2013) studied export scenario and challenges to Indian tea industry in the 21st century. The Indian tea export has been sharply declining in most of the key markets. During the last two decades, on an average in the export front, Kenya and Sri Lanka lead in the world with contributions of 20 percent each followed by China (7%), India (14%) and others countries (25%). During the period mentioned above, the growth rate is negative compared with total global tea export.

Bordolai (2012) studied both production and export trends of major tea producing and exporting countries with special reference to India using long-term data. It is observed in the last thirty years from 1981 to 2010, the growth in production of varying degrees was maintained by all the countries. The total global production more than doubled during this period (217%). Maximum growth in tea production during this period was observed for Vietnam (713.64%). Vietnam was followed by Kenya and China with (438.76%) and (400%) increase respectively. It is observed that global export volume had increased two fold (202.94%) during the last thirty year period from 1981 to 2010. Among all the six countries, only India declined in export. In particular, India tea export during mid-nineties showed a sharp decline but improved
to some extent afterwards. Among all the countries, Vietnam showed maximum
growth in export.

**Sivanesan (2013)** analysed Indian import and export of tea. In 1980 the total tea
export from India was 224.78 tons, valued at Rs.4.33 billion. In 1985 total tea
exported decreased to 214.93 tons with a value of Rs.111.34 million. In 1990 it
further decreased to 210.02 tons and in 1995 it still decreased to 168 tons with value
of Rs.120.80 million. In 2000 it increased to 206.81 tons, with value of Rs.189.86
million. In 2005 it then decreased to 199.05 tons with value of Rs. 183.09 million. In
2008 it marginally increased to 203.12 tons with value of Rs. 239.29 million. It is
clear that tea export from India was differing from year to year. Import is the
important factor to tea industry in India, importing very low quantity of tea. In 1998
the tea imported from various countries was 10.55 tons with value of Rs.57.90 crores
for an import price of Rs.58.55 per kg. In 1999 tea imported was 09.99 tons and its
value was Rs.57.40 crores and unit value was Rs.57.49 per kg. In 2000 the tea
imported was 13.43 tons, with value Rs.84.56 crores and unit value Rs.62.96 per kg.
In 2005 tea imported was 16.76 tons with value Rs.98.51 crores and unit value
Rs.58.79 per kg. In 2007 the tea imported was 15.99 tons with value Rs.104.60 crores
and unit value was Rs.63.43 per kg. It is clear that there is an increase in the quantity
and value of tea imports to India.

**Asopa (2007)** made an attempt to study tea industry in India. The Indian tea export
declined by 13 percent during 2003 but increased by 4 percent in 2004 over the
previous year’s volume. During this period the Indian rupee had appreciated by 7
percent thereby making Indian exports more uncompetitive. Even otherwise, India is a
high cost producer of tea, because of high cost of labour and capital. The production
in Kenya increased although the exports are not so buoyant. It was observed that in direct competition with India’s CTC tea, Kenya has done exceedingly well.

**Otim and Ngategize (1993)** analysed coffee supply response and export demand for period 1971 to 1991 using econometric models. The results showed that Arabica output is more responsive to producer price than Robusta output. The converse is observed for yield price elasticity. A comparison of short run and long run price elasticity from both output and yield functions for the two policy regimes indicates that they are higher for the structural adjustment period. Estimates of export demand for Uganda’s Robusta and Arabica coffee for the eight importers was considered in this study. Markets still have a great potential to expand the import of Ugandan Robusta coffee, this is especially true for Germany, Netherlands, Italy, U.K and France.

**Gesimba et al. (2005)** studied the challenges and positive development of the tea industry in Kenya. The authors discussed several problems of tea industry in Kenya. The first problem is the weak trend in the export price of tea. Worldwide tea exports increased more rapidly than world consumption. Second problem is increase in the costs of production and the third problem is lack of credit facilities. These are major concerns of the small holding growers.

**Mutandwa et al. (2009)** analysed coffee exports and marketing in Rwanda with the application of Boston consulting group matrix. These models are rarely applied in industry and commerce of developing countries. Data on coffee export by destination over a period of 4 years during 2005 to 2008 was used. The results of study indicated that Rwanda coffee has been predominantly exported to European destinations that include Sweden, Switzerland, Germany, France, UK and Russia and in general these
markets increased by 287 percent over the 4 years. However, coffee trade in Rwanda accounts for a small proportion (0.69%) in global export coffee market.

Dutt (2007) made an attempt to study the Indian tea sector. Seventy five percent of total tea produced in India goes to France, Germany, Japan, United Kingdom and United States of America. Tea exports to big markets like Russia, United Arab Emirates and Iraq declined sharply due to weaker demand. The Indian exports continue to lose volume in Russia, Europe, USA and some middle-east countries. However, it succeeded in regaining a part of its share in Iraq when it went up from 13.36 tons to 24.73 tons in 2004. The year 2005 onwards, the exporters somehow managed to retain earlier trade volume in the Japanese market. Nominal growths have been registered in UAE and Iran too but dropped in Afghanistan and Pakistan market.

Kaur (2012) analysed Indian foreign trade in pre- and post-reform period and also analysed export of tea and coffee from India for the periods 1970 to 1980, 1980 to 1990, 1990 to 2000 and finally 2000 to 2010. The growth rates of Indian export of tea have showed a positive trend for the whole period 1970-71 to 2009-10, especially for the first sub-period 1970 to 1980, t-statistic and F-value are found to be statistically significant at 5 percent level. In second and third sub-periods 1980 – 90 and 1990-2000 exports of tea declined and it is not statistically significant. Mainly tea exports declined due to the high international competition. But in last sub-period 2000 to 2010 the growth rate of exports of tea has shown an improvement and it is statistically significant at 5 percent level. The growth rate of coffee has showed a positive trend for the whole period 1970 to 2010. In the first sub-period 1970 to 1980, t-statistic and F-value are found to be statistically significant at 5 percent level. But second sub-period 1980 to 1990 has shown a negative trend and not statistically significant at 5 percent level due to increase of the international competition. But in the third and
forth sub-periods 1990 to 2000 and 2000 to 2010 exports have shown a positive trend due to the liberal policies of government and t- and F-test value are statistically significant at 5 percent level.

**Saravanakumar and Chinnasamy (2013)** analysed the domestic trends in tea imports of India. It is explained that in Indian tea imports during 2001, the quantum of tea imported was 17.10 tons at a unit value of Rs.55.50 and during 2010 the import of tea rose to 20.04 tons at the unit value of Rs.92.26. Nepal and Kenya are the two major countries that export tea to India. In the year 2011, the quantity of imports has declined to 18.60 tons compared to the year 2010.

### 2.4 Studies relating to Prices

**Upendranadh (2010)** made an attempt to study the coffee market prices and trade. After the dismantling of quota system by 1989 and procurement by the Coffee Board, there is a tendency for prices to behave cyclically and they are affected not only by local conditions, but also by international production, demand and price situations. Author mentions that uncontrolled markets in a way meant medium term price volatility compared to regulated markets and it was reflected in the boom witnessed in 1993 and 1994 due to frost in Brazil. The prices declined in 1999 due to excess supply, after several years of boom. The major problem by the turn of the century was coffee prices coming down from Rs.3000 to Rs.400 per 50 kg per bag of Robusta coffee (Cherry) in 2001. There was no real control to the fluctuating nature of coffee prices, since the market price of Robusta and Arabica are determined by the futures exchanges in London and New York respectively. After two years there was a rise in prices in 2010 to the level that the growers received at the peak period. Such fluctuations result in uncertainty in the incomes of small growers.
Saravanakumr (2012) analysed the tea price fluctuations in south and north India. In the year 1996, South India tea auction price at Cochin was Rs.44.42, Coimbatore tea price was Rs.41.30 and Coonoor tea price was Rs.38.40. In the year 2010, tea price at Cochin was Rs.77.45, Coimbatore tea price was Rs.63.49 and Coonoor tea price was Rs.61.11. There was a sustained increase in the tea price from the year 1996 to 1999 and a decrease of price from the year 2000 to 2007 and there was a gradual increase during the years 2008 to 2010. In the year 2009, tea price was Rs.81.03 per kg recorded as the highest price in the past fifteen years.

In the year 1996, north India tea price at Kolkata was RS. 58.76, Guwahati tea price was Rs.50.13, Siliguri tea price was Rs.47.73 and in Amritsar tea price was Rs.29.54. During the year 2010, tea price increased in Kolkata to Rs.132.97, in Guwahati increased to Rs.112.93, Siliguri and Amristar there was an increase to Rs.104.44 and Rs.109.25 in various tea auction centers. There was a sustainable increase of tea price from the year 1997 to 2000 and a decrease of price level during the years 2001 to 2007 and gradually there was an increase in the year 2008 to 2010. In the year 2010, tea price was Rs.119.51per kg recorded as the highest price in the past fifteen years.

Indira and Gowda (2004) in their study made an attempt to know who gained out of coffee trade liberalization. Coffee is an export oriented crop and due to lack of exposure to marketing skills, less control over price at the international level, lack of proper storage facilities and working capital needs, producers are forced to sell at the existing market price. Sometimes traders lend money to the coffee growers leading to credit tied sales. Growers who sell their product through auction get better price. But only 10 percent of the coffee produced is sold through auctions. Some of the
larger growers also act as trader as well as exporter and coffee trade liberalization helped them.

Indira (2005) conducted a study on farmer’s participatory methods (FPM) in coffee extension. Twenty five growers each from coffee growing regions of Karnataka, Kerala and Tamil Nadu who participated in FPM were selected randomly and information was collected through a questionnaire and personal discussion. The study made an attempt to elucidate the perceptions of stock holders, growers and extensionists about FPM. In post-liberalization period, coffee growers are conscious about the reduction in cost of production and improving quality, because they have to compete in market internationally as well as internally.

Alexandridis (2010) analysed the factors affecting the price and volatility of coffee future returns. The purpose of this paper is to examine the impact of financial and currency markets on the coffee market as the process of internationalization of commodities, stock and currency markets has expanded, particularly in the last decade. The energy market influenced the coffee market positively, where as the bond market volatility affects it negatively. The structural analysis of coffee price volatility showed that the conditional variance appears to be more volatile in response to positive shocks than to negative, contrary to the equities market. Also it showed that the appreciation of U.S dollar has a stabilization effect on the conditional variance of the coffee return.

Kodigehalli (2011) studied the value chain for coffee in Karnataka. The prices at the farm gate have been fluctuating in each month. The price in a single year varied from Rs.1650 to Rs.2000 per 50 kg bag. Various factors like seasonal variations in monsoon, international market fluctuations etc., have been influencing the prices of
coffee. Lower prices affect the small farmers to a large extent. For the analysis of price spread, two marketing channels have been considered.

I. Farmers → Agents → Curers → Local Roasters

II. Farmers → Curers → Exporters

The producer share in consumer rupee in channel – I was 60 percent wherein the total marketing cost incurred by producer accounted for 1.96 percent of consumer’s price. It is clear that as the coffee moves from producer to each level of actor, there is certain amount of value added to it, and indeed it has resulted in the higher price of product. The producer’s share in consumer rupee in Channel-II was 3.52 percent higher compared to channel with agents. However, the marketing cost is also found to be higher (4%). The net profit of curers was Rs. 4891 per ton. The additional cost incurred towards processing per ton of coffee beans by curers was Rs.3825 and the additional returns realized were Rs.4891 (6%). The price spread in this channel was comparatively low (36.48%).

2.5 Studies relating to Production

Joseph (2012) explained about subsidy for replanting. One of the unique characteristics of plantation crops is that, being perennial crops, there is a gestation lag between planting and harvesting, which may vary for different varieties. The planting subsidy scheme is a major innovation by commodity boards to induce growers to undertake timely replanting and to bring in new areas under cultivation. The subsidy scheme had an impact on area under plantation crops.

Majumder et al (2012) studied the changes in area and production of tea in the last decade of 20th century. During 1991, tea was cultivated globally in 2563.75 thousand
ha which increased to 2661.88 thousand ha with a compound growth rate of 0.42 percent during the period. With the advent of 21st century the world tea industry saw a steady increase in the overall area under tea. During 2001 the area under tea was 2727.42 thousand ha which increased to 3691.89 thousand ha in 2010 with a compound growth rate of 3.42 percent during the said period. The production in 1991 was 2631.05 tons which remained almost same till 1997. However in 1998 world tea production was 3026.13 tons but, in 2000, it decreased to 2928.67 tons with a compound growth rate of 1.2 percent during the period of 1991-2000. From 2001 onwards production of tea increased steadily and reached 4162.33 tons with a compound growth rate of 3.48 percent during the period of 2001-2010.

**Gupta and Dey (2010)** made an attempt to propose a relatively simple productivity measurement model suited to tea industry. The productivity accounting model is used and given a suitable form so as to fit to tea industry. A case study of tea industry in Assam to analyse the performance of the model is presented. The study revealed that the model is comprehensive and satisfies the six criteria of measurement theory such as validity, comparability, completeness, timeliness inclusiveness and cost-effectiveness. The study also revealed that the proposed model identified the areas of poor resource utilization responsible for measured total productivity decline in the tea industry.

**Mahalakshmi (2012)** studied tea plantations in South India. South India has been playing a major role in the global production, consumption and export of tea. It continues to be a leader in national tea production. In south India, area under tea plantations is 120181 ha that account for 20.69 percent of the national acreage. Area under tea cultivated in Tamil Nadu has increased from 75625 ha to 80903 ha between 2001 and 2010, while in Kerala state there has been a marginal increase in the area
from 36940 ha to 37139 ha during the same period. In case of production, south India contributed about 25 percent of the national output and the industry has recorded enviable growth in production during the decade 2001-2010 from a level of 203.12 tons in the year 2001. Tamil Nadu produced 171 tons and Kerala produced 67 tons annually. Karnataka produced around 5.9 tons annually.

Alkon et al (2009) explained about tea in Turkey. Tea is one of the major means of livelihood for thousands of people in Eastern Black sea region. Turkey is the sixth among the leading tea producers in the world and has inconsiderable export volumes. Turkish tea corresponds to the standards of quality. It is produced to meet the consumer’s demand due to the escalation in domestic consumption and the excess is exported. The absence of tea exchange in Tea Board was found to be detrimental to the producers. Establishment of Tea Exchange was suggested in Turkey to provide the competitive conditions, guiding making quality standards and securing a rational course of development to the sector.

Selvakumar and Jeyaselvam (2012) made an attempt to study tea industry: a tonic for the Indian Economy. The authors analysed world tea production. During 2010 it was 4066.60 tons compared to 3931.98 tons reported in the previous year 2009 a decline of 134.62 tons. This drop in production could have been substantial but for the increase in the crop from China, which was higher by 11.36 tons. India reported a decline of 12.6 tons, followed by Turkey’s drop of 5 tons, and Indonesia’s 7.28 tons. Bangladesh’s production was also marginally lower by 0.83 tons, while Malawi’s dropped by 0.97 tons and Tanzania’s by 0.44 tons. The results showed that, China leads in world tea production with a share of (33.69%) followed by India at (23.76%), Kenya at (9.81%) and Sri Lanka at (8.10%). World production shares indicate that 11 countries account for around 90.94 percent of the global output.
Haridas et al (2012) analysed the efficiency in productivity of tea plantations in India. He observed that the productivity of tea in India has declined over the years. India had one of the highest productivities in tea cultivation. But its productivity over the years has been declining while it is seen that productivity in respect of all major tea producing countries has been increasing over the years. Age of tea plantation is the primary concern for low productivity and substandard quality. Out of the total area of 434294 hectares under tea cultivation 182605 hectares (42%) of tea plantation were not economically viable. As a result the total area under commercially unproductive plantations increased from 42 percent in 1977 to 57 percent in 2009.

Groosman (2011) presented the sector overview of tea. Tea is produced in more than 35 countries and three-quarters of global production occurs in only a handful of these countries. China was responsible for 35% of the world production in 2009, India for 25%, Kenya for 8% and Sri Lanka for 7%. Other important producing countries are Turkey (4%), Vietnam (4%) and Indonesia (3.5%). Roughly 60% of the world production is consumed domestically in the producing countries and only 40% is exported to others countries.

Veni (2005) studied the negative relationship between production of tea and exports from 1950 to 1998 in India. Production of tea is largely confined to South Asian and African Countries which are all developing countries and about 90 percent of their production is consumed in the developed countries. In this study it is observed that India and Sri Lanka are the leading countries, Indonesia, east Africa and Latin America are the minors in tea production. The country concentration index indicated the highly fluctuating trend in the production of tea in the world. Finally the study recommended that increase in the level of tea production, adopting fine plucking to
maintain good quality and introduction of innovative tea production methods are very crucial to maintain supremacy of India as the top producer of tea in the world.

2.6 Conclusions

Review of earlier research on different aspects of two important plantation crops i.e. coffee and tea revealed that the studies have focused on trends in production and exports, changes in area, changes in global scenario. Very few studies have attempted to make a comparative analysis of pre and post liberalization scenario. Another observation is that there is no study comparing the performance of coffee and tea sectors under the liberalized scenario.