Chapter II

SURVEY OF LITERATURE

This section attempts to review important studies on tea plantation industry. There are a number of studies and they are found to be focussing on different aspects of the industry. For reviewing these studies they are tentatively categorised as studies at International level, National level and South Indian and Kerala level. Within the national level they are further categorised as studies which focussed on quantitative aspects, marketing and exports, co-operatives, socio-economic aspects and employment and those with emphasis on technological aspects.

2.1 Technical and scientific aspects of tea

The technical aspect of processing tea has been reviewed by Strauss (1994). There are different ways to process the green leaves of tea, and the quality of tea depends upon the method of processing. One of the problems of consumption of tea is related to the caffeine\(^1\) content in tea. Usually, between 200 milligrams to 300 milligrams of caffeine per day, is not harmful. Use of large amounts of caffeine may bring jittery, irritation and anxiety. Another

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\(^1\) See Appendix I - Part II for details of caffeine
important aspect of caffeine is that it passes from mother to child through breast milk.

Black tea contains 30 milligrams to 60 milligrams of caffeine per cup. Caffeine content in tea leaves is removed by 'decaffeination process.' The author suggests that decaffeination using Carbon dioxide (CO₂) is the best method because it does not break down the tea leaf.

The positive aspects of consuming tea has been highlighted by Ferriman (1997). He argues that tea contains flavanoids, which are antioxidants and good for human body. Flavanoid intake reduces the risk of heart disease, stroke and cancer, specifically skin cancer and rectal cancer.

Tea supplies with a quarter of daily requirement of riboflavin (vitamin B₂) and contains zinc, folic acid, potassium and manganese. Tea helps to lower blood pressure and cholesterol and improves memory. It is good for the functioning of kidney. Tea is a good stimulant and it has anti-carcinogenic properties.

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2 See Appendix I - Part II for details of decaffeination process.

3 Flavanoids are a group of some 750 naturally occurring plant constituents which are derivatives of the aromatic compound such as flavan. They are responsible for the light golden yellow colour of good quality tea, when kept in hot water (Harborne, 1973; Miller 1973; Daniel, 1991).
Jain (1995) also points out the positive aspects of tea drinking. He argues that tea drinking helps to prevent cancer based on the observations made in the Annual conference of the American Association for Cancer Research (AACR).

2.2 World tea economy

Reddy (1991) analyses the trends of tea in the global market. He found that global production has been on the increase at a compound rate of 3.7 per cent per annum, while the domestic consumption of the producing countries has been increasing by 4.9 per cent per annum. The share of tea producing countries in consumption was 65 per cent in 1988. Thus the global demand for tea exceeds its global supply. India is not an exception to this trend. In India, the export of tea has been increasing on annual rate of growth of 4.3 per cent per annum.

Sarkar (1972) portrays an overall picture of the world tea economy focusing on the size distribution of plantations, consumption pattern of tea, demand and supply of tea, supply response, trade agreements, and on some policy suggestions. He observed that in China tea plantations are very large in size compared to the plantations in Japan and Taiwan. His analysis on per capita consumption shows that there has not been considerable increase according to size increase. Tea plantation industry is an export oriented industry and it is interesting to note that the producing countries are consuming only a small share of their production and whatever they consume is of inferior
in quality which do not have any export value. The supply demand analysis shows that the supply of tea is inelastic to the changes in prices. The estimated price elasticity and income elasticity are found to be very low; and the lagged responsiveness of supply of tea to price changes leads to instability and cyclical fluctuations in supply, demand and price. The historical analysis of international regulations on tea came to the conclusion that such agreements are not able to stabilize the tea marketing. Sarkar suggests some long term measures for rationalisation of the tea industry by means of improving the output and curtailing the cost. Technological improvement and optimum utilisation of factors of production are necessary. It has been found that the labour cost is very high and substitution of labour with machinery is one way of reducing cost. In order to harness the economies of scale he suggests for amalgamation of uneconomic small units with larger ones. Furthermore, duties and taxes on machineries for tea industry have to be rationalised and social overheads have to be developed for the development of tea plantation industry.

Haridas (1998) provides a vivid picture about Kenyan tea plantation. In Kenya, tea is one of the major sources of income and tea industry is dominated by large commercial organisations. The Kenya Tea Development Authority has 57,700 hectares of tea growing area. Both total production and yield level in Kenya has been increasing. The number of small growers are also increasing. There is a Tea Board for providing the industry and a Tea Research Foundation for conducting research activities.
The growth of tea plantation in the erstwhile United Soviet Socialist Republic (USSR) was examined by Lisinenko (1988). In USSR cultivation of tea was started in 1833. With the end of the First World War tea industry in USSR developed very fast and by 1973 the total tea manufactured in the country reached 75,000 tonnes. The production reached the highest peak in 1985 with 152,000 tonnes. But since 1985 production declined steeply due to political change which is popularly known as 'perestroika'. Then they began to import tea from other countries; and collapse of the USSR resulted in decline in purchasing power of the people and the import also declined. By 1995 the Commonwealth of Independent States (CIS) market stabilised.

The Russian market is a complicated one with multi-strata structure with Moscow and Sankt - Petersburg as upper layer. Underdeveloped transport infrastructure, poor banking system, highway robbery, etc. are problems relating to tea marketing in Russia, and this has resulted in flight of foreign firms from Russia.

2.3 Indian tea industry

Manoharan (1974) analyses the problems of Indian tea industry based on production, consumption, export and share market. After carefully observing the evolution of tea industry, he observed that there had been considerable increase in exports of Indian tea during 1950’s and India stood first in International tea export. During 1960’s India lost position as the largest exporter in the world to Sri Lanka. In his share market analysis, it has been
found that low rate of profit, due to declining price and increasing cost of production, adversely affected the industry and the share value of tea companies had dumped considerably. In order to promote the tea industry in India, he suggested some changes in policy for increasing production, reducing costs and rationalisation of tax structure. Productivity can be increased by replantation together with introduction of modern technology in cultivation. Effective marketing strategy has to be introduced for stabilising the market. Exports may be promoted without curtailing domestic consumption. Manoharan points out that the small planters may work together forming cooperatives so that they would be able to enjoy the returns from the economies of scale.

Goradia (1979) made a strength, weakness, opportunities and threat (SWOT) analysis of Indian tea industry. According to him the strengths of tea lies in its caffeine content which makes it a stimulating drink; it is economical; and it is a self reliant agro industry; and India is the largest consumer of tea. The weaknesses are dependence on vagaries of weather, high cost of production, fluctuations in quality, labour intensiveness and long gestation period. Opportunities are the home market which provides an excellent base for product sophistication such as instant, cold and fruit mixed teas. Another opportunity is that tea and coffee are interchangeable. The threats are prolonged slumps in prices and undue rise in cost of production.
The study also deals with different aspects of tea such as tea tasting, auction, tea research and marketing. Goradia gives a detailed picture about plantation technology for growth. According to him plantation technology is a synthesis of industry and agriculture. Economies of scale are existing in tea industry and this factor hinders the small farmers from having research on production, manufacturing and marketing, and from training of workers.

2.4 Supply-demand analysis on tea

In shaping agricultural policies supply response studies play an important role. Most of the perennial crops like tea earns well in export market and with this reason supply-demand imbalances in international market will be negatively affecting the producing countries. Chiranjeevi (1994) has made a study on supply-demand analysis of Indian tea industry. Specific objectives of the study are: to examine the decision behaviour of Indian tea producers at the micro level; to compare and contrast the responses of different tea producing regions of India; to find the impact of age factors on area and yield decisions; and to study the risk of managing behaviour of the planters.

He observed that in India there exists an imbalance in supply of and demand for tea. As per his estimate, the domestic demand is growing at an average rate of 4.3 percentage per annum while the output is growing only at 2.5 percentage per annum.

The correlation of age and yield showed that by the eleventh year the yield per bush starts increasing and by around 20 to 30 years it reaches the peak
and after that it starts declining. The yield responses to the age and price factors at three levels of aggregation, viz., state, regional and national level reveal that the 11 to 20 years age groups have a general positive impact on yield per hectare. The 21 to 30 years age groups appear to have a positive impact and 31 to 40 years age groups have negative impacts. Chiranjeevi observed that both in North India and in South India, new plantings are more price sensitive compared to re-plantings and replacement plantings.

Misra (1986) conducted an econometric study of Indian tea industry at the national as well as at the regional level. He analysed the trends in growth by employing a decomposition model. The study looked into the trends in area, production and productivity. The output growth was decomposed into area effect, yield effect and that of the combined effect. It was found that during 1956 to 1982 there was an increase of 252 million kg. in production, and the increase in productivity accounted for 72 per cent, growth in area 18 per cent and combined effect 10 per cent.

He has also made an attempt to study the supply response of tea in three regions of West Bengal: Terai, Dooars and Darjeeling during 1961 to 1982. His analysis indicated a positive price response of yield in the short term response behaviour and there are considerable variations in the magnitude of elasticities. All the regions and size classes under consideration indicated positive response of yield to increased price with substantial variation in elasticity estimates.
In this study Misra also attempted to figure out distribution and concentration of area under tea in India. The structural pattern of tea industry in Northern and Southern regions of India is illustrated with the help of Lorenz Curve.

2.5 The export market of Indian tea

George (1980) conducted a study on the evolution of the marketing system of tea in India. As part of this study he also examined the nature of domestic demand and export performance. Tea is an export-oriented industry and India and Sri Lanka are the two main exporters. At the same time India is the largest tea consuming country in the world. According to George, there are two stages in tea marketing, primary and retail. The primary marketing channels are: 1) direct export or forward contract 2) ex-garden sales and 3) the auction system. Of these three channels, the auction system is the most important one because it has got some advantages such as possibility of distribution of huge quantities, high competition, and improved grading. George's investigation over the deterioration of auction price of Indian tea discerns the fact that the British play an important role in determination of price since they are major consumers of Indian tea. He observes that after independence of India and Sri Lanka, the British interest shifted to African countries especially to Kenya and as a result of this the auction price in India slumped.
The export market of Indian tea was analysed by Kumar (2000). The specific objectives of the study were to analyse the domestic and export market for Indian tea, the Russian and CIS market for Indian tea and the future prospects of Indian tea in Russian market.

According to him the product of tea may be classified generally into two: CTC (crush, tear and curl) tea and Orthodox tea. The CTC tea has high domestic demand whereas orthodox tea has high demand in export market. The major export market to Indian tea are CIS countries, Britain, Germany, Holland, Poland and Australia. Liberalisation of imports and crisis in Russian economy has adversely affected tea export from India. The Russia and CIS countries have been switching gradually from the high priced high quality tea to the low priced low quality tea due to the crisis in their countries. As a result of this low priced Sri Lankan tea is dumped into India and that was exported to these countries. This process has adversely affected the Indian tea industry.

Bhowmik (1990) examined the trends in export of Indian tea. He observed that the increase in domestic demand adversely affected export. The internal consumption has been increasing consistently while export of Indian tea stagnated at around 200 million kg. per annum. The increase in domestic

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4 See Appendix I – Part II for details of CTC tea and Orthodox tea.
demand is reflected in the auction price. During the year 1989 the price of ordinary tea is doubled from Rs. 30/- to Rs. 60/-. But the supply response to the increase in price has been very poor; there has not been much increase in production. The production has almost reached saturation level with the existing bushes and became uneconomic as a result of aging. It is found that one-third of the total existing bushes are uneconomic. In order to increase productivity replanting and rejuvenation are necessary, but it requires huge investments. The growers are resorting to short-term increases such as spraying and increased use of fertilisers for boosting production. The researcher suggests that government support may be extended as subsidy for replanting for long-term increase in productivity.

Potential exportability of Indian tea has been studied by Asha (1993). The study is focussed on the potential exportability of agricultural exports, taking tea as a case, considering the case of expansion of domestic market due to growing population pressure. Indian tea export faces the threat of competition from the growing domestic market as well as the competing countries and as a result the domestic price is increasing. The study reveals that Indian tea is getting less and less due to growing domestic market, resulting in the decline of potential competitiveness of tea export.

The export market of Indian tea has been analysed by Krishna (1995). He observed that production of tea in India has been increased at an annual percentage growth of 1.5 per cent, but the total volume of export
declined. Reasons for this decline in exports were lower imports by CIS countries, Iran, Egypt and Saudi Arabia and competition from other producing countries. Sri Lanka is emerging in the world market with increasing productivity and price competitiveness.

The export market of tea is also studied by Sundaram (1995). He observed that tea industry in India faced a crisis in 1992 when production lowered, export fell down and the price slumped. India's share in export market has been declining. Since the extensive cultivation is limited in scope, the productivity of the existing plantations has to be increased for increasing production. Most of the tea bushes in India have become uneconomic. Scientific management of small gardens, replanting the existing area, etc. are some of the measures that may be taken for improving productivity. For effective marketing, both in domestic and in international market, branded products have to be introduced with strict quality control.

2.6 Quality of tea

Quality of tea depends on a number of factors, including the variety of bush, the land and climatic conditions etc. Tea produced in Darjeeling is of high demand. The climatic factors, soil, high elevations (i.e.1000 to 2000 meters above the sea level), type of bush etc. constitutes the Darjeeling tea.\(^5\)

\(^5\) See Appendix I – Part II for details of Darjeeling tea
Darjeeling produces about 12 million kg. tea annually. It is interesting to note that more than this quantity is marketed as Darjeeling tea. This creates confusion among consumers. Thus, lack of quality control seems to be one of the important problems of the marketing of Indian tea.

Dudeja (1996) argues strongly that strict quality control is required for improving export of Indian tea. Demand for Indian tea in the International market seems to be declining due to absence of quality control. Basically Indian tea is of good quality. But the traders are importing cheap tea from other countries and they re-export it. And this has created problem of ensuring quality of Indian tea.

Krishnan (1996) observed that the change in consumption pattern, increase in production cost and high price made tea less competitive in the export market. Importing tea for re-exporting and blending of imported tea with Indian tea, etc. are some of the options for promoting exports from India. The Indian Tea Board has been working in this line.

Krishna (1996) disagrees with the Tea Board's idea of importing cheap quality tea for domestic consumers and export high quality Indian tea.

For increasing production of tea, Tea Board has been implementing various schemes. Short term measures include optimisation of inputs and improved agricultural practices. Medium term measures are irrigation and drainage, rejuvenation, pruning (trimming a tree, shrub or bush by cutting away
dead or overgrown branches or stems) and infilling. And long term measures are replanting and extension planting.

As against the general observations of under production, Chakraborthy (1997) warns against the possibility of over supply of tea in the world market and a depression in international price. The disintegration of the USSR and United Nation's economic blockade on Iraq affected Indian exports adversely. In export, India's position slipped to fourth position, but in value terms India fetches maximum price due to superior quality.

In order to overcome the threat of oversupply internal consumption may be increased further. Ninety five per cent of Indians consume tea. Consumption of tea is inelastic to income.

Chakraborty and Acharya (1998) examined the international trade of Indian tea. They observed that average annual export of Indian tea is about 200 million kg. and it reaches about 80 countries in the world. During 1980s Indian teas were not in much demand due to the alleged complaint that the pesticide residue was beyond the permissible level. But later, this allegation was proved to be a wrong one. Chakraborty and Acharya observed a declining share in India tea export. The important reasons for the constraints of export are: (1) Indian tea is incompetitive compared to the teas of other countries (2) high domestic demand (3) discrimination under Income Tax Act towards producer exports. Inadequate shipment credit facilities and high import duty on package materials are other important problems.
Dwibedi (1999) conducted a study on tea plantation industry in West Bengal. Growth trends in tea production, area and yield and influence of climatic factors like rainfall, temperature and humidity are also taken into account. The study revealed that area under tea in West Bengal has been increasing more or less at a constant percentage rate between 1961 and 1993. Production of tea has been increased with a declining rate of growth and yield rate increased with a declining trend. The analysis revealed that rainfall and temperature effects are dominant in crop production in West Bengal, particularly Dooars. His examination of the size of plantation and type of ownership and its impact on productivity showed that there exists a positive relationship between size and yield; and the propriety ownership is found to be less efficient. The analysis on acreage and yield response to price suggests that planter's decision in expanding acreage under tea in any year is influenced by the magnitude of the difference between the price realised and the price which the planter expects to realise. He concluded that decision to bring more area under tea is dependent on the last two year's price level.

Sukarchakia (1999) and Mohan (1995) studied the problems of Darjeeling tea. The most important problem related to absence of quality control in Indian tea. Substandard teas are mixed with Darjeeling tea and market it as Darjeeling tea; as a result people are suspicious of buying it with a high price. The cost of production of Darjeeling tea is high and people are ready to buy it at a high price. But it is a fact that average annual production in Darjeeling is around 10 to 11 million kg. only. But about 40 million kg. of tea
is marketed as Darjeeling tea in the world market. Other problems of tea in Darjeeling are over age of plants and declining productivity.

2.7 Institutional aspects of Tea

Tea Board plays an important role in the promotion of tea plantations. A critical review of the Tea Board by Bhowmik (1991) showed that the promotional activities are only towards large estates. The benefits of the scheme of the Board are really going to large plantations, leaving most of the small growers unsupported. The Board believes that, according to Bhowmik, only large plantations can increase production. The small growers are flourished in the periphery of large plantations. The small ones can make tie-up arrangements with large estates for technical know-how and for selling green leaves. So the Board's conclusion is that supporting large estates will also be helpful to the small ones. The Tea Research Association and United Planters Association of India (UPASI) are focusing on the development of large estates. Tea Board's implementation of schemes through these institutions will support only large estates. Bhowmik argues that a way out lies in the formation of co-operative tea factories by small growers. At the same time, the Board may extend some direct support to the small growers also.

Bhowmik (1988) highlighted the importance of the institution of co-operatives in Indian tea industry by making a study on Allied Plantation Worker's Co-operative Limited in West Bengal and Tachai Workers Co-operative in Tripura. He observed that worker co-operatives are based on
democratic principles and it encourages and make provision for worker's participation in decision making. This helps to prevent concentration of power in bureaucracy. Apart from sharing of benefits among members, co-operatives are working with the larger objective of welfare of the society as a whole, the researcher observes.

Socio-economic aspects of small growers of tea in Nilgiri's district were studied by Reddy and Bhowmik (1989). In India the largest concentration of small growers are in Nilgiri district. In order to reap the economies of scale the farmers have formed co-operatives, and membership to the co-operatives has been increasing. One of the important limitations of small growers is that they cannot establish tea processing unit in their farm since factory requires a huge amount of investment. Furthermore, small farmers are too small to produce leaves for a factory. So traditionally they have been selling their leaves to large factories at a very low price. The prices are set by the factories who enjoys the status of monopoly or monopolistic competition. In order to come out of the clutches of these large factories, small farmers in Nilgiris district formed co-operative factories. These co-operative factories give remunerative prices to small growers. The study was conducted at two levels, one at the aggregate level analysing trends in growth of tea in Nilgiri district, and the other at a co-operative level case study. The macro analysis show that tea production in Nilgiri has been increasing at an annual rate of three per cent. Co-operatives played an important role by providing remunerative price to their products. The researchers suggest that just as the
Tea Board has linkage with large estates through UPASI, the Board may create a link to small growers through these co-operatives.

In India, most of the tea is grown in large estates, and small growers have only a very limited role. While more than 96 per cent of Indian tea is grown in large tea estates owned by joint stock companies, only less than 4 per cent is produced by small growers. But there is an emerging trend of developing small growers by forming co-operatives. They also made a study on co-operative tea factories in Nilgiris. The largest concentration of small tea growers in India is in Nilgiris. Here small growers emerged with the support of large growers due to Government restriction on further area expansion and export quota system. Forming co-operatives small growers established tea factories with a view to provide remunerative price to small growers for their leaves and to prevent middlemen from exploiting them. The apex body of industrial co-operative tea factories in Nilgiris is known as Nilgiris Small Growers Service Industrial Co-operative (Incoserve). The study came to the conclusion that the co-operative tea factories in Nilgiris have had a positive effect in helping small tea growers. As a result of this, the share in production of tea of small growers has been increased considerably.

Sarkar (1970) organised a group discussion on some of the important issues relating to the prospects of tea plantation industry in India. Tea plantation industry is a labour intensive one particularly in plucking of leaves. The suggestions emerged from the group discussion were different, some
argued for mechanisation while some others expressed concern over huge amount of displacement due to mechanisation. Another important problem of Indian tea plantation industry is low productivity. One of the reasons for this is existence of uneconomic old bushes. The only solution to this is replanting and there is no disagreement on this. But the issue is who would finance this. The group suggested that capital investments could be shared by Government, Agricultural Refinance Corporation, The State Finance Corporation and the Nationalised Commercial Banks. The group also discussed the need for rationalisation of tax structure and improving efficiency of management.

2.8 Harvesting and processing of tea

An introduction about tea, the history of it, the main tea growing countries, etc. are given by Ashby (1977). Ashby gives a detailed description about the drying and processing of beans and leaves and about the by-products which can be developed in the process. The details of planting, nurturing, manufacturing, and pest control measures in tea cultivation are also explained in the book.

In India research and development activities are undertaken for developing technologies for tea plantations. Muraleedharan (1998) gives a description about the innovations in this aspect by UPASI. They have developed two types of skiffing (pruning) machines and two models of plucking machines. But the machines have some drawbacks such as high
weight, over heating, noise and problems related to technical services and spare parts.

Harvesting is an important aspect in tea plantation industry. Plucking of leaves accounts for about 60 per cent of the field cost and 20 per cent of the production cost (Hudson, 1998). Plucking interval is a determining factor in plucking. During peak season shear harvesting can be adopted. Alternate row lane plucking in mature fields will increase plucking average. Pruned bush height of 40 inch is suitable.

Human resource development is also important. Training for motivation, annual performance evaluation and rewards to workers and supervisors are suggested measures.

Frost injury is a problem in high ranges. Hudson (1997a) made a study on this problem. Frost causes damage of cells when temperature falls below O° centigrade. The water between the cells freezes rapidly and forms ice crystals. Soon water from the cell diffuses out and adds to ice formation, resulting in the dehydration of the protoplasm and subsequently the death of the cell.

Spraying of certain chemicals, heating of air by log fire and using wind propellers are some of the scientific options for this problem. But all these measures are found to be uneconomical. The possible method is to acquire maximum yield during the frost free period.
Hudson (1997b) gives details of shear harvesting and its advantages. According to him shear harvesting will increase plucking average and reduce labour requirement.

2.9 Socio-economic conditions in general and women in tea plantations in India with special reference to Kerala

Tea plantation industry is a labour intensive one and majority of workers are women. Concentrating on the role of women workers in trade unions Sarkar and Bhownik (1988) made a study on West Bengal tea plantation industry. They found that participation of women in trade union activity is low, and the major reasons, according to them, are inequality, low literacy rate, low political consciousness and burden of the household duties.

Socio-economic conditions of the South Indian tea plantation workers were examined by Raman (1986). Historically, colonization paved the way for the formation of plantation system in India. During the early period, standard of living of workers in plantations was very poor. They were ill-fed, ill-housed and ill-treated, the researcher observes. Since independence, the constant protest of these labourers resulted in the introduction of Plantation Labour Act 1951. Raman also analysed the labour market. In Kerala and Tamil Nadu there are two types of workers, permanent and temporary. But in Karnataka, in addition to these permanent and temporary workers, casual/contract workers are also engaged. An important factor noted by the investigator is that productivity of women workers is high. Living conditions of
workers are poor with inadequate drinking water, poor housing facility, and insufficient medical care.

Nair (1989) examined the socio-economic conditions of labourers in the Ponmudi tea estate, a unit which is closed since 1973. He made a case study of this unit to highlight the fate of workers in a sinking factory. The employees are continuing in the factory because of the single reason that they have no other option. They are virtually suffering from poverty as a result of unemployment.

Kurian (1990) made a study on socio-economic background and consumption pattern of women workers in tea plantation industries in Munnar, Idukki District in Kerala. The study was focussed on the personal and family background of women workers, their economic and living conditions, income and expenditure pattern, standard of living, social status, working conditions, welfare facilities, and security. The tea industry is labour intensive and majority of workers are women.

Information on households of the workers revealed the fact that women are major income earners of their family. Their educational status is very low. The workers get housing facility, electricity, day care facility, and social security benefits such as gratuity, family pension, and maternity benefits. Despite all these facilities given by the companies, their socio-economic status is found to be very poor. They spend much of their income on food items.
Their consumption of nutrients is found to be low. Medical care provided by companies, in general, is poor in quality.

The women workers are facing many problems. Even though they are provided with housing facility, they have to travel by foot to distant places of work. In the workplace, they are not provided with latrine facility; and they do not have any resting sheds. Leaf pluckers have no promotion and they do not have any recreation facility. The workers are not satisfied with the existing leave facilities and job security. The study suggests that the State, the management, and the trade unions have to give more attention to the problems of women workers.

Kurian (1999) made an evaluative study on the socio-economic background, working and living conditions, consumption pattern and physical quality of life of women workers in the plantation sector of Kerala. The terms and conditions of work of women workers in plantations are governed by the Plantation Labour Act, 1951, Kerala Plantations Labour Rules, 1959 and other statutory benefits. The study stresses that provisions of these Acts are not implemented fully and the physical quality of life of these women workers are far from satisfactory.

The study reveals that facilities provided to them are not sufficient. Most of the women workers in tea, coffee and cardamom get the housing facility provided by the management. But it is very limited in the case of rubber. Considering the case of consumption pattern major spending is on food,
but the consumption of nutrients is very limited. Most of the women workers do not get proper toilet facility in plantations and they have to walk long distance from their house to the work place. Medical and child care facilities provided are also not fully satisfactory. Women in the plantations are educationally backward and social interaction and general awareness etc. are also poor. The study suggests to the authorities to give little more attention to these problems and find proper solutions. Literacy programme for women workers in plantations also must be strengthened.

A socio-economic study of tea plantation industry was made by Sarkar (1984) with special emphasis on the aspect of labour. He discerns the fact that during the initial period labourer’s life in estates are comparatively good. Houses are provided by the industry. Medical services are given free of cost. The management also takes care of free milk service for mother and child, creche service, and primary schooling.

However, when the industry expands, there seems to be a tendency to form an attitude detrimental to the interests of the labourers. In this regard, there exists differences of opinion regarding the behavioural pattern from the management side. Some expressed good opinion about the attitude of the management while others opined that the behaviour need not be favourable to the labourers. For example, there were incidents of forcing labourers to work when they are not well. The major problem among the estate workers are absenteeism and alcoholism.
Sarkar has also made some observations on improving the tea industry. He is of the opinion that for the best marketing, tea made from ‘two-leaves and a bud’ and its processing are very important. He suggests for mechanical harvesting for countries having shortage of labour.

2.10 Tribal participation

Role of tribals is not unimportant in the development of tea plantations in India. Basically they provided cheap labour in the interior areas wherein tea plantations are developed. Parthasarathy (1995) examined the role of tribals in the development of plantations of Nilgiri district in Tamil Nadu. Nilgiri district is the smallest district in Tamil Nadu with more than one third of its population belonging to tribal groups.

Plantation agriculture was completely unknown to tribals and they worked as labour when the British developed plantations. The Todas, the Paniyans, and the Kattunayakans adopted plantation economy. The post-independence tribal development programmes by the State Government are encouraging it. Now tribals are coming up as small growers of tea.

2.11 Problems of tea industry

George (1982, 1984) and Sen and George (1992) have analysed the problems of tea plantation in South India, particularly the crisis of tea industry in the 1970’s. They have identified the problem as both developmental and financial. These studies focussed on the reasons for the rise in cost of production, price and profitability of tea industry, factors governing the level of
investment and long term finance and development strategy. They have also taken care of the special features in agro-climatic aspects, manufacturing and export aspects.

Apart from the analysis of trends in growth they studied the socio-economic conditions prevailed in these areas during the British period in comparison with latter period. They observed the structural changes in the tea plantations, the pattern of production, the evolution of the present system of marketing, and the peculiarities of the plantation labour in South India. For the collection of data George (1982) employed stratified random sampling method covering 148 large estates and 94 small growers in the states of Tamil Nadu, Karnataka and Kerala.

Thus it is observed that the major causes of crisis during 1970’s were cost escalation, declining or stagnant prices, fall in domestic demand, structural changes in management system, and inadequate support from Government.

Apart from cost escalations other factors affected the tea industry are unfavourable tax policy and entry of new producers. Another problem relates to slow pace of growth in production compared to increase in domestic demand for tea.

For example, George (1982) pointed out that the domestic consumption has been rising at an average annual growth of 5 per cent while the production has been increasing at a rate of 3.5 per cent per annum. Due to
lack of development activities in tea plantations most of them became unproductive.

Some of the reasons for deterioration in the conditions of the South Indian tea plantation industry may be traced to the changes in the ownership pattern. The ownership pattern of tea industry became changed from propriety to partnership firms, and then to public limited companies. Before independence, complete control of Indian tea plantations was with the British Managing Agencies. But after independence, India Government abolished the managing agency system in 1970. Then some British companies migrated to East Africa and some collaborated to Indian capital.

Marketing of tea in India are made in two stages, primary and retail. Primary disposal channels are public auctions, direct exports or forward contracts and ex-garden sales. Of these auction is the most important one. South Indian tea is mainly export-oriented. Price escalation and reliability are more in domestic auctions. The field survey reveals strong preference for domestic auctions.

There exists wide disparity between the auction prices and the retail prices. The auction prices of India and Sri Lanka have been falling because British people prefer Kenyan tea which was under their control. The South Indian tea prices have been worst hit and the price fluctuations have become non seasonal. The analysis showed that cost of production and price decline is high in Kerala compared to other South Indian states.
The suggestions for improvement include replanting of uneconomic bushes. Producers demand more Government assistance and subsidies for tea industry. They argue that tea cultivation is highly expensive. Rejuvenation, infillings, use of fertilizers, weedicides and pesticides, transportation cost, wage cost, taxes etc. are high and costly. Increase in labour cost is claimed to be the most important cost pushing factor. The assistance extended by Tea Board and National Bank for Agriculture and Rural Development (NABARD) is found to be inadequate.

Baak (1992) studied the historical evolution of plantations in Travancore. In Travancore, plantations were developed later in 1860s compared to Ceylon, Assam and Bengal where the process started in 1820s, 1830s and 1840s respectively. Baak points out that plantations are developed with political influence from the Colonial Government, and the pressure came to Travancore was from the British through Madras Government during 1860s. Initially, the main investment was for construction of roads. The British owned the plantations and the labour came from the backward communities. With the ownership rested with the British, profit during the colonial period went out of the country. The positive aspects of development of plantations are development of infrastructure such as roads, transport and communication facilities, increase in economic activity and increase in employment opportunity.
Radhakrishnan (1997) observed that there is scope for developing tea plantations in Wayanadu District of Kerala. The average yield of Wayanadu in 1997 was 2300 kg/hectare. Recurring draught is one of the major factors affecting productivity here. Radhakrishnan suggested that replantation, rejuvenation, pruning, infilling and shading with trees are options before planters for improving productivity. The organic content of soil may be enriched by burial of prunings. By introducing these aspects, the author argues that, the yield level of tea in the district can be increased by 25 per cent to 30 per cent.

Raman (1991) studied the marketing channels of tea by evaluating the marketing system of AVT Premium Tea. In India distribution and marketing of tea is a difficult task because tea plantation industrial units are located in remote areas. Tea is available in market in the form of loose tea and packet tea. Loose tea gives flexibility to consumer and it is cheaper than packet tea, so the business of loose tea is going up. But the advantage of packet tea is that it provides uniform taste through blending. The marketing channels may be identified at three levels. At the first level the product comes for auctions wherein the wholesalers come for bidding. In the second level, the wholesalers packet (or in loose form) tea and distribute among sub-dealers/retailers. The retailers distribute tea to the consumers, at the third level. Many tea plantation companies packet their products directly and market under their brand name.
Market survey on packet teas of Harrisons Malayalam Limited is done by Venugopal (1992) in the Calicut city. The details relating to the buying behaviour and effectiveness of advertisement are collected from retailers and consumers in the city. The study reveals that the middle income group is the largest consumers of tea and middle and high income groups have preference for packet tea. Among the branded tea, Kanan Devan stood first in marketing.

From the foregoing review we may note that tea plantation industry has an important place in economic activities all over the world. Tea is a universal stimulating drink; and it has got both positive and negative aspects.

Major tea plantations in the world have been developed during the colonial period and hence an element of exploitation has historically been associated with it. India is not an exemption to it.

In India tea flourishing areas are South India and North East India. These plantations were developed during the British period. After independence, interest of the British shifted to African countries like Kenya, and consequently the Indian plantations began to suffer. Export to England declined, demand for Indian tea slumped and export market began to suffer.

However, India is still the largest producer and consumer of tea in the world. But India has slipped from the prestigious position of the top exporter of tea in the world to a distant fourth, with Sri Lanka as the largest exporter followed by China and Kenya.
The analysis of literature shows that the world market has been subjected to fluctuations and there has always been a mismatch between supply and demand. The same is the trend observed in Indian market. Supply response of tea to its price is found to be very low.

In general, developing countries are producing tea and they export all the good quality tea, and consume the low quality tea. Due to globalisation and liberalisation of trade, tea exporting countries are found to be importing and re-exporting it. They blend domestic tea with imported tea for exporting. Though theoretically it is worthwhile, in practice it will have serious implications for quality control. A classic example is the case of Darjeeling tea. Tea produced in Darjeeling is of high demand in the export market. Total tea branded and marketed as Darjeeling tea are four times the actual production of tea in the Darjeeling area. Thus one of the most important problems created for Indian tea industry is marketing without adequate quality control. Quality of tea depends on a variety of factors including place of growth, variety of plant, process of production, etc. Generally product of tea may be classified into two categories: CTC and Orthodox. The CTC tea has high domestic demand whereas the Orthodox tea has high demand in export market.

Tea plantation industry is subjected to large economies of scale. It is a synthesis of agriculture (plantation) and industry. Most of the small planters cannot afford a factory in their estates. Even if they are the raw leaves produced in small plantations may not be sufficient for economic running of a factory. As
a result, historically, tea industry is relatively a big business and the size distribution is skewed towards large firms.

Recently, small planters formed their co-operative factories and started processing of tea leaves in their co-operative factories.

Another characteristic feature of tea industry is that it is labour intensive. Approximately 65 per cent of the total cost of production is accounted by labour. Attempts are being made on technological advancements for substituting labour with machines.

Another problem of Indian tea plantation is over aging. Much of the area are having plants with more than 50 years of age. This has to be viewed against the fact that productivity of tea plant declines substantially after 30 years of age. Thus replanting is required for rejuvenating productivity. But it requires huge capital investments and the industry is not in a position to bear such investment. They are looking for support from Government.

The socio-economic conditions of employees in tea plantations are not satisfactory. Even though provision for basic facilities such as housing, drinking water, sanitation, recreation and travelling are mandatory, in some of the tea plantations its implementation is not properly executed.
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