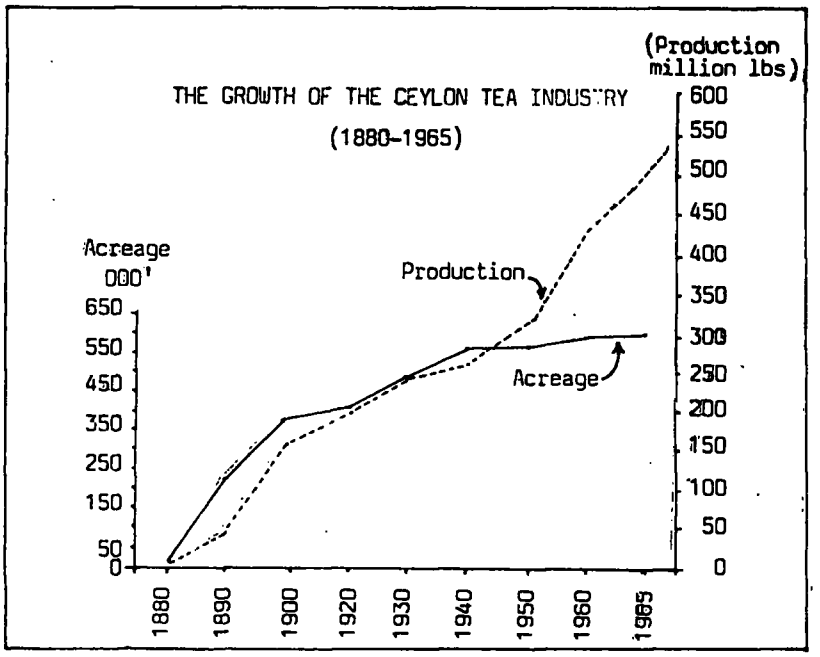
ORIGINS OF TEA

The origin of tea are traced back to Cline with its introduction as a beverage sometimes being attributed to the emperor Shen Nung about 2737 BC. Ancient Chinese and Japanese legends refer to a beverage made from an infusion of dried tea leaves. The earliest written mention of tea is found in Erh Ya, an ancient Chinese dictionary of 350 BC. The first monograph on tea (Cha Ching) was published by Lu Yu in 780 AD, who described the tea leaf and how and when it is plucked, and explained how the leaf is manipulated in the hands, dried and sealed. The China tea plant, brought to Japan about AD 800, was regarded as a medicine for 500 years, until green tea was developed and became a popular Japanese beverage.

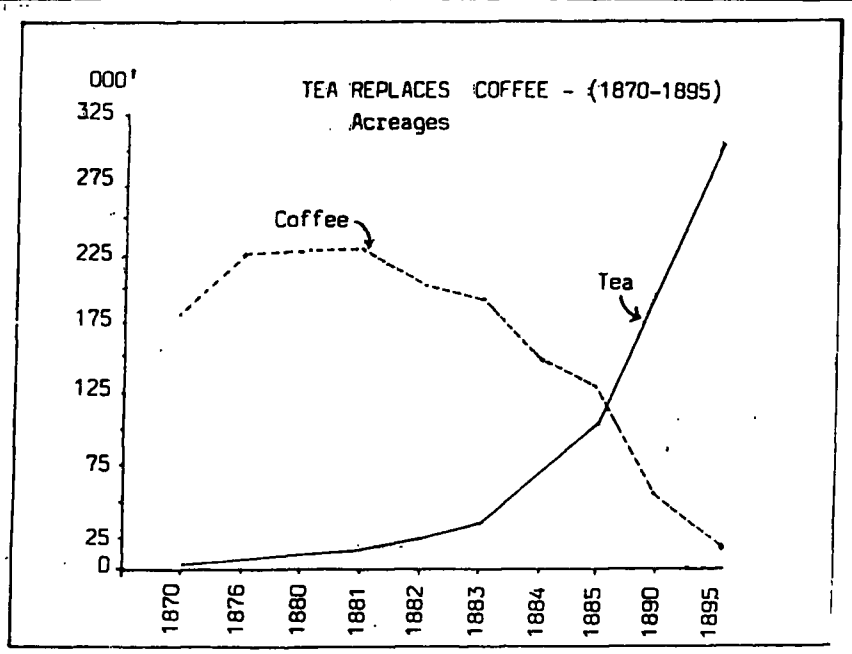
Several centuries later, in 1559, tea (chai cattai) was brought to the notice of Europe by Gian Battista Ramusio, the noted Venetien writer, although the first reference to tea in England was by R.L.Wickham in 1615. At that time, coffee was the sole beverage known to Europe, and it was only in 1657 that the first packet of tea was sold in Galways Coffee House in London. Subsequently, in 1684, J.I.L. Jacobson a Dutch tea taster, penetrated the well-guarded and forbidden tea gardens of China, and at great personal risk, transferred some of the tea seeds to Indonesia and so was broken the monopoly of China in tea production.

Tea was introduced into India at the beginning of the 19th century although it was believed to have been cultivated for a long time by the hill tribes of Assam. The first authenticated attempt to commercially cultivate tea in India followed the discovery by Major Robert Bruce, in 1832, of tea growing wild near the Sibsagar District in Assam from where it found its way to the Botanical Gardens at Peradeniya in 1839.



Tea was introduced into Europe in the early 17th century, with the development of trade links between Europe and Asia. By 1715, the British East India Company, which dominated the overseas trade of the British companies operating in Asia, was firmly established in Canton. The tea trade increased so rapidly that in 1805 England imported 7.5 million lbs. The tea produced in India in the 1830's began to be sold in London and with the flow of a regular supply the modern tea industry was said to have begun.

In the late 19th century China still supplied the bulk of the tea exported, with a peak figure in 1886 of 300 million lbs of which 170 million lbs were exported to England. In that year India produced 90 million lbs and soon after moved into the leading position among the tea exporting countries. Ceylon soon followed India as a tea producer and exporter.



CEYLON TEA

When in the 1830's India had started its tea industry in the province of Ceylon had launched an intensive campaign Assam of coffee-growing. In each case, the Government was encouraging private enterprises to experiment in what is now called "factory farming". Between 1823 and 1825 the first moves towards growing coffee on a plantation scale were made, with then Governor, Edward Barnes giving the lead. Land was opened up for coffee in the Central Highlands and coffee planting was so successful that a boom developed. But in 1869 the coffee disease Hamilia vastatrix struck, in the form of a mysterious fungus, which ravaged and eventually destroyed the whole coffee industry in Ceylon, by that time second only to Brazil's. Meanwhile, a Scottish planter, James Taylor, had been encouraged by his employees to "diversify" and in 1867 he had set out his first 19 acres of tea, on the coffee estate of Loolecondera, in Hewaheta. Other tea planters had earlier raised a few isolated tea bushes, but Taylor was the first not only to grow tea methodically, but also to pluck, process and sell it. Tea proved a more durable resource than coffee and soon more plantations were replaced with tea.

By 1884 exports of Ceylon tea had topped the 1 million lb mash and by 1900 well over 50 million lbs of Ceylon tea was being exported. The two diagrams tell the story more graphically.

regular increases in the cost of inputs. See Tables 9 and 10. When sales averages were around Rs 60/- per kg both the industry and the trade enjoyed comfortable margins, but with sales averages down to Rs 30/- per kg many estates could be in the red in the present context of costs. From the Government's point of view revenue calculations have also been upset and the budgetary problems naturally aggravated. Further more, if the two state institutions, the JEDB and the State Plantations Corporation who are responsible for a major part of local tea production, are unable to make ends meet they would have to be further subsidised by the Government in order to carry on operations. This would mean an even greater load on the Government's budget.

Foreign exchange shortfalls in earnings must also have an adverse impact and once again the issue of diversification within the economy takes on importance. Meanwhile, crop figures in many producer contries show rapid increases in the face of plummenting prices. It is against this backdrop that we take a closer look at the industry that has been the mainstay of Sri Lanka's economy for so many years, and should remain so for many more to come.

We duly acknowledge the work of Sudatta Ranasinghe of the National Institute of Plantation Management whose recent study on some aspects of Sri Lanka's tea industry has provided much of the material for our Special Report. We also acknowledge the work of R.D. Bandaranayake of the Central Bank; K.O.K.G.Fernando former Secretary Ministry of Planning and Industries; P. Ramanujan, Department of Economics, Australian National University; and R.S.Jilla, Faculty of Management Studies, Sri Jayawardenapura University in providing some insights in this Report.

Table 1

BASIC DATA ON SRI LANKA'S TEA INDUSTRY

Year	Area (Hectares)	Production (Mn.Kgs)	Yield Per Hectare/Kg	Exports (Mn. Kg)	Workforce ('000)
1935	225,713	100.2		95.9	
1938	224,804	98.4		106.6	
1941	223,208	112.4		107.1	
1944	222,430	130.1		124.0	
1947	224,229	135.4		128.0	
1950	227,138	139.2	613	132.8	
1953	232,490	155.5	669	153.5	
1956	230,551	170.3	740	162.3	
1959	234,676	187.4	799	178.7	
1962	239,319	211.8	887	200.8	
1965	240,611	228.2	951	214.3	
1968	241,899	224.8	931	202.3	
1971	241,770	217.7	933	206.9	422.4
1974	242,294	204.0	844	379.5	428.3
1977	242,115	208.6	861	185.6	431.2
1980	244,813	191.4	779	184.7	444.5
1981	244,916	209.9	857	183.4	445.0
1982	242,141	187.8	827*	181.0	446.0
1983	230,065	179.3	790*	157.9	
1984	227,874	208.0	913*	204.2	

* Estimated

Source: *Sri Lanka Tea Board,*
Economic & Social Statistics of Sri Lanka
- Central Bank of Ceylon

THE POSITON OF TEA IN THE ECONOMY

The foreign plantation investments that took place in the late nineteenth and early twentieth century in Ceylon under the British rule paved the way for the growth of a tea plantation sector which was geared to the export market. Sri Lanka was enmeshed in a colonial plantation economy, with bonds of unequal exchange, tied to the controlling and consuming centres within Europe.

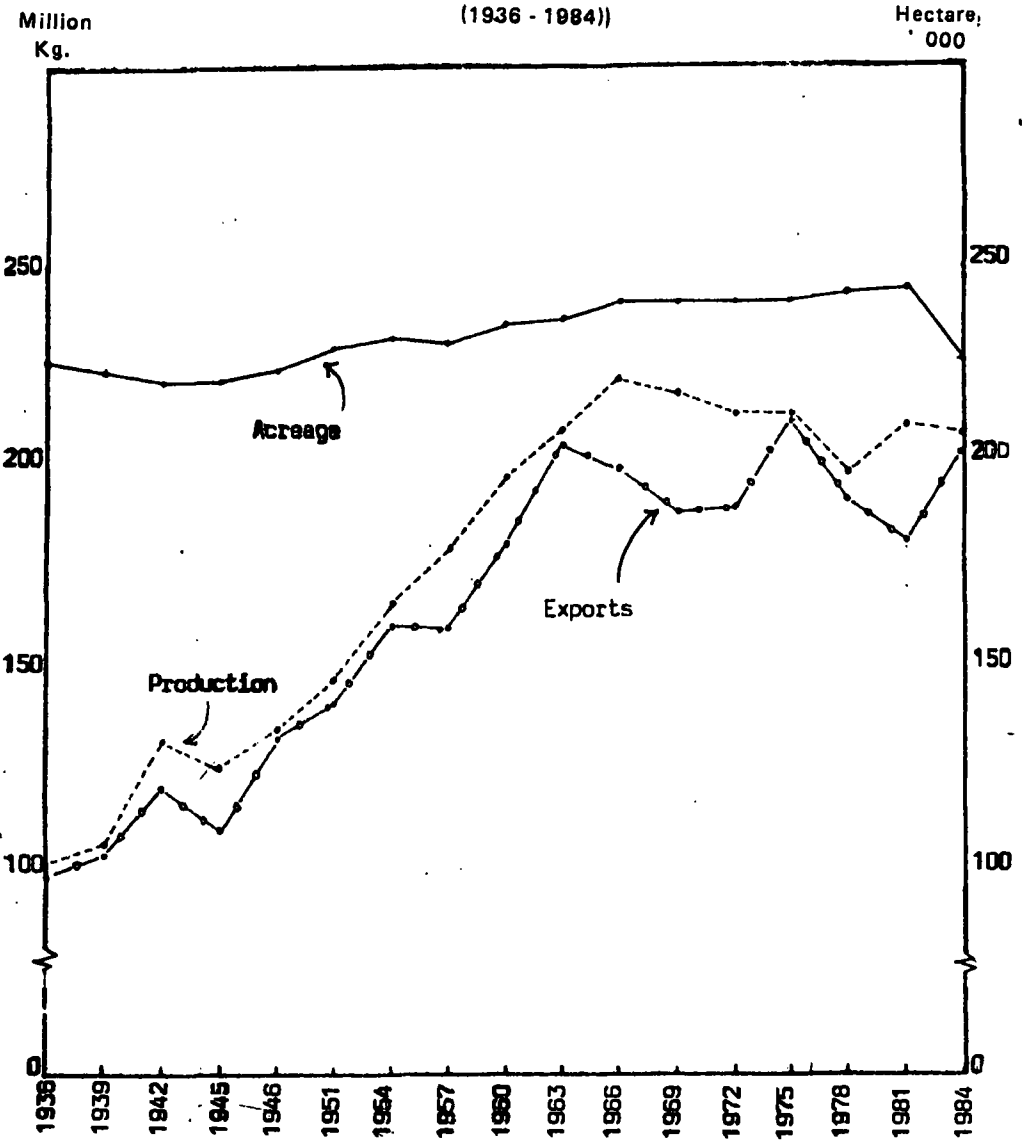
The opening of tea plantations resulted in a number of changes in the economy among which the most important was the opening up of a hitherto feudal economy to a capitalist form of agriculture. The fundamental changes in the economy introduced by the plantations system have survived to this date and its repercussions still echo strongly. The plantation system as opposed to the earlier subsistence agriculture was based on wage labour, factory-type operation of large estates and production for a foreign market. It was based initially on small doses of foreign capital and the industry was similar in most respects to the category of extractive industries that sprang up all over the Third World in the 19th century to supply the Europen centre. The subsequent growth of the economy, after the initial doses of foreign capital came in, was made possible through the large surplus generated in the country itself.

The economy of the country was completely rebuilt around the plantations. The foreign banks that were established initially had the sole function of financing this industry. Engineering firms and workshops grew up to service the engineering needs of the plantation factories; and for the maintenance of railways and roads, and the government engineering establishments which came into being.

There was also a complete transformation in the economy of the country with the new plantations making deep in-roads into the existing village economy. The economy of the village in turn became less and less adapted for supplying even the everyday needs of the community. This made the country dependent on foreign sources for even such basic necessities as food and clothing.

Some of the early enactments like the Waste Land Ordinance of 1840 were instrumental in the rapid growth of tea plantations in subsequent years. The tea plantation sector also attracted a large immigrant labour force from South India which grew from around 10,000 in the early 1830's to over three lakhs by the year 1900. Since the indigenous Sinhalese labour did not opt for resident wage labour status on the tea plantations, the foreign enterpreneurs made use of the colonial linkages of British rule to obtain as much labour as possible from poverty stricken South India. Hence, the development of large scale agricultural units of tea with a resident labour force producing entirely for the export market paved the way for the emergence of enclave type plantations operating within a framework of capitalist agriculture in Sri Lanka. The data given in Table 1 on the development of the tea industry in Sri Lanka over the past 50 years shows that the tea crop sector occupies a significant position in Sri Lanka's agricultural economy in terms of land utilisation, production, employment and also exports. Tea continued to be the principal commercial crop as it covered about 20 percent of total agricultural land in the country, about percent of export earnings and employed about one-tenth of the country's labour force. The tea industry's contribution to Sri Lanka's GNP amounted to 2.8 percent in 1983.

SRI LANKA'S TEA AREA, PRODUCTION AND EXPORTS
(1936 - 1984))



Although there had been a simultaneous growth of a tea smallholdings sector, the extent under tea smallholdings did not account for more than about 20 percent of the total area under tea; and therefore the tea industry remained basically a large scale agricultural operation. The records show that larger estates ranging from 500 acres and above costituted about 46 percent of the total area under tea in 1973. The estates between 100-500 acres in extent accounted for 24 percent, while the smaller estates that ranged from 10-100 acres in extent accounted for about 11 percent. Thus, tea cultivation being a large scale agricultural operation also had significant implications for land utilization, productivity, employment and export earnings.

The ownership pattern of tea estates prior to the nationalization shows that the private sector owned almost all area under tea in the country, while the tea industry in Sri Lanka had been under the control of foreign economic interests. The capital that was invested in tea plantations originated primarily in the UK, and the management of tea plantations was handled by managing agencies that represented

plantations; these included the USAWASAMA (Up Country Co-operative Estates Development Board), JANAWASA and Electoral Co-operatives. There was an attempt to introduce the concept of collective farming through the creation of Janawasas. The land acquired by the Government under the Land Reform legislation was distributed among these different organizations, the details of which are given in Table 2. As indicated by this data, the acreage allocated to the SLSPC accounted for 20.8 percent, while the acreage allocated to JEDB accounted for 25.1 percent of the tea land acquired under the Land Reforms. The acreage allocated to the USAWASAMA accounted for 5.6 percent and the acreage under the Electoral Cooperatives accounted for 5.8 percent. The Janawasas and the Land Reform Commission shared about 3 percent of the tea land acquired under the Land Reforms.

It has been argued that the allocation of land among several managing agencies resulted in a severe dislocation of the management in the tea crop sector, while it also resulted in several disadvantages such as a drop in output, wastage and inefficiency. The immediate impact of Land Reform was therefore not favourable to the tea industry.

In view of this situation, the Government that came to power in 1977 took several steps to unify the management structures and practices in the interest of the tea industry. This included abolition of USAWASAMA, Janawasa's and Electoral Cooperatives and the handing over of all the properties managed by these agencies to the SLSPC and JEDB. These two principal managing agencies have been brought under two seperate ministries since 1980 and their management structures have been decentralized through a system of regional boards thus granting freedom and decision making powers to the regions with a view to increasing and improving productivity. At the end of 1984, the SLSPC managed 58, 534 ha of tea under its regional boards. Of this land, the extent in bearing was estimated at 54, 524 ha. The JEDB managed an extent of 59, 897 ha of tea, of which 56, 155 ha was in bearing. In 1984, the tea estates managed by the SLSPC recorded a yield of 72. 197 million kg. with an average yield of 1062 kg per ha; while the JEDB recorded a production of 79.369 million kg with an average yield of 1298 kg per ha. SLSPC tea plantations employed 222, 538 workers as at June 1984 which comprised 98, 978 male workers, 121, 385 female workers and 2175 child workers. The JEDB tea estates had a registered labour force of 191, 561 and 28700 casual workers making a total of 220, 261 in 1984. Thus, the JEDB and SLSPC together employed 442, 799 workers which accounted for about 80 percent of the total labour force in the tea crop sector.

Table 3

DISTRIBUTION OF TEA LANDS IN ESTATES AND SMALL HOLDINGS- 1981

	Estates			Small Holdings	Total
	State Owned	Privately Owned	Total		
Acres	373.000	102.000	475000	130.000	605.000
Percentage of total tea lands	61.6	16.9	78.5	21.5	100.0
Percent of Estate land	78.5	of 21.5	100		

Source: *Sri Lanka Tea Board*

The performance of the tea crop sector during the post-land reform period raises a number of issues pertaining to production and productivity, employment and labour utilization, management practices and labour relations, export marketing and profitability and the future prospects of the tea industry. At the begining of the 1980's over, 78 percent of the tea estate lands were managed by the JEDB and the SLSPC which covered nearly 62 percent of the total tea lands in the country. See Table 3. The private estates constituted about 21 percent of the tea estate land which covered nearly 17 percent of the total land area under tea, though the proportion under small holdings increased thereafter and have been estimated at a much higher level more recently. Hence the state owned tea sector and government policies relating to the tea industry naturally assumed greater importance.

PRODUCTION AND PRODUCTIVITY IN THE TEA CROP SECTOR

The data on production and productivity in the tea crop sector during the last three decades reveals that both production and yield per acre have fluctuated indicating short term oscillations caused by several factors. While managerial efficiency and other inputs such as labour and fertilizer are having a direct impact on the level of output and productivity, (see box), in case of the tea crop the most important factor causing variations in production and yield levels is the weather

conditions. The tea crop depends largely on rainfall and moisture conditions, whose variations are beyond the control of the producer.

Production and yield levels also vary depending on elevation. Sri Lanka's tea lands are classified into three elevational categories, namely, high grown (above 4000 ft.), mid grown (2000-4000 ft.) and low grown (below 2000 ft). About 75 percent of Sri Lanka's tea estate lands belong to the high and mid elevation categories. As indicated in Table 4, high elevation tea estates have contributed about 38 percent of the total tea production in recent years. Although nearly 40 percent of the tea estate land is in the mid grown category the contribution of mid grown tea estates to total production had been less than 30 percent; in fact declining gradually from 28 percent in 1982 to 26 percent in 1984.

Production and yield levels in high and low elevation estates have been maintained at reasonably high levels due to the fact that a majority of the estates in these two elevational categories have been company owned and subsequently passed on to the SLSPC and JEDB after the second phase of land reforms carried out in 1975. In the mid grown areas, the majority of the tea estates were private proprietary owned and they were neglected for over two decades mainly due to the threat of nationalization which prevailed from about the early 1960's. After the land reform law of 1971 private properietary owned estate lands were vested in the Land Reform Commission subject to the ownership ceiling of 50 acres per individual. A good share of the mid grown tea estate land was brought under the management of newly created institutions such as the Usawasama, Electoral Cooperatives and the Janawasas and suffered from consequences of mismanagement and inefficiency. This accounted for the low production and yield levels on mid grown tea estates.

Table 4

DISTRIBUTION OF TEA ESTATES BY ELEVATION CATEGORY -1981

Elevation	Acres	Percent of Total	Production mn: Kgs	Percent of Total	Yield Kgs per hectare
High Grown	70,875	37	72.2	38	1,020
Mid Grown	74,115	38	55.4	29	750
Low Grown	47,385	25	63.1	33	1,330
Total	192,375	100	190.7	100	991

Source: *Sri Lanka Tea Board*

The highest yield levels in Sri Lanka's tea crop sector were recorded in 1965, and in subsequent years the yield levels recorded variations below 1965 yield levels. Table 5 which gives yield per acre for 1960, 1965 and 1969 in respect of different ownership categories prior to nationalization shows that sterling companies maintained high levels since 1965 and achieved a marginal increase in yield per acre over 1965 yield. However, there had been a drop in yield compared with 1965 yield levels in Rupee company estates, Ceylonese proprietary owned estates, and non-Ceylonese owned estates. A notable yield increase had been recorded in state owned plantations located mainly in low elevation areas.

Maintenance of high yield levels in sterling company estates is attributed to factors like re-planting with high yielding V.P. clonal teas, adoption of modern cultural practices, regular fertilizer application and managerial efficiency. The Tea Master Plan (1979) notes that the clonal acreage of company estates had increased nearly tenfold by 1965 and thirty-fold by 1969. It has been observed that clonal tea

Table 5

YIELDS IN POUNDS PER ACRE BY OWNERSHIP AND SIZE OF HOLDING 1960-1969

Holdings	Yield in Pounds per acre		
	1960	1965	1969
1. Estates over 100 acres in extent			
(a) Sterling Companies	974	1151	1153
(b) Rupee Companies	918	1059	1041
(c) Ceylonese owned	763	849	798
	735	812	807
(e) Ceylonese and non-Ceylonese jointly owned	763	933	961
(f) State owned	938	881	1180
mean yield of all ownership gropus	915	1062	1042
2. Estates under 100 acres in extent smallholdings and other estates	485	487	427
3. Mean yield of all tea lands according to Tea Controller's statistics	747	846	811

Source: *Tea Master Plan - Draft Final Report, Vol. IV - Production Capacity and Economics-Appendices. April 1979.*

yields have been more impressive in low elevation areas recording an average yield of 3251 lb/acre in replanted areas in some estates in the Galle district. However in mid elevation areas yields of clonal tea have been lower than that in high low elevation areas.

The performance of Rupee company estates(whose shares were totally owned by local shareholders after 1950), and Ceylonese and non-Ceylonese proprietary owned estates were found to be unsatisfactory. The general observation as noted earlier was that no serious effort had been made by the owners of these estates for improving their production and productivity levels due to a threat of impending nationalization. The production as well as yields in Sri Lanka's plantation crop sector have not indicated any upward trend since mid 1960s and in case of tea the decline in production and productivity was more pronounced during 1970-1975 which is attributed by some observers to the dislocations caused by the land reforms. The data given in Table 6 on yield trends since 1965 indicate the extent of yield fluctuations and show that there had been a major decline in yields in 1970 which has had implications for yield levels in the subsequent years.

One of the main factors that explains the annual fluctuations in production and yield levels is the weather conditions where a strong correlation between rainfall and the crop may be observed. If a 10 percent drop in yield, recorded in 1970 over the previous year is attributed to the drought conditions that prevailed in 1970, an increase in yield by 10 percent in 1978 over the previous year could also be attributed largely to the rainfall experienced in that year. Similarly, both production and yield had dropped again in 1980 due to drought conditions; or again in 1984 with favourable weather

Problems in Tea Sector

Reasons for the decline in tea production since the 1960's have been attributed to various causes, among the most obvious being (apart from erratic weather conditions) a systematic decline in the area under tea cultivation; a departure from normal fertilizer applications; inadequate replanting and infilling of tea areas; and weakening management practices on state sector estates. Several studies have been carried out on the tea sector in recent years and a further study, in July 1984, by R.D.Bandaranaike of the Central Bank summarises some of the more important problems highlighted in four such studies,and solutions suggested, in the table below.

TEA SECTOR PROBLEMS AND SUGGESTED SOLUTIONS IN THE FOUR STUDIES REVIEWED

Problem	Suggested Solution
Insufficient annual expenditure on fertilizing, infilling, and replanting	Additional investment
Old Factory machinery	Investment in newer machinery
Low labour productivity and outturn	Social infrastructure improvements - in housing, health care, and so on for estate labour. Also provide monetary incentives for increasing productivity
Lack of incentives for increasing and improving quality at individual estate level	Provide monetary incentives in the form of substantial bonuses tied directly to additional production and quality improvements
Negative producer margins (especially at JEDB and SLSPC)	Varying recommendations. Some claim that negative margins are not relevant because they are caused primarily by government duties and taxes and that the country is still gaining from tea produced at negative margins. Others argue for duty and tax reductions to improve margins. One study argues (unconvincingly) that reducing duties could reduce foreign exchange earnings
Low smallholder productivity	Improve credit facilities to smallholders. Improve service structure by using bought leaf factories as extension service centres. Expand TSHDA services and funding.

production reached the highest level for the decade. Typical annual crop patterns are shown in the diagram on page 11.

It has been argued by some critics that the Agency House management system which dominated the tea planatation sector until mid 1970s did not take constructive steps to revolutionise the production organisation in the tea crop sector in order to increase the productivity of land or labour as the emphasis was placed mainly on increasing the total volume of production and thereby total revenue. The reason being that the extent of commissions and manaqement charges of the Agency firm depended on the total volume of production and the total revenue (de silva, S.B.D 1982). This argument could hold valid if one considers the fact that production organisation in the tea crop sector had not changed during the past one hundred years of existence of large scale tea plantations.

However, one could observe that tea estates managed by Agency Houses have adopted practices like replanting with high yielding clonal

Table 6

YIELD TRENDS IN THE TEA CROP SECTOR 1950 - 1984

Year	Yield Per Hectare (Kg)	Percentage Change of Yield from previous year
1950	613	-
1951	646	5.4
1952	622	-3.7
1953	669	7.6
1954	715	6.9
1955	640	-10.5
1956	740	15.6
1957	783	5.8
1958	810	3.5
1959	799	-1.4
1960	837	4.8
1961	870	3.9
1962	887	1.6
1963	996	12.3
1964	914	-8.2
1965	951	4.1
1966	923	-2.9
1967	913	-1.1
1968	931	2.0
1969	911	-2.2
1970	879	-3.5
1971	903	2.7
1972	884	-2.1
1973	873	-1.2
1974	844	3.3
1975	883	4.6
1976	817	-7.5
1977	861	5.4
1978	821	-4.7
1979	846	3.1
1980	779	-7.9
1981	857	10.0
1982*	827	-3.5
1983	790	-4.5
1984*	913	15.5

*Estimated

Source: *The Tea Controller's Administration Reports*

tea and infilling to some extent. Both replanting and infilling were instrumental in increasing yields and these practices also contributed to increase the fertilizer application on tea estates. The data shows that replanting on tea estates had begun in 1960 with 1129 acres being replanted that year. The cumulative extent replanted by 1965 was 12815 acres and the amount of fertilizer consumed in the tea crop sector in 1965 was 156.7 thousand metric tons. Although the amount of fertilizer used had gradually dropped since 1965 and was below 100 thousand metric tons by 1971, the extent replanted had gradually increased. Thus, at the time of introducing land reform legislation the cumulative extent of replanted tea was about 50,000 acres.

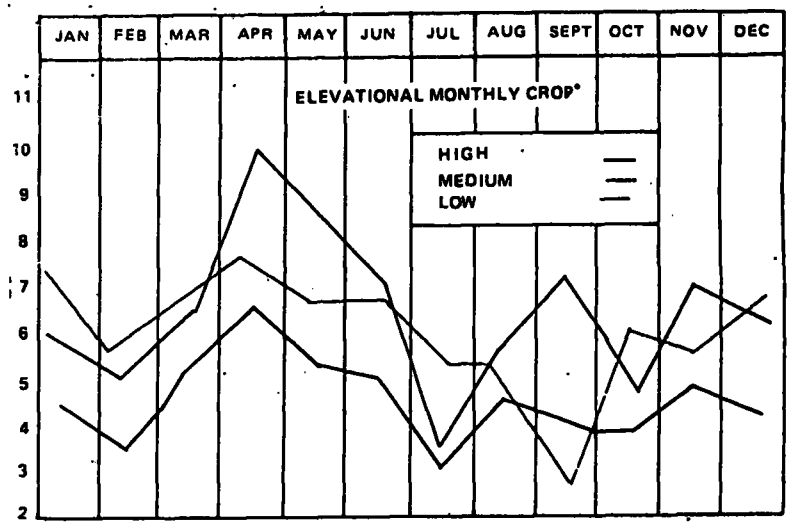


Table 7 presents the approximate estimates of land available for infilling and replanting on tea estates in relation to elevational categorries. Of the estimated land area available for infilling 46.5 per cent was in high elevation estates, while mid and low elevation estates shared 34.8 and 18.6 percent respectively of the available land area for infilling. According to the estiamtes the available land area for replanting in high elevation estates accounted for 22 percent of the estimated area of 135,000 acres, while the low elevation estates had a greater potential for replanting as the extent available for replanting accounted for little over 44 percent of the total estimated area. The estates in mid elevation areas also had about 45,000 acres which accounted for 33 percent of the estimated land area for replanting. Thus, tea estates in high elevation areas were in a better position to increase output and yield levels through infilling which also had the advantage of not foregoing the present income levels that could have resulted if an extensive programme of replanting was undertaken.

The data given in Table 8 shows that the extent replanted in the tea crop sector had increased gradually since the nationalisation of estates. The total extent replanted as at the end of 1983 accounted for 17 percent of the total cultivated area of tea. Although the amount of fertilizer consumed had either dropped or had not indicated a significant increase during the de-

Table 7

ESTIMATED LAND AREA AVAILABLE FOR INFILLING AND REPLANTING ON TEA ESTATES

	High Elevation	Mid Elevation	Low Elevation	Total (acres)
Infilling	100,000	75,000	40,000	215,000
Replanting	30,000	45,000	60,000	135,000
Total	130,000	120,000	100,000	350,000

Source: *Nimal Sandaratne, "Potential for raising employment and income in the estate sector," 1982. Colombo*

cade 1973-83, one could observe that there had been a gradual improvement of productivity (measured in terms of yield per hectare) in the tea estates managed by the SLSPC and the JEDB.

It is important to note that the producer's efforts to increase productivity in the tea crop sector have been adversely affected by the increasing cost of production which is due to both the increase in wage costs as well as the costs of inputs such as fertilizers.

The data on the cost of production (Table 11) shows that since mid 1970s the cost of production per kilo has been increasing and in certain years the cost of production per kilo of tea was even higher than the Colombo market price per kilo of tea. About 60 percent of the cost of production of a kilo of tea is made up of wages which is a reflection of the high 'abour intensity of tea production. The labour wages have been increased on several occasions since the nationalisation of plantations. The wage revisions effected in mid 1984, by increasing the basic wage over 75 percent of the existing wage rate and equalising the female wage rate with the male wage rate, resulted in a significant increase in wage costs.

Added to the cost increase was the Government decision to grant six days a week of compulsory employment for all registered workers, which is another important demand achieved by the strongly unionised plantation workers. Thus, the state owned plantations could not avoid steep rises in the cost of production due to increased wage costs on the one hand, and energy costs on the other. Other inputs too, such as fertilizer, have shown steep increases in price over the years.(See Tables 9 and 10). The only way of c cushioning the adverse effects of cost increases was making a high profit margin, which depended to a great extent on tea prices determined by the demand and supply forces operating in the world tea market. It might also be important to note that through a more rational use of energy the state owned plantation sector could cut down on present production costs.

Table 8

REPLANTING AND FERTILIZER USE IN TEA PLANTATION SECTOR

Year	Cumulative Hectare Replanted	Fertilizer Consumed ('000MT)
1973	23,,997	93.8
1974	25,730	102.6
1975	27,493	101.8
1976	28,609	95.6
1977	29,849	80.4
1978	31,558	115.5
1979	34,048	105.4
1980	36,127	109.9
1981	38,753	103.3
1982	40,699	102.7
1983	42,027	115.5
1984	43,172	137.2*

Source: *Central Bank of Ceylon*
* Provisional

Table 9

SELECTED PRICES OF INPUTS IN TEA PLANTATIONS (IN RUPEES)

Inputs	1980	1984
Planting		
Packeted Plant	97.14	148.79
Nursing Plant	79.41	94.07
Chemicals		
Copper Sandoz	25.63	44.15
Antimusin	143.31	1190.63
Massoil Fumigant	26.00	61.63
Dolomite	20.32	43.61
Other Inputs		
Pruning Knife	17.60	29.79
Mammoties (Fork)	122.51	195.25
Crowbar (for Ditches)	86.39	122.51
Gunnies	11.83	19.70
Baskets	9.22	13.27

Source: *Country- Wide Data Collection System - Central Bank of Ceylon*

Table 10

AVERAGE DAILY WAGE RATES ON TEA PLANTATIONS - (IN RUPEES)

Activity	Type of Labour	1980	1984
Preparation of Land	Male	17.03	26.67
Planting	Male	18.24	25.77
	Female	12.95	19.67
Manuring	Male	17.51	27.08
Weeding	Male	16.85	26.44
	Female	12.05	20.73
Pruning	Male	20.53	33.93
Plucking	Male	17.15	28.32
	Female	13.00	23.72

Source: *Central Bank of Ceylon*

The effects of the increasing production costs were compensated to some extent by Government subsidies for replanting and infilling. The subsidy was available to both public sector estates and the privately owned estates, including small holdings. In March 1983, the subsidy rate applicable to privately owned estates and small holdings in low grown areas and public sector estates in high and mid grown areas was increased from Rs. 24,700 to Rs. 29,000 per hectare. The subsidy rate for privately owned estates and small holdings in high and mid elevation areas was raised from Rs. 29,700 to Rs. 35,000 per hectare and for the public sector estates in low elevation areas the subsidy rate was increased from Rs. 19, 700 to Rs. 24,700 per hectare. In order to accommodate the cost increases the subsidy rates were further revised in November 1983 and there was an increase of Rs. 5000 - Rs. 7200 in the subsidy rates applicable to private and public sector estates in different elevation categories.

Despite the increase in costs both SLSPC and JEDB were able to obtain a satisfactory producer margin of around Rs 14/= per kilo of made tea upto early 1985, which could be attributed to favourable prices that prevailed since mid 1983 and continued through 1984. Also the effect of taxation on producer margins were cushioned to some extent by government's decision to raise the cut-off point for the advalorem sales tax from Rs. 22/= to Rs. 26/= per kilogram in March 1983. However, the rate of export duty remained at a high of 35 percent.

EMPLOYMENT AND LABOUR ABSORPTION

The tea crop sector has absorbed the majority of workers engaged in plantation agriculture in Sri Lanka due to the fact that production operations in the tea crop sector are far more labour intensive compared with other plantation crops. According to current estimates about 500,000 are employed in the tea crop sector which accounts for over 65 percent of the work force in commercial agriculture. The land-man ratio in the tea crop sector is about 3 labour units per hectare or 1.5 labour units per acre. In the case of rubber, the land-man ratio is about 0.5 units per acre, while in the coconut sector the ratio is about 1 unit of labour for roughly 10 acres of land. According to recent estimates, about 48 percent of the labour force in the tea crop sector was employed in high elevation tea lands, about 35 percent in mid elevation tea lands and nearly 16 percent in low elevation tea lands. In terms of the distribution of land and labour among the three elevation categories the land labour ratios were as follows:

Labour per Hectare	Elevation Category
2.91	High
2.96	Mid
4.22	Low
3.09	All categories

The labour intensity of production operations in the tea crop sector has resulted in the utilization of a large resident work force on tea estates. The resident labour requirement was met by employing immigrant labour from South India, who migrated in large numbers following the opening of tea plantations in late 1840's under British rule in Sri Lanka. For the purpose of having a resident labour force, the plantation owners made fixed investments in housing and health facilities on the estates. Although the facilities provided were found to be very much sub-standard, it enabled the plantation owners to maintain a resident labour force that could be utilised throughtout the year.

According to the 1981 Census, the Indian population in the plantation sector was estimated around 900,000. This shows a certain decline in the Indian population on plantations due to repatriation of labour to South India. In 1964 when the Sirima-Shastri Pact was signed the number of non-citi-

Table 11

COST OF PRODUCTION AND PRICES OF TEA

Year	(1) Cost of Production Rs/Kg	(2) Colombo Net Price Rs/Kg	(3) Producer margin (2-1)	(4) Export F.O.B. Price Rs/Kg
1978	10.50	11.65	+ 1.15	33.22
1979	13.43	11.14	- 2.29	30.51
1980	15.45	17.73	+ 2.28	33.41
1981	18.79	17.71	- 1.08	35.14
1982	22.68	22.52	- 0.16	35.03
1983	26.37	36.96	+ 10.59	52.52
1984*	34.00	46.55	+ 12.55	77.20

Source: *Central Bank of Ceylon (Annual Reports)* * Provisional.

Table 12

LABOUR ABSORPTION IN RELATION TO DIFFERENT YIELD LEVELS IN TEA

Yield (Kg/ha)	High & Mid Elevation			Low Elevation		
	Male Labour (ha/yr)	Female (ha/yr)	Total Labour (ha/yr)	Male (ha/yr)	Female (ha/yr)	Total Labour (ha/yr)
500	.67	.89	1.56	.80	.89	1.69
1000	.72	1.41	2.13	.85	1.41	2.26
1500	.77	1.85	2.62	.91	1.85	3.76
2000	.82	2.24	3.06	.96	2.24	3.20
2500	.87	2.59	3.46	1.02	2.59	3.61
3000	.92	2.92	3.84	1.08	2.92	4.00

Source: *Tea Master Plan Study Final Report Vol.iv, 1978*

zens in the plantations was estimated at around 925,000. Under this Agreement 525,000 of non-citizens were to be compulsorily repatriated to India with the natural increase over a period of fifteen years and 300,000 with the natural increase were to be granted Sri Lankan citizenship over the same period.

Of the balance 150,000 the question of how many should be granted Sri Lankan citizenship was to be decided later. However, the agreement was that at least half of this number should be repatriated while the balance be given Sri Lankan citizenship. According to official figures on repatriation 309,926 had been recognized as Indian citizens in 1978. Of this number, 229,925 had been repatriated. The number granted Sri Lankan citizenship in 1978 was 131,473. However, the citizenship status of about 500,000 on the plantations has yet to be decided.

A majority of the Indian immigrant workers were located in high elevational estates, while the mid and low elevation estates also shared a significant number of Indian labour. The repatriation of Indian labour has had an impact mainly on high elevational tea estates as the vacancies created by repatriation of labour could not be filled easily with indigenous Sinhalese labour mainly because the high elevation tea estates were located as isolated agricultural units with little or no linkages with the rest of the community. On the other hand the mid and low elevation estates were surrounded by villages that could supplement the labour requirements of the plantations. Thus, most of the mid and low elevation estates depended on village labour in addition to resident labour. It has been observed that low elevation tea estates depended to a considerable extent on village labour, and 50-60 percent of the labour force in these plantations was constituted by non-resident village labour.

The degree of labour absorption in the tea crop sector depended on three main operations; namely field operations, harvesting operations and factory operations. The field operations covered activities such as maintenance and upkeep of the tea crop and soils, application of fertilizer and weeding; while the harvesting operations covered mainly the plucking of tea which is the most frequent activity of labour utilization. Factory operations covered activities like weighing of tea leaf, withering, rolling, firing, sifting and grading, which formed the process of manufacture. The pattern of labour utilization shows that mostly female labour is utilized for plucking, while male labour is utilized largely on field operations. The factory operations engaged both male and female labour. The extent to which labour can be productively utilized in the tea crop sector depended mainly on field and harvesting operations. While there is a positive co-relation between yield or output and the degree of labour absorption, one can also argue that field operations leading to augmenting the crop also have a considerable potential to increase labour absorption. Particularly, activities like fertilizer application, replanting, infilling, pruning, mossing, weeding, and soil conservation, have a cumulative impact on increasing the yield provided the weather conditions are favourable to the crop. According to the regulations applicable to state owned plantations the management is obliged to provide six days of work per week to every registered (permanent) labourer. This makes it imperative that the plantations must find avenues to utilize their labour force productively during a six day week. If this cannot be achieved, the net result would be escalation of production costs due to high wage costs incurred to maintain a work force whose productivity level is low.

According to the Tea Master Plan Study, the potential for increasing labour absorption in the tea crop sector lies mainly in the possibilities of increasing of yield levels, because the extent of labour absorption could be increased significantly if the present yield levels can be raised through the adoption of yield augmenting practices. As indicated in Table 12 the extent of female labour absorption can be raised from .89 labour units per hectare per year at a yield level of 500 kg. per hectare, to 2.92 labour units per hectare per year if a yield level of 300 kg. per hectare can be achieved. The available potential is common to all three elevation categories. Also, the table shows that the degree of male labour absorption can be increased significantly if the yield levels are raised. The estimates with regard to possibilities of increasing labour absorption through yield increases, shows that there is a bias towards female labour absorption due to the fact that tea estates use predominantly female labour for harvesting operations.

Although the tea crop sector maintained a relatively high land-man ratio, the labour availability differed between different regions and elevational categories. Studies have indicated that in some plantation districts there were labour shortages, while in other districts there were labour surpluses. In the estates coming under both the JEDB and SLSPC these discrepancies in labour supply have been observed. A survey carried out by the Sri Lanka Foundation Institute in 1981 revealed that in some estates in Nuwara-Eliya, Hatton, Nawalapitiya and Badulla regions there were shortages of pluckers which affected the plantations particularly during plucking seasons. It was observed that these plantations had a male labour force which could not be productively utilised throughout the year because the male workers

did not like plucking which was a traditional job of female workers. Thus, some of the estates in these regions have failed to take full advantage of favourable crops due to a shortage of pluckers. The survey also revealed that in some estates in these regions, as well as in a number of estates in the mid and low elevation areas, there were labour surpluses that could not be productively utilised. The logical solution to this problem appears to be the transfer of surplus labour to the estates where there were labour shortages. However, it was found that both JEDB and SLSPC have not been successful in making such transfers effective even within the same region due to the resistance from labour unions against such transfers. It was observed that there was a resistance among labour even to the shift of workers from one division to another. There is also the problem of finding accommodation for labour who are transferred from one estate to another because regulations do not permit the management to remove these non-working families from their line rooms in order to accommodate the labour brought in from some other estate. The managements have also feared clashes among workers if outside labour is brought in and settled on the plantations in a situation where there is resistance to labour transfers.

In the case of both JEDB and SLSPC estates, the registered labour force plus casual labour(that is, labour not paid holiday wages) makes up the overall labour supply in the tea estate sector. However, the labour supply itself does not indicate the demand situation unless one examines how far the available labour force is productively utilized in relation to different operations.

The labour demand in the tea crop sector depends largely on the conditions of the crop. There again, one can assume that the demand will be mainly for female workers who are employed in harvesting operations. The demand for factory labour is dependent entirely on the crop because the extent of labour utilization in factory operations can vary depending on the crop which is available for processing. The demand for male labour has to be worked out mainly in relation to field operations. However, since the frequency of field operations varies between tea estates, the demand for male labour at a given point in time cannot be worked out accurately. A study undertaken by the National Institute of Business Management in 1979 covering JEDB plantations in six electorates in the Nuwara-Eliya region worked out labour demand and supply projections for these estates for a period of five years from 1979. These projections indicated the excess or shortage of labour during 1979-83 and showed, that tea estates in Nuwara-Eliya, Walapane and Kotmale electorates would be experiencing labour shortages from 1980 onwards. The projections of this study were based on two assumptions, that there was

(a) perfect substitutability of male for female labour and

(b) perfect inter estate mobility of labour within the region.

However, as noted earlier; both these assumptions cannot hold valid in the present context where the management finds it difficult to substitute male labour for female labour in plucking, and to transfer the surplus to those estates where labour shortages have been reported.

The pattern of labour utilization in tea smallholdings did not differ much from that in the large tea estates. The only exception is that tea smallholdings do not depend on resident labour, as the size of the majority of tea smallholdings do not warrant a resident labour force. A study undertaken by Nimal Fernando (1984) on a sample of tea smallholdings in Deniya-ya area shows that smallholdings also utilize mainly female labour for pulcking which constitute nearly 75 percent of the total number of labour days spent per acre per year. In the sampled small holdings, weeding accounted for 15 percent of the man days utilized in the year, while activities like manuring, pruning and other sundry work accounted for less than 10 percent of the total number of man days utilized during the year. The study showed that smallholdings that have cultivated high yielding VP teas have been able to achieve relatively high yield levels enabling a greater number of female labour days to be utilized for harvesting activities.

WAGES AND INCOMES IN THE TEA CROP SECTOR

Wages constitute the main source of income of employees in the tea crop sector. Tea production being heavily dependent on a labour intensive technology, it incurs a relatively high wage cost, which forms about 55-60 percent of the cost of production. The studies on wages in the plantation sector show that wages of plantation workers have not been determined according to supply and demand conditions in the labour market. The fact that the majority of the workers in the tea crop sector comprised South Indian immigrants, who were utilised in the production activities as a captive labour force, did not allow wages of plantation workers to be determined under the supply and demand conditions in the labour market.

Initially, there was no mechanism of wage determination in the plantation sector as the wage rates were arbitrarily determined by the plantation owners. However, the intervention of the Indian government to regulate the working and living conditions of South Indian immigrant workers resulted in the introduction of a Minimum Wages (Indian labour) Ordinance in 1927 which was intended to regulate the minimum wages applicable to men, women and child workers in the tea plantation industry. This Ordinance also stipulated a legally

defined working day and introduced the principle of tri-partism as the mechanism of wage determination. This Ordinance was subsequently replaced by the Wages Board's Ordinance No.27 of 1941. The latter legislation made provision to determine wages and also for the regulation of wages, hours of work, holidays, payment of overtime, etc. The Wages Boards Ordinance also stipulated a unified minimum wage rate in 1945. The basic minimum wage rates fixed under this Ordinance was=/58 cts, =/46cts and =/40 cts. for men, women and child workers respectively.

It may therefore be observed that the discrimination in wages between males and females has been in existence since the determination of minimum wage rates in 1945 and this continued up to 1984. Table 13 presents the data on average daily minimum wage rates and wage indexes, for the period 1952--80. According to this table, the basic daily wage rate of tea plantation workers remained at Rs. 1/13 per day during 1955-56 and at Rs.1/25 per day for over another decade until 1978. Although the wage rates applicable to the tea processing and manufacturing trades have undergone changes during this period the wage rates of tea plantation workers have stagnated. One could also observe that wages of tea plantation workers have not been increased even at times when the tea prices were favourable; a clear indication that wages of plantation workers have not responded to changes in the prices of tea. The reason why this has happened is that wages have been determined by the Wages Board which specified the minimum wage rate, and in determining the minimum wage rate the prices fetched by tea in local or overseas markets have not been taken into account. As indicated in Table 13, the minimum wage rate of plantation workers has increased in monetary terms since 1977 as several adhoc wage increases were granted after 1974 by increasing the allowances under the emergency regulations. This has resulted in an increase in the total minimum wage and also the minimum wage rate index. However, it may be observed that the Index of real wages has not increased at the same pace as the money wages, due to inflationary conditions in the economy and withdrawal of certain benefits like food subsidies enjoyed in the past by the plantation workers.

The data on incomes of plantation workers show that during the period 1952-1967 the average earnings of tea estate workers have stagnated around Rs.45/= per month. There has been an increase in average earnings since 1971 after the nationalisation of plantations. This could be attributed to wage increase granted under the emergency regulations. A noticeable increase in average earnings had taken place after 1977, where an average income of Rs.132/= per month in 1977 increased to Rs.218 /= in 1979; and this increased further to Rs. 229/= by 1981. However, the real earnings of plantation workers have increased less rapidly. In 1977 the average real earnings per month was Rs.65/=, which increased to Rs.86/= by 1979, and subsequently dropped to Rs.61/= by 1981. The drop in real earnings is attributed mainly to the increase in the cost of living index. In 1977 the

Table 13

AVERAGE MINIMUM DAILY WAGE RATES AND WAGE INDEXES

1952 - 1980

Year	Basic Wages	Allowances **	Total Minimum Wages	Minimum Wage Rate Index No.	Index of Real Wages
				(1952=100)	(1952=100)
1952	.98	.94	1.92	100.0	100.0
1953	.98	.97	1.95	101.6	102.6
1954	1.06	.93	1.99	103.7	102.5
1955	1.13	.93	2.06	107.3	106.8
1956	1.13	.95	2.08	103.3	103.1
1957	1.13	.97	2.10	109.4	106.4
1958	1.13	1.01	2.14	111.5	106.2
1959	1.13	1.01	2.14	111.5	106.0
1969	1.15	.99	2.12	110.4	106.7
1961	1.13	1.00	2.13	110.9	105.9
1962	1.13	1.03	2.16	112.5	105.8
1963	1.13	1.06	2.19	114.1	104.8
1964	1.13	1.11	2.24	116.7	104.0
1965	1.13	1.12	2.25	117.2	104.2
1966	1.13	1.12	2.25	117.2	104.3
1967	1.25	1.08	2.33	121.4	105.7
1968	1.25	1.43	2.68	139.0	114.9
1969	1.25	1.43	2.68	139.6	107.0
1970	1.25	1.46	2.71	141.2	102.1
1971	1.25	1.49	2.74	142.7	100.6
1972	1.25	1.02	2.87	149.5	99.1
1973	1.25	2.00	3.25	169.4	102.4
1974	1.25	2.81	4.06	211 ?	113.7
1975	1.25	3.81	5.06	263.5	132.9
1976	1.25	4.67	5.92	208.3	153.6
1977	1.25	4.92	6.17	321.5	158.2
1978	1.25	7.36	8.61	448.3	196.8
1979	2.42	8.68	11.10	575.0	226.9
1980	2.42	11.61	14.03	730.7	230.2

*** Average of male and female allowances*

Source: Ceylon Labour Gazette - Various years

cost of living index stood at 202.2 and this increased to 375.4 by 1981 (taking 1952 as the base year). According to this data the index of real earnings had dropped from 154.7 in 1977 to 145.6 by 1981.

The trade unions in the plantation sector have been arguing for a substantial increase of wages and also abolition of discrimination of female wages against the wages of male workers. There were several arguments in favour of wage increases which maintained that, a greater share of the value created by plantation workers is diverted away from the plantation sector through taxation where over 35 percent of the gross income from sales of tea is chanelled to state coffers leaving a relatively small margin for the welfare of plantation workers. The second argument was that both male and female workers in the tea crop sector produce a value in international price terms which is several times higher than the daily wage paid to them. For instance, taking the average output of 20 kg of green leaf per plucker per day, the marketable output of this green leaf intkake would be equal to about 5 kg of made tea. Consequently, on the basis of average F.O.B. price of made tea, the value created through a worker would be in the region of Rs.175/= per day. Thus, the trade unions have argued that plantation workers are grossly underpaid, and that there is no justification to maintain a wage disparity between male and female workers.

The tea industry was experiencing boom conditions in 1984 as a result of increased world prices consequent upon a shortage of supply due to a drop in the exports of tea from India which is the biggest tea producer in the world. During this period one of the most powerful trade unions in the plantation sector, the Ceylon Workers' Congress, bargained effectively for wage increases and launched a strike which was well timed and resulted in the achievement of the workers' demands. Thus, the plantation workers gained a considerable wage increase of about 75 percent over the existing wage rate, which was coupled with the abolition of the wage disparity between males and females. The current wage rate, which is around Rs.24/= for both male and female workers could increase further if the government decides to grant an additional allowance in respect of the increase in the Cost of Living index.

Since the plantation workers enjoy fairly strong bargaining power at the moment, it is likely that the daily wage rate for tea plantation workers will be increased to about Rs. 30/=. Since the introduction of a six day work week regulation in 1983 every registered plantation worker is believed to be earning over Rs.150/= per week at present. If one assumes that there are at least three employed members in a resident worker family, the gross monthly income of a family of plantation workers is likely to be higher than the gross monthly income of a farm family in a neighbouring village. Some observes believe, that the present wage levels could be maintained without a loss to the plantations only if tea prices are favourable and in case the prices decline(which has been happening this year) it is obvious that the state agencies managing the plantation industry will find it difficult to maintain these higher wages in the context of increased costs and declining producer margins.

The plantation worker unions have also demanded monthly wages for all registered workers on plantations. Although this request has not been accommodated, it may be observed that under the increased wages and guaranteed employment principle, each registered worker is likely to earn an income equivalent to a monthly salary. However, the irony of the expenditure pattern of plantation workers is that there is a relatively high propensity to consume and when the weekly wages are paid they tend to spend most of their income and fall into debt. This historical problem of indebtedness among the plantation workers is difficult to solve unless their consumption patterns change. The present structure of payment of minimum wages to the tea plantation workers is not based on productivity or merit. It is not possible to find a corelation between the productivity level of a worker and his daily wage. Although incentives have been introduced in respect of work performed above a certain norm, these incentives cannot be related directly to the output level of workers. A study undertaken by the Congree Labour Foundation (the research unit of the Ceylon Workers' Congreee) in 1983 revealed that there is no logical relationship between the incentive payment for plucking over a given norm and the productivity level of the worker. This study found that the incentive rate per kilo is somewhat below the normal wage rate per kilo, if the wage rate is divided by the norm. This would also confirm the earlier contention that wages of plantation workers have not been determined according to their output or productivity. It is also difficult to measure productitity of each plantation worker in a context where there are considerable variations in the yield levels of plantations in the different elevation categories and sometimes in the same region. There is also no satisfactory measure of productity of labour. Hence the difficulty in determining wages or incentive payments on the basis of labour productivity. The trade unions in the plantation sector have also argued that it is a matter of concern that plantation workers did not get any incentive in the form of wage increases for promotions based on their service. Therefore a worker who has put in 20 years of service would get the same wage as his counterpart who had just joined the work force. This type of problem cannot be tackled successfully unless the pattern of labour utilization in the plantation sector is changed by introducing a system of permanent workers, with prospects of promotions and a permanent salary structure for the worker grades as well.

MANAGEMENT STRUCTURE AND LABOUR RELATIONS

The tea plantation sector inherited from its colonial past a system of labour relations and a management structure which had survived over the last century with little or no change. Some critics have observed that plantations can be identified mainly as a system of labour relations which tied the labour in varying degrees of duress to the plantations. system (S'B.D. de Silva 1983). Under the plantation system the labour was kept immobile and they were deployed in various production operations under conditions of strict supervision and authoritarian management.

The management structure that was adopted in large scale tea plantations managed by the Agency Houses had three hierachical levels; the top level comprised the Superintendent and Assistant Superintendents who were categorised as executives, the middle level comprised all heads of functional units such as field, factory, office, medical centre, etc., and included the personnel designed as Chief Clerk, Factory Officer, Field Officer, Estate Medical Assistant, etc. These officers and their assistants were categorised as staff personnel and were entitled to monthly salaries and few other fringe benefits.

The tertiary level included supervisory personnel who carried out the day to day work in the field and the factory and they were responsible for ensuring that work targets were accomplished by the different labour gangs assigned different tasks.

The predominant management style in the plantation sector had a high degree of authority orientation and strict adherence to hierarchical relationships. Maintaining discipline was considered a paramount task of the top management as discipline was considered the principal means of getting things done by the workers. Hence enforcement of rules in the form of orders given by the superiors to the subordinates became the norm. Any violation of rules or lack of respect for authority was considered a grave lapse on the part of th employee that should be dealt with immediate punishment. Thus, at the level of executive employees as well as at lower levels in the hierarchy, the management practices, particularly the methods of labour handling adopted, were common and these have often resulted in conflicts characterised by individual and group grievances, disputes and labour unrest leading to strikes that resulted in loss of man days and output. The data given in Table 14 shows the number of strikes in the plantation sector and the loss of mandays during the 1965 - 79 period.

According to the information of the Department of Labour there had been 213 strikes in the estates in 1984 involving 79,025 workers which had resulted in a loss of 383,640 mandays. In the manufacturing and service sectors the number of strikes reported in the same year was 17 in which 8,297 employees participated. These records reveal that the occurance of disputes had been far greater in the plantation sector.

Table 14

Strikes in the Plantation Sector 1965 - 79

Year	No.of Strikes	No.of workers involved	No. of mandays lost
1965	175	70929	482259
1966	132	138259	4117264
1967	194	74968	414636
1968	171	65909	722690
1969	146	566861	406150
1970	254	125530	1033310
1980	125	50847	273531
1981	165	52832	273717
1973	215	89393	360217
1974	75	25381	78908
1975	66	19981	66485
1976	125	49490	140507
1977	88	33586	188271
1978	118	56707	248573
1979*	66	23403	140733

(up to July)

Source: *Vol. 30, No. 4,1979. Sri Lanka Labour Gazette*

Under the management structure that prevailed in large scale plantations, the Superintendent enjoyed a greater degree of authority over the plantation and its employees. Although certain functional areas were allocated to different individuals occupying subordinate positions in the hierarchy, it was the duty of the Superintendent to overlook all these functions and give instructions to those who were reporting to him. Thus, the management in tea plantations became highly centralized, increasing the burden of the Superintendnet. According to traditional practices only the Superintendent and his assistant were entrusted with the responsibility of handling cash, and still the Superintendents spend their time at least twice a month on making payments and counting and checking cash balances; the type of work that is normally handled by clerical level employees in other establishments.

The job description of a Superintendent in a large scale tea plantation would reveal that he is expected to perform a number of functions under the direct supervision of the Director in charge of the plantation; and the Superintendent is expected to attend to a series of daily routine functions including correspondence which take a greater part of his time. Matters such as settling labour grievances and disputes, ensuring labour welfare and security of the employees and the property, attending to matters relating to repatriation of labour, citizenship, registration of births, deaths and marriages, estate village integration, forestation, etc., also fall within the purview of work of the Superintendent.

It has been found that the scope of duties of a Superintendent has become wider after the nationalisation of plantations. With the transfer of management from the Agency Houses to the state agencies some of the old planters opted to retire and these vacancies were filled by the

FOREIGN ASSISTANCE FOR PLANTATION DEVELOPMENT

In 1984 negotiations were finalised with the Asian Development Bank for a loan of SDRs 45,170,000 (US $ 45 million or Sri Lanka Rs 1,170 million) for a Plantation Sector Development Project. The project, in addition to ADB funds, is financed by several foreign and local sources. The other external financiers include the International Development Association of the World Bank (US $ 55 million), the Overseas Development Administration of UK (US $ 10 million), the OPEC Fund for International Development (US $ 5 million) and the Netherlands Government (US$5million). Local financing sources include the ment (US $ 37.6 million - This contribution is nominally in the form of subsidies for infilling and replanting), the Bank of Ceylon (US $ 10 million and internally generated funds of the Corporations (US $ 55.6 million).

This project will assist the country in the implementation of its plantation sector development programme which is designed to reverse the decline in Sri Lanka's production and exports of tea, rubber and coconut, by rehabilitation of production facilities and by introducing improvements to the performance of the State Plantations Corporation (SPC) and Janatha Estate Development Board (JEDB), and to the health and welfare of estate workers.

The Project consists of the following parts connected with tea:

(i) Tea Planting: Planting of about 717 ha of tea in land previously under rubber and rehabilitation grass;

(ii) Tea Replanting: Replacing of old seedling tea (OST) with vegetatively propagated tea in about 3,116 ha, principally in high and low country estates;

(iii) Tea Infilling: Infilling of about 125 million tea bushes, (equivalent to 10,330 of planted area);

(iv) Diversification: Diversification of OST areas (about 7,500 ha) by planting fuelwood and diversification crops - pepper, cardamon,cloves, coffee.

(In addition there is support for rubber and coconut replanting and rehabilitation programmes) .

Field and Nursery Equipment (Financing by IDA and Others)

This assistance covers the provision of agricultural implements, including manual tree felling equipment, hand cultivation tools, herbicide sprayers, crop protection equipment, weighing scales, tubewells along with drip irrigation facilities and power sawing equipment; and provision of vehicles including motorcycles, estate vehicles, pickups, tractors, trailers and tanker trailers for use of the estates.

Factory Rehabilitation (Bank Financing)

Tea Factory Rehabilitation: Improvement of the standard of tea manufacture by rehabilitating about 138 SPC factories and about 135 JEDB factories.

Housing (Bank Financing)

Renovation of existing line rooms by replacing roofs, adding kitchens, providing piped water, bathing units and latrines, and doubling of the house unit size by simple modification where feasible. Construction of about 840 twin cottage units and about 220 junior staff quarters and 70 senior staff quarters.

Social Welfare (Other Financing)

There is also an extensive social welfare program covering provision of creches, maternity wards, dispensaries, clinics, latrines and vehicles for health care activities. The project is expected to be completed by 31 December 1989.

THIRD TEA DEVELOPMENT PROJECT

A third Tea Development Project financed by the Asian Development Bank and the OPEC Special Fund aims at increasing the productivity of existing plantations and factories and enhancing the quality of made tea. Towards this end 19 tea plantations are to be rehabilitated, 18 tea factories modernized and three new factories constructed for processing of smallholder green leaf. The Project will also help promote closer socio- economic links between the tea estate sector, and the surrounding rural areas by attracting increasing numbers of indigenous villagers to work on the plantations. In this context, adequate housing and other local amenities such as health and day child-care facilities will be provided under the Project.

The scope of the Project includes the following main compenents:

1. The rehabilitation of 19 public sector estates in Badulla District consisitng of:
   - (i) field rehabilitation of 7,380 ha under tea including provision of field, nursery and transportation equipment.
   - (ii) modernization and expansion of existing tea factories (except for one estate).
   - (iii) establishment of 1,750 ha of fuelwood plantations (on all estates except four) to provide fuel for the tea factories; and
   - (Iv) rehabilitation of existing quarters and construction of new housing units and rehabilitation of medical and other social facilities

2. Construction of three factories and provision of support facilities in Galle District for processing of smallholder tea consisting of:
   - (i) three tea factories;
   - (ii) offices, housing and dispensaries for factory staff;
   - (iii) provision of transport and office equipment; and
   - (iv) training.

younger planters who were recruited by the former Agency Houses or by the state agencies. A certain number of senior planters who remained with the SLSPC and JEDB, after the take-over of estates, have taken over administrative responsibilities in the central or regional boards of the two organisations.

Thus, the majority of the tea plantations are presently managed by a group of young planters who may not have the some degree of experience as their predecessors. This situation has demand further training for the executive and other staff managing the plantations. To meet this need the government created the National Institute of Plantation Management in 1980 to take over the training function in the plantation sector. Since the NIPM is still in its infant stages, it would be too early to evaluate its role in the plantation sector.

Although plantations were nationalized in 1975, many critics are of the view that the nationalisation itself

did not ensure any significant change in the management structure or the pattern of labour relations in the plantation sector. The traditional management practices and styles of management as well as the dominant attitudes among both the managers and the workers have thus far been continued despite the change of ownership and management organisation. One could observe that a century old terminology used by the workers such as "Periya Dorai" (the Superintendent) and "Sinna Dorai" (the Assistant Superintendent), symbolic of the power they excercised over the workers, is still in use in the day to day life of plantations.

The executive and staff employees in the plantations continue to enjoy traditional fringe benefits like bungalows and quarters with free electricity, water, fuel and domestic assistance. Although certain improvements to traditional housing facilities allocated to resident labour have been made, the majority of resident labour families still live in the trational back to back linerooms which are in a dilapidated condition in a large number of estates. Part of a $ 45 million ADB loan for the plantation sector is now being utilized for providing better housing facilities for workers on estates (See Box on "Foreign Assistance for Plantation Development").

The provision of different types of housing facilities to the executives, staff personnel and the labour was done with the purpose of maintaining a social disparity between these three groups, which was felt necessary to maintain the superior-subordinate relationship. The fact that this particular culture of plantation management is preserved even after ten years of nationalisation is perhaps an indication that the environment of management in the plantation sector has remained more or less static.

It is alleged that after the nationalisation the Superintendents have lost both the autonomy and the rewards they were used to enjoying under the management of Agency Houses. A feeling common to many Superintendents is that while their workload and responsibilities have increased several fold, compared to the pre-nationalisation period, they do not enjoy sufficient rewards in the form of either monetary benefits or prospects for career advancement.

The trade unions representing estate staff employees have also urged that the salaries and other benefits enjoyed by their members are inadequate compared with the work load these employees handle. It has also been observed that the labourers in tea estates earn higher incomes than what is earned by an estate staff employee in the form of salary, subsequent to the recent wage increase granted to the labour. Such anomalies in remuneration are likely to have implications for performance levels of managerial and staff employees in plantations in a context of declining employee morale and motivation.

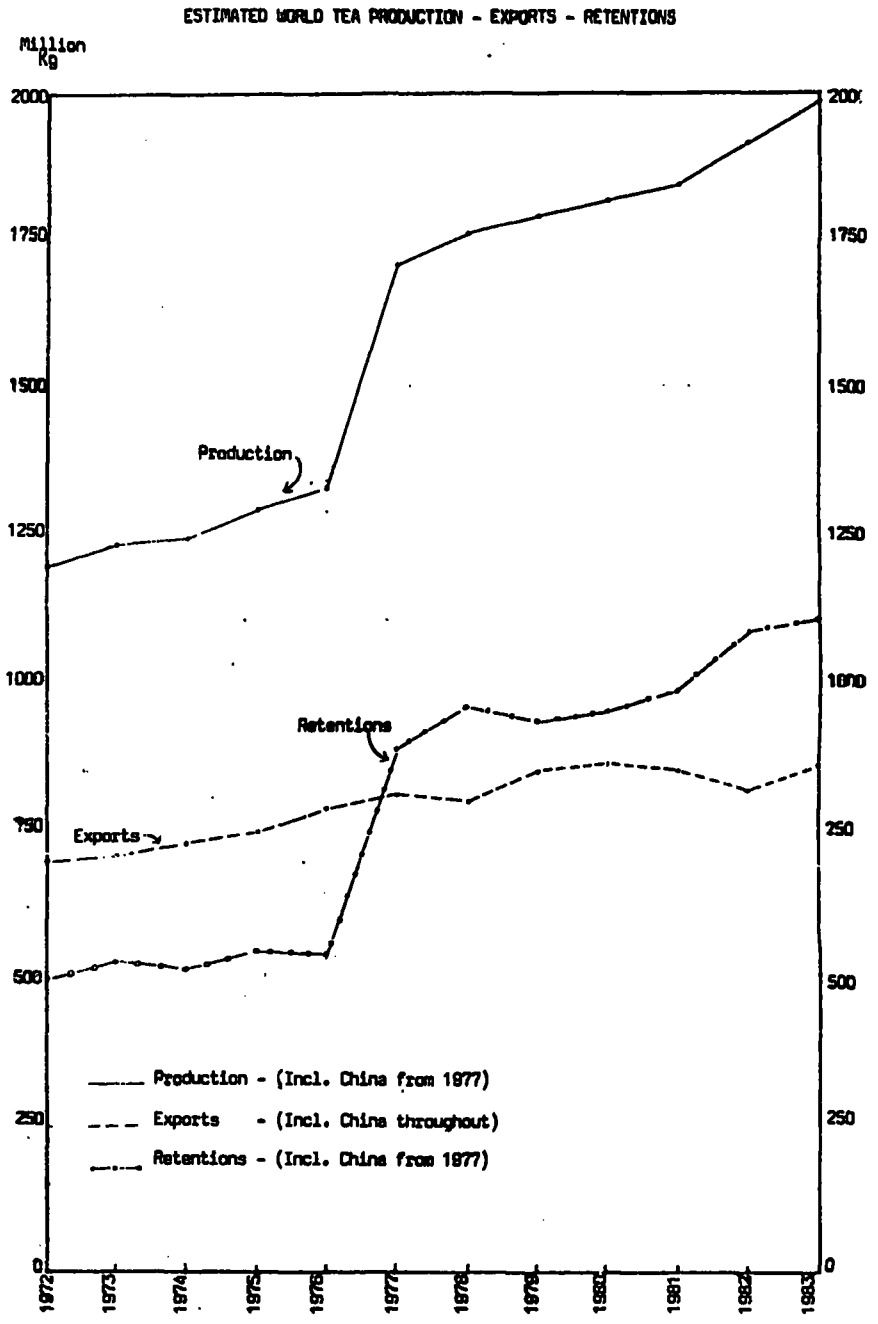
These sketches of tea-growing and manufacture apppeared in the London 'Graphic', January 1888 (1) Planter and transplanter. (2) Roll call at Blackstone, Estate, Ambegamuwa District. (3) Pruning. 4)Picking flush. (5) Rolling. (6) Withering. (7) Fermenting. (8) Drying. (9) Sifting and sorting. (10) Bulking. (11) Packing.

PROBLEMS RELATING TO PRICING AND MARKETING OF TEA

Tea being a primary commodity marketed under conditions of international competition faces a number of problems in regard to maintaining favourable prices and a stable market. The studies on pricing and marketing of tea show that adverse price movements and unsatisfactory expansion in production have both influenced the prospects for tea in the international market. The world tea prices are determined by the supply and demand factors in that a change in either factor is likely to have significant implications for the price level and the level of profitability.

The supply of tea depends on the output which in turn depends on several factors including weather. Unless there is a prolonged drought constraining the supply of green leaf for manufacture, the production of tea can continue without a serious drop. Unlike certain other agricultural commodities the harvesting of tea cannot be postponed, as the green leaf must be harvested before the leaf gets mature, and the green leaf harvested must be processed before changes occur in the moisture condition of the leaf. Thus, when there is a good crop the production of tea tends to increase and the processed teas cannot be stored in bulk for long periods as the quality of tea can change if stored for long periods. Hence, whatever the quantity munufactured it must be released to the market if serious losses are to be avoided.

Over 80 percent of Sri Lanka's tea exports are in the form of bulk tea which is bought by those firms engaged in blending and packeting of black tea. These firms also control the world tea market. These multinational firms are regarded as the price makers and the tea producers like Sri Lanka are the price takers. Around 75 percent of the black tea produced in the world is consumed by the developed countries and the consumption patterns in these countries are influenced by several beverages including soft drinks and liquor in addition to tropical beverages like tea and coffee. Studies show that the consumer expenditure on these beverages accounts only for a fraction of the total household expenditure and therefore the propensity to spend more on beverages like tea when income increases is negligible. In other words, the income elasticity of demand for tea could be near zero.



The data on consumption of tea in UK, which used to be a major buyer of Sri Lankan bulk tea, shows that the per capita consumption of tea had decreased from 4.5 kg in 1958 to 3.2 kg by 1979. This is also refelcted in the fact that the UK and Republic of Ireland had reduced their tea imports from more than half of the tea produced in the less developed countries in 1952 to about 25 percent by 1979. The trend that is disturbing producers most (see diagram 1) is that while the share of tea imports in major

Table 15
Percent Share of World Exports from Major Producing Countries

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
India	30.0	26.5	28.2	29.2	30.0	28.2	21.9	23.4	26.0	28.2	23.1	24.1
Bangladesh	1.9	2.9	2.9	3.2	3.9	3.2	3.8	3.7	3.6	3.4	4.2	3.5
Sri Lanka	27.1	28.9	25.3	28.3	25.2	22.8	22.0	21.4	21.4	21.4	22.0	18.2
Indonesia	5.5	5.0	6.9	6.1	6.0	6.3	7.0	7.1	7.9	8.3	7.7	7.9
China	6.9	7.1	8.7	8.2	7.7	10.0	10.8	12.5	10.8	12.9	14.4	12.5
Japan	0.3	0.3	0.2	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.2
Taiwan	3.0	3.0	2.4	2.7	2.7	2.5	2.5	2.3	2.1	1.8	1.2	1.3
Turkey	2.1	2.6	1.6	0.0	0.0	0.5	0.3	0.7	0.6	0.4	0.0	0.1
Viet Nam	0.3	0.3	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.1	1.2	1.2
Other Asia	0.2	0.2	0.4	0.3	0.3	0.4	0.2	0.2	0.2	0.4	0.2	0.3
Asia	77.3	76.8	77.0	78.7	77.2	75.3	71.9	73.3	75.6	76.1	72.9	71.2
Kenya	6.8	7.2	6.8	7.0	7.5	8.6	10.6	11.0	8.7	8.8	9.7	11.6
Malawi	2.8	3.1	3.2	3.2	3.7	3.7	3.8	3.6	3.6	3.7	4.5	4.2
Mozembique		2.5	2.4	1.6	1.6	1.9	2.1	2.1	2.1	2.1	2.2	1.6
Tanzania	1.3	1.3	1.3	1.4	1.5	1.5	1.9	1.8	1.5	1.6	1.7	1.6
Uganda	3.0	2.7	2.3	2.3	1.5	1.8	1.1	0.2	0.1	0.1	0.1	0.1
Zimbabwe	0.4	0.5	0.6	0.6	0.5	0.9	0.9	0.9	0.7	0.7	0.9	0.9
Other Africa	2.0	1.7	1.6	1.5	1.6	1.7	1.8	1.7	1.7	1.7	1.7	1.9
Africa	18.8	19.1	18.2	17.6	18.0	19.7	22.2	21.3	18.4	18.8	21.0	21.9
South Africa	3.4	3.5	4.2	3.0	4.0	4.1	5.0	4.5	5.0	4.2	5.3	6.1
Others	0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9	0.9	0.9	0.8	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: *P. Wickremasekera, 'Transnational Corporations and the Tea Export Industry of Sri Lanka'- 1982*

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Table 16
Quantity and Share of World Tea Production by Principal Producing Countries (Kgm)

Country	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1. North India	352.6 (29)	368.0 (300	389.7 931)	380.5 (29)	400.5 (30)	427.7 (25)	433.3 (24)	404.3 (23)	438.3 (24)	437.3 (24)	437.1 (23)	471.0 (24)
2. China	-	-	-	-	-	252.0 (15)	268.0 (15)	277.0 (15)	303.8 (17)	342.5 (19)	397.0 (21)	400.0 (20)
3. Sri Lanka	213.5 (18)	211.3 (17)	204.0 (16)	213.7 (16)	196.6 (15)	208.6 (12)	198.9 (11)	206.4 (12)	191.4 (11)	210.1 (11)	187.8 (10)	179.3 (9)
4. South India	103.3 (9)	103.8 (8)	99.7 (8)	106.6 (8)	111.2 (8)	128.4 (8)	130.4 (7)	139.4 (8)	131.1 (7)	122.6 (7)	123.5 (6)	114.0 (6)
5. Kenya	53.3 (4)	56.6 (5)	53.4 (4)	56.7 (4)	61.9 (5)	86.3 (5)	93.4 (5)	99.3 (5)	89.9 (5)	90.9 (5)	96.0 (5)	119.7 (6)
6. Bangladesh	23.8 (2)	27.6 (2)	32.2 (3)	29.0 (2)	33.3 (2)	38.0 (2)	37.9 (2)	35.9 (2)	40.0 (2)	41.3 (2)	40.9 (2)	43.8 (2)
7. Indonesia	49.8 (4)	54.6 (4)	51.7 (4)	56.8 (4)	61.1 (5)	62.8 (4)	71.7 (4)	71.8 (4)	78.2 (4)	84.4 (5)	73.6 (4)	93.7 (5)
8. Tanzania	12.7 (1)	12.7 (1)	12.9 (1)	13.7 (1)	14.0 (1)	16.7 (1)	17.3 (1)	17.9 (1)	17.1 (1)	15.9 (1)	16.2 (1)	15.6 (1)
9. Other Countries	394.0 (33)	408.0 (33)	410.6 (33)	445.2 (34)	462.2 (34)	492.1 (29)	516.9 (29)	537.0 (30)	528.9 (29)	503.1 (27)	542.9 (28)	542.5 (27)
Grand Total	1203.0 (100)	1242.9 (100)	1254.2 (100)	1302.2 (100)	1340.8 (100)	1711.5 (100)	1766.9 (100)	1787.9 (100)	1817.9 (100)	1846.7 (100)	1913.9 (100)	1979.6 (100)

Source: *I.T.C. Bulletin of Tea Statistics 1984* *(annual percentage)*

tea consuming countries has been declining over the last three decades, the world supply of tea has increased significantly. For instance, in the East African countries (mainly from Kenya), over the period 1964 - 66 to 1978-80 the tea exports have increased tenfold, resulting in an increase of East African's share of tea exports from 6.5 percent in the mid 1960s to14.5 percent in the late 1970s. Table 15 persents data on the export share of major tea producing countries during 1972 - 1983. It can be seen from the Table that Sri Lanka's export share of tea has declined from 27 percent in 1972 to 18 percent in 1983; while the export share of India has declined from 30 percent in 1972 to 24 percent in 1983. Meanwhile the export share of Kenys and China had increased from 6.7 percent and 6.9 percent respectively in 1972 to 11.6 percent and 1 14.4 respectively by 1983.

According to the market forecasts for tea, the world tea exports are expected to grow further in the years ahead from 0.8 million metric tons in 1978 to 1.06 and 1.2 million metric tons in 1988 and 1990 respectively. If world demand for tea does not increase and is unable to absorb all tea on the market, the excess supply of tea could have disastrous effects on world tea prices.

Very recently the Daily News (Nov. 1) emphasised in a editorial how disconcerting the situation was that prospects were not bright for any international agreement for tea, stating "one well-known reason advanced for this pessimism is the dispute between traditional growers and newcomers. The former, it has been pointed out, want export quotas to relate to the present division of the market, while the latter are demanding that account should be taken of future output. That summary of the situation might seem demoralising to producers as a whole".

Equally disconcerting, from Sri Lanka's point of view, is that the traditional producers are also coming on strongly on to the international markets. India has once again decided to get back fully in to the international markets as Newsweek (Oct. 28) reports, while also boosting Indian teas. The October 1985 issue of "South", (the Third World magazine, published in London) carries a full page colour advertisement of China Tea-a clear sign that one of the world's largest producers has now decided to make its entry on the international market. (Both these items are reported on the back page of this issue).

However, one consolation to the tea producing countries is that while there has been a decline in demand in the traditional tea markets like the UK, there has been a gradual increase in tea consumption levels in the centrally planned economies like the USSR and Eastern European countries and in the Middle East countries. Where Sri Lanka is concerned that ability to diversify her tea exports depended largely on the demand for tea in Pakistan and the Middle East countries. The data given in Table 16 on Sri Lanka's tea exports by countries of destination shows that these new markets have assumed greater importance against the traditional tea buyers in the past decade. The share of Sri Lanka's tea exports to Pakistan and the Middle East countries which accounted for 5.5 per cent in late 1950s had increased to 68.7 percent by 1983. UK's tea imports from Sri Lanka which stood at 20,877 metric tons in 1978 had dropped to 9,376 metric tons by 1983 showing a 55 percent fall in the quantity of tea exported from Sri Lanka to UK, when compared with the export volume of 1978.

The average Colombo auction prices of major categories of tea exports for the period 1972-82 are presented in Table 18, which shows that prices in rupee terms had increased over the last decade. The table also shows that the low grown teas have fetched higher prices compared to high grown grown and medium teas. The high grown teas enjoyed a better demand in traditional markets like the UK and fetched premium prices over other categories of tea at the London tea auctions. However, since the mid 1970s this trend had changed in favour of low grown teas due to the fact that in the non-traditional markets like Pakistan and the Middle East countires the demand is biased towards comparatively hard teas produced in the low grown tea areas of Sri Lanka.

The Table shows that since 1977 the rupee prices of tea have increased significantly which is attributed to the devaluation of the rupee against the US Dollar and the Pound Sterling. The removal of Exchange Control and the FEEC Scheme also contributed to attach a higher rupee value to exported items. Thus, one expected that a higher income would accure to the producers in rupee terms. However, since the Government introduced effective fiscal measures followed by the devaluation, the producers of tea have not been able to benefit much from this sudden rupee gain.

The price trends also show fluctuations depending on the world supply and demand conditions. Table 18 also shows that during 1975-77, and during 1983-84 tea prices have increased considerably due to random events that have caused an increase in the damand for tea. However, these price increases appear to have been short lived ones as prices have come down more steeply than when they went up, as evident from the prices fetched by Sri Lanka teas in the first nine months of 1985. Table 19, giving monthly average prices realized by different categories of tea at the Colombo auctions during 1984 and the first nine months of 1985, reveals the extent to which how short lived were the favourable prices, that gave a temporary boost to the local tea industry.

It has been argued that changes in both export demand and supply, and the frequency and the magnitude of such changes, are factors contributing to the instability of commodity prices, (Athukorale). The more inelastic the demand and supply curves, and the more frequent their periodic shifts, the higher the degree of price instability (Macbean, 1966: 25 cited by Athukorale, Ibid). In case of tea exports frequent changes in the supply and demand conditions, coupled with inelastic demand and supply curves may be observed. Hence, the price instability index for tea has been relatively high.

Table 17
Sri Lanka's Tea Exports by Volume
(Per Variety in mn. Kgs)

Variety	1975	1980	1981	1982	1983	1984
Bulk Tea	195.4	153.1	150.6	146.6	115.2	156.9
	*(100.0)	(78.1)	(77.1)	(75.0)	(58.9)	(80.3)
Packeted Tea	17.0	31.0	32.0	32.9	41.7	45.7
	(100.0)	(182.9)	(188.2)	(193.5)	(245.3)	(268.8)
Tea Bags	0.02	0.2	0.6	1.1	1.0	1.0
	(100.0)	(1500.0)	(3000.0)	(5500.0)	(5000.0)	(6000.0)
Instant Tea	0.3	0.2	0.1	0.2	0.2	0.3
	(100.0)	(66.7)	(33.3)	(66.7)	(66.7)	(100.0)
Green Tea	-	-	-	0.2	0.2	0.3
Total	212.5	184.7	183.4	181.0	158.1	204.4
	(100.0)	(86.9)	(86.3)	(85.2)	(74.4)	(96.2)

*Figures in brackets indicate changes according to an index of volume exported with 1975=100

Source: *Sri Lanka Customs Returns*

Table 18
Average Colombo Auction (Gross) prices of Major Categories of Tea
1972 - 84 (Rs. per Kg.)

Year	High grown	Medium grown	Low grown	All areas
1972	4.81	4.10	4.39	4.41
1973	4.96	3.97	4.03	4.41
1974	7.21	6.24	6.75	6.72
1975	7.15	6.36	7.26	6.90
1976	9.71	8.75	9.27	9.25
1977	16.71	15.12	16.97	16.31
1978	14.24	10.85	17.36	14.26
1979	13.66	10.50	12.57	12.30
1980	18.43	15.95	20.26	18.33
1981	18.66	16.28	19.03	18.10
1982	24.12	22.08	23.84	23.44
1983	41.71	40.79	46.73	43.27
1984	63.07	58.77	65.36	62.79
1985 (Jan-Sept)	41.13	38.13	44.26	41.49

Source: *Central Bank of Ceylon - Annual Reports*
Sri Lanka Tea Board, Colombo
Forbes & Walker Limited Tea Market Report

The level of profitability in the international trading of a commodity depends on the price it fetches. The real price of a commodity would be a factor that determines the level of profitability of that particular commodity in relation to other internationally traded goods. In case of tea, the studies reveal that real prices have been declining since late 1950s. Hence, tea has been gradually losing its purchasing power relative to other internationally traded goods (Tyler, 1976, 3:4). The data shows that the real price of tea which stood at 58 pence/Kg in 1955 had reached a low of 22 new pence/Kg by 1980. As revealed in the data presented in Table 20, the real price of Sri Lankan tea in the London market which was 45.6 new pence/Kg in 1965 had come down to 21.3 new pence/Kg in 1980.

The declining real value of tea, which is still Sri Lanka's major export item, poses serious problems to the country as it becomes essential to exchange more and more units of tea to purchase one unit of intermediate or capital goods or trade items which are imported. For instance, since the oil price hike in 1975 Sri Lanka had to exchange 16 Kg of tea to purchase one barrel of crude oil in 1980 as against 8.7 Kg of tea that needed to purchase one barrel of crude oil in 1975. In the case of capital goods like tractors the amount of tea that had to be exchanged was much greater as the world prices in the capital goods market had increased more rapidly since mid 1970s.

Although over 65 percent of the production of tea is in the hands of the two main state agencies managging the nationalised plantations, the international marketing of tea is still in the hands of foreign trading interests dominated by a few multinational firms. The subsidiaries of these multinational firms operating locally are in

Table 19

The average monthly gross prices fetched at the Colombo auctions by different categories of Sri Lanka Tea in 1984 and January - September 1985 (Rs.per Kilo)

Month	1984				1985			
	High grown Rs. Cts.	Medium grown Rs. cts.	Low grown Rs. cts.	All Rs. cts.	High grown	Medium grown	Low grown	All
January	72.70	68.71	71.64	71.26	59.83	56.37	65.91	61.04
February	68.10	63.43	67.66	66.73	54.96	50.96	61.10	56.26
March	71.87	63.94	64.64	66.88	45.36	41.52	50.73	46.40
April	72.14	64.59	67.54	68.33	42.62	39.39	47.28	43.51
May	61.26	59.73	67.64	62.90	35.57	35.03	43.15	37.81
June	51.70	50.52	63.30	55.09	29.85	29.02	35.65	31.46
July	50.84	47.97	60.75	53.65	32.64	37.10	34.09	
August	55.19	52.12	60.57	56.79	38.37	32.54	33.43	34.88
Septemebr	69.56	61.08	62.57	64.50	39.09	33.28	30.73	34.03
October	66.66	61.03	65.00	64.66				
November	64.15	60.59	69.58	65.13				
December	63.82	58.95	66.32	63.42				
Annual average	63.07	58.77	65.36	62.79	41.13	38.13	44.26	41.49

Source: *Sri Lanka Tea Board*
Forbes & Walker Limited - Tea Market Report

Table 20

Average Tea Prices in the London Market
(New Pence/Kg)

Year	All teas sold at London Auctions		Sri Lanka tea sold at London Auctions	
	Money Price	Real Price	Money Price	Real Price
1972	42.2	32.9	45.5	35.5
1973	43.4	28.2	45.6	29.6
1974	59.8	26.7	60.3	26.8
1975	62.4	24.9	63.1	18.7
1976	84.1	32.8	88.1	34.3
1977	156.3	56.0	157.4	56.4
1978	113.7	37.3	144.2	37.5
1979	102.1	28.2	103.9	28.1
1980	96.1	22.3	91.7	21.3
1981	99.3	-	94.5	-
1982	110.5	-	107.5	-
1983	149.5	-	153.4	-
1984	-	-	247.4	-
1985 *	-	-	161.2	-

Source: *P. Wickremasekera, 'Transnational Corporations and the Tea Export Industry of Sri Lanka' - 1982*

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a position to influence the Colombo market price of tea in their capacity as principal buyers of tea in bulk. Since the blending and packeting of tea abroad are handled by the multinational firms like Brooke Bond and Liptons, the tea producers have no control over the international prices of tea. Even the export of bulk tea from Sri Lanka is handled by several companies among which multinationals engaged in the world tea trade have a share of about 35 percent. The JEDB, CONSOLEXPO and the Colombo Commercial Co.Ltd., which are government agencies had a share of about 20 percent of the tea exports in 1980.

Since the profits earned by these multinational subsidiaries from the export trade are transferred to their parent companies through various intra-firm transaction mechanisms, one cannot judge how far the host country is benefitted from the operations of multinational firms. According to a study on the role of transnational corporations in the tea export industry of Sri Lanka, the

Table 21 REVENUE OF THE GOVERNMENT FROM TEA (Rs. Million)

	1977	1978	1979	1980	1981	1982	1983	1984	1985
Export Duty	282.2	2,781.0	2,495.2	1,920.3	1,878.5	1,443.9	1,289.6	1,767.3	1,260.0
Percentage Share	(4.2)	(23.8)	(19.6)	(13.7)	(11.6)	(8.1)	(5.1)	(4.7)	(3.3)
Ad-valorem Sales Tax	575.0	510.4	223.4	101.7	86.4	149.7	932.3	323.6	3,440.0
Percentage Share	(8.6)	(4.4)	(1.8)	(.7)	(.5)	(.8)	(3.7)	(.9)	(9.0)
Total Revenue to the Government	6,686.0	11,687.9	12,730.1	14,068.4	16,227.8	17,808.6	25,209.9	37,916.8	38,041.3

Source: *Central Bank of Ceylon*
General Treasury

influence of the MNC's on the tea export trade in quite significant, yet one finds it difficult to estiamte with accuracy the retained value to the host country (defined broadly as the difference between gross export revenue and outflow payments) in respect of these firms(Wickremasekera, 1982).

The influence of the multinational firms on the tea export trade is more effective at the point of advance processing and marketing abroad. The value added on black tea exported in bulk increases as the tea passes different stages of blending, packeting and marketing. Since this part of the production and distribution process is firmly controlled by a few multinationals, the producing countries do not benefit from the advance processing of tea.

Studies have shown that the difference between the C.I.F. unit price and the retail unit price of tea could extend from 20 percent to over 400 percent in advanced market economies. It has been observed that only 47 percent of the market value has accrued to the producing country, although the final retained value could be even lower due to the import content and the outflow payments of the operations of multinational firms. It has also been reveled that blenders' margins of 24 percent of the market value is equal to that received by the producer (Wickremasekera, ibid).

Table 22
TEA EXPORTS 1938 - 1984
Central Bank Trade Indices * (1978=100)

Period	Export Volume		Export Prices		All Imports Price Index	** Terms of Trade
	Tea	All Exports	Tea	All Exports		
1938	56	60	5	4	3	153
1948	70	72	13	12	7	187
1950	71	79	17	17	8	208
1955	85	91	22	19	9	203
1960	97	92	18	17	9	185
1961	97	92	18	16	11	142
1970	108	107	16	17	16	106
1971	108	104	17	17	17	98
1972	98	102	18	17	18	94
1973	107	103	18	20	24	82
1974	91	89	23	31	42	72
1975	110	107	27	29	49	58
1976	103	102	31	34	44	78
1977	95	94	57	55	54	102
1978	100	100	100	100	100	100
1979	97	101	92	109	152	72
1980	97	99	99	126	217	58
1981	97	102	104	129	282	46
1982	96	112	103	119	309	38
1983	86	109	152	165	375	44
1984	109	127	226	207	415	50

Source: *Central Bank of Ceylon*

* *Indices from 1978 are based on the experience of 1978. The figures prior to 1978 have been spliced to the new index (1978=100)*

** $\frac{\text{Export price index}}{\text{Import price index}} \times 100$

ISSUES RELATING TO THE FUTURE OF SRI LANKA'S TEA INDUSTRY

The main issues pertaining to the future of Sri Lanka's tea industry can be examined in relation to several aspects. These are:

1. Productivity
2. Technology
3. Employment
4. Management and Institutional Development
5. Marketing and Product Diversification
6. Estate- Village Integration

PRODUCTIVITY

Since the nationalization of plantations no serious effort has been made to gear the plantation sector to increase its productivity in relation to the main resources such as capital, land and labour being utilized in the industry. Many of the problems discussed in recent studies and solutions suggested for strengthening the industry have revolved round the issues connected with productivity (See Box). Immediately after nationalization, the Government was confronted with the problem of running the plantations without disrupting the production activities and the export of the main plantation products. However, as noted earlier, the tea industry had suffered from low productivity associated with a low degree of profitability resulting from the general inefficiency of the management of plantations, due mainly to the different management structures introduced subsequent to land reforms. A noteworthy change of this situation had taken place after 1980 with the introduction of a more decentralised system of management that is compatible with the demands for increasing productivity and efficiency of the state owned plantations.

The tea crop sector has been able to obtain part of its requiremetns of much needed capital under the TRAD (Tea Rehabilitation & Diversifi-

CONSTRAINTS TO DEVELOPMENT OF SRI LANKA'S TEA INDUSTRY

Supply Constraints

1. Prodcution of tea in Sri Lanka has been stagnant for the last 20 years or so. This is largely attributed to the rundown condition of estates resulting from past neglect associated with the land reforms.
2. The tea plant is susceptible to climatic conditions and too little or too much rain effects the tea plant drastically, with consequent effects on production.
3. The cumulative effect of reduced fertilizer application in the past is one of the causes for the drop in production.
4. Management failure in the past two decades also contributed to the low level of production.
5. The processing of tea is done by about 720 factories, most of which were constructed prior to World War II. The machinery is obsolete and inefficient with consequent adverse effects on the quality of manufacture.
6. Low producer margins and financial profitability of the industry. As a consequence of excessive taxation of the tea industry, for over a decade, there has been a chronic shortage of investable surpluses both for regular up-keep and maintenance and for medium and long-term development.
7. The government has instituted various subsidies, amounting to eight in all, and part of the tea taxes are returned to the industry through these subsidies as well as through the subsidies on fertilizer. These subsidies were meant to reduce costs for the grower and the exporter. However, the subsidies are too low; and their rationale appears to be questionable given the structure of the industry.
8. High costs of new machinery and spares and the undue delays in obtaining such items from local manufactures.
9. High B.T.T. payable on tea bagging machinery resulting from the high value of machinery.
10. High import duty of 66 per cent on spares for bagging machinery.
11. Shortage of liquid capital experienced by the S.P.C and J.E.D.B.
12. Non-availability of quality, quick liquoring type of teas, such as C.T.C. in adequate quantities.
13. Lack of qualified staff.
14. Lack of incentives at factory level for improving manufacture.
15. Distance between factory and holding.
16. Increase in the quantity of coarse leaf.
17. High cost and irregularity in the supply of electricity and firewood.
18. Inadequacy and high cost of short-term credit.
19. Lack of information on modern packaging.
20. Non-availability of locally produced sophisticated packing materials at reasonable prices.
21. Comparatively high cost of packaging in Sri Lanka.
22. High working capital requirements for import of packing materials and the import duty on imported materials.

cation) Project funded by the World Bank. The TRAD Project was effective for five years from 1981-85 and it was intended to rehabilitate and diversify some of the low productive tea plantations coming under JEDB and SLSPC. (See Box). The investment funds allocated under the TRAD Project for the development of these plantations amounts to Rs. 493 million of which about Rs 307 mn was estimated to be in foreign exchange. The Project has also introduced the concept. Project ,Planning and Implementation to the tea crop sector and is geared to increase productivity through field development activities, factory modernisation, infra-structure development, welfare development and training of personnel in the tea plantation sector. The Government has also negotiated for further World Bank funds to be invested in the development of the plantation sector which has resulted in the introduction of a medium term investment plan for the period 1985-89. This Medium Term Investment Programme (MTIP) currently known as the Fourth Tree Crop Project was formulated with the objective of increasing the productivity of tea, rubber and coconut sectors by introducing sectoral development plans and improving the performance of the SLSPC and the JEDB.

The MTIP maybe regarded as a Project with a broader scope, having long term implications for the development of the plantation Sector of Sri Lanka. The estimated total cost of this five year project is Rs. 5, 114 million (US$ 203.2 million equivalent). Of this amount, about 29 percent (US$ 58 million) would be in foreign exchange. It is estimated that the JEDB and SLSPC will receive a total of Rs. 2,394 million and Rs. 2,714.6 million respectively for the purpose of implementing the plan in all the estates coming under the two organizations. The main components of the MTIP includes Field Development (planting and re-planting programmes, infilling, diversification, soil conservation , etc.), provision of Field and Nursery Equipment, provision of vehicles to strengthen estate level transport facilities, factory rehabilitation and modernisation, renovating minihydro units on tea estates, developing estates housing facilities, improving child care and medical facilities on estates, and developing institutional capability through training of personnel and technical assistance which would facilitate reorganizing the management of central and regional boards. The MTIP will also provide funds for the development of smallholders sector through a separate Medium Investment Proggramme for small holdings.

In the case of the tea industry, the productivity improvements depend to a great extent on development activities such as new planting, re-planting, and infilling, coupled with the necessary inputs. It is intended that under the MTIP, about 717 hectares(ha) of tea will be planted in lands previously under rubber. This would take place mainly in the low grown tea areas. The old standing tea will be replaced with VP Tea in about 3116 ha mainly in high and low grown areas. The Project also intends to give high priority to infilling which would involve about 25 million tea bushes which is equivalent to planting about 10,000 ha. This would be done for the purpose of controlling weed growth, arresting soil erosion, reducing field management costs in addition to increasing yields. The Project also intends to diversify some of the non-economic tea lands with minor export crops such as Pepper, Cardamom, Cloves, and Coffee. In addition, planting of fuel wood will also be encouraged, as fuel consumption at present adds to increased costs. Under the diversification of tea lands, it is expected that about 7500 ha old stand teas can be diversified, of which about 60 percent would be into fuel wood. The Project also expects to promote soil conservation methods on all tea estates as a means of increasing output.

23. Licensing requirements for certain types of packing materials.

24. Lack of good quality plywood chests for bulk packing of tea.

25. Opposition from local blenders and packers to the import of consumer type packs from producer countries.

26. The monopolymulti-national firms in marketing tea bags in markets such as Western Europe, the USA, Australia and in West Asia.

27. Supply of tea bags to the Middle East markets by Indian exporters at cut rate prices.

Demand Constraints

1. The increasing supply by other producing countries of teas similar in quality to Ceylon tea but at lower prices, has resulted in a decline in demand for Sri Lanka tea.

2. Inadequate shipping services and non-availability of suitable direct sailings to certain destinations.

3. The high freight rates from Sri Lanka, specially to Western markets, have affected exports of tea bags as exporters are unable to quote competitive prices.

4. Lack of publicity for Sri Lanka teas due to inadequate allocation of funds for market promotion has placed local exporters at a disadvantage.

5. Lack of institutional support to exporters in identifying importers who require consumer type packs, and for formulation of joint ventures for marketing, has constrained the development of packeted tea exports and tea bag exports.

Since the implementation of MTIP involves a high degree of coordination between the estates and the boards at regional central levels, the introduction of a modern system of coordination, control and monitoring of progress at each level becomes vital.

TECHNOLOGY

Technology plays a vital role in increasing the productivity as well as profitability in the tea crop sector. However, it may be observed that the tea crop sector has remained more or less static without any significant technological development over the last several decades. There have been hardly any revolutionary changes in the technology of tea production or intended to improve the productivity and the quality of processed products. Although studies indicate that possibilities of mechanisation of tea production are not limited, no serious effort has been made so far for mechanising tea production. The presence of a large resident labour force may not hvae encouraged a mechanished form of production that would have resulted in the displacement of labour. However it may be argued that the present levels of labour productivity which is in the region of 20 Kg of green leaf per plucker per day would have been increased at least two-fold if there was a certain degree of mechanisation. It has also been observed that mechanised form of plucking would not give the same quality to the present fine plucked teas that had dominated the traditional markets in the past. However, since a greater share of Sri Lanka's tea exports is presently exported to non-traditional markets such as the Middle East countries, the question of maintaining traditional quality standards for some teas may not arise. If one were to predict the future labour supply situation, taking into a account the repatriation of South Indian immigrant labour, there appear to be possibilities of a shortage of pluckers, particularly in respect of the high grown tea areas. Hence, exploring the possibility of mechanising tea production is of current importance.

EMPLOYMENT

Where employment is concerned, the principal issue would be how to create productive employment opportunities in the context of the current levels of labour supply and demand and other factors such as a regulation compelling the management to provide six days of work per week to each registered worker. As revealed by studies on employment in the Tea Crop Sector, the possibilities of creating productive employment depends to a great extent on the ability of tea plantations to increase the yield levels because of the positive correlation between the yields and labour absorption. Thus, plantations will have to ensure higher productivity levels if the present labour force is to be absorbed productively. This would involve proper implementation of field development activities envisaged in the MTIP. At present there appears to be a considerable degree of disguised unemployment among the male labour force in tea plantations. Since the male workers are not utilized in plucking, which is the main activity that absorbs labour regularly, the likelihood of male workers being redundant is greater in those estates where field development programmes are not undertaken. Hence, to comply with the Government regulations in respect of providing employment to registered workers, the management is compelled to give some sort of work (e.g. cleaning, sweeping, road work etc.,) to the male labour force.

Another problem that management should take serious note of is the imbalance in labour supply and demand which prevails in some plantation regions. It is necessary to take effective measures to utilize the excess labour reported in some estates by either transferring them to those estates where labour shortages are reported or engaging the excess labour in special projects within the estates. These projects could yield direct economic benefits to the plantations and the community and could take the form of tree planting projects, livestock development, inland fisheries etc. The studies on employment also show that repatriation of Tamil workers of Indian origin is likely to have serious implications on tea plantations in high elevation areas where indigenous village labour cannot be easily mobilised.. It would, therefore, be important to make a serious assessment of the labour supply and demand situation for the overall tea sector in a framework of manpower planning which can identify the specific problems in regard to manpower requirements in the future. It might also be important to develop welfare facilities, housing and other amenties in the plantations in order to attract indigenous labour into plantations. A striking anamolous feature is the phenomenon of child labour on estates, which is a legacy of the colonial days of the plantations. These children have become a means for channelling income from employment to plantation worker families. However, the practice of employing children should not be encouraged by the State,although the number of child workers in state owned plantations may be only a fraction of the estate labour force. Unless, there is a serious shortage of labour one would expect the employment of child labour to be discouraged.

Also, the potentail to increase productive labour absorption in the Tea Small Holdings Sector must be utilized by providing the necessary inputs to this Sector in order that productivity levels would increase. It is expected that a Medium Term Investment Programme for this Sector would be implemented under the suppervision of the Ministry of Plantation Industries. Since the majority of the smallholdings are located in mid and low elevation areas where enemployment ratios are likely to be high, taking effective measures to increase the labour absorption capacity of tea smallholdings to ameliorate the unemployment levels among youth in these areas is of current importance.

MANAGEMENT AND INSTITUTIONAL DEVELOPMENT

The improvement of managerial skills of personnel engaged in the management of plantations at national regional and estate levels assumes greater importance in the present context. Also, taking steps for institutional development of managing agencies, namely the JEDB. SLSPC, TSHDA, etc. is of vital importance as these organizations are expected to handle new development projects that will be implemented under the MTIP. As noted earlier, management structures in the plantation sector did not undergo any any serious change after nationalization; hence , the continuity of traditional managerial practices. Although the traditional management practices have so far worked in the Plantation Sector, it is not certain whether management practices are capable of coping with the complex projects now being introduced into the plantation sector. Thus, the training of plantation managers in modern management concepts and practices and introducing institutional development compents are of vital importance to achieve the objectives set out for the plantation industry. In this respect, the fledgling National Institute of Plantation Management has an important role to play as the principal training centre for the plantation Sector. A basic requirement in this regard would be a comprehensive training plan, by identifying the specific training needs of the managerial community in the Plantation Sector. Another issue that deserves special attention is that of Labour Management relations in the Plantation Sector. The past experience shows that Labour Management Relations in this Sector have been conflict bound, which often resulted in labour grievances and disputes with serious implications for the plantation industry. While there is a need to build up a more effective channel of communication between the managers and the workers by creating a forum for the exchange of views between managers and trade unionists, it is also necessary to train both managers and unions in matters pertaining to discipline, grievance handling, dispute settlement etc. Such training could help to reduce the incidence of industrial disputes in the Plantation Sector and build up greater cooperation between managers and the workers.

MARKETING AND PRODUCT DIVERSIFICATION

For the last 100 years Sri Lanka has been exporting tea in bulk to traditional Western markets as well as other more recent markets and therefore the processing of tea in Sri Lanka has been confined mainly to making of several grades of black tea adopting an orthodox process of facture. Thus, tea processing technology has also been confined mainly to this traditional orthodox process. As indicated earlier, Sri Lanka faces competition from three or four other produces of bulk tea and therefore has not enjoyed substantial advantages over the other producers except for the fact that the fine quality teas produced in Sri Lanka were appealing to the consumers in the traditional western markets. However, according to studies, the possibilities of product development and diversification within the tea industry are not limited. It has been revealed that Sri Lanka has the potential to shift the production process from its present orthodox methods such as the cut, tear, and curl (CTC) rolling process and the teas processed with the lawrie _ LTP process (de Silva, R.L. 1984). Also it has been found that Sri Lanka could develop special standard brands combining orthodox tea, CTC or LTP teas produced locally,. This type of special brand could be exported to non-traditional markets at comparatively high prices and these new types could also add more value to locally processed teas. The studies also show that other varieties of tea such as green tea and instant tea, could be produced locally in different forms. At present these new products are manufactured and marketed by developed country firms and also by tea producers like Japan, which is famous for green tea. Sri Lanka could also market products like small tea bags intended for the retail market. At present, blending and packeting of different teas are handled by a few leading multinational firms who also dominate the prices and the marketing of these products. The market studies show that Sri Lanka could look for markets in the Middle East for marketing some of its new products like tea bags containing different varieties of tea. Although it may be difficult to make a break through in the developed market economies, Sri Lanka could find new markets in the less developed world through a vigorous tea promotion campaign.

ESTATE-VILLAGE INTERGRATION

The concept of estate-village intergration assumed some prominence after the second phase of land reforms was implemented in 1975, as the then government gave priority to estate-village intergration programmes although the concept itself was not clearly understood. The type of programme that was introduced to build up integration between the estate and the village resulted in exposing the hirherto closed estate to the outside world which involved allowing the villagers to make use of estate infrastructural facilities such as roads and dispensaries and giving employment on the estate to the people in surrounding villages. However, there were no constructive efforts taken to integrate the estate community comprising mainly Tamil workers of Indian origin with the Sinhalese population living around the plantations. Due to this weakness, the Tamil resident population on the estates became a target of attack during communal disturbances in some of the low country plantation areas. The fact that the Tamil workers of Indian origin differed culturally and linguistically from the majority Sinha-

lese population living around the plantations acted as a constraint against the process of estate-village intergration. However, experience shows that these constraints can be overcome if the estate managers understood the concept of intergration correctly and necessary action was taken to build up harmony and mutual understanding between the two communities. In the low country areas many of the plantations have depended on village labour supply which has enabled these managements to more successfully bring the two communities together in a common working environment. The mutual understanding and relationships built up in this process has resulted in fruitful situations like employment opportunities being granted to the Tamil workers in the village, participation in cultural activities, and safeguarding of the Tamil workers and their property by the Sinhalese community during times of communal disturbances. The plantation managers, trade unionists and the local politicians and village leaders have an important role to play in building up estate-village integration which should not be confined only to occasional shramadana work carried out in the vicinity of plantations. Religious organisations could also gainfully participate in the process of building up estate-village integration. In giving a real meaning to the concept of estate-village integration, the plantations will have to reorient their management structures and practices by accommodating the socio-cultural dimensions that have a bearing on the management of plantations.

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Research and Development in the Tea Industry

A seperate organisation, the Tea Research Institute (TRI), was established in 1925 to research and advise the industry on cultivation and manufacture of tea. In recording its work nearly 20 years ago a TRI scientist Dr.R.L. de Silva records how many pests and diseases of tea were brought under control successfully by the Institute. From a scientific point of view, and, indeed, from an economic view point as well, an important finding was the control of the leaf-eating Tea Tortrix Caterpillar. Tortrix was controlled biologically, by internationally spreading a parasite of the caterpillar called Maerocentrus which kept the Tortrix in check. The control of Tortrix is therefore no cost to the tea estates. This 'silent' method of control is extremely rare for any pest anywhere in the world, and to this day it remains one of the Institue's greatest achievements. One of the most significant achievements of the TRI was perhaps the first occasion on which the TRI saved the industry from extinction. In 1946 when Blister Blight Leaf Disease afflicted every tea plantation in Ceylon the morale of the industry was at its lowest, although its hopes for the future were still very much alive. The TRI produced an answer to the dreaded disease, and the industry continued to prosper in spite of the added responsibility of controlling Blister Blight. The control of the root-attacking fungus, Poria, is yet another vital contribution to the industry from the Institute.

Also, the TRI has advised the industry on various cultural practices such as proper fertiliser application and better techniques of management. This has resulted in the yield per acre of tea doubling in a decade. The policy in increasing production per acre, and thereby reducing the cost of production has also been enhanced through the tremendous Innovation of the vegetative propagation of tea. This process was pioneered in the late thirties and later developed by the Tea Research Institute, and is one of the reasons though not the major one, why, Ceylon became the world's biggest exporter of tea. Whereas the average estate production was around 1,000 lbs made tea., with high-yielding TRI clones, yields of over 6,000 lbs per acre were obtained on commercial estates. These estates are able to produce as much crop from one acre, as average estates produced from eight to ten acres. This brings their cost of production down to very low levels. Even if their tea sale prices drop, their low cost of production leaves profits still within their reach. Those estates which have not availed themselves of new techniques and the Government subsidy for replanting old tea with VP tea, are already finding themselves left behind and suffocated in a fiercely competitive market." For over a century black tea was the only product of product of commercial importance for Sri Lanka. Thereafter experimentation began for diversification of the product into other forms, such as instant carbonated and green teas, and tea wine. For instance experiments were carried out on production of instant tea at the TRI in the 1960's. In this field the CISIR developed a commercial process and Ceytea another tea product developed by the CISIR is a tea drink which is distributed in the form of a bottled product. Its distinctive feature is that it could be chilled without the creaming and sedimentation which occurs in a normally brewed cup of tea. This product was manufactured by a leading commercial firm under licence from CISIR. The CISIR's Agro Industries Section cotinued its research and development on several other new tea products. This work covers the technology of liquid tea extracts suitable for carbonated tea manufacture or for the preparation of tea concentrates; the technology of tea powders suitable for instant tea manufacture of for the preparation of tea essences; the chemistry and technology of scented teas, with special emphasis on Earl Grey blends; the economic viability of extracting caffeine from tea waste; the probable uses of tea polyphenols in industry; and investgations into preparations of tea essences to be used in confectionery and also into the manufacture of instant coffee using simple equipment so that cost of the product would be within the reach of the average person.

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AREAS DEMANDING IMMEDIATE ACTION

The key to the industry's future lies no doubt in the vital issues of stepping up productivity in what are identified as the most positive areas for action, together with a more aggressive approach to the marketing of teas abroad. What hopes are there for the industry if markets shrink? Reference was made earlier to the largest traditional producers, India and China, taking steps to capture a greater share of the international market. A more recent report, in the journal of the African Tea Brokers, in Nairobi, talks of the possibilities of African tea producers dominating world markets, with the continued expansion of the area under tea in African countries. The African producers dismiss any threat from Inida, where they think "consumption will have matched production by between 1995 and 2000".

The argument runs, that *" the U.K. presently imports about 50 million kilograms of CTC tea every year from India - 30% of her total tea imports. If this source of supply dries up, the U.K. will have to turn to Africa for its traditional "cuppa".*

Any threat to the U.K. market from exports of Sri Lanka are summarily dismissed on the grounds that *"The U.K. is seeking new markets because Sri Lanka does not produce the type of tea favoured by British consumers".* There are no fears of other producers either because *"other major producers, such as Indonesia, are poorly placed geographically as suppliers to Europe".*

In the circumstances, the African Tea Brokers conclude *"Africa is the obvious answer and accordingly Britain and the African tea-producing countries are going to become more interdependent if their respective interests in tne tea industry are to be preserved on a healthy and viable footing"*

"In the long term, it could well be that Asian teas will progressively disappear from this trade, and be produced mainly for home consumption. Whatever may be the merits of this case, one thing is certain: Africa will produce more and more tea".

Such perspectives, even though arising within a narrow section of interests at this stage, could turn out to be a reality if the traditional producers like Sri Lanka do not take notice of such threats and trends and take a hard and deep look into its own tea industry's productivity, economic viability and future markets.