

ECONOMIC REVIEW

July/August 2001

TEA SECTOR Performance & Recent Trends

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Diary of Events

July 2001

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The Hongkong & Shanghai Banking Corporation (HSBC) is celebrating 109 years of its existence in Sri Lanka. The bank, which was established in Hongkong in 1865, opened its first branch in Sri Lanka, Queen Street, Colombo, in 1892.

"Ethera Issuru" a Middle East Programme of People's Bank broadcast over the SLBC's Middle East Broadcasting channel on Tuesdays at 22.15 hrs. to 00.45 hrs. captured the heart of thousand of Sri Lankan Middle East Expatriates. The expatriates who earn foreign exchange for our country were encouraged to save through this programme.

06

The two state banks the BOC and PB that control 60% of banking activities in the country have reduced their interest rates by two percentage points. According to banking and business circles this reduction in the bank rate is a clear indication of a recovery in the economy.

07

The Sampath Bank which has posted a record after-tax profit of Rs. 401.7 million for 2000, improving on the previous year's performance by an unprecedented 53% has said that it is unlikely to sustain this rate of growth in the context of the prevailing weak economy which is likely to continue through 2001.

08

The People's Merchant Bank (PMB) has moved into real estate development and housing, joining other commercial banks that are rapidly expanding into hitherto non-commercial bank activities. Decision to venture into real estate development and housing was influenced by the need to offer innovative products and services to all segments of the society said PB Chairman, Mano Tittawella.

August 2001

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Central Bank has informed commercial banks which are authorised dealers, that with effect from 20th August 2001 the circular issued on Jan. 29, precluding the prepayment of import bills has been withdrawn. However it said that banks are free to use their discretion to reject any prepayment of an import bill for prudential reason. The CBSL has monitored the developments in foreign exchange market for 8 months since January and observed that the market conditions are quite stable and market participants are behaving quite prudently.

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The un-audited group profit after tax of the DFCC Bank for the three months ended June 30, 2001 was Rs. 174 million, an increase of 28% when compared with Rs. 146 million recorded for the corresponding period in the previous financial year. This include a post tax undistributed profit of Rs. 68 million (Rs. 61 million in the previous year) derived from its investment in subsidiaries and associates.

Due to internal and external shocks, Sri Lanka's Economic growth this year is forecast to dip to 3% the lowest level in a decade as against the earlier projection of 4.5%. Treasury Secretary PB Jayasundara said yesterday, factors such as drought and lower agricultural production, global recession and impact from the July 24, 2001 attack at Katunayake would push GDP growth to annual 3% on the back of a high 6% growth in 2000.

People's Merchant Bank recently announced its decision to offer operating lease facilities to its customers. The bank would be marketing these facilities to corporates with large vehicle fleets. The services will include providing a spare vehicle in case of a break-down or an accident and a 24 hour service to attend to all requirements in the event of a breakdown or an accident.

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Prof. Balasundarapillai, Vice Chancellor, Jaffna University said the assistance of People's Bank is essential to build the economy of our people. It renders a unique service for the economic rejuvenation of our country. The People's Bank has enlarged its service and loans are granted to fishermen, farmers, small industrialists and co-operative societies. The rural economy is bound to develop and the people will be freed from the tentacles of money concern. He was speaking at the Customer Relationship Day held at Jaffna University.

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People's Merchant Bank has reported a profit of Rs. 5.2 million compared with the previous year Rs. 6.0 million, the bank's annual report said. High interest rate however severely affected profit from the bank's lease and bills discounted activities. The report also said that the loan portfolio has grown by 45% during the year, while the interest earned from leasing increased by 57% when compared with previous year.

The People's Bank's Chairman has stated that a comprehensive corporate plan covering the next five years period was prepared and approved by the Board in the early part of this year. The implementation of the plan has already begun.

People's Bank (PB) Treasury has structured an Interest Rate Swap (IRS) arrangement for Ace Power Generation Matara Ltd., a subsidiary of Aitken Spence Group.

Ace Power Generation Matara is constructing a 20 megawatt power plant which will supply thermal power to the national grid. To fix its interest rate obligation over the period of its loan, Ace Power Generation has entered into an IRS deal with People's Bank.

"Under the new re-structuring process of the People's Bank Treasury we are well prepared to market innovative products aggressively. We have developed the capacity to undertake transactions of this nature in a competitive basis using our expertise and the Corporation from our long standing links with international banks" PB Treasurer said.

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People's Bank paid tribute to its first customers and employees to mark its 40th anniversary in Colombo recently. The Chairman of the Bank presented the awards.

Out of a total of 3,781 cases filed for loan recoveries by banks during two year period (1999 to 2000), recoveries have been completed in only 407 cases, said CB governor Mr A S Jayawardena at a seminar titled "legal issues effecting banking and financial sector stability" held in connection with the 13th annual convention of the Association of Professional Bankers of Sri Lanka.

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Carson Cumberbatch Group has become the largest shareholder of blue chip NDB following the purchase of 7.6% stake. Previously, Secretary to the Treasury was the largest shareholder with a 7.3% stake while Bank of Ceylon and Central Bank hold 6.1% & 4.8% respectively.

Sri Lanka Insurance Corporation (SLIC) upped its strategic holding in DFCC Bank to 11.3% following the purchase of a 4% stake for Rs. 101.5 million. The deal generates Rs. 101.5 million accounting for over 90% of the day's turnover of Rs. 119 million at Colombo bourse SLIC also has a 30% stake in Commercial Bank.

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Commercial bank announced the issue of 50 million cumulative redeemable preference shares of Rs. 10 par value with an annual dividend rate of 13%.

HNB Stock Brokers (Pvt) Ltd. is a hundred percent owned subsidiary of HNB. Formally the company was known as Jardine Fleming HNB Securities (Pvt) Ltd. As a result of Jardine Fleming being acquired by Chase Manhattan and the subsequent merge between JP Morgan & Chase Manhattan Bank of USA a review of its operation were undertaken.

Resulting of same they decided to sell 50% of their stock brokering operations to HNB. However they retained the investment banking operation which they continue to have in Sri Lanka.

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Water: Emerging Issues

(Liberalization II issue will be published shortly)

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Progress of the Tea Industry - Sri Lanka's Experience



A MORE REALISTIC APPROACH TO TEA PRODUCTION

Tea production in Sri Lanka maintained a steady growth rate up to 1970. Thereafter stagnation set in and the next decade witnessed a shortfall on anticipated crops. Many reasons have been attributed to this scenario but it was a combination of factors that caused this decline in tea production. The nationalization of the plantations in Sri Lanka was the root to this problem, which led to a steep decline of its performance. The global tea production in the period 1965 to 1977 improved by 51% while the output of tea in Sri Lanka declined by 9%. In 1978 tea production in the country was running about 5% below 1977 levels, and this trend was only arrested in the early 1980s. The total extent of tea land in Sri Lanka today is around 187,000 hectares. During the

early 1960s the tea land coverage of Sri Lanka was at a peak around 240,000 hectares. According to the latest land survey, the High Grown varieties now cover an extent of 51,500 hectares, having lost 30% of the extent recorded in 1965 at 87,000 hectares. The Mid Grown area has sustained the biggest loss and only attribute 56,000 hectares today, having enjoyed a tea cover of 100,000 hectares in 1968. Expansion of the low grown sector projects a different picture, and is acclaimed today as the only sector that has recorded an uninterrupted growth rate, both in respect of the tea cover and production levels. The tea cover under low grown category in 1960 was only 48,113 hectares. The current figures indicate that this area has expanded to 79,711 hectares. Correspondingly, production has increased from 48 million kilograms in 1960 to 121 million kilograms in 1995. Today the low grown sector contributes

more than 50% of Sri Lanka's total production. The national yield, which stood around 1,045 kilos per hectare in 1993, has progressively increased to almost 1,500 kilos per hectare today. The yields from High Grown, Mid Grown and Low Grown are moving around 1,450 kilos, 900 kilos and 1,800 kilos per hectare respectively.

The public sector vs the private sector

The latest tea land survey conducted by the Sri Lanka Tea Board on the tea smallholder sector provides valuable information regarding the steady expansion of private sector in recent times. On these findings it becomes obvious that the future of the industry to a great extent will depend on the performance of the small tea cultivator that form the core of the private sector.

Table 1
An up-date on the 20th Century Performance

Production	(Metric Tons)	Exports	(M.Tons)
1910	82,410	1910	82,585
1920	83,845	1920	83,810
1930	110,000	1930	110,271
1940	120,247	1940	111,751
1950	143,432	1950	135,215
1960	197,180	1960	185,875
1970	212,209	1970	208,277
1980	191,376	1980	184,498
1990	234,074	1990	215,251
1999	283,760	1999	269,261
2000	305,843	2000	281,351

Table 2 Average yield - time series date
(Units:Kg/He.)

Year	High Grown Qty.	Medium Grown Qty.	Low Grown Qty.	Total Qty.
1990	1,041	624	1,607	1,051
1991	999	622	1,764	1,086
1992	725	443	1,404	806
1993	979	979	979	979
1994	1,491	845	1,481	1,283
1995	1,428	902	1,529	1,313
1996	1,382	845	1,730	1,368
1997	1,603	1,004	1,704	1,465
1998	1,481	921	1,883	1,482
1999	1,555	941	1,865	1,501
2000	1,597	988	2,081	1,618

Sri Lanka's total tea coverage according to the latest findings is 188,867 hectares, of which 56% is under public management, and the balance 44% under the management of the smallholder. After many years of uncertainty, the latest figures have brought into sharp focus the effects of the structural changes that had taken place in the country which in turn

have taken a heavy toll on the performance of this great industry. Since the findings of the aerial mapping system

small cultivators are found in the Ratnapura district in the Sabaragamuwa Province. In the public sector, the Cen-

logical balance and helps to protect the environment in this group 196, 158 small cultivators are responsible for the maintenance of 94% of the total extent of tea under that category.

Table 3 - Exports of Value Added Teas

Year	Packeted Teas	Tea Bags	Instant Tea	Total Value Added Teas	Units: Kilograms	
					Total Exports	Value Added as % of Total
1990	76327429	4781182	361077	81469688	215613642	37.8
1991	69782657	4317610	377391	74477658	211201536	35.3
1992	55033103	4540582	413492	59987177	178214927	33.7
1993	74857450	5137950	733456	80728856	210673850	38.3
1994	64385799	6818608	850828	72055235	225085972	32.0
1995	93876723	7541295	708901	102126919	235750064	43.3
1996	93715377	9246031	736820	103698228	234307587	44.3
1997	94824639	10781190	832030	106437859	257664180	41.3
1998	86745514	11945985	859509	99551008	265304748	37.5
1999	73216143	11249922	991474	85457539	263943377	32.4
2000	74668426	12133346	1218161	88019933	281350682	31.2

that was concluded in 1886, about 9% of the total extent in tea has withered away. The public sector records a loss of 25% whereas the small holder sector has recorded a growth rate of 25%, whereas the smallholder sector has recorded a growth rate of 23%. In smallholder sector, 82,916 hectares are cultivated by 206,652 tea growers, as against 106,047 hectares in the public sector with 404 management units. The status of cultivation of both sectors seems well balanced.

A study of the distribution of smallholdings, in relation to the extent of land cultivated by each smallholder is equally motivating. The largest concentration of smallholdings is found in the Galle (56,547), and Matara (44,051) districts in the Southern Province. About 43% of the smallholders are concentrated in these two districts. About 20% (49,161) of the

tral Province with 205 holdings controls 57% of the total extent of tea in that category, with a high intensification of 42% in the Nuwara Eliya district. The Uva Province with 76 holdings controls 23% of the extent under public management.

At the lower end according to size, there are 172,522 holdings that are less than one acre, and 23,636 holdings between one acre and two acres. The largest concentration of smallholdings operates within this group. At the uppermost end only 169 holdings of over fifty areas have been registered. In

The expansion of the smallholder sector has followed a definite pattern, and had only penetrated the higher elevations of high and medium classification of today, with caution. This was considered the domain of the British pioneer planters, and left for their use. The growth of the smallholder sector has been mostly centered round low elevation areas. Today there are 159,644 units involving the cultivation of 56,644 hectares, and the bulk of it is concentrated in the Southern Province, with the districts of Gale and Matara acting as the foundation for its expansion. The concentration of the public sector in these regions is limited.

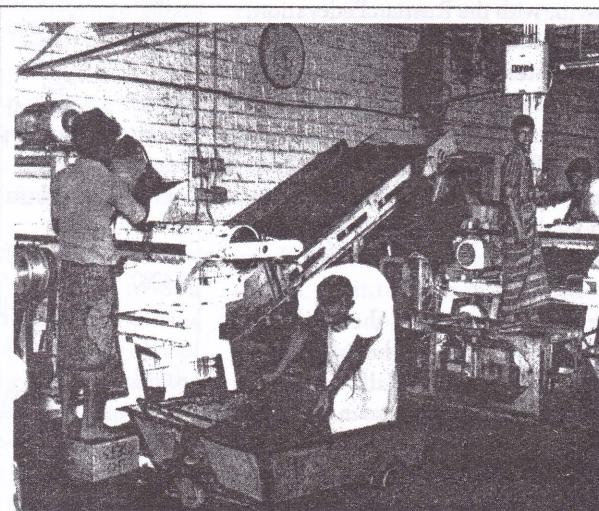


Table 4 - Sri Lanka Share of key Market Regions

Region	Qty. (MT)		Percentage	
	Sri Lanka	World	Sri Lanka	Region
Middle East & North Africa	150,145	235,316	63.80	19
CIS/USSR	43,916	186,000	23.61	15
UK/Europe	29,147	253,671	11.49	20
N & S America	12,272	131,870	9.30	11
Japan & Australia	17,073	94,685	18.03	7
Pak & Afghanistan	3,345	135,059	2.47	11
Others	15,385	217,917	7.06	17
Total	271,283	1,254,518	21.62	100

most cases, particularly among those belonging to the first group, tea is grown as a subsistence crop, and occupies only a portion of the individual holding. This system, in a way helps to bring about an eco-

With a balanced growth in tea production, the tea export sector has performed well to absorb all the excess. Our value added exports are well maintained, but had shown a decline in the recent past. This is an area that needs to be activated as the FOB value bears testimony to the extent of value addition to widen the gap between bulk and value added sales.

The Middle East and the West Asian sector remain as our main buyers. The vast concentration of buying power

in the hands of a few giants is a trend that has developed in the recent past. In the earlier period, U.K. absorbed almost 60% of Sri Lanka's total tea production. This situation was soon corrected, and a more equitable form of tea exports emerged. Up to recent times, about 70% of our teas have been consigned to the first ten of our largest buyers, unlike earlier where there was a far better distribution. The large buyers in the recent past have got larger, and the small buyers smaller. With direct shipments now being made to the CIS countries, there has been a complete amendment to the rank and order of our regular buyers within a short periods of time.

The greatest potential for the sale of tea now centres round the East and Central European countries and during the period 1984 and 1995, their requirements have improved from 103 million kg to 200 million kg, representing a 95% increase. No other sector has shown such potential for growth, with the Russian Federation, and the other CIS countries along with Baltic States consume 80% of the imports to that region. The future for tea in West Europe on the other hand is most disappointing, and their purchases have increased only by 4 million kg during the period under consideration.

The demand for tea in the Colombo market place is strengthening, and is well distributed among all varieties of tea. If the tea industry is to make a real impact and reach the boom year levels of 1984, the average price will have to improve to around Rs 170's levels. With the steady depreciation of the local rupee, the above levels will have to be raised as we go along. We are no doubt heading towards this goal, but it seems to be a slow process.

The Rank and order of our main tea buyers keeps changing

A closer look at Sri Lanka's tea shipments for the past century reveals that the country has failed to maintain a consistent export pattern and it has been subjected to sudden changes

Table 5
Main Importers of Sri Lanka Teas
(Metric Tons) - History of Tea Trade

1910	UK and Ireland	49,184
	USSR	10,312
	Australia	8,465
	USA	3,468
	Canada	3,235
1920	UK and Ireland	54,291
	Australia	7,547
	USA	6,684
	Canada	3,231
	New Zealand	2,781
1930	UK and Ireland	69,800
	Australia	9,608
	USA	7,624
	South Africa	4,360
	New Zealand	3,790
1940	UK and Ireland	73,426
	USA	8,681
	Canada	5,789
	New Zealand	4,877
	South Africa	4,483
1950	UK and Ireland	43,632
	USA	19,409
	Australia	17,689
	Egypt	10,245
	Canada	10,008
1960	UK and Ireland	69,113
	Australia	19,643
	USA	18,534
	Iraq	15,589
	South Africa	11,985
1970	UK and Ireland	70,735
	USA	18,019
	Australia	13,045
	Iraq	12,825
	South Africa	11,740
1980	Iraq	21,805
	UK and Ireland	20,671
	Egypt	16,401
	USA	13,255
	Pakistan	12,834
1990	Egypt	29,620
	Iran	24,757
	Iraq	18,820
	Syria	16,320
	USSR	14,130
1999	CIS	48,176
	UAE	41,511
	Turkey	25,223
	Syria	19,354
	UK	10,603

within short periods of time. The past few decades have been most critical in this regard. Up to about the early 1970s. There was a fairly well set pattern of tea exports with the Western countries dominating the Colombo market place.

During the first half of the 20th century UK was the mainstay responsible for an

annual intake of about 60% to 70% of Sri Lanka's total production. The turning point came about after 1970. In that year, it was UK all the way purchasing their standard requirements of around 70,000 metric tons. With USA, Australia, Iraq and South Africa landing useful support thought at much lower levels. Iraq was the only Middle Eastern country who qualified for a place within the first five biggest importers.

In 1980 the position had changed completely. The tea export graph got flattened and the overpowering strength of the UK buyer at the Colombo auction centre was conspicuous by her absence. The UK had shifted their operations to Kenya, and since then no other single buyer has been able to maintain the top berth as our largest importer for any appreciable length of time.

The development of the Middle East Sector had been unique, and today about 55% to 60% of our teas are consigned to these destinations. Egypt became our largest buyer on seven different occasions, having maintained the leading position for six years during the period 1985 to 1990. Iraq came in as the largest buyer in 1984, but declined to second position the following year. Iran came in quite unexpectedly to occupy the top berth in 1991.

The CIS, which did not qualify for inclusion in the list of major buyers during 1991 and 1992, suddenly became the largest buyer of Ceylon Teas in 1993. Tea buying patterns in Colombo are undergoing radical changes and will continue to be so in the future. In a way, Sri Lanka had been most fortunate to find new openings to channel teas in the event of trade dislocations occurring to our traditional buyers.

Sri Lanka had been most victorious in the past, but we cannot afford to trust the future of tea to chance all the time. We are studying the changes that are taking place at the international tea market place all the time, and are following a marketing strategy that will

guarantee a steady advancement to our tea industry.

Low grown production today, has outstripped the combined total of high and mid grown teas. About 90% of these teas were originally purchased by the Arab world, and over the years, low grown manufacture had been geared to the requirements of these buyers. There has been a tendency in the recent past for procedures to cater to the requirements of the newly emerging markets in the CIS. Vending with these markets was found more remunerative in relation to trading with their conventional Middle East buyers. This attitude of the producers to follow a particular market in this instance has not paid dividends, and the period of prosperity has only been short lived. Others who decided to follow normal form of manufacture continue to obtain reasonable prices.

Petrodollars over the years have transformed the Arab lifestyles, which today is mostly influenced by the West. Their views have been expressed thoroughly at various gatherings. "Your Excellency" said a Sheik; "We have from time immemorial drunk Ceylon Tea as we like the character of Ceylon Tea. Our palates are used to it, it is our staple drink. We demand it. But equally, we have been blessed with oil and we are moving with oil and we are moving with the time. We are imitating the West in our way of life. We want your tea; it is our traditional and popular beverage. But we want the Ceylon character in tea bags, not that we are short of domestics to do our work, thanks to Sri Lanka housemaids – but because the fashion is the tea bag. If you don't give us Ceylon tea in tea bags, you will be compelling us to change our tastes, very unwillingly, and very soon, to some other character in tea bags."

These statements no doubt, are words of sense and understanding and it only means that Sri Lanka teas through a gift of nature are made to fit the Middle East countries. These avenues are still to be taken advantage of, which means that a new approach has to be adopted in marketing tea in these

regions, in keeping with the changing life styles. Most of the Middle East buyers in trying to emulate the West, have acquired social graces, which calls for refinement in marketing skills.

Tea production seems well on track, but the need for the hour is to prove to the world through scientific research that black tea apart from being a pleasing drink, possesses positive health benefits. In marketing terms, this is called value addition. We are happy that large sums of money are diverted towards research, and a generic promotion campaign has already been launched to publicise the health benefits of tea.

LOOKING TO THE FUTURE

Whenever we get into a situation of trouble, we always look to the past for a solution, and above all for strength. The tea industry has once again struck an unfortunate patch. Russia that has sustained the local tea market during the past few years, is at the moment in the core of a financial crisis. The immediate future for Sri Lanka teas in that region appears disheartening. There is the possibility that they may not be in a position to afford the extravagance of purchasing Sri Lanka teas at least for the moment, and be forced to look elsewhere for cheaper blends.

It was only in 1993 that the CIS made a triumphant re-entry to the Colombo tea market and since 1995, this group of countries has continued to maintain the top berth in Sri Lanka's tea export order. Their strength was sufficiently displayed at the market place, which gave the impression that they had come to stay. It is a market capable of absorbing the country's entire production of tea, and the fact that they secured 20% of our total production for last year, gave the impression that this was a market worth going steady with.

It was a re-appearance of what transpired in the year 1970s when the Middle East countries with their newly but rightful acquired petro dollars went on a buying spree. It was only after this event that the low country tea producers found a place in the sun, and soon come into prominence. With the emergence of the

CIS as a potential buyer, most producers thought it worthwhile to chase this market. The CIS became the centre of attraction, and all efforts were made to even change the style of manufacture tempt these buyers. Today, well-made small leaf grades are hard to come by.

Low grown areas at almost sea level enjoy the advantage of their own, which plantations at higher levels do not have. The texture of the leaf itself is different, and plantations at higher elevations trying to imitate low grown forms of manufacture can only come out second best. All attempts must be made to maximize the intrinsic advantages each locality enjoys.

Some analysts hold the view that Sri Lanka's orthodox teas will always be in demand, and its consumption is guaranteed, because of its liquoring character. This view cannot be held out any longer, as consumer preferences are constantly changing, and the country's tea industry at the moment is facing a slump. It is most unfortunate that this setback occurred most unexpectedly, mainly due to outside reasons. The tea industry enjoyed boom conditions for a fair length of time, and the industry did not at any stage expect a turnaround to these conditions so soon. Any industry subjected to intermittent vibrations should look for opportunities in adversity. The time is ripe for the producer to take stock of the predicament, as everyone has taken credit when business was

It has proved beyond any reasonable doubt that tea can reduce the risk of developing chronic degenerative diseases notably heart disease and cancer. There is increasing evidence that diet can influence the risk of these diseases. The consumer is becoming increasingly aware of the association between the diet and heart disease and cancer. At present, preliminary evidence suggests that tea may have many more potential health benefits. Only time will tell and the outcome of the proposed research must necessarily change the tide in favour of tea. ■
Courtesy: Sri Lanka Tea Board

A brief overview of the tree crop sector in Sri Lanka during 1995-1999

Dr. Buddhi Marambe

Head, Dept. of Crop Science, University of Peradeniya

Since independence, the development strategies adopted by the successive governments in Sri Lanka have concerned itself mainly with a policy of import substitution and expansion of the agricultural sector. These policies have geared towards the increase in production of domestic commodities. With all these efforts, agriculture (the crop production sector) has remained as the single most important sector in the economic development of Sri Lanka. Currently, it contributes to about 20% of the gross domestic production (GDP) and provides employment to 2.2 million people (37% of the labour force), which exceeds the contribution of any other major sector. Of the 2.3 million hectares cultivated in Sri Lanka, which is 37% of the total extent, 0,785 million ha (approx 33%) is occupied by the three major perennial/plantation crops

namely tea (25%), rubber (20%) and coconut (55%), which are also the traditional export crops of the country. Among the other tree crops, the fruit crop sector comprised of about 35 species and covers about 100,000 ha distributed in all agro-ecological regions.

Although many measures have been adopted to uplift the non-plantation agriculture of the country, the attention paid to the plantation agriculture seems to be inadequate. As an initiative, two far reaching policy initiatives taken in 1971 and 1972 by the then government namely, (a) establishment of the ministry of Plantation Industries and (b) enactment of Land Reforms Legislation, permitted the broadening of the sector to include tree crops other than tea, coconut and rubber, enlarging and strengthening the smallholder sector, creating new statutory authorities for

The limited attention of central government to improve the plantation agriculture sector could be due to that the sector was organized with strong financial support and mercantile linkages as a result of the adoption of open economic policies since 1978. The privatization of the plantation sector began in 1995 and has contributed significantly to the increase in productivity of the sector clearly indicating that the subsistence level agriculture in Sri Lanka and other southeast Asian countries and the African continent has become unproductive and marginal.

TEA

Of all the plantation crops cultivated in Sri Lanka, tea (*Camelia sinensis*) has recognized as the most important. Some key indicators of tea crop sector is given in Table 1. The area under tea in Sri Lanka in 1994/95 was estimated to be 187,310 ha. About 46% of the total tea area were under vegetatively propagated (VP) tea whilst the balance 54% were planted with seedlings. The tea production was 139 million kg in 1950, which increased to 284 million kg in 1999. The low grown areas has given the highest production during the period 1996-1999 (Table 1). In 1999, the low grown category accounted for 52.5% of the total production while the high grown and mid grown categories amounted to 28.7% and 18.9% respectively.

Table 1. Key indicators of Tea in Sri Lanka.

Item	Unit	1996	1997	1998*	1999**
01. Production	Mn. Kgs	258	277	280	284
1.1 High grown	"	72	84	76	81
1.2 Medium grown	"	48	57	54	54
1.3 Low grown	"	138	136	150	149
02. Extent (C)	'000 Ha.	188	194	195	195
Total Extent	'000 Ha.	177	177	180	187
Extent in bearing	'000 MT	154	160	182	166
03. Fertilizer issues	Ha.	990	926	1234	1358
04. Replanting	Ha.	565	340	400	424
05. New Planting					
06. Prices	Rs./Kg	103.88	119.40	134.4	115.3
6.1 Colombo net	"	139.56	158	184.9	162.4
6.2 Export f.o.b.					
	Rs./Kg	90.75	90.26	100.7	95.4
07. Cost of Production	Mn.Kgs	244	269	272.0	268.0
08. Exports	Rs.Mn.	34,068	42,533	50,280	43,728
09. Export earnings	US\$	424	719	780	621
10. Value added as % of GDP (d)		2.2	2.4	2.8	2.4

* Revised, ** Provisional; a. Based on a tea land Survey (excludes abandoned Tea Lands), b. in growing and processing only.
Source : Central Bank Report.

Table 2. Average tea yield in Sri Lanka.

Year	kg/ha
1995*	1,313
1996	1,380
1997	1,495
1998	1,495
1999	1,514

* Using the data from Tea Land Survey 1994-95.
Source : Sri Lanka Tea Board

Table 3. Key indicators of Rubber in Sri Lanka.

Item	Unit	1996	1997	1998 (a)	1999 (b)
01. Production	Mn. Kgs	113	106	96	97
02. Area					
2.1 Under cultivation	000 hectares	162	163	158	159
2.2 Under tapping	"	122	129	125	128
03. Yield	Kg/ha	927	822	768	755
04. Fertilizer Issues	000 MT	17	12	15	11
05. Replanting	Hectares	3,443	1,172	1,160	643
06. New Planting	Hectares	1,297	793	515	218
07. Prices					
7.1 Exports f.o.b.	Rs/Kg	79.78	75.96	67.72	53.90
7.2 Colombo RSS 1	"	67.85	58.62	49.76	45.33
08. Cost of Production	"	36.70	40.37	42.00	43.50
09. Exports	Mn Kgs	72	62	41	43
1. Domestic consumption	"	40	44	54	54
2. Export earnings	Rs Mn (US\$ Mn.)	5,753	4,640	2,808	2,305
3. Value added as % of GDP		104	79	44	33
		0.9	0.7	0.5	0.4

(a) Revised, (b) Provisional, Based on the Survey in growing and processing only.
Source : Central Bank Annual Report

The CTC (cut, tear, curl) tea contributed to 6% and Orthodox tea contributed to 94% to the total production for the year 1999.

The total production in 1999 was 1.42% higher than that of the 1998, and is the highest on record up to now. This upward trend now doubt reflects the impact on production of better husbandry and management practices adopted in estates since privatization and the efforts of the Tea Research Institute (TRI) and the Tea Small Holder Development Authority (TSHDA) in terms of research and extension. The low rate of increase in production could be attributed to adverse weather, inadequate re-planting and infilling, high taxation, increase age and senility of tea plantations and declining soil fertility due to erosion.

The export earnings of tea during 1996-1999 have indicated an increase from Rs. 34,068 million to Rs 43,728 million, with the 1998 recording the highest of Rs. 50,280 million. The annual variation in export value is greater than the export volume indicating the impact of world

market price for tea. The average price per kg of tea for the year 1999 was Rs. 115.31 indicating and decrease of 14.17% over the price prevailed in the previous year, especially due to an over-supply in the world market. The tea smallholder sector holds a 44% share in tea lands and contributed to more than 58% of the total production in 1999. The average yield of the smallholder sector in 1999 was about 2,200 kg per hectare whereas in estate sector the average yield was about 1,100 kg per ha (Table 2). The total production of the smallholder sector in 1999 was 164 million kg. The overall average tea yield in Sri Lanka has increased from 1,313 to 1,514 kg per ha indicating a 15% increase over the period.

Table 4. Domestic consumption of rubber.

Year	Dry Rubber	%	Latex	%	Total
1995	28,079	75.1	9,300	24.9	37,379
1996	31,634	79.3	8,280	20.7	39,914
1997	34,073	77.5	9,909	22.5	43,982
1998	40,959	76.4	12,657	23.6	53,616
1999	34,999	65.1	18,754	34.9	53,753

Source : Rubber Development Department

RUBBER

The extent under rubber (*Hevea brasiliensis*) have declined from 262,090 ha in 1950 to 159,097 ha in 1999 (Table 3). The reduction in land area cultivated to rubber has been attributed to diversification of rubber to tea, coconut and other crops. The total production of rubber during the year 1999 was about 97,000 metric tons, which was a decline of about 13% less than that of 1996, is largely due to the prolonged depressed prices in the international rubber market, and also increase in domestic consumption (Table 4). The Colombo market price for RSS1 category was Rs. 45.35 per kg in 1999. The decline in prices with high cost of production, which was estimated to be Rs. 43.05 in 1999, has led to abandonment of tapping on certain rubber lands. The export volume

Table 6. Coconut yield in Sri Lanka

Year	Yield (Nuts per Ha.)
1995	6,406
1996	6,120
1997	5,952
1998	5,660
1999	6,392

Table 5. Key indicators of coconut in Sri Lanka.

Item	Unit	1997	1998 (a)	1999 (b)
1. Production				
1.1 Desiccated Coconut	Mn. nuts	2,631	2,552	2,808
1.2 Coconut oil	Mn. nuts	524	361	541
1.3 Copra	Mn. nuts	289	334	309
1.4 Fresh nut exports	Mn. nuts	42	44	62
1.5 Domestic nut consumption	Mn. nuts	18	17	21
		1,744	1,779	1,779
2. Total Extent	'000 Ha	417	439	439
3. Average Export Price (F.O.B.)	Rs. Nut	9.63	8.31	9.95
4. Fertilizer Issues	'000 MT	35	38	42
5. Cost of Production	Rs. nut	2.26	2.40	2.68
6. Replanting/under planting	Ha	1,221	595	698
7. New planting	Ha	931	656	660
8. Export earnings	Rs. Mn US\$ Mn	6,939 118	6,110 94	9,119 129
8.1 Kernel products	Rs. Mn US\$ Mn	4,864 82	3,632 56	5,973 84
8.2 Other products	Rs. Mn US\$	2,075 35	2,478 38	3,146 45
9. Value added as % of GDP (d)		2.3	2.6	2.9

a) Revised; (b) Provisional; (c) Estimated (Breakdown does not add up to total production) Due to adjustment for charges in Copra Stocks; (d) In producing and processing only
Source : Central Bank Report

Table 7. Domestic consumption of Coconuts

Year	Domestic Consumption (million nuts)	Av. Nuts per person
1995	2,009	111
1996	2,042	111
1997	2,015	109
1998	2,102	109
1999	2,035	107

declined from 72 million kg in 1996 to 43 million kg 1999 indicating a 40% decline. The value added to the GDP has reduced from 0.9% in 1996 to a mere 0.4% in 1999.

The average yield, too, has declined from 927 kg per ha in 1996 to 755 kg per ha (17% decline). The low fertilizer use has been identified as a major reason for low yields of rubber, which has been declining over the last decade. The fertilizer use has been declined from 17,000 metric tons in

Table 8. Staff and labour employed in the plantations owned by the JEDB.

Year	Staff	%	Labour*	%	Total
1995	N.A.	-	11,692	-	N.A.
1996	725	6.6	10,290	93.4	11,015
1997	614	5.7	10,086	94.3	10,700
1998	614	6.8	8,441	93.2	9,055
1999	469	5.3	8,358	94.7	8,827

* Labour include regular and casual employees.

cates that a revival in the industry will depend on growth of domestic rubber based industries and the export thereby of value added products instead of latex, smoked sheet and crepe as being presently done.

COCONUT

Being the third important plantation crop in Sri Lanka, coconut (*Cocos nucifera*) is grown over 4,42,000 hectares in 1999 (Table 5). The variation in annual output of coconut is correlated mainly to the fluctuations in weather condition. Coconut is a smallholder crop. Adverse impact on production is also due to disposal of coconut land for housing, and industrial purposes are offset by new plantings under the assistance schemes of Coconut Cultivation Board (CCB). Accordingly production also has remained fairly stable, averaging about 2.5 million nuts per year. Of this about 1.8 million are consumed in households while the remainder is exported in the form of oil, copra, desiccated coconuts and by-products.

The coconut production for the year 1999 was 2,802 million nuts, which was an increase of 13% compared to the production in the previous year. This is the highest output since 1986. The Domestic consumption was 2,035 million nuts and it was 72% of the total production. An average yield was around 6,392 nuts per hectare in 1999 (Table 6). The contribution to the GDP has increased from 2.3 in 1997 to 2.9 in 1999.

The export earnings have varied mainly due to changes in the international market prices for coconut products. Total export earnings have increased by 31%

from 1997 to 1999 and coconut oil accounts for the bulk of the export earnings. Low productivity of plantations due to sub-optimal management, increasing household consumption (Table 7) due to population increase, and flooding the markets with cheaper substitute oils have impeded the growth of the coconut sector. Coconut by-products such as fibre and shell are currently being exploited mainly at small-scale industrial level using relatively primitive technologies.

About 40% of the coconut growers practice intercropping in the coconut triangle although there are ample opportunities for expansion. The intercropping appears feasible when replanting up to about 8 years and after 30 years of growth of the palms as adequate light penetrates through the canopy to support the intercrop.

EMPLOYMENT IN THE MAIN PLANTATION SECTOR

The employment record of the plantations owned by the Janatha Estate Development Board (JEDB), Sri Lanka State Plantation Corporation (SLSPC) and the plantation companies are given in Tables 8, 9 and 10, respectively. The information indicates that there is a declining trend in employment in the sector while majority been employed in the plantation companies.

OTHER TREE CROPS

Although Sri Lanka enjoyed the surplus of foreign exchange from the major plantation crops such as tea, rubber and coconut until 1950s, this trend began to change after 1950s and

Table 9. Staff and labour employed in the plantations owned by the SLSPC.

Year	Staff	%	Labour*	%	Total
1995	629	5.6	10,605	94.4	11,234
1996	695	6.2	10,605	93.8	11,300
1997	581	5.9	9,210	94.1	9,791
1998	579	6.3	8,551	93.7	9,130
1999	491	5.4	8,665	94.6	9,156

* Labour include regular and casual employees.

Table 10. Staff and labour employed in the plantations owned by the Management companies.

Year	Staff	%	Labour*	%	Total
1995	13,749	4.7	280,783	95.3	294,532
1996	13,825	4.7	280,516	95.3	294,341
1997	13,920	4.9	269,454	95.1	283,374
1998+	13,616	4.9	266,956	95.1	280,572
1999	13,584	4.8	268,273	95.2	281,857

+ Revised; * Labour include regular and casual employees.

1996 to 11,000 metric tons in 1999 indicating a 35% reduction (Table 1).

The domestic consumption of rubber in Sri Lanka has increased by 43% during 1995-1999 period (Table 4). Smallholders account for about 63% of the total rubber grown area and produce over 72% of the total output. The government removed the cess on rubber export in May 1998 to arrest further deterioration of prices. The declining trends in rubber cultivation and production indi-

Table 11. Production of Kernels By Sri Lanka Cashew Corporation

Year	Cultivated Extent (ha)	Cashew Kernels (Mt)
1995	-	8.0
1996	2822	1.5
1997	3441	25.5
1998	3684	15.71
1999	5255	26.0

Table 12. Quantity and value of cashew exports

Year	Quantity Mt	Value (Rs. Mn)
1995	309.0	97.1
1996+	255.1	80.0
1997	625.0	191.8
1998**	426.0	154.5
1999***	153.3	72.7

** The shortfall is due to the low raw nut production in the country. *** Low exports due to low raw nut caused by bad weather conditions in lowering period and increase in domestic consumption + upto September 1996 (Source E D B)

trade deficit continued to increase with Sri Lanka at the losing side. Thus, the then governments re-directed attention into other sources of foreign exchange earnings which comprised of several species of tree crops.

CASHEW

As a measure to improve the cashew production in Sri Lanka, the Cashew Corporation was in early 1970s. However, despite the existence of the corporation for about 30 years, which was set up to promote production and

Table 14. Export Earnings from Fruit crops

Year	Export Value (Rs. million)
1995	198
1996	293
1997	213
1998	136
1999	437

Source: Central Bank of Sri Lanka



creased domestic consumption of cashew (Table 12).

FRUIT CROPS

It has been reported that about 95% of the energy requirements of Sri Lankans are provided by plant-based foods. Among these, fruits hold an important position, which are considered as a vital component in the diet of Sri Lankans as a source of vitamins,

minerals, energy and proteins. The important fruits crops (tree crops) cultivated in Sri Lanka are mango, plantains, papaw and sweet orange. The sector is still underdeveloped with an inadequate research base. The results of a survey conducted in 1994/95 indicated that the extent of mango cultivation was 26,350 ha, plantains 50,450 ha and papaw 3,080 ha. Table 14 indicates the export earnings of fruit crops from 1995-1999, which indicates their potential as export crops.

Table 15. Cultivated extent, production and export value of other tree crops

Crop	Year	Cultivated Extent (000 ha)	Production (mt)	Export value (Rs Million)
Cocoa	1995	8.5	1542	2
	1996	8.8	1628	2
	1997	8.9	1709	10
	1998	6.4	1904	8
	1999	6.5	1147	4
Coffee	1995	10.9	2159	127
	1996	11	2158	54
	1997	11	2165	90
	1998	15.6	2343	139
	1999	15.7	3249	78
Nutmeg & Mace	1995	-	988	53
	1996	-	1198	75
	1997	-	1108	88
	1998	-	1257	124
	1999	-	1221	312
Areca nut	1995	-	-	111
	1996	-	-	134
	1997	-	-	145
	1998	-	-	277
	1999	-	-	393

Source: Central Bank Annual Reports

processing of cashew, the area under cashew is still relatively small (Table 11). The quantity of kernels produced has significantly increased from 8 mt in 1995 to 26 mt in 1999 (225% increase).

The quantity of cashew exported has shown a wide fluctuation over the years mainly due to low raw nut production in the country as a result of bad weather and in-

COCOA, COFFEE, NUTMEG, ARECANUTS

The production of cocoa in Sri Lanka has declined during the period 1995-1999 and the export earnings have fluctuated mainly due to volume exported and the change, quality of the product and the international market prices (Table 15). Coffee production showed an increasing trend, both in terms of cultivated extent and the total production with export earnings being fluctuated over the period. Nutmeg has shown a significant increase in production and export earnings from 1995-1990. The export earnings from nutmeg has increased from Rs 53 million in 1995 to Rs 420 million in 1999 indicating its significance as an foreign exchange earner. Arecanut has also shown promise as an export crop, which has shown a steady increase in export earnings from 1995-1999 ■

The Tea Trade 2000 in Retrospect

The last year of the old millenium or the first year of the new millenium depending on how you look at it can be considered satisfactory for the Sri Lankan Tea Industry in every sense of the word.

Summarised below are some of the key features of the year gone by:

PRODUCTION

- Another all time record,
- Milestone of 300million kgs surpassed for the first time,
- Low Grown once again the main contributor accounting for over 50% of total production.

previous all time record achieved in 1999.

CTC production which accounted for 5.7% of the total tea crop has fallen from 18.3 million kgs in 1999 to 17.5 million kgs in 2000, a decline of 4.3%. The decline has essentially occurred in the High & Mid grown whilst the Low Grown CTC production has increased by 13.5%.

Gimantha Jayasinghe

Forbes & Walkers (Pvt.) Ltd.

On a global scene most producer countries recorded increases in production

except for Kenya which reflected a drop of 11.9 million kgs compared to 1999. It

would also be significant to note that the year 1999 too was a bad year for Kenya in terms of production. Based on the figures available at the time of compiling this report we anticipate the global tea production in the year 2000 to record an increase of around 50 million kgs compared with the corresponding figure in 1999.

PRICES

- Bouyant prices in Colombo following better demand from the CIS and Middle

- East in particular,
- Rupee auction averages in 2000 highest barring mediums,
- Dollar increases more moderate due to the sharply depreciating Rupee vis-a-vis the US Dollar.

The percentage increases in Rupee averages could be misleading without relating to the corresponding values in US Dollar terms as will be noted from the above table. Based on an average conversion rate, we give below the elevation and total averages in rupee per kg and the approximate US Dollar equivalent over the past two years.

Globally, prices in a common denominator of US Dollars have been a mixed bag at the different auction centers. Kenya probably due to the lower production and Sri Lanka following the stronger demand from the CIS and Middle East in particular have reflected a firmer trend compared with 1999. India especially South India has reflected much lower values not only compared with 1999 but in comparison with the general international market as well. Fortunately, as we closed the year the Indian prices were moving up and this augurs well for the major producer countries in general. Bangladesh and Indonesia have had its ups and downs but in the final analysis have been reasonably stable. Unfortunately there are significant unknown factors such as China, Vietnam and Argentina to name a few which does not permit us to review the entire global scene accurately.

EXPORTS

- All time high export volume of 287.9 million kgs assured,
- Rs. 53 billion earnings the highest ever,
- CIS and UAE significantly the top two.

**Sri Lanka Tea Production (in m/kgs)
Quantity and Percentage Elevation-wise (over the past five years)**

Year	High	Qty. %	Med	Qty. %	Low	Qty. %	Total (m/kg)	+/- on Pr. Yr	%+/- on Pr. Yr
2000	83.48	27.30	56.21	18.40	166.10	54.30	305.84	+22.08	+7.78%
1999	81.30	28.65	53.53	19.07	148.93	52.48	283.76	+3.70	+1.32%
1998	77.39	27.63	52.36	18.70	150.31	53.67	280.06	+3.20	+1.16%
1997	83.77	30.26	57.08	20.62	136.00	49.12	276.86	+18.43	+7.13%
1996	72.23	27.95	48.05	18.59	138.15	53.46	258.43	+12.47	+5.07%

Tea production which reached a record total of 242.2 million kgs in 1994 improved each subsequent year and recorded 305.8 million kgs in the year 2000. Primarily the improvement could be attributed to conducive weather patterns, better agricultural practices and a more effective private sector management. The private smallholdings have once again lived up to expectations and contributed in a significant manner to boost the national production figures. Principally, it is of significance that Sri Lanka achieved the seventh consecutive record crop during the calendar year 2000 and the milestone of surpassing 300 million kgs for the first time. Continued growth in the Low Grown sector accounted for 54.3% of the country's production. Year on year Low Grown grew 11.56% followed by Medium Grown 5% and High Grown by 2.65%. The total tea production has gained 7.8% on the

**Annual Colombo Tea auction averages -
Elevation-wise and Total (over the past five years.)**

Year	High Rs/kg	Medium Rs/kg	Low Rs/kg	Total Rs/kg	Rs.% +/- Pr.Yr	Approx. US\$ Equivalent	US\$% +/- Pr.Yr
2000	128.46	119.08	144.79	135.53	+17.53	1.76	+7.3
1999	106.17	100.68	125.74	115.31	-14.17	1.64	-21.1
1998	127.60	121.45	141.88	134.35	+12.52	2.08	+3.5
1997	109.43	107.94	129.47	119.40	+14.92	2.01	+8.1
1996	93.38	89.70	114.35	103.90	+43.89	1.86	+31.9

ELEVATION	2000 RS/KG	1999 RS/KG	% INCREASE US\$	2000 APPROX. US\$	1999 APPROX. US\$	% INCREASE
HIGH	128.46	106.17	21.0%	1/66	1/51	10.0%
MEDIUM	119.08	100.68	18.3%	1/54	1/43	7.7%
LOW	144.79	125.74	15.1%	1/88	1/79	5.0%
TOTAL	135.53	115.31	17.5%	1/76	1/64	7.3%

Annual Sri Lanka Tea Exports in M/Kgs. Excluding and Including Imported Tea (over the past five years)					
	1996	1997	1998	1999	2000
Exp.excl.imp.tea	234.32	257.68	265.32	262.96	281.40
Exp.incl.imp.tea	244.12	268.54	271.89	268.20	287.90

Sri Lanka continues to be the prime supplier of black tea to the world market. The export volume which declined to 268.2 million kgs in 1999 from the preceding years figure of 271.89 million kgs has once again bounced back and established an all time high of 287.9 million kgs in the year 2000. Kenya ranked No. 2 in the year 2000 with a total export volume of 207.2 million kgs which is substantially behind the "Ceylon Tea" quantity of 281.4 million kgs exported from Sri Lanka (ie. Excluding the content of imported tea/re-exported)

The ultimate bottom line of export volume and value completes the encouraging scenario of production and prices. Exports for the year 2000 including imported tea re-exported amounts to 287.9 million kgs as against 269 million kgs during the same period in 1999 (effective increase 7%). Following the higher volume of exports and the increased average unit FOB values per kg, total export earnings during the year 2000 have risen to an all time high of Rs. 53 billion (approx. US\$ 687 million) from Rs. 44 billion (approx. US\$ 626) in 1999. Therefore, whilst the rupee earnings show a significant increase of around 20%, the Dollar increase is only 9.7%. Rupee FOB values for different categories of exports have shown significant increases except in the case of instant teas where a negative variance is reflected compared with the corresponding figures of 1999.

Average FOB value of total tea exports for the period January/December 2000 have increased to Rs. 184.17 per kg from Rs. 163.83 per kg during the same period 1999 (effective increase 12%). However, it would be relevant to note that the average FOB value in 1998 of Rs. 185.66 per kg is still the highest ever and the deficit in 2000 would be even

more dramatic in dollar terms. Furthermore, although the Rupee earnings of 53 billion in the year 2000 is the highest ever against the previous best of Rs. 50.5 billion recorded in 1998 the approx. equivalent in US Dollar values amounts to US Dollar 687 million in 2000 significantly lower than US Dollar 781 million in 1998.

MARKETS

In analysing the destination breakdown of exports for the year 2000 the CIS continues leading the way as the largest importer of Sri Lanka teas with a total of 56.6 million kgs as against 47.7 million kg during the same period in 1999

(effective increase 18.6%). It is heartening to note that most of the major importers have increased their intake from Sri Lanka during this period. Tea exports to Jordan recorded a growth of 38.7% followed by U.A.E. 33.5%, Japan 30.5%, Iran 28.7%, Iraq 26.3% and Saudi Arabia 15%. The U.A.E, which is developing as an international hub for tea trading, remains the second largest export outlet with 40.1 million kgs although marginally lower than the corresponding figure in 1999. As constantly highlighted a feature causing much concern in analysing Sri Lanka export figures, is the declining component in value added exports.

WORLD TEA AUCTION REVIEW

What has been happening at the various tea auction centers around the world in the past six months? Tea international's correspondents sent these reports -

London - U.K.

The tea market continued to rise at the beginning of 1998, as forecast in the January edition of *Tea International*, and by the end of February, prices were considerably dearer. However, from March, prices have declined. Nevertheless, the strength of the first two months is shown in Figure 2:

Most markets have eased through April and continue to do so, particularly Mombasa, which has declined sharply, due to the Kenya crop, which has greatly increased and outstripping demand for the moment. The crop for the first three months was 86,400 million kg., compared to 69,947 million kg, in 1996 and 44,048 million kg. in 1997. So the 1998 figure is ahead by 16 million kg. of 1996, and virtually double the very low crop of 1997.

Crops from the major producing countries show an increase of 79 million kg for the first three months of 1998 compared to the previous year.

As is generally the case when prices collapse as they have done, most buyers remain extremely selective, or completely withdrawn, until such time as the decline is their own stocks force their re-emergence. However, it is again noticeable that

bright, well made teas are still being sought after, albeit at lower levels. The greater weight of plain, poorly made sorts are at present virtually unsaleable, and will remain so until crop levels fall back considerably.

The picture remains bleak until the onset of cooler drier weather in East Africa results in a decline of crop, which should also coincide with a corresponding improvement in quality. There seems little likelihood of prices moving in producers' favour until June of July.

Calcutta, India

1997-1998 will be remembered as one of the best years for Indian teas in the recent past. The last six months from November to April were particularly good. Performance records were broken on all fronts and the image of a slowly aging industry beset with problems was replaced by that of a healthy, vibrant one. Production registered a record 810.6 million kg during the calendar year, improving upon last year's performance by more than 30 million kg. Exports, which had turned in indifferent results for the last five years, surged ahead to cross the 200 million kg mark, totalling 203 million kg for the period January to December 1997.

Perhaps the most significant gain of all made by the industry was on the price front. Price levels crested all previous bests to reach new heights.

Figure 1
Monthly Average Prices of Tea per kg. Sold at Auctions November 1997 - March 1998

	Nov '97	Dec '97	Jan '98	Feb '98	Mar '98
Calcutta(Indian Rs)	85.55	95.75	98.28	92.34	81.95
Colombo (SL Rs)	134.27	137.95	146.17	148.91	145.67
Jakarta (US cents)	207.41	214.20	13.10	220.13	204.04
Limbe (US cents)	166.73	165.23	157.46	162.52	145.14
London (slg/pence)	145.50	149.48	189.74	176.42	138.12
Mombasa (US cents)	238.25	239.75	255.00	280.75	224.00

The all India seasonal auction average stood at Rs. 75.26 kg. -an increase of over 50% compared to the previous year. As a result, the yawning gap between actual tea prices and real value for the last two decades narrowed substantially - giving producers considerable respite from the specter of diminishing returns.

Auctions spearheaded the rise in prices. The Calcutta auctions registered a progressive rise in prices during the months of November and December. Price levels were substantially improved over the previous year, often reaching levels higher than those for top quality second flush production, which has traditionally commanded the best prices in any given year.

The factors behind this welcome but unusual phenomenon were all too clear. Despite a bumper all Indian crop, CTC production in North India was marginally lower than the previous year, due in part to a shift towards more Orthodox production. In addition, vastly improved and sustained operations by the CIS throughout the year coupled with growing domestic consumption led to a shortage. As a result, CTC availability in North India was less than comfortable as the year progressed.

International CTC availability was also put under severe pressure following crop failures in both Kenya and Indonesia. Buyers both at auction centers and destinations were faced with rapidly depleting stocks, which resulted in considerable pressure on prices from November onwards.

Price levels for CTCs peaked towards the end of December until the beginning of January, and markets remained buoyant through the month of January. The price concertina between plain and medium quality teas prevailed, although premiums were still available for good quality teas. Price levels for all categories, however, were substantially higher than last year.

Favourable weather conditions had led to the production of a large weight of end season CTC teas. The quality of these was much inferior to 'rains' production. The bulk of these teas we on offer during the months of February and

March. As a result, despite strong demand, CTC prices showed a progressive slackening in the closing months of the seasonal year. Overall price levels, however, remained well above those of last year.

The Orthodox market, which had witnessed a substantial rise in prices earlier in the year, continued to remain buoyant through the months of November and December. The larger

weight of Orthodox produced by both North Indian and Sri Lanka during the year, however, had led to a well stocked supply pipeline. Consequently, in spite of heavy offake by both CIS and Middle East markets. Orthodox price levels from the month of December onwards did not register as sharp for rise as with CIC price, in fact the sharp rise in CIC prices from November onwards eroded the premia on Orthodox. Overall Orthodox prices, however, continued to remain much higher than the previous year.

All in all, 1997-98 proved an extremely fruitful year for the Indian tea industry. A year when words such as 'healthy' 'strong', and 'buoyant' we often used to describe not only the market scenarios but also the state of the industry at large.

Colombo - Sri Lanka

Market conditions in Colombo have been quite buoyant, with prices continuing the strong trend that prevailed throughout 1997. That year turned out to be a record one in many aspects. Auction prices were the highest ever. The total National Average at Rs. 119.40 was 15% higher than the Rs. 103.47 recorded in 1996. The Rupee price gains were inflated to some extent by depreciation of the currency. But by around mid year, the market strengthened significantly with price gains in dollar terms becoming increasingly evident. Sri Lanka was lucky to avoid the worst of the El Nino weather changes which severely curtailed production in many producer countries. The global shortfall caused international traders to pay up for Ceylon. Producers in Sri Lanka obliged by achieving a record harvest of 276.8 million kg. which was a substantial 7% gain on the 1996 record harvest of 258.4 million kg. In keeping with this trend, Sri Lanka exported a highest ever quantity of 268 million kg. easily regaining its position as the prime supplier of tea to the world.

Figure 2
Average Prices per kg. Sold at Auctions

	Jan-March '97	Jan-Dec. '97	Jan-March '98
Calcutta(Indian Rs)	58.05	82.98	93.90
Colombo (SL Rs)	102.79	119.36	146.68
Jakarta (US cents)	136.01	164.64	213.71
Mombasa (US cents)	164.00	200.00	248.00
Limbe (US cents)	100.30	124.79	156.13
London (slg/pence)	122.80	135.06	175.43

1998 saw prices continue in the same upward trend. The onset of the Western quality season further strengthened the market, and prices moved up sharply in both Rupee and Dollar terms. By April prices began to ease, but were still higher than the previous year's Dollar values. Rupee prices, however, will be comparatively higher reflecting depreciation of the currency.

A feature of the period under review is the strong buyer preference for Orthodox Low Country teas. These leafy teas have received strong support from their traditional Middle East buyers, together with additional interest from the CIS and Turkey. In fact, these two markets emerged as the prime destinations for Sri Lanka's tea exports. Low Grown prices have consistently been higher than corresponding Small Leaf liquoring teas. However, the first quarter of 1998 saw prices move up for the seasonal quality teas which attracted strong support. Flavory Nuwara Eliyas, westerns, and some bright teas from the Eastern slopes of the island attracted special interest not seen in the past three quality seasons.

Jakarta - Indonesia

The last quarter of 1997 witnessed increasingly higher tea prices at the Jakarta auctions, contrary to the expectations of most participants mid year. Quality continued much as it had been - 1997 was not one of the vintage years as far as quality was concerned. The E1 Nino drought in Eastern Africa and Indonesia itself were the major adverse factors vis-a-vis supply, and on the demand side, the leading factor was the added activity of the Iraqi buyers, contributing toward stronger competition in the weekly auctions.

The beginning of 1998 saw a continuation of these market conditions, but finally the more crop-conducive weather in the new year saw larger availabilities in Africa and Indonesia. Kenyan crops in the first quarter of 1998 were about double those for the same period in 1997, and by April, sentiment was reversing direction. Indonesian prices began falling in March, CTC types at first and the Orthodox types too. Given crop levels from January to April 1998, the weather conditions prevailing at the beginning of May, and the apparent general decline in short term demand, it would seem that prices may wallow at their current levels for a while.

One factor that is growing in importance in the Indonesian tea market is the problem of physically shipping exports out of Indonesia. The Asian contagion began to take serious effect in Indonesia at the very beginning of 1998. The Indonesian Rupiah had fallen to a quarter of its value compared to six months previously, and the domestic economy began to contract. A major trade imbalance soon came about, and one serious consequence for the Indonesian tea industry has been a growing lack of containers and also growing competition in the region for space on mother vessels, especially to Europe and North America. This trade imbalance is almost universal in the whole eastern Asia region, thus further exacerbating the problem.

Success and Trends in Tea Research

Dr. W.W.D. Modder

Director, Tea Research Institute of Sri Lanka

The Tea Research Institute: *Raison d'Être*

The Tea Research Institute of Sri Lanka (TRI) has a distinguished record of achievement going back over the last 75 years, to its establishment in 1925. The efforts of its scientists in devising and adapting agricultural and technological practices, and the co-operation of growers and plantation management in carrying out TRI recommendations for preparing the land, nurturing the bushes and working the factories, have given a consistent increase in made tea production and exports over the years, and ensured at the same time that the name of the country would continue to be synonymous with tea of the best quality.

The TRI's *raison d'être* is to raise the productivity of tea smallholdings, estates and factories, to contain costs of production, to enhance the quality of the product and add more value to it, and in general to ensure the production potential of the Sri Lankan tea industry for posterity. To these ends, the TRI seeks to recommend appropriate technologies and forward-looking human and resource management practices. Apart from primary research aimed at tea-related issues, it also pursues the strategy of culling findings from up-stream, generic research (as in new fields such as biotechnology, and computer and information technology) and adapting them to tea.

Planning for Research and Development

As set out in the TRI's first-ever Corporate Plan, 1999-2003, research planning is done along trans-disciplinary lines, and in concordance with growers' needs and not only with scientists' perceptions. It takes into account both the goals of the growers (profitability) and national goals

(growth, equity and the rational use of resources).

Arising from tea industry problems and our own experience of industry needs, we have formulated research objectives and applied research projects to fulfill these objectives, and made estimations of project success and their time-frames, benefits, costs and levels of priority. Concurrent with the applied projects are basic and supporting projects, designed to supply information and give an understanding of the principles governing the applied research.

Developmental Strategies for the Tea Industry

We believe that higher productivity and profitability of the Sri Lankan tea industry can only come from a combination of strategies for development. These are:

- Conservation of soil and restoration of soil fertility;
- Replanting and infilling with vegetatively propagated (VP) and seedling tea in order to get higher yields, resistance to drought, pests and diseases, and better made-tea quality;
- More profitable land use*;
- Making employment in the tea industry an attractive career option;
- Computerisation and automation of factories; and
- Foreseeing the changing requirements of the global marketplace.

The last mentioned, market research, is outside the TRI's mandate, but the others are being addressed by redoubled efforts in our biological and technological research, as well as in new sociological research. Aspects of these research efforts are outlined here.

Fertility and Organic Amendments

Heavy rainfall and sloping terrain in the Sri Lankan tea lands cause soil erosion, and some years ago the TRI introduced

Sloping Agricultural Land Technology (SALT) for reducing it. Tea is planted, not down slopes, but along contour ridges between rows of nitrogen-fixing trees, whose loppings are used as mulch or incorporated into the soil for building up its organic matter content. Artificial fertiliser, imported at a high cost in foreign exchange, does not necessarily improve soil fertility since it quickly leaches out of soil which is characterised by or has sunk to low levels of organic content. Rather, fertiliser applied irrationally and in excess pollutes land, waterways and reservoirs and may cause eutrophication.

For attaining soil fertility, the TRI recommends, in addition to judicious mixtures of artificial fertilisers, bio-rational organic amendments and composting and, prior to replanting or infilling land with tea, the growing of rehabilitation grasses for a minimum period of one and a half to two years. Recycling of prunings, and addition of tea wastes and earthworm casts are also being recommended to maintain and improve soil fertility.

Organic interventions are more beneficial than artificial fertiliser because, besides being cheaper, they encourage the growth of organisms that make soil fertile, and foster natural biological control agents which serve to reduce the incidence of pests and diseases. As with artificial fertilisers, other expensive agro-chemicals, namely synthetic herbicides and pesticides, lead to a reduction in fertility by interfering with soil biological activity, in addition to polluting land and water, disrupting the natural food web, and constituting a health hazard to humans and animals.

Organic Tea

Sri Lanka pioneered the production of organically-grown tea (or 'bio-tea') in the 1980s. The TRI was involved and continues to be involved in these efforts. Progress has been modest and bio-tea comprises barely 0.1 per cent of national tea production. Owing to poorer yields, the production costs of bio-tea are relatively high, al-

though importers in health-conscious western countries pay premium prices for it.

The TRI is dedicating tea plots at its St Coombs estate for more research into organic production. With the growing global, consumer demand for organically produced food, the market for bio-tea is enlarging, and the TRI is in the process of researching and formulating recommendations for Sri Lankan producers who may be interested in bio-tea production. In any case, expanded research into organics is necessary for economic and environmental reasons.

The Need to Balance Seedling and VP Teas

Seedling teas (STs), now existing as 75- to 100-year old bushes in about 45 per cent of the Sri Lankan tea lands, exhibit a desirable bio-diversity, or genetic variability, as a result of natural hybridisation over the years. However, their yields are low (less than 1,000 kg made tea (mt)/ha/year) compared to that of the VP or clonal teas that the TRI began to produce in the 1950s (yield potentials: 2,500 kg at least at high elevations, and considerably more at low elevations). In order to increase yields, it has been national policy since 1958 to progressively replace STs by TRI series VPs and other VPs.

While yields have indeed increased over the years, concern has been expressed more recently about a gradual decline in the flavour and aroma of Ceylon teas, thought to be associated with the replacement of STs with VPs. In order to address this concern and maintain our made-tea quality, the TRI is now mooted the idea of using a mixture of VP and ST leaf in manufacture. This would entail having in estates and fields a healthy mix of VP and ST bushes, and not merely a small number of VPs chosen primarily for yield potential.

A further downside to the policy of replacement with VPs is the environmental risk to about 95 per cent of the country's VP teas which derive

from a single, high-yielding Assamese seed stock, ASM 4/10. As a result, the TRI 2000 series and their hybrid progeny, the TRI 3000 and 4000 series, have a dangerously narrow genetic base. This puts nearly 55 per cent of Sri Lanka's tea fields at risk from unforeseen biotic and abiotic stresses, for instance those that might arise from climate change.

In view of this, our present tea improvement programmes centre on

- conserving good seedling stocks still available in old seedling fields, but now in danger of being lost as a result of uprooting prior to replanting with VPs;
- broadening the genetic base of future planting material by complementing conventional crop improvement with modern biotechnology; and
- developing a long-term policy on conservation and germplasm usage as a safeguard against genetic vulnerability.

"Golden Clones" and Biotechnology

For attaining a broadened genetic base, the TRI has begun selecting parents for breeding new VPs and seed cultivars of higher genetic variability, and for producing bi- and polyclonal seed stocks for commercial cultivation. To this end, we have embarked on identifying and preserving, at diverse locations in the tea country, STs destined for up-rooting but whose genotypes will improve the gene pool of our breeding stocks.

Our objectives over the next several years will be the development of all-purpose, elite or "golden clones" for the different agro-ecologies. These VPs will have a combination of about 8-10 desirable traits (high yields, made-tea quality, tolerance to drought, pests and diseases, and suitability for mechanised harvesting), and not just the four or five traits present in existing VPs.

The conventional field-plot protocols for VP development and release are slow and reiterative, and an improved VP takes about 15-20 years to produce. Together with new biotechnology for improving genotypes such as another culture and somatic hybridisation, rapid

laboratory and greenhouse screening for desirable traits are being developed. Laboratory assessments include isozyme characterisation and DNA fingerprinting. Marker-assisted selection would allow an early evaluation of breeding lines and reduce the number of plants to be screened.

DNA markers are being used for molecular characterisation of VPs, the main objective being the detection of genetic diversity. (Molecular characterisation by DNA markers can also be used to tag tea cultivars for patenting purposes.)

Increased ploidy in plants, above the usual mono- and diploid levels, impart vigour and hardiness and, in tea, could also give higher productivity. The development of tea tri- and tetraploids are being pursued using hybridisation, tissue culture, the chemical agent colchicine, and mutagenesis. Mutagenesis and tissue culture have not been successful to any great extent elsewhere for tailoring the tea plant but, with improved facilities, attempts will be made to produce wide crosses, polyploidy, somatic mutations and cell culture lines for producing mutants.

None of these procedures will, however, entail the insertion of extraneous DNA, and the TRI does not intend to produce genetically modified (GM) or transgenic tea.

Sri Lankan Tea: "The Cleanest in the World"

The TRI success of 1936-1939 in controlling a serious insect pest, the tea tortrix moth *Homona coffearia*, with a braconid wasp *Macrocentrus homonae*, introduced from Java, that parasitises and destroys the tortrix caterpillars, is a famous, text-book example of classical biological control. However, the use of chlorinated hydrocarbons, in the 1950s and 1960s, to control other tea pests very nearly upset the delicate balance between the tortrix pest and the introduced wasp, as well as between other caterpillar pests and their indigenous natural enemies. This is now a well-

understood phenomenon. Elimination of a non-target organism, an introduced control agent or an indigenous natural enemy, by a pesticide allows the pest that was being kept in check by the control agent or natural enemy to get out of hand. These sorts of ecological dangers from synthetic pesticides were not widely realised at the time.

Following a tacit and welcome change of TRI policy in the 1960s regarding the control of all tea pests and diseases, the TRI has gone on to earn international recognition for its development of integrated pest management (IPM) systems. These employ minimal quantities of non-persistent and less hazardous pesticides, in combination with resistant VPs and cultural methods that may include agronomic operations, timed to avoid or reduce pest damage. While the use of synthetic pesticides would still be necessary to keep pest outbreaks in check, IPM and minimisation of synthetic chemicals will continue to be the guiding principle at the TRI.

We now routinely screen exotic, and indigenous, candidate biological control agents, and natural pesticide preparations from plants like neem, in order to allow tea growers to stop relying on the usual synthetic pesticides which leave dangerous or unwelcome residues in made tea. Consumers and the international trade are becoming increasingly sensitive to additives and chemical residues, and the marketing of tea as a natural health beverage demands that it be free of chemical residues and added chemicals.

At the International Standards Organization (ISO) Technical Committee on Tea in February 1977, a pronouncement was made from the Chair that, on the basis of ongoing, routine analyses of made tea from all the major tea-producing countries, Sri Lankan tea was found to be "the cleanest in the world" as far as pesticide residues are concerned. This accolade was reiterated at the next ISO Conference in November 1999. The credit for this goes to the TRI and its

de-emphasis of hazardous agro-chemicals, and to the Sri Lankan tea growers who adopt TRI recommendations.

Workers and Mechanisation

A shortage of field and factory workers is threatening the tea industry in the low country which produces almost 60 per cent of the nation's tea, and more recently in the up-country where resident communities have sustained our plantations for a century and a half. The labour force in the plantation sector overall is said to have reduced by about 25 per cent over the last decade, mostly owing to migration by a newly-educated younger generation to what is seen as better working conditions and a more fulfilling life away from the plantations. As a result, plucking, pruning, fertiliser and dolomite application, weeding, and other field operations, have often to be curtailed to the detriment of the plantation economy.

Plantation companies are now rightly concerned in improving the quality of life of their workers. In order to retain workers in the industry, it is necessary to foster in them a sense of professionalism and a pride in their work.

A total mechanisation of a highly labour-intensive agricultural production system is obviously impossible, but even a partial mechanisation of field operations would improve worker productivity and reduce drudgery, and this is what TRI research is aiming at.

The Gold Medal-Winning TRI Selective Tea Harvester

I give one example of partial mechanisation here: that of the plucking operation. The production of high-quality Sri Lankan tea by the so-called orthodox process requires that the green leaf supplied to factories be in the form of tender shoots comprising two or three leaves and the bud (the "flush"). This standard of shoots is attained by virtuoso Sri Lankan pluckers, the backbone of the industry, whose image is instantly recognised all over the world, wherever good Ceylon tea is enjoyed.

It is estimated that selective plucking by

hand in Sri Lankan conditions requires, on average, 10-12 pluckers/ha/day. The daily intake (or "plucking norm") is 15-25 kg green leaf/day. The cost of hand plucking to the industry works out to about Rs 20 to 25 per kg of made tea, which is about 30 to 40 per cent of the total cost of production.

To maintain the current level of Sri Lankan made tea production (305.8 million kg in 2000), at least 1,200 million kg of green leaf needs to be harvested every year (about 300 working days), or four million kg every working day. Assuming an average plucker intake of 20 kg/day, the industry requires about 200,000 workers a day for the harvesting of leaf alone.

The TRI has developed and in 1998 patented, with a local fabricating company, a light-weight, all-terrain harvester which is selective in that it harvests only the flush, gives a 50 to 100 per cent increase in plucker output, reduces plucking costs, and maintains made-tea quality. A worker using the TSTH earns considerably more than a manual plucker. At the same time, estates stand to gain. Estates presently using the invention have recorded savings in plucking costs of more than Rs 2 per kg of made tea.

This TRI selective tea harvester (TSTH), when used in conjunction with an innovative plucking basket and leaf conveyance system developed in a joint project with a commercial estate and the TRI, allows the delivery of green leaf to the factory in pristine condition. If the TSTH is used widely and properly, together with these other innovations, the productivity of estate and smallholder tea lands, and our hallmark tea quality would be further enhanced.

At the 28th International Exhibition of Inventions held in Geneva, Switzerland, in April 2000, the TSTH won the first prize of a Gold Medal in the Agriculture, Agricultural Machinery and Gardening Section. In 1998 the TSTH had already been selected to

receive a Sri Lankan Presidential Award.

The TSTH does not require fuel and its environmental rating is therefore good.

Factory Modernisation and Processing Research

TRI research in factory technology and development is aimed at moving away from the image of the traditional tea factory, and to the organisation of the factory as a modern, cost-effective food factory. Specifically, it is for upgrading quality and hygienic standards, controlling costs, and adding value to the product.

Reducing the costs of manufacture is approached by more effective energy use and cheaper means of energy production, and by identifying and testing cheaper packing materials.

Wood for furnaces and air heaters is becoming increasingly scarce. As a result, more liquid fuel is being used. TRI research is concerned with environmentally-friendly, energy-efficient, renewable alternatives, such as solar energy, for drying tea. A solar field consisting of 200 flat plate collectors has been installed at the TRI's St Joachim factory for pre-heating the air entering the furnace-cum-heat exchanger. Only pre-heating is possible: large volumes of air cannot be heated to operational levels (about 95°C). Data collected over a preliminary period of three months indicate a saving of about 32 per cent on fuel used for drying.

Paper sacks, as a replacement for wooden tea chests, have been tested and recommended for packing leafy grade teas. Tea chest linings made of cheap kraft paper with aluminium have been recommended as a replacement for the more expensive tissue paper with aluminium.

Changes are being initiated in the placement of machinery according to ergonomic principles and for making the factory floor more worker friendly.

At a more fundamental level, it is also necessary to review the concept and design of factory machines, and the materials that are used in their fabrication, with a view to making them more effective and more manageable. Many of the difficulties in attaining the required made-tea quality standards, particularly from VP leaf, seem to lie in this area.

Future advances in process technology will be aimed at optimising manufacture by the introduction of electronic temperature, humidity & pressure sensors into the manufacturing sequence, under an automated PC-based monitoring, command & control system.

A bringing together of mechanical, chemical, electronic and computer engineers, and materials experts, is needed and this requires extensive inter-institutional collaborations between engineering firms, other research institutions and universities. Collaborations are being sought in this as in other areas of research.

New Tea-Based Products

The TRI has pioneered research into new tea-based, value-added products.

These include 'convenient' teas: instant tea, and ready-to-drink (RTD) tea, for which the TRI has obtained national patents, in 1975 and 1988, respectively.

The use of green leaf and fermented dhool has resulted in the manufacture of instant tea with a pronounced tea character. Cold water-soluble instant tea developed at the TRI could be used as a base to prepare RTD tea beverages for sale in cans and tetrapacks.

The tea concentrate for the RTD tea developed in the late 1980s contained 4 - 5 per cent soluble solids, but in the last few years we have raised this figure to 10 per cent. The concentrate's keeping qualities have also been improved.

Much interest has been shown by local and foreign commercial interests in our RTD tea, which they have found to be superior to, or comparable with, similar products already in the world market.

Teas scented with essential oils are popular in the Middle East and in some western countries. Technology for the scenting of teas has been perfected at the TRI.

Up- and low country teas were used as the starting material for a fermented tea product (a sherry or wine). Tea brews were fermented for five weeks, giving an alcohol content of about 10 per cent. In order to reduce bitterness and prevent an uncomfortable coating of polyphenols on the tongue, the fermented brews were matured in casks made of wood from the tree *Berraya cordifolia*. After about two months, a product with good clarity and colour resulted, and is now ready for commercial exploitation.

Another recent product is yoghurt into which tea has been incorporated in order to make use of tea's antioxidant properties for increasing shelf-life and enhancing the health benefits of the yoghurt, and to act as a natural colouring agent.

The incorporation of 1 - 2 g of tea per litre of milk during yoghurt production was found to be suitable for appearance, colour, texture and flavour, spoonability, the desired organoleptic properties and general acceptability.

Recent Sources of Information

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* For example, see *Intercropping in Tea Lands* in this issue



Intercropping refers to cultivation of two or more crops on the same land in a mixture or in a regular spatial arrangement. Intercropping in tea serves to maximise land productivity and to minimise the economic and environmental risks involved in growing a monocrop. Added advantages are favourable cost benefits and increased employment. Intercropping has become more widespread in the last two decades or so, both in smallholdings and in plantations.

Intercropping Tea with Rubber

During the early 1980s the TRI, in collaboration with the Rubber Research Institute (RRI), undertook successful studies on intercropping tea with rubber, *Hevea brasiliensis*, on several estates in the low country. As a result, a subsidy scheme was formulated by an inter-ministerial committee which subsequently received Cabinet approval. More TRI-RRI trials on tea-rubber intercropping began in 1990, and based on them the subsidies were extended to all suitable low-country lands. Guidelines were issued in 1997.

Requirements: Lands suitable for both tea and rubber in the low country, that is at elevations below 600 m (2,000'). Where the soil is unsatisfactory, rehabilitation is necessary before tea is planted. The tea and rubber should be planted simultaneously.

Spacing: Rubber as monocrop, 450 trees/ha, 3.6 m X 6.0 m (12' X 20'); as mixed crop, 340 trees/ha, 12.0 m X 3.6 m (40' X 12').

Land utilisation: Tea 75 per cent (of monocrop stand), rubber 75 per cent, total 150 per cent.

Yield and income: Tea as mixed crop 1,500 – 2,000 kg/ha/year, Rs 150,000 – 200,000 @ Rs 100/kg made tea (tea as monocrop 2,000 – 2,500 kg/ha/year, Rs 200,000 – 250,000);

rubber as mixed crop 750 – 850 kg/ha/year from 7th year, Rs 37,500 – 42,500 @ Rs 50/kg (rubber as monocrop 1,000 – 1,200 kg/ha/year, Rs 50,000 – 60,000); total from intercropped tea and rubber, Rs 187,500 – 242,500.

Intercropping Tea with Coconut

Similar studies were undertaken on intercropping tea with coconut, *Cocos nucifera*, in collaboration with the Coconut Research Institute (CRI). Information was already available from existing tea-coconut intercropping systems in smallholdings. Based on these, guidelines were issued in 2000. Three systems are possible: intercropping tea and coconut simultaneously, intercropping coconut in tea lands, and intercropping tea in coconut lands. To avoid too much shade on the tea, coconut is best planted in the east-west direction.

Requirements: Lands suitable for both tea and coconut in the mid- and low country, that is at elevations below 1,200 m (4,000').

Spacing: Coconut as monocrop, 160 palms/ha, 7.8 m X 7.8 m (26' X 26'); as mixed crop same spacing as in the existing monocrop but in new planting 134 palms/ha, 12.0 m X 6.0 m (40' X 20'). Tea as mixed crop 8,500 – 10,800 trees/ha, 1.0 m (3.5') X 0.6 m (2') or 1.2 m (4') X 0.6 m (2') depending on growth habit of the clones.

Land utilisation: Tea 60-70 per cent (of monocrop stand) in existing coconut lands and 75 per cent in new plantings, coconut 100 per cent in existing coconut lands and 75 per cent in new plantings, total 150-160 per cent.

Yield and income: Tea as mixed crop 1,200 – 1,500 kg/ha/year, Rs 120,000 – 150,000 @ Rs 100/kg made tea (tea as monocrop 1,500 – 2,000 kg/ha/year, Rs 150,000 – 200,000);

coconut both as mixed crop and monocrop 3,000 – 4,000 nuts/ha/year in existing coconut lands; Rs 15,000 – 20,000 @ Rs 5/nut; total from intercropped tea and coconut, Rs 135,000 – 170,000.

Intercropping Tea with Export Crops

Smallholders in the mid-country have been cultivating pepper, coffee and cloves mixed with tea for many years. However, with these crops becoming increasingly important economically and in the export sector in particular, planned mixed cropping now receives greater attention.

Among the export crops, pepper (*Piper nigrum*) is the most compatible with tea of all types. The pepper vines are easily trained to grow on shade trees such as *Gravellia robusta* and *Gliricidia maculata*. The pepper variety 'Panlyur' is the most suitable because it does not harbour any parasitic nematodes which affect tea.

Requirements: Lands with vegetatively propagated (VP) or seedling teas (ST) in the mid- and low country, that is at elevations below 1,200 m (4,000').

Spacing: Pepper as monocrop, 1,750 vines/ha, 2.4 m X 2.4 m (8' X 8'), as mixed crop, 275 vines/ha, 6 m X 6 m (20' X 20') trained to every other *Gliricidia* tree planted at 3 m X 3 m (10' X 10') in young tea.

Land utilisation: Tea 100 per cent (of existing

monocrop VP or ST stand), pepper 16 per cent, total 116 per cent.

Yield and income: Tea as mixed crop 1,000 – 2,500 kg/ha/year (depending whether VP or ST), Rs 100,000 – 250,000 @ Rs 100/kg made tea;

pepper as mixed crop 200 – 250 kg/ha/year, Rs 40,000 – 50,000 @ Rs 200/kg (pepper as monocrop 750 – 1,000 kg/ha/year, Rs 150,000 – 200,000); total from intercropped tea and pepper, Rs 140,000 – 300,000.

Of the coffee varieties, *robusta* does well in the mid country (600 – 1,200 m) and *arabica* in the up country (above 1,200 m).

Requirements: ST lands at all elevations with average to poor stands (less than 60 per cent).

Spacing: Coffee as monocrop, 430 plants/ha, 3.0 m X 3.0 m (10' X 10'), as mixed crop, 275 plants/ha, 6 m X 6 m (20' X 20').

Land utilisation: Tea 100 per cent (of existing monocrop ST stand), coffee 64 per cent, total 164 per cent.

Yield and income: Tea as mixed crop 800 – 1,000 kg/ha/year (depending on vacancies), Rs 80,000 – 100,000 @ Rs 100/kg made tea; coffee as mixed crop 300 – 400 kg/ha/year, Rs 150,000 – 200,000 @ Rs 50/kg processed coffee (coffee as monocrop 750 – 1,000 kg/ha/year, Rs 37,500 – 50,000);

total from intercropped tea and coffee, Rs 95,000 – 120,000.

Cloves are best planted, at a spacing of 12 m X 12 m (40' X 40'), at the boundaries of tea fields since they have a large compact canopy which casts a thick shade on the tea.

Intercropping Tea with Fruit Crops

Intercropping fruit trees, such as citrus, mango, avocado and rambutan, with tea is also possible. They are generally more suited to tea fields having a low plant density. In order to prevent excessive shading of the tea, the lopping of some of their branches will be necessary.

Intercropping Young Tea with Legumes

Since tea is normally planted in rows 1.2 m (4') apart, the inter-row spaces in young tea could be used for planting short-term, seasonal crops such as grain legumes (cowpea, soybean, green gram and black gram). This is especially beneficial to smallholders, since it gives them an income during the initial, unproductive phase of tea cultivation. Intercropping green legumes will also minimise weed growth, and improve soil by the addition of organic matter from the crop residues.

Intercropping in Tea Lands

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Depreciation of the Rupee and the Tea Industry

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A depreciation or devaluation of the rupee has far-reaching implications on the Sri Lankan tea industry in the following respects:

- ① Auction Prices
- ② Cost of Production
- ③ Producer Returns
- ④ Estate Households
- ⑤ World / Regional Trade

Table 1: Likely Post-devaluation Scenario on Auction Prices

Situation	Exchange Rate	Importer's Price Guideline (kg)	Auction Price (kg)
Pre-devaluation	\$1 = Rs 83	\$1.80	Rs 149
Devaluation	\$1 = Rs 90	\$1.80	Rs 162
Post-devaluation	\$1 = Rs 90	around \$1.75	Rs 157

minimal in a tight market situation, whereas an opposite situation will arise in an over-supplied market. In any event, it is too much to expect the export buyer to totally discount the currency factor in his bidding or to allow the domestic seller to retain the full gains accruing from devaluation. In actual practice, a trade off takes place somewhere in between, although one can never be sure where that point will be. This phenomenon is illustrated in Table 1.

In other words, it is unlikely that the buyer (or importer) can continue to pay Rs 149

per kg (by dropping the bid to \$ 1.66 per kg; that is, old price/new rate or 149/90) after devaluation has taken place. Nor will it be possible for the producer (or seller) to reap the full benefit of the depreciated currency by obtaining a realisation of Rs 162 per kg (that is, \$ 1.80 per kg). It is not that the post-devaluation price of Rs 157 per kg indicated above will effectively be in force. This depends, as noted earlier, on the dynamics of the world tea market that encompasses various other complex factors.

For the local industry to gain totally from devaluation, one of the following situations must exist:

- ① The auction has to be in, for example, dollars, on the Kenya model (this reference should be taken as a suggestion for changing the existing system; needless to say, it has several other implications)
- ② Exports are on the basis of 'C.I.F contracts' to U.K. (as is the practice with some of the large producers in Assam, where remittance is linked to pound sterling)

Impact on Auction Prices

A well-known feature of global commodity trading that the exporting country is unable to take full advantage of devaluation. This is because when a depreciation of the local currency takes place, the importer is invariably known to drop his pre-determined offer (as conveyed to his local buying agent) in terms of the foreign currency such as dollar, pound etc. By doing so, he endeavours to seek an added benefit from the new situation. The extent to which this discounting takes place depends mainly on the world supply-demand factor, the general rule being that the erosion in terms of the convertible currency will be

Table 2: Foreign Exchange Content in Tea Production -- 2000

Cost Component*	Made Tea (Rs/kg)	Estimated Foreign Exchange Content**	Foreign Exchange Cost (Rs/kg)
Cultivation Costs			
• Fertilizer	9.00	65%	5.85
• Agro-chemicals	2.25	80%	1.80
• Estate Transport	1.00	70%	0.70
• Estate Sundries	0.25	10%	0.02
Manufacturing Costs			
• Fuel for Power Generation	2.00	70%	1.40
• Electricity	4.00	35%	1.40
• Oil for Drier	6.50	70%	4.55
• Machinery Upkeep	1.50	50%	0.75
• Packing Material	4.00	60%	2.40
• Factory Sundries	0.25	15%	0.04
• Transport to Colombo	1.25	60%	0.75
• Marketing (handling, brokerage & head office component)	2.50	15%	0.37
Foreign Exchange			Rs 20.03 /kg
COP (estimated)			Rs 112.00 /kg
Foreign Exchange as proportion of COP			17.9 %

* Pertaining to representative up-country estates

** Updated from a FAO Technical Report (1980s) on Diversification of Uneconomic Tea Lands

- Exports are in value-added form (where the contract is invariably in a nominated foreign currency; in the situation that largely exists in Sri Lanka, such direct sales are done by the trade, not producers).

Impact on Cost of Production

Table 2 lists the components of tea production, the average cost of the component, the estimated foreign exchange component and the calculated foreign exchange costs.

Table 3: Relative Impact on Prices, Costs and Returns

Impact	2000	2001	2001	2001
Exchange Rate:		90.00	92.50	95.00
Average for the year (Rs per \$)	76.92	Scenario I	Scenario II	Scenario III
Depreciation over previous year (%)	9.3	17.0	20.2	23.5
Auction Prices (Rs/kg)	136.00 (\$1.77)			
• Likely Scenario				
- Scenario I: 80 % gain (Strong Market)		154.50 (\$1.72)	157.98 (\$1.71)	161.57 (\$1.70)
- Scenario II: 60% gain (Above Average Market)		149.87 (\$1.66)	152.48 (\$1.65)	155.18 (\$1.63)
- Scenario III: 40% gain (Below Average Market)		145.24 (\$1.61)	146.99 (\$1.59)	148.78 (\$1.57)
- Scenario IV: 20% gain (Weak Market)		140.62 (\$1.56)	141.49 (\$1.53)	142.39 (\$1.50)
Production Costs	112.00	115.40	116.04	116.70
Estimated (Rs/kg)	(\$1.46)	(\$1.28)	(\$1.25)	(\$1.23)
Producer Margin (Rs/kg)	24.00 (\$0.31)			
• Likely Scenario				
- Scenario I: 80% price gain		39.10 (\$0.44)	41.94 (\$0.46)	44.87 (\$0.47)
- Scenario II: 60% price gain		34.47 (\$0.38)	36.44 (\$0.40)	38.48 (\$0.40)
- Scenario III: 40% price gain		29.84 (\$0.33)	30.95 (\$0.34)	32.08 (\$0.34)
- Scenario IV: 20 % price gain		25.22 (\$0.28)	25.45 (\$0.28)	25.69 (\$0.27)

- An estimated 18 per cent of production costs is accounted for by the foreign exchange component, of which the cost of fertilizer imports at 29 per cent (Rs 5.85 per kg) is the highest, followed by fuel for drier at 23 per cent (Rs 4.55 per kg) and imported tea chest material at 12 per cent (Rs 2.40 per kg),

- The share of foreign exchange costs as between cultivation and manufacture is in the ratio of 42:58, which points to a somewhat higher burden being placed on the latter segment of the industry (notably, private factory owners) as a consequence of the depreciation of the rupee,

- The currency-induced rise in input costs suggests the possibility of a revised approach – within marginal limits, of course – as between materials per se (e.g. recourse to organic manure in part substitution of imported chemical fertilizers) and between materials and labour (e.g. additional round of manual weeding in lieu of chemical weeding),

- In terms of erosion of competitive edge on the cost factor, depreciation of the rupee puts the Sri Lankan industry at a considerable disability vis-à-vis, for instance, India where the import content in the COP of tea is as low as about 2 per cent,

- The increase in the unit production costs does not reflect the true resource cost and foreign exchange picture of the tea industry; this is due to the existence of subsidies (e.g. fertilizer subsidy) and if these are added in the calculations, the macro-level impact on the COP will be even higher; at present, insufficient data is available to estimate this element.

Impact on Producer Earnings

Two points clearly emerge from the foregoing analysis: first, that while de-

It is necessary to stress that what took place on 23rd January 2001 was not a devaluation or depreciation of the rupee — it was a float. The implication is that since the value of the dollar is determined by the market, it can change on a day to day basis. That brings in much volatility during the lag between the date of sale and settlement. The uncertainty could be more in respect of forward contracts where the rupee equivalent is hardly known at the time the sale takes place. Depending on the timing of the contract, the producers could stand to lose or gain. This could cause difficulties in financial planning.

The following inferences may be drawn from the above tabulation and related features:

Table 4:

Estimated Average Per Capita Expenditure in Estates – per month during 2000*

Item	Rs	%
Food	1,350	67
Non-durables	600	30
Consumer Durables	60	3
Total	2,010	100

*tentative estimate, updated from a Central Bank survey for 1996/97

valuation does have a beneficial impact on local auction prices, the extent of the gain is uncertain; and, second, that the cost increase resulting from this measure is more certain and even quantifiable. These two elements are juxtaposed in Table 3. In the absence of a well-defined model on the interrelationship between currency changes and market behavior, a sensitivity analysis has been attempted on the likely price scenario, but it would appear to be in order to proceed on the basis of a straightforward increase in the cost of production. It needs to be reiterated that the tabulation on the likely trend in prices has been captured only in the context of the currency factor (that is, "other things remaining the same" – something that seldom happens in tea!) and has no bearing whatsoever on the volatility of the tea market that is so well known for its high "price instability index". In other words, while a cost increase of about Rs 3.40 per kg or 4.05 per kg or Rs 4.70 per kg, as the case may be, can be taken as a certainty, the price gain indicated is merely a matter of conjecture.

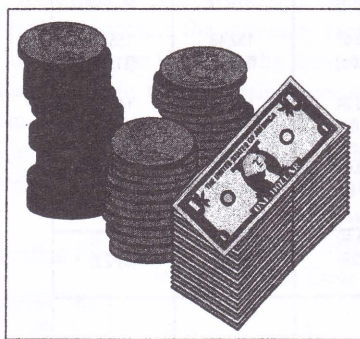
The above tabulation has also to be viewed in the context of the operating cycle of a tea estate. This relates to the incurring of expenditure on wide-ranging imported items such as fertilisers and chemical several months before cropping takes place, and processing the harvest thereafter (again, by recourse to imported fuel etc.) into a marketable produce. Under a free float, the value of the dollar applicable to the producer at the time of procurement could be vastly different than at the time of sale.

Impact on Estate Households

In a manner somewhat analogous to production costs, the accelerated erosion of the rupee has a detrimental effect on the cost of living of estate workers. This impact comes on top of the liberalisation of the economy which has already placed an additional burden on the lower (and fixed) income groups that were earlier protected through interventionist policies.

The expenditure pattern in estate households is indicated in Table 4.

Among the food items, the large share of rice (22 per cent), wheat flour (11 per cent) and sugar and pulses (4 per cent each) all have an import content. Given the fact that the demand for these items is relatively inelastic to an upward movement in prices, it is only to be expected that a rise in the share of expenditure on food will inevitably take place. When that happens, the resources available for non-durables (especially, clothing) get automatically curtailed. Another casualty could be the savings factor. As it is, an overall situation of dis-



savings exists in estate households and wherever the limited surplus had been put aside for consumer durables and household items (notably, TV which is now available in one-quarter of estate households), a reduction in such purchases becomes inevitable. A further possibility is that even the much-desired thrust on new and upgraded housing could receive a set back.

In terms of sectoral comparison, however, the overall impact of depreciation of the rupee would appear to be less pronounced in estate households than in urban areas. This is principally because an average city dweller has to incur about four times the expenditure on non-durables than an estate worker and twice that of his or her rural counterpart. As is well known, large proportion of expenditure on this account in the urban sector is on housing, medical care, transport, fuel, education etc to which the resident estate community, in particular, is relatively insulated.

Impact on Export / Import Trade

The classical economic theory is that devaluation will, by making exports more

attractive, enable a higher volume of shipments. In so far as the tea industry in Sri Lanka is concerned, this argument does not hold good for the following reasons:

- About 95 per cent of the island's production already finds its way into the export trade and it would be neither possible nor desirable to have the minimal balance share to follow suit; this situation is in sharp contrast to that prevailing in, for instance, India where devaluation can be used as a vehicle to divert supplies from the domestic market to exports,
- With respect to leaf crops like tea, supplies are neutral to liberalised export policies, especially in the short- and medium-term; yet, higher input costs which devaluation entails could have a detrimental effect on production,
- Sri Lanka's exports are overwhelmingly of the niche orthodox variety, the demand for which may have reached near-saturation levels; with almost 60 per cent of world imports being now CTCs, it is most unlikely that a favourable currency factor will in itself cause importers to shift to orthodox purchases or for local producers to diversify into CTC manufacture,
- Even after much depreciation of the Sri Lankan rupee, the price of comparable Nilgiri (above average quality) and Indonesian (filler) orthodox teas remains cheaper; to that extent, it is too much to expect a wholesale shift to Sri Lankan purchases.

On the positive side however are two features. First, since devaluation puts up import costs, it is possible that the vexed issue of tea imports may receive a back seat for the present. The other aspect is that tea export to South Asian countries, notably Pakistan and India, which has encountered bottlenecks could receive some impetus in the face of the floating rupee at higher levels of depreciation ■

Declining Work Force

Recent trends overwhelmingly point to labour as being the key element in the future of the tea industry. This perception stems from a worker shortage that looms large both in the corporate sector and smallholdings. Even at the time of privatisation, it was reported that 15 out of the 23 Regional Plantation Companies were in deficit of their labour requirements. Since then, the gap has widened in the low-country and Uva and a somewhat similar trend is emerging in the mid- and up-country as well.

Faced with this situation, a number of initiatives have been under way by estate management and proprietary planters to combat the emerging labour shortage. Principally, these involve judicious deployment of workers especially during the peak cropping season, intermediate mechanisation of field activities (via shear plucking and mechanical pruning), review of outdated "norms"/"tasks" and a guarantee of 300 working days a year. Efforts at reversing out-migration by improving living standards and social infrastructure to make estate work more attractive are also in evidence. In particular, this need arises because younger people tend to move into cities (notably, potential female workers into garment factories), not always for higher wages but for better social recognition that is now not associated with estate work.

Land-Labour Relationship

It is well known that about 70 per cent of the tea bushes account for only about 30 per cent of the crop. What however is not so well known is that 70 per cent of the pluckers also contribute to only 30 per cent or so of the harvest. The latter phenomenon has two implications. On the one hand, the "under-norm" pluckers have to be paid full wages and, on the other, incentive payments have to be made to those who bring in "over-kilos". In the Sri Lankan situation, the cumulative impact of both these diverse features is such as to markedly put up the cost of harvesting which could have been avoided if most pluckers had adhered to the norm. Improved incentive practices is an obvious way for promoting efficiency but equally important are improved health and welfare standards, better motivation and a reasonable scope for career advancement. Labour aspects relating to harvesting constitute the priority area to address since this operation accounts for nearly 40 per cent of the cost of production and 80 per cent of the workforce engaged in field operations.

Labour Productivity

The ILO makes the significant observation that "productivity in plantations depends to a great extent on how remuneration is linked to output." Contrary to popular belief, this view is also shared by a wide section of tea workers (not necessarily trade unions) in the island. During the course of a socio-economic survey undertaken in 1996 by the Plantation Reform Project, about 1000 workers were asked whether wages should be based on individual effort or all workers should be paid a guaranteed fixed wage irrespective of individual effort. To quote the report, "the majority (68 per cent) in the sample expressed the view that wages should be based on the efforts of the individuals. They felt that the person who works harder should be paid more." The report goes on to state that 78 per cent of the

smallholdings are more labour intensive than the estate sector.

Cost of Labour

The question is often raised as to why estate management tends to be more resistant to the demand for a wage increase than the industrial sector. Quite simply, the answer lies in the continuing labour-intensive nature of plantation operations. Unlike in the manufacturing industry where the wage bill accounts for a relatively small proportion of the cost of production, the situation in tea is that the wage-related costs as a proportion of the total estate level cost are far higher at about 56 per cent. (Table 2).

Viewed in the context of the above tabulation, even a small increase in the wage rate will result in a disproportionately high increase in the cost of production, with its attendant effect on the competitiveness of the Sri Lanka produce in the world market. This however is not to suggest a case for putting a brake on wage increases. Indeed, wages must and will go up. Yet, it is important that the extent to which they are hiked should be neutralised through corresponding gains in productivity. In the labour management of tea, this involves keeping an eye on what may be called a Break-Even-Yield (BEY) that covers at least the variable cost of production. Such an exercise, to be undertaken both by employers and worker representatives, will put the finger on the precise productivity gains that are necessary under varying degrees of wage increase. Conversely, and given the boundaries for productivity improvements, it will also help to pitch the union's demand and the employer's response within the range of reasonableness.

Wage Trends

In keeping with global trends, there has been a relative stagnation in the *real* wages of tea workers in Sri Lanka. This is notwithstanding the periodic improvements in the wage rate and adjustments in food prices through government intervention.

Table 3 is indicative of this generalised statement that compares the increase in money wages since 1993 with the Colombo Consumer Price Index (CCPI). It is of course true that the application of the CCPI as a wage deflator is not representative of the estate scenario, where the expenditure profiles are somewhat different from those of the average urban and rural workforce. Yet, the CCPI is widely used as a guideline for calculating inflation and to that extent, the *real*

Labour Situation in Tea

B. Sivaram

Consultant, Programme Support Group

respondents felt that there was room for productivity improvements while 16 per cent gave a contrary view.

In the light of the studies recently undertaken, it is possible to draw some inference on the changes in labour productivity in tea in the recent years. This has been summarised with respect to the privatised companies in Table 1 that clearly points to a markedly improved performance.

Table 1: Productivity Indices

Assessment Criterion	Years	
	1992/93	1999/2000
Plucker Productivity*	13.5	16.6
Revenue Labour Output**	2.50	2.91
Land-Labour Ratio***	3.5	2.8

* average daily plucker intake (kg/green leaf/day)

** estate production per manday during the year (kg made tea)

*** labour per hectare

Despite the gains in plucker intake, workers in the estate sector are continuing to perform below capability. This will be evident on a comparison with their counterparts in the private holdings where it is reported to be higher by about 50 per cent. As regards the use of labour per unit of tea land, this ratio is influenced by two factors, namely, the level of field productivity and the labour intensiveness of the production process. It is accordingly seen that

wage estimation does not appear to be out of place.

The revision of the wage settlement in March 2001 has not made any material difference to the industry-wide earnings of workers. In

Table 2:
Share of Labour in Cost of Production of Tea: 99/2000

Items	% of COP
Wage-related costs	55.7
Staff salaries	5.8
Fertiliser	8.8
Chemicals	1.7
Packing	4.0
Fuel	3.9
Power	5.0
Transport	2.4
Others	12.9
Total	100

that sense, neither the trade unions who sought to rescind the agreement nor the employers who resisted the move emerged triumphant. A major casualty however was the loss of confidence at the estate level between Superintendents and workers — an area that was assiduously built up during the post-privatisation era. In the process, the progress made lately towards wage determination through collective bargaining received a setback following governmental and political intervention. Also noteworthy is that workers with a consistently high outturn (that is, low absenteeism) had nothing to gain; only the laggards benefited.

Industrial Relations

It must be said to the credit of the workers and their representatives that for a labour-intensive enterprise like tea, agitation involving loss of working days and the resultant production and loss of revenue to the management have been minimal. Industry-wide strikes have taken place only with the termination of successive wage settlements and the demand for a fresh wage hike. This is evidenced from the fact that while nearly 2,000 working days were lost within the company sector during 1998 when a wage-related strike occurred, this figure had nose-dived to as low as 337 in the following year when the new settlement was in operation. In a situation that has lately surfaced, strikes have tended to take a back seat, with "prayer" meetings, "satyagraha" movements and the like gaining ground. Make no mistake. They can be just as potent as the legitimate weapon of the strike itself.

Social Dimensions

Workers in remote estates do not live by wages alone. They require housing, water, sanitation, medical care and a host of welfare facilities to keep them in good working order. The Plantation Housing and Social Welfare Trust (PHSWT) has been in the forefront by facilitating these basic needs through donor support, especially from the Dutch and Norwegian governments. The outcome

of these efforts have been reflected in the construction of more than 13,000 new and "self-help" worker houses in the estate sector since 1993. Alongside, about 35,000 units — 23 per cent of the existing housing stock — have been upgraded or re-roofed. Statistics also point to about 68 per cent of worker households now having access to safe water supply and 46 per cent being provided with individual

individual latrines, maternal care services and availability of qualified medical personnel — on lowering absenteeism and improving worker performance.

Table 3: Real Wage Indices for Tea Workers

Year	Money Wage (Rs/day)	Money Wage (1993=100)	CCPI (Points)	CCPI (1993=100)	Real Wage (1993=100)
1993	72.24	100	1498.7**	100	100
1994	72.24	100	1561.7**	104	98
1995	72.24	100	1741.6**	116	86
1996	83.00	115	2034.2**	134	85
1997	83.00	115	2252.7**	150	77
1998	101.00	140	2336.6**	156	90
1999	101.00	140	2429.7**	162	86
2000	121.00*	167	2693.0**	180	93

* for attendance over 90 per cent

** for December

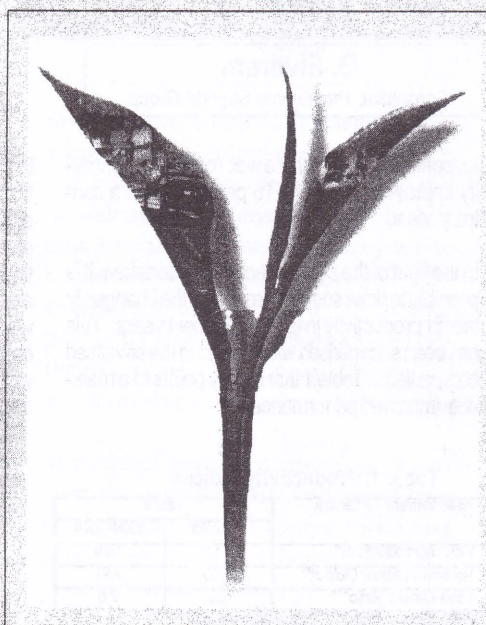
Future Labour Scenario

A number of factors will influence the labour situation in tea over the medium- and long-term. First, management policy in the context of privatisation has a two-fold dimension. On the other hand, there will be an increase in the demand for labour with the new management putting up yields, adopting the recommended field practices and undertaking replanting at the targeted rate. On the other hand, this could to a considerable extent be neutralised by the insistence on improved worker productivity, revision of the outdated "norms" and "tasks" and mechanisation of some of the field practices.

The second feature is linked to population growth vis-à-vis out-migration. While an increase in resident population will add to the future employment pool, it is possible that this will be more than offset by a higher rate of outflow of potential and current workers away from estates. In fact, such a trend is already in evidence, with resident population, for instance, in the Nuwara Eliya district estimated to go up by about 30,000 over the next 10 years and migration currently at 2 per cent but likely to climb to 3 per cent in the coming years.

The third aspect centers on the growth possibilities in the Sri Lankan economy. As could only be expected, a higher growth rate will have the effect of generating more demand for the less-skilled workers, thereby forcing an outflow from the plantations.

Finally, it is difficult to de-link this issue from the ethnic conflict. Quite clearly, an early settlement of this problem will facilitate labour mobility and also have the effect of drawing away workers from the estates □



latrines. Despite the overall progress, the fact remains that much more remains to be done in the realm of social infrastructure.

Following the impetus given to the human factor in estate management, there is now increasing recognition that a convergence of interests exists between the health and welfare of workers and the interests of the management. This perception is fortified by a recent study by the Institute of Policy Studies. For the first time, it quantifies the impact of five welfare inputs — housing, crèche attendance,

Tea Export Diversification and International Market Segmentation

Tea is over 5,000 years old and was discovered, as legend has it, in 2737 B.C by a Chinese Emperor when some tea leaves accidentally blew into a pot of boiling water. According to the legend, Emperor Shen Nong was a skilled ruler, creative scientist and patron of arts. His far-sighted edicts required among other things, that all drinking water be boiled as a hygienic precaution. One summer day while visiting a distance region, when the servants began to boil water, dried leaves from a near by bush fell into the boiling water and a brown liquid was infused into the water. The emperor was interested in the new liquid, drank some, and found it very refreshing – and so according to the legend tea was created.

The tea was first introduced into Sri Lanka by the British planters during the 19th century as a replacement crop for coffee, which was destroyed by a leaf disease. The commercial planting of tea was first done in Sri Lanka by Mr James Taylor, a Scottish planter, on 19 acres of land on Loolecandera Estate at Deltota, which has today developed, into a major agricultural industry in Sri Lanka. Tea is Sri Lanka's main agricultural crop and account for almost 15% of the foreign exchange earnings of the country. It is also the largest employer in the country and over one million people directly and indirectly are employed in the tea sector.

According to the recent tea land survey, the total area under tea cultivation is about 200,000 hectares while the annual tea production is a little over 300 million kgs but increasing continuously. Sri Lanka ranks as the third largest tea producer in the world having an approx. share of 10% of the global tea production. Currently Sri Lanka exports about 280 million kgs of tea annually to more than 100 countries and is the largest exporter of tea in the world with a share of 22%.

This position as the global leader in tea exports sphere has been maintained continuously for the past 5 to 6 years.

Although, the first commercial tea plantation was done in 1864 it was only in 1873 a small parcel of 23 pounds of tea was exported from Sri Lanka to U.K. Since then, the tea plantation has grown into a major export industry in the country. The production and manufacturing of tea in Sri Lanka (Ceylon at that time) was started by British Agency Houses and almost all the production was shipped to London as a primary commodity for blending and marketing by the British tea companies in U.K. The

A.H. de Alwis

Director, Sri Lanka Tea Board

Ceylon tea was traditionally sold as a primary product mainly in the bulk form. Since the plantation was owned by British Agency Houses their main objective was to cater to the tea trade in London. The British management companies ignored the importance of product diversification and Ceylon tea was traded as a commodity only. However, the first product diversification took place in 1959 when a consignment of packeted teas was sent to Libya. This opened the eyes of the manufacturers and exporters to ship tea in pre-packed form, which was the beginning of the product diversification in the tea industry of Sri Lanka.

The "two leaves and the bud" was the main concept of Ceylon tea which helped the industry to capture the world tea market. The British companies as well as local exporting companies who were involved in production and trading of tea realized the importance of direct marketing of tea and began to cater to the other markets in the world. The shipment of value added teas sent to Libya encouraged the exporters initially to cater to the mass-market requirement of the consuming countries. This segment which consist of lower and middle

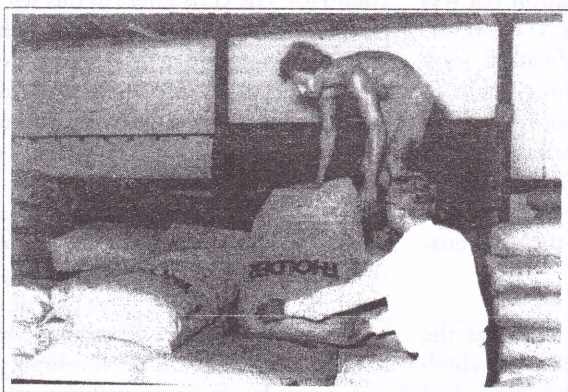
class consumers mainly require a medium quality tea pack at a reasonable price. The manufacture of consumer packs, below the weight 3 kgs, involves blending, packaging, labelling and branding of the tea product. The expansion of value added tea exports from Sri Lanka was a slow process but it gradually increased over the last three decades. Today, local teas are exported in a wide range of packets such as foil packs, box board cartons, soft wood boxes and satches etc. The export of straight-line teas in raw material form is now limited to about 5% and export of pre-packed teas account for at least 40% of our total tea exports. The local packaging industry has developed to such an extent that the industry can help the tea sector to be competitive in the international market.

The second stage of the product diversification began with the export of tea bags from Sri Lanka in the early 1970's to cater to the needs of the up-market segment of developing countries. The consumers in this segment which normally include the rich and upper middle class people would like to have convenient and quality products and are prepared to pay more as long as the product is going to satisfy their needs. The development of tea bag exports was hampered during the early stages due to lack of availability of tea bagging machinery in the country. The demand for tea bags, which commenced from Europe and other developing countries, has now expanded to almost all the tea consuming countries in the world. The local industry is now capable of manufacturing a complete range of tea bags whether single or double chambers, heat or non heat-sealed with or without tags and with or without the envelope etc. The demand for more convenient tea products from the up-market segment forced the manufacturers to come out with more innovations in the manu-

facture of tea bags. The multinational companies who dominate the teas bags segment invested heavily in developing new types of tea bags such as round shape or pyramid shape etc to get a faster and better brew from the tea bags. Today Sri Lanka exports about 9000 MT of tea bags, which account for 3.5% to 4% of the total tea, exports.

The development of institutional segment which includes hotels, Airlines, passenger ships and other catering establishments has given a further boost to the tea bag segment since the convenience and quick preparation are the main criteria for purchase of tea by the institutional customers. In this respect the trade has responded with catering packs which contain more number of tea bags but without much elaborated packaging.

The completion faced from carbonated soft drinks and the increase in youth in population many countries have compelled the tea manufacturers to come out with new tea products with more innovations in the consumer packs to counter the new threat in the market. The manufacture of Ready to Drink Products (RTD) was the result of the innovation of new product diversification and tea is



now available in liquid can form and pet bottles either with or without flavours. This segment has witnessed a rapid growth in Japan/USA and some other developed countries where RTD tea products are available through the vending machines. The present day life style of the youth has also contributed towards the expansion of production and marketing of

instant tea as well. Although Sri Lanka is the number one exporter of tea in the world, her position in RTD segment is rather insignificant. The first R.T.D. project of commercial scale has introduced by "Heladiv" brand Pure Ceylon teas in liquid form in a tetra-pack of 5 different flavours. The manufacturing and marketing of RTD products are currently done by multinational companies such as Nestle, Lipton, Coca cola, and Pepsi etc whose investment in this sector cannot be matched by the Sri Lankan tea traders. The present day health consciousness among the young people too have contributed towards the fast development of RTD segment.

Sri Lankan tea exports have identified niche markets in most of the developed countries which includes instant, flavoured and gift tea segments. The addition of flavours into tea was started a few years ago to cater to the changing habits of consumers in the developed world. The product range of flavoured tea includes earl gray, mint, lemon, Jasmine, Strawberry and Apple etc. Recently spice flavours have also added to tea with cardamom, cinnamon and clove flavoured teas being the most popular. Sri Lankan exporters have penetrated into a number of sophisticated markets with flavoured and spiced teas. In USA, "chai tea latte" – spice tea where tea is blended with ginger, cardamoms and cloves has emerged as a fact growing product in R.T.D form and highly popular thru Start Buck centres.

The production of instant tea by Sri Lanka began during late 90's but up to now only two companies are engaged in this segment due to the high

investment required in setting up the plant. During year 2000 Sri Lanka exported 1218 MT of instant tea mainly to USA and European countries and according to the available data the demand for instant tea is gradually increasing due to the convenience in preparation.

Sri Lanka is the first country to manufacture a wide range of gift tea packs.

Ms. Mlesna Tea Company who pioneered this industry identified certain developed countries as potential markets and began the marketing of gift tea in different types of packaging. Today, a number of exporters produce a wide range of gift tea packs, which have attracted many consumers not only from the West but also from the East and Middle East as well. Although, the volume of flavoured and gift tea exports are rather small, the foreign exchange earnings accrued to the country from such exports are substantial.

The world is becoming more and more health conscious and consumers are looking for agricultural products, which are produced without the use of artificial fertilizer and pesticides. As a result the production of organic tea or bio tea commenced in Sri Lanka a few years ago. At present a volume of about 750 MT of organic tea are produced annually and approx. 500 Tons exported mainly to West European countries Japan, USA and Australia. Although, the consumption of green tea was earlier popular only in China and Japan, the recent surge in demand for health products by the consumers have increased the demand for green tea in other markets as well. The research work carried out on health aspects of both black and green tea have revealed the health benefits of green tea which has further boosted the demand for this product. Sri Lanka exported a volume of 642 MT of green tea last year. The Green Tea segment in Sri Lanka is still very small but growing slowly and steadily.

The tea industry in Sri Lanka underwent two major changes during the last 130-year period. First when the British owned plantation was nationalized in 1975 and secondly when the management of State owned tea estates were given to the private sector for 50 years with option to renew the lease. The industry continued to cater to the changes in the world tea market irrespective of these changes and it is certain that it will meet the new challenges in the world tea market and respond with new product and marketing innovations in the future too. ■

Protecting children from Ultraviolet Radiation

International Organic Day 16.09.2001

Children are in a dynamic state of growth, and are therefore more susceptible to environmental threats than adults. Many vital functions such as the immune system are not fully developed at birth, and unsafe environments may interfere with their normal development. But most environmental hazards are preventable: reducing exposure is the most effective way of protecting children's health.

Ultraviolet radiation and ozone depletion

Ultraviolet (UV) radiation is one component of solar radiation. It is progressively filtered as sunlight passes through; the atmosphere, in particular by the ozone layer.

As the ozone layer is depleted, the protective filter activity of the atmosphere is reduced and more UV radiation, in particular the more harmful UVB, reaches the Earth's surface. In the year 2000, the ozone hole over the Antarctic reached its biggest size ever covering 11.4 million square miles – an area more than three times the size of the United States. For the first time it also stretched over populated areas exposing local residents to extreme levels of solar UV radiation. Local authorities warned residents in Southern Chile that they could sunburn in less than seven minutes and should avoid spending time outdoors in the middle of the day.

Sustained ozone depletion and enhanced levels of UV radiation on Earth will aggravate UV effects on the human skin, eyes and immune system. Children are at especially high risk of suffering damage from exposure to UV radiation.

Health effects of sun exposure – a global concern

UV radiation causes sunburn and skin cancer and accelerates skin ageing. Overexposure to UV radiation can lead to inflammations of the cornea and the conjunctiva in the eye, and causes or accelerates cataract development. A health issue of growing concern is that UV radiation can reduce the effectiveness of the human immune system. Consequently, sun exposure may enhance the risk of infection and could limit the efficacy of immunization against disease. Both of this act against the health of poor and vulnerable groups, especially children of the developing world, as many developing countries are located close to the equator and hence exposed to very high levels of the UV radiation.

Skin cancer has become the focus of intervention campaigns in Australia, Europe and North America. Many believe that only fair-skinned

people need to be concerned about overexposure to the sun. Although it is true that darker skin has more protective pigment, the skin is still susceptible to the damaging effects of UV radiation. The incidence of skin cancers is lower in dark-skinned people; nevertheless skin cancers occur and are often detected at a later, more dangerous stage. The risk of other UV-related health effects, such as eye damage, premature ageing of the skin, and immunosuppression is independent of skin type. For example, a 10% decrease in total stratospheric ozone is predicted to result in between 1.6 and 1.75 million additional cases of cataract per year worldwide.

Skin cancer incidence on the rise

Between 2 and 3 million non-melanoma skin cancers and approximately 132,000 malignant melanomas occur globally each year. With a sustained 10% decrease in stratospheric ozone, an additional 300,000 non-melanoma and 4,500 melanoma skin cancers could be expected worldwide, according to UNEP estimates. Currently, one in five North Americans and one in two Australians will develop some form of skin cancer in their lifetime.

People's behaviour in the sun is the main cause for the rise in skin cancer rates in recent decades. An increase in popular outdoor activities and changed sunbathing habits often result in excessive UV exposure. Many people consider intensive sunbathing to be normal and unfortunately, even many children and their parents perceive a suntan as a symbol of attractiveness and good health. However, a suntan is merely a sign of UV damage and represents the skin's defense to prevent further harm.

Children require special protection

The United Nations Convention on the Rights of the Child states that children, including all developmental stages from conception to age 18, have the right to enjoyment of the highest attainable standard of health and to a safe environment. Children require special protection, as they are at a higher risk of suffering damage from exposure to UV radiation than adults, in particular.

- ① A child's skin is thinner and more sensitive and even a short time outdoors in the midday sun can result in serious burns.
- ② Epidemiological studies demonstrate that frequent sun exposure and sunburn in childhood set the stage for high rates of melanoma later in life.
- ③ Children have more time to develop diseases with long latency, more years of life to be lost and more suffering to be endured as a result of impaired health. Increased life expectancy further adds to people's risk of developing skin cancers and cataracts.

- ④ Children are more exposed to the sun. Estimates suggest that up to 80 per cent of a person's lifetime exposure to UV is received before the age of 18.
- ⑤ Children love playing outdoors but usually are not aware of the harmful effects of UV radiation.

Caring for children in the sun

According to an Australian study, four out of five cases of skin cancer are preventable by sensible behavior. Encouraging children to take simple precautions will prevent both short-term and long-term damage while still allowing them to enjoy the time they spend outdoors. Parents should serve as role models, and it is their responsibility to ensure that their children are protected adequately. Always keep infants of less than 12 months in the shade and make sure you children:

- ① Cover up with protective clothing, a hat and sunglasses.
- ② Apply broad-spectrum sunscreen of SPF 15+.
- ③ Limit their time in the midday sun.
- ④ Seek shade.
- ⑤ Avoid sunlamps and tanning parlours.

Shade, clothing and hats provide the best protection for children – applying sunscreen becomes necessary on those parts of the body that remain exposed like the face and hands. Sunscreen should never be used to prolong the duration of sun exposure.

Sun protection is relevant in all settings

Sun protection is not only necessary on the beach or at the swimming pool but applies to all outdoor settings. In many situations sunburn arises because people do not realize the need for protection. Children can be exposed to intense sunlight on the balcony at home, on weekend trips or a visit to the zoo, during breaks at kindergarten or school, and during outdoor sporting activities.

Particular attention should be paid in the mountains, as UV levels increase by approximately 8 per cent with every 1000 meters altitude. Although UV radiation is most intense under cloudless skies it may be high even on an overcast day. Many surfaces such as snow, sand and water reflect the sun's rays and add to the overall UV exposure.

Sun protection programmes can make a difference

Sun protection programmes to raise awareness and achieve changes in life-style is urgently needed to slow down and eventually reverse the trend towards more and more skin cancers. An effective campaign can have an enormous impact on public health: the regular use of sunscreen with sun protection factor 15 or higher up to the age of 18 could decrease the frequency of skin cancer in Australia by more than 70 per cent. Beyond the health benefits, effective education programmes can significantly decrease

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Changes introduced in the Management System in the Tea Plantations - Net Impact & Important Issues

History

The management of tea estates have undergone several changes (Table 1) during 134 year long history of tea plantations in Sri Lanka which started in 1867 by James Taylor at Loolecondera, near Deltota in Hewaheta. Before the Land Reform Act of 1972 all tea estates of Sri Lanka (then Ceylon) were owned by either foreign or local private companies. Often groups of estates were owned by companies and major shares of these were foreign, mainly British. The properties of foreign companies were managed by local "Agency Houses". The estates owned by local companies either managed their properties themselves or hired same "Agency houses". Many of the houses were British controlled and each were managing about 20 to 60 estates.

Land Reform Act

The Land Reform Act of 1972 imposed a limit of 20 ha as the maximum extent of agricultural land that could be owned by an individual or a company. Tea and all other holdings excess of this amount were taken over by the government in two stages in 1971 and 1975 and compensation were paid to the owners. Ownership of acquired properties were

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vested to Land Reform Commission (LRC).

After the nationalization of estates in 1972, management of these properties were entrusted to many government

organizations including Janatha Estate Development Board (JEDB) and Sri Lanka State Plantations Corporation (SLSPC). However in early 1980s government decided to hand over the management of all estates to JEDB and SLPC and close down all other government agencies which were managing estates while leaving the ownership of immovable property of plantations with LRC.

This arrangement didn't continued for long time as ownership of plantation property, plant and equipment were transferred to JEDB and SLSPC in early eighties through a gazette notification. This move has made the JEDB and SLSPC owners of all plantation properties in the country in additional their managerial role.

The performance of JEDB and SLSPC was found very unsatisfactory as they continued to function at a large losses except for brief period in 1983-84 when there was a international tea price boom. This forced the government to appoint a Task Force in July 1990 to examine this situation and identify practical solution to reverse this trend.

Findings of task force were released in 1991. This report identified reasons underlying the poor success of JEDB and SLSPC in managing plantations. Labor cost increases directed by the government and increases in export levies on tea also have contributed partly to the poor performances of two state organizations managing plantations. Management and structural related deficiencies were identified as the major contributors. They include:

Table 1. Main changes took place in the management of tea plantations in Sri Lanka.

Phases of change	Ownership of immovable property		Management of property
	Owning entity	Type of ownership	
1. Pre-land reform (prior to 1971)	Foreign companies & local companies	Freehold Freehold	Agency houses Owners or Agencies
2. Post-land reform: phase I (started in 1971)	Land Reform Commission (LRC)	Freehold	LRC/ Co-ops / Usawasama / JEDB / SLSPC
3. Post-land reform: phase II (started in early eighties)	JEDB/SLSPC	Freehold	JEDB/SLSPC
4. Privatization phase I (1992): Privatization of management	JEDB/SLSPC / Regional Plantation Companies (RPC)	Freehold Leasehold	Managing Agents (MA) selected from private sector
5. Privatization phase II (1995): Sale of 51% of share capital to private sector firms	RPCs	Leasehold	RPCs themselves or MAs within the group

- JEDB and SLSPC should have been managed as a commercial venture, instead used policies and procedures that were developed for running the government departments,
- Management system adopted did not contained mechanism for motivation of employees: rewarding success and punishing failure,
- These organizations are complex and too large to manage.

Task force also identified some characteristics of JEDB and SLSPC which could be used advantageously in rehabilitation of management of plantations. They include:

- JEDB and SLSPC do not possess large numbers of unskilled workers,
- Superintendents had necessary skill and training to carry out their managerial tasks effectively,
- Funds received by estate plantations especially from donor funding sources have been utilized successfully for improvement of tea plantations.

Privatization of plantations

Phase I

1992-Privatisation of Management

On the basis of recommendations of the task force government decided to restructure the state owned plantations through privatization. The implementation of restructuring process were undertaken by the Plantation Restructuring Unit operated under the Ministry of Finance. Twenty two, fully government owned plantation companies were created and 449 of 502 estates under JEDB and SLSPC were allocated to these companies (Table 2). These companies were referred to as Regional Plantation Companies (RPCs) and each contained between 12 and 29 estates. Of these twenty two RPCs, Chilaw and Kurunegala Plantation Companies were not allocated with tea estates.

53 estates managed by the JEDB and SLSPC were not included since they appeared to be financially non-viable in near future.

All current assets and liabilities of the estates and part or whole of regional offices of JEDB and SLSPC and deferred gratuity liability in respect of employees were allocated to RPCs. Also the employees including management staff and labourers of JEDB and SLSPC became employees of one of RPCs. The huge overdrafts drawn from state banks and debts were not vested with RPCs. Also the ownership of estate land and assets fixed to it including tea bushes, buildings and machinery were not vested with RPCs in order to make the deal compliance with the Land Reform Act. These lands were granted to RPCs on a 99 year lease at a nominal rate Rs. 500.00 per estate. RPCs were registered under the "conversion of public corporations or government owned business undertakings into public companies act No. 23 of 1987".

Sri Lankan private sector companies with a reputation for sound management were selected based on a competitive bidding to manage the 22 RPCs (Table 2). Foreign companies were only given the opportunity to bid in association with a local companies as providers of technical support for the management effort.

Agreements were signed between state-owned RPCs and MCs. The initial period of agreement was for five and half years (June 1992 to end of 1997) and further three five year period provide minimum specified levels of performance are met by the MCs. MCs had freedom of making all day to day management decisions. Government appointed board of RPC were involved in making broad policy. Share of profits (depending on the share quoted in the bid, on average it is approximately 20%) were paid to MCs. In a event if RPC is made a loss in a year, then government will bare the loss and profit base share of MC

Table 2

Regional Plantation Companies and Managing Agents involved in Tea Plantation Management in Sri Lanka

Regional Plantation Company	Management Company	Extent (ha)
Hapugastenne Plantations Ltd.	Finlay Plantation Management Services	6578
Watawala Plantations Ltd.	Lankem Plantation Services Ltd.	5289
Balangoda Plantations Ltd.	Uva Sabaragamuwa Plantation (Pvt.) Ltd.	6297
Kahawatte Plantations Ltd.	Estate Mgmt. Services (Pvt.) Ltd.	5676
Bogawantalawa Plantations Ltd.	Metropolitan Mgmt Services (Pvt.) Ltd.	5210
Malwatte Valley Plantations Ltd.	Magpek Col. Land Plant. Mgmt. (Pvt.) Ltd.	5867
Maskeliya Plantations Ltd.	Uva-Western Plantations (Pvt.) Ltd.	6466
Agalawatte Plantations Ltd.	Macwoods Plantations (Pvt.) Ltd.	2302
Talawakelle Plantations Ltd.	Hayleys Plantations Services Ltd.	5017
Kelani Valley Plantations Ltd.	D.P.I. Plantations Ltd.	4505
Horana Plantations Ltd.	Ceyexxe Plantations Ltd.	2958
Agarapantana Plantations Ltd.	Creasy Plantation Management Ltd.	7621
Maturata Plantations Ltd.	Crop Management Services (Pvt.) Ltd.	5951
Elpitiya Plantations Ltd.	Carsons Agro Services Ltd.	3650
Madulsima Plantations Ltd.	Stassen Plantation Mgmt. Servs. (Pvt.) Ltd.	4224
Kegalle Plantations Ltd.	RPK Management Services (Pvt.) Ltd.	1514
Pussellawa Plantations Ltd.	Free Lanka Management Co. (Pvt.) Ltd.	3624
Kotagala Plantations Ltd.	George Steuarts Mgmt. Services (Pvt.) Ltd.	3398
Namunukula Plantations Ltd.	BC Plantations Services (Pvt.) Ltd.	4010
Udapussellawa Plantations Ltd.	Aitken Spence Plant. Mgmt. (Pvt.) Ltd.	4284
Elkaduwa Plantations Ltd.	Metropolitan Plantation Mgmt (Pvt.) Ltd.	
Total	-	94541

in that year will be zero. MCs were given the freedom to make all decision related to marketing of estate produce. MCs had to arrange all funds related to working capital and investment capital from the banking system through RPCs using the moveable and lease assets of RPCs. MCs were also encouraged to manage the properties other than tea plantations in estates such as mineral resources, diversification of lands into crops and forestry and developing facilities for ecotourism.

Phase II

1995 Privatization of share capital or controlling interest

In February 1995 cabinet of newly elected PA government decided on fuller privatization of state plantations. Hence sale of controlling interest (i.e. the share capital) was announced in June 1995. Foreign investors were allowed to bid but total foreign shareholdings were restricted to 49 percent of the issued share capital of an RPC. The main elements of the framework for the sale of controlling interest of RPCs (Shanmugaratnam, 1997) are given below: i) lease period was reduced from 99 to 50 years and nominal lease rentals were to be increased substantially from Rs 500 per estate and revised annually; ii) 51 per cent of shares to be sold on an all or nothing basis: here the MAs of RPCs that had shown operational profits were eligible to purchase 51 of shares at the Colombo Stock Exchange (CSE) market price; iii) 20 per cent of the shares to be offered for sale to the general public through the CSE; iv) 10 per cent of the shares to be distributed free of charge among the employees of the RPCs; v) the remaining 19 per cent belong to the government and; vi) government to own a Golden Share in each of the RPCs in order to exercise control over certain affairs.

Management practices and policies before and after privatization

Quality and quantity of production largely depends upon the manage-

ment practices and policies adopted by plantation companies. Previous account shows that management of tea estates of Sri Lanka have gone through major changes during last three decades. However it is important to examine whether these changes have brought sufficient changes to practices and policies adopted at tea estates to make them more efficient and effective enterprises.

The management policies used in the estates in the past are often rigid and totally inappropriate in the present day context. Plantation workers suffered from poor morale and job dissatisfaction. Further they lack the trust and confidence in the management. Main reasons for creating above situation were:

- Management decisions and information are channeled from top to bottom as no room is left for plantation workers and low level estate staff to participate in the production decisions.
- High level estate management has placed little trust on workforce and hence no responsibility has been given to the workers in the field and factory. Entrusting responsibility is an important means of motivating any workforce to get best out of them in terms of both quality and quantity of work.
- Expectations of younger generations of estate workers have risen due to higher educational qualifications obtained by them. Hence they are looking for better working conditions and are increasingly looking for outside employment. Only very limited opportunities exist off the estates and hence they remain frustrated. Older generations have accepted this way of living and have less feel for ownership and control.
- Social and geographical marginalization that is exclusion of estate workers from main stream society have caused their future uncertain. Due to their socio-cultural background they find extremely difficult to access and receive services and opportunities available to other rural and urban civilians. This situation has created

voluntary unemployment and social unrest among the plantation workers and residents. This desperate situation have forced most male and female workers turning to alcoholism.

- Estate management dictated how they work and live on the plantations that is workers and residents were totally depends upon the management for their social welfare needs. They have no capacity to solve their own problems. Also no mechanism or forum exists to discuss relevant problems and issues with the management and seek solutions collectively. Low awareness of their rights, weak collective strength to address common issues and lack of mechanisms to voice their satisfaction have aggravated the frustration in the estate work force and residents.

After privatization of estates in 1995, plantation companies have effected significant changes and steps to improve the management of estates. Plantation companies are in a better position to introduce more effective management practices and also involve plantation workers and households in decision making and collective action. Plantation companies are privately owned and smaller establishments when compared to JEDB or SLSPC. More authority and responsibility have granted to estate managers and their staff. This decentralization power has given them the advantage of flexibility in decision making according to specific conditions and circumstances prevails in the region and estates.

For example estates have initiated actions to face the predicted labour shortages in the near future. They include improvements to the welfare system existed in the estates for workers and actions to improve job satisfaction:

- Participatory decision making: Workers of all levels participate at planning and evaluation of progress,
- Improvements and changes to

crop management and tea processing: more market oriented systems and worker education and training,

- ② Incentives and bonus for workers as rewards for satisfactory work,
- ② Improvements to the welfare system: Infrastructure development at estates including better facilities at line rooms, family health, child day care and education etc.,
- ② Trips to workers to different places of the country: recreation and pilgrimage,
- ② Mechanization of cultivation practices and processing,

Still lot has to be done to make this important industry sustainable and viable in the long run. The excellent role performed by the estate management with the assistance of very skilled work force, is less rewarded due to constraints exist at the marketing. As we all know that the difference between price paid by overseas consumers for our tea and price received at the Colombo tea auctions by producer is enormous. However it is extremely difficult to change this situation as few



multinational companies dominated the World Tea Trade. Sri Lanka is facing severe competition from other tea exporting countries at the world tea market. The situation is even more difficult as cost of production of Sri Lankan tea is

high and also productivity is low when compared to our competitors such as India and Kenya. These conditions and circumstances have made profit margins of Sri Lankan tea is still unbeatable when it comes to quality characteristics.

This leaves great responsibility with the governments and state agencies involved in tea promotion to use whatever diplomatic ties they have with other nations into the advantage of tea trade of Sri Lanka. Few companies however have successfully established direct trading links with some countries and few others are promoting their tea at local market. However it is too early to comment on the success of these very positive developments.

When considering the scale of workforce directly involved in the production and people involved in marketing, amount of foreign exchange obtained and environmental roles performed by tea plantations, tea industry can be still considered as one of most important industries to people and economy of Sri Lanka ■

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costs in the health system and strengthen the economy. Current prevention campaigns in Australia invest approximately US\$ 0.08 per person per year, while the direct costs of skin cancer treatment have been estimated at US\$ 5.70 per head of the population during the same period of time.

WHO's Activities to Promote Children's Sun Protection

INTERSUN PROJECT

INTERSUN, WHO's Global UV Project aims to reduce the burden of disease resulting from exposure to UV radiation. The programme encourages and evaluates research to fill gaps in scientific knowledge, assesses and quantifies health risks, and develops an appropriate response through guidelines, recommendations and information dissemination. Beyond its scientific objectives, INTERSUN provides guidance to national authorities and other agencies about effective sun awareness programmes. These address different target audiences such as occupationally exposed people, tourists, schoolchildren

and the general public. The programme is working towards the development of a framework for children's sun protection education that comprises an educational package as well as recommendations on best practices.

Global Solar UV Index

The UV Index (UVI) was developed by WHO, the United Nations Environment Programme, and the World Meteorological Organisation as part of an international effort to raise public awareness of the risks of sun exposure. It is a simple measure of the intensity of the sun's ultraviolet rays at the earth's surface, and in many countries is presented as part of the weather forecast. INTERSUN promotes the harmonized use of the UVI, and advises governments to employ this educational tool in their health promotion programmes. WHO encourages dissemination channels such as the media and tourism industry to publish the UVI forecast and promote sun protection messages.

Global School Health Initiative

WHO's Global School Health Initiative seeks to mobilize and strengthen health promotion and edu-

cation activities to improve the health of students, school personnel, families and other members of the community. Schools are vitally important settings to promote sun protection, and play a significant role in increasing awareness and changing behaviour among children and the people taking care of them. As part of the WHO Information Series on School Health, INTERSUN is preparing a document that will describe the essential steps in setting up a school initiative on sun protection.

Task Force for the Protection of Children's Environmental Health

In response to new knowledge about the special vulnerability of children and to growing concerns about the health impact of unsafe environments, WHO set up a Task Force for the Protection of Children's Environmental Health in July 1999. Its objectives are to raise the awareness of member states and general public, to assist countries in mitigating the effects of environmental threats and to develop methodologies for risk assessment and the dissemination of information. Protecting children from harmful ultraviolet radiation is one of the topics covered by the Task Force's activities ■

Tea Sector Performance & Recent Trends:

An Overview

A lean growth of 1.8 percent recorded in agricultural output in the year 2000 seem to be a far lower rate when compared to the 4.5% growth recorded during the year 1999. The major contribution of this growth was made by tea and coconut output.

On par with the open economic policy the measures taken by the Government have helped the industry in a big way continuing the upward trend since 1993, tea production recorded an output of 284.5 kg. At the end of 2000 the production further increased by 7.7 per cent surpassing

was gifted to the employees of the estates and the balance 20 per cent was to be issued as an initial Public Offering (IPO) and the remaining 19 per cent was to be sold through the stock market. At end of 2000, the privatisation of 8 companies had been

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completed and all shares were fully sold. In another 8 companies, 19 per cent of the stock is still with the government, while in 4 companies 39 per cent of the stock in with the government.

During the year 2000 Malwatta Valley Plantation Ltd., sold 20% of its shares in an IPO and reduced the government stake further. Depending on market conditions the balance shares will be sold through the stock market in the future. According to the Central Bank, since tea prices remain favourable at present, the plantation companies should seriously think of building up a self-generated capital development fund for long-term investment in the sector. Such investment would make the companies resilient when the prices take downturn.

Production in year 2000

The recorded high yield in tea production was mainly supported by the increased fertilizer application and favourable weather conditions prevailed during the year. This record performance in production was mainly reflected in a notable improvement in the production of low elevation teas whose output accounting for 54% of the total yield. This recorded by 12% in 2000 to 166 million kg. Production in high and medium elevations

with a share of 27% and 18% respectively increased by 3% and 5% respectively in 2000.

The tea small holder sector, accounting for 60% of the total output significantly improved its performance recording an increase of 12% in 2000 to 84 million kgs. Plantation companies, which accounted for the balance output recorded only a growth of 2 percent. The yield in the small holder sector improved by 2% over the preceding year to reach a new record of 2,216 kg per hectare in 2000. The average national yield of tea was 1,618 kg. per hectare. The yield in the estate sector is estimated to have improved by 6% to 1,151 kg. per hectare, mainly on account of improved management in estates under the privatised plantation companies. However, average yield in the estate sector plantations remained far below that of the small holder sector, as a large extent of tea in the estate sector is still under low yielding seeding tea, compared to the high yielding Vegetative Propagated (VP) tea of small holder.

The production of CTC (Cut tear and Curl) tea which enjoyed a good popularity, declined by 4% to 17.5 million in year 2000. The high cost of production of local CTC teas cannot compete with low priced varieties available in the global CTC markets. The import of CTC tea to Sri Lanka for blending and re-exporting purposes amounted to 2.8 million kg in 2000 recording 62% increase compared to 1999. However, the total quantity of tea imported for blending accounted below 1% of domestic production.



the 300 million kg. mark for the first time and reached a new peak output level of 306 million kg. In the meantime a 17.7 per cent increase recorded in the price level.

The agricultural policy of the government focussed on allowing greater participation of the private sector in production and marketing of tea while the government acted as a facilitator in the development of the sector.

Privatisation of the regional plantation companies, which began in 1995 is being progressed steadily throughout this period. Under the divestiture Plan 51 per cent of the stock of these Companies was sold to the management companies while 10 per cent of the stock in each company

Table 1

SRI LANKA TEA EXPORTS - 2001

Description (Jan.-June 2001)	Quantity (Kgs)	Value (Rs Mn)	Approx.Av.Unit Value per kg (Rs cts)
Tea Bulk	87,701,175	15,694	178.94
Tea in Packets	43,037,946	8,814	204.79
Tea in Bags	6,652,694	3,074	461.99
Instant Tea	906,888	506	558.12
Green Tea	408,662	200	489.11
Other Tea	6,542,179	1,989	304.06
Total	145,249,542	30,277	208.44
Tea imported/Re Exported	3,096,681	1,222	394.45
Grand Total	148,346,223	31,498	212.32
January/June 2000			
Tea in Bulk	88,793,627	13,725	154.57
Tea in Packets	29,960,860	5,298	176.83
Tea in Bags	6,536,506	2,509	383.82
Instant Tea	670,510	330	491.85
Green Tea	306,241	114	373.53
Other Tea	4,237,726	1,106	260.88
Total	130,505,470	23,082	176.86
Tea imported/re-exported	3,884,581	981	252.42
Grand Total	134,390,051	24,062	179.04

Source: News Letter Forbes & Walker Tea Brokers (Pvt) Ltd. August 2001

Major Importers of Sri Lanka Tea - January-June - 2000/2001 (in Kgs.)

Major Country	Bulk Tea	Packeted Tea	Tea Bags	Instant Tea	Other Tea	Total 2001	Total 2000
CIS	16,153,164	10,020,942	1,885,937		84,435(A) 1,839,928(B) 2,207,835(C)	32,192,233	26,110,318
UAE	13,927,857	4,610,313	204,166		22,381(A) 117,120(B) 1,455,870(C)	20,337,707	20,397,677
Syria	8,829,721	2,642,289	135,890	34,147	1,081(A) 33,852(B) 24,450(C)	11,701,430	8,177,609
Libya		10,885,429	71			10,885,500	1,681,596
Turkey	4,236,576	1,877,519	70,345		127,314(B) 2,034,580(C)	8,306,077	10,378,113
Iran	5,974,098	1,563,338	2,736		1,252(B) 24,897(C)	7,571,321	6,478,997
Saudi Arabia	2,993,095	1,198,495	331,892		28,405(A) 21,467(B) 34,085(C)	4,607,439	5,733,101
UK	7,765,712	49,230	30,939	32,715	20,858(A) 18,650(B) 31,234(C)	4,238,135	4,909,888
Jordan	1,637,492	1,997,046	378,078		17,040(A) 38(C) 837(C)	4,030,531	3,398,488
Iraq	2,649,692	1,041,875	3,038	-	23,000(C)	3,717,605	5,420,748
Japan	3,037,838	54,680	201,169	210,433	1,281(A) 14,420(B) 49,826(C)	3,569,677	3,212,650
Chile	3,055,004	22,062	5,786	-	110,400(B) 7(C)	3,193,259	2,871,281.00

(A) Green Tea

(B) Tea Imported/Re-exported

(C) Other Tea

In the year 2000 the annual average price at the Colombo tea auctions improved by 18% to Rs 135.53 per kg. continuing the upward trend that prevailed in the previous year. Production short fall in Kenya active participation of Russia at the Colombo auctions the rupee deterioration against US dollar and the healthy climate were the major contributory factors for this gain.

The quantity sold at the Colombo auctions increased by 6% to 277 million kg in 2000, while volume of export increased by 7% to 288 million kg. As such the export earning from tea was up by 22% to Rs 53,1333 million. Out of total exports Russia's purchase of Sri Lankan tea accounted to 16% of the total export. However, the value addition of the tea export still not much improved and remained at 37% since 1999. On the other hand 63% of the tea exports were still in bulk form. Share of tea in packs and tea bags were only 30% and 4% respectively. But the 63% bulk tea exports amounted to 183 million kg.

Sri Lanka Tea Exports - Jan/June 2001

Exports of 148.3million kgs for the period January/ June 2001 shows an increase of 13.9 million kgs when compared with the 134.3 million kgs. exported during 2000. Exports to Libiya shows the largest growth of 9.2 million kgs when compared with the same period last year. However, total exports to all destinations show only an increase of 13.9 million kgs. The alarming factor in analysing the exports during this period is that out of the top twelve destinations five destinations recorded a decline in imports when compared to last year.

The average approx. unit FOB value of total exports inclusive of imports for re-export in US\$ terms for January/June 2001 of \$2.35 shows an increase against the \$2.28 of last year.

Export of tea in packets shows an increase of 13.07 million kgs when compared to last year. This form of exports has contributed the most towards the growth of exports for the first half of the year

2001. However, the approximate unit FOB value per kg has only appreciated marginally to \$2.27 this year from \$2.25 of last year. (Table 1)

Revenue generated for the first half of the year shows an increase of 30.9% when compared with last year.

Contribution of Tea to GDP

Tea remains as the major single product that made the highest contribution to the Gross Domestic Product during the past several years (Table 3).

Table 2 shows the contribution to GDP by agricultural sector as a whole and the contribution of sub sectors including tea sector. Accordingly in rupee terms the tea sector contribution in the GDP remained around 15% -17% during the last 5 years. For decades tea sector has been the life line of Sri Lanka's economy through its contributions to foreign exchange earnings, em-

WORLD EXPORTS (M Kg)

Country	Jan to	2001	2000	+/-	%
India	May	65.2	66.3	-1.1	-1.7
North India		27.8	23.7	4.1	17.3
South India		37.4	42.6	-5.2	-12.2
China	April	76.3	71.3	4.9	6.8
Kenya	March	74.1	69.9	4.2	6
Sri Lanka	May	119.3	109.9	9.4	8.6
Tanzania	March	7.8	7.3	0.5	5.4
Uganda	March	7	6.2	0.8	12.9
Zimbabwe	April	7.5	7.9	-0.4	-5.1
Total		357.2	339	18.2	5.4

Source: Indian Tea Association

ployment, output and the general welfare of its peoples. This trend is most likely to continue in the future too, since there are no immediate signs for a major shift in this situation. In terms of sustainability, tea cultivation can be termed as a goldmine of Sri Lanka. The total investment in the tea sector could be identified as the largest investment so far made although a major portion of that investment was made during the latter part of the 19th century and early part of the twentieth century. Our ancestors had made a great sacrifice for tea cultivation, by leaving their native lands at the height of the tea boom during the latter part of the 19th century. As a result a grocery store in England in 1860 had a banner which read "Drink Ceylon Tea to improve your brain" (W.A. Wijewardene, at the tenth Annual General Meeting of the Private Tea Factory Owners Association) and that tea had a stimulated effect on the body.

However, it is argued that the tea sector faces good times and bad times. For instance the tea sector came under strain due to Sri Lanka's failure to correctly identify the changing consumption pattern of beverages in the world. **In an age of world trend for natural or organic food and drink the tea industry has a great opportunity as a chemical free drink.** But we have not been able to cater to this vacuum due to our traditional system of marketing of tea.

Sri Lanka has been producing and exporting traditional orthodox black tea from the day we

began this industry, when there was a very high demand in the west for it. Since around 1960s specially western consumers shifted the pattern of tea consumption from the orthodox black tea to instant tea, thereby moving away from Sri Lankan tea products. Consequently Sri Lanka had to depend on other destinations such as Pakistan the Middle East and Russia to sell its tea. No serious efforts were taken to adjust its production to cater to this new consumer segment.

Tea Development Project (TDP)

The TDP, which commenced operations in 1999 by the government as a follow up of the Small Holder Tea Development Project, completed its first year of operations in 2000. During the year, a good response was shown by tea smallholders and factory owners to obtain loans under the credit scheme. This was mainly due to the increase in prices for tea in world markets and the favourable weather conditions for planting tea. As a result, the Participating Financial Institutions (PFIs) were able to disburse loans surpassing the targets set for the year. The banks disbursed a total sum of Rs 337 million in 2000, which was 117 per cent above the target for disbursements during the year.

The activities eligible for financing under the project are replanting of tea, establishment of tea nurseries, rehabilitation and modernisation of tea factories, purchase of vehicles and construction of green leaf collection centres. As in the case of the previous credit scheme for smallholder tea development, a majority of the loans had been granted for factory rehabilitation, which was 50 per cent more than the amount targeted for it. A lower level of loans had been granted for establishment of tea nurseries due to the difficulties in providing collateral acceptable to PFIs, such as mortgage of properties, etc. by the Tea smallholders engaged in development of tea nurseries.

The performance of PFIs shows that DFCC Bank (DFCC) accounted for 41.7 per cent of total loan disbursements in 2000. Hatton National Bank (HNB) (16.4 per cent), Commercial Bank (16 per cent), National Development Bank (NDB) (10.7 per cent), Sampath Bank (8.9 per cent) and Bank of Ceylon (BOC) (6.3 per cent) accounted for the balance disbursements. Two new PFIs, Bank of Ceylon (BOC) and Kandurata Development Bank (KDB), having satisfied the eligibility criteria for admission as PFIs, were admitted under the scheme during the year.

Upto the end of 2000, PFIs together approved 568 loans amounting to Rs 506 million and disbursed 499 loans amounting to Rs 372 million. Of these, the Central Bank has refinanced 236 loans amounting to Rs 217 million.

Reference

1. Weekly Tea Report Forbes & Walker
2. Annual Report Central Bank of Sri Lanka

WORLD TEA SCENARIO

World Crop (M Kg)

Country	Jan to	2001	2002	+/-	%	Total 2000
India	May	204.2	206.9	-2.7	-1.3	846
Bangladesh	May	8.8	9.0	-0.2	-2.2	54
Indonesia	May	35.8	36.4	-0.6	-1.6	169
Kenya	May	135.6	91.4	44.2	48.4	236
Malawi	May	26.8	26.4	0.4	1.5	42
Sri Lanka	May	135.2	132.5	2.7	2.0	306
Uganda	March	6.5	6.5	0.0	0.0	29
Zimbabwe	April	10.6	10.4	0.2	1.9	22
Total		569.2	524.1	45.1	8.6	1728

World Average Auction Prices (per kg.) January-May

In Countrywise Currency					In INR (Approx.)				
Country	Currency	2001	2000	+/-	2001	2000	+/-		
India	INR	65.68	59.45	6.23	10.48	65.68	59.45	6.23	10.48
North India		74.55	66.49	8.06	12.12	74.55	66.49	8.06	12.12
South India		50.37	47.51	2.86	6.02	50.37	47.51	2.86	6.02
Bangladesh: Tea		59.4	54.98	4.42	8.04	51.18	47.07	4.11	8.73
Indonesia	US Cents	105.55	120.51	14.96	-12.41	49.24	52.62	-3.38	-6.42
Kenya	US Cents	164	200	-36	-18	78.49	87.31	-10.82	-12.39
Malawi	US Cents	86.23	93.69	-7.43	-7.93	40.23	40.92	-0.69	-1.69
Sri Lanka	SL Rs	147.65	131.05	16.6	12.67	79.31	77.78	1.53	1.97

Table 2

Contribution of Tea in GDP (RsMn)

Sector	1996	1997	1998	1999	2000
Agriculture, Forestry & Fishing	156,108 (22%)	160,753 (22%)	164,804 (21%)	172,238 (21%)	175,317 (20%)
Tea	122,594	126,107	128,337	133,952	136,212
Rubber	10,332	11,069	11,195	11,341	12,226
GDP	695,934	739,763	774,796	808,340	857,035
Contribution by tea for GDP %	17.61	17.04	16.56	16.57	15.89

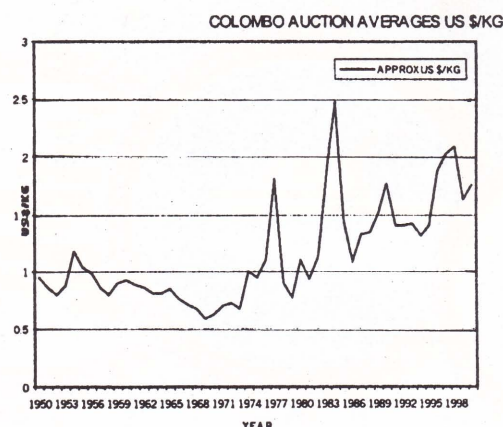
SPECIAL COMMENT

From the foregoing it will be noted that whilst Rupee prices/export earnings have appreciated sharply in 2000 compared with 1999, the corresponding increases in Dollar terms are only moderate. This underlines the fact that whilst the tea market in Colombo was reasonably strong in 2000 it cannot be considered boom conditions in any way. This is an important factor in projecting an outlook for the new year. Given below is a statement/graph giving the Colombo Auction Average Prices from 1950 to 2000 in Rupees per kg. and the corresponding Dollar equivalent based on the prevailing rate of exchange.

It is interesting to find that the highest equivalent Dollar average was recorded in 1984 at US\$ 2.47 with a Rupee average of only Rs. 62/79 per kg. whilst the year 2000 gives the highest Rupee average of Rs. 135/53 per kg. with an approximate Dollar equivalent of only US\$ 1.76 per kg.

In our view this clearly confirms that whilst tea prices are reasonably satisfactory it is not unrealistic in any way.

1981	18.10	0.94
1982	23.44	1.13
1983	43.27	1.84
1984	62.79	2.47
1985	39.01	1.44
1986	30.68	1.09
1987	39.30	1.33
1988	42.77	1.34
1989	54.61	1.51
1990	70.97	1.77
1991	58.27	1.41
1992	61.75	1.41
1993	68.88	1.42
1994	65.12	1.32
1995	72.21	1.41
1996	103.88	1.87
1997	119.40	2.02
1998	134.35	2.08
1999	115.31	1.64
2000	135.53	1.76



Most of the other producer countries such as China and Indonesia also do not have large crops during this period. A further important factor is that the quality of offerings particularly from Sri Lanka, South India and Kenya during the first quarter of any year is fairly useful with Sri Lanka having its western quality season.

With low crops worldwide and continuing demand likely from the major importing countries coupled with special interest for the seasonal quality westerns, it is fairly predictable that prices during the first quarter would continue to be satisfactory in most of the major auction centres and Colombo in particular. In fact, Colombo could record an appreciation on current levels at least in Rupee terms and hopefully even in Dollar terms in spite of a likely continuing depreciation of the Sri Lanka Rupee vis-à-vis the Dollar.

It is our expectation that this market trend should continue into the second quarter and are therefore reasonably confident of satisfactory prices for the first half of 2001.

Unfortunately a prolonged spell of reasonably high prices generally results in producer countries endeavouring to step up production at the expense of quality. Should this happen, we could have a surfeit of poor teas during the second half of the year on the world market which could result in a drop in prices for the so called "price teas" which in turn could have a snowballing effect across the entire price spectrum.

On the other hand, should the major producer countries in general and Sri Lanka in particular concentrate on harvesting maximum crop without losing sight of the importance of quality manufacture, the current supply/demand scenario, barring any unforeseen circumstances such as an economic downturn in a major importing country or an outbreak of war in an important tea importing region, should result in another satisfactory year for Sri Lanka's tea industry.

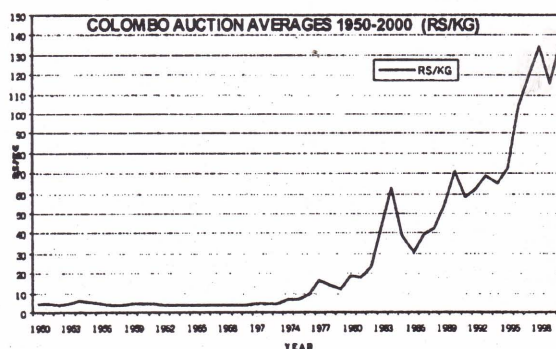
A good maxim to keep in mind is that "There is seldom a surfeit of Good Tea but there is invariably a surplus of poor tea"

COLOMBO TEA AUCTION AVERAGES

YEAR	RS/KG	APPROX US \$/KG
1950	4.55	0.96
1951	4.18	0.87
1952	3.81	0.81
1953	4.20	0.88
1954	5.63	1.18
1955	4.93	1.04
1956	4.75	0.99
1957	4.09	0.86
1958	3.81	0.81
1959	4.29	0.91
1960	4.42	0.93
1961	4.25	0.89
1962	4.09	0.86
1963	3.87	0.81
1964	3.89	0.82
1965	4.03	0.85
1966	3.61	0.76
1967	3.48	0.72
1968	4.03	0.68
1969	3.54	0.59
1970	3.72	0.63
1971	4.14	0.71
1972	4.38	0.73
1973	4.33	0.68
1974	6.62	1.00
1975	6.70	0.96
1976	9.21	1.10
1977	16.05	1.81
1978	14.09	0.90
1979	12.19	0.78
1980	18.33	1.11

PROSPECTS IN 2001

A likely global production increase of 60million kgs in 2000 following a comparatively low year such as 1999 was, does not reflect an excess supply situation. We would probably call it a balanced supply/demand equation since the normal increase in global consumption per annum at a conservative 2.5% would need 60 to 70 million kgs. In fact, we might even predict a tight supply position if the estimated global increase does not exceed 60million kgs during the calendar year 2000, World tea production during the first quarter of any year is normally low with North India and Bangladesh in winter and Kenya, Sri Lanka and South India experiencing dry weather conditions.



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- தினம் - 12 தங்கநாணயங்கள்
- மாதம் - ஒரு மோட்டார் கார், 3 கணினிகள், 5 மோட்டார் சைக்கிள்கள், 5 ஸ்கூட்டர்கள், 5 குளிர்ப்பானப் பெட்டிகள்
- வலய அதிஷ்டச் சீட்டிழுப்புகள் - ஒரு மோட்டார் படகு, ஒரு உழவு இயந்திரம், 5 கை இயக்க உழவு இயந்திரம், 10 தங்க நாணயங்கள்
- வருடம் - ஒரு மொண்டேரோ ஜீப்

அளப்பரிய நல்லதிஷ்டத்துடனும், விலைமதிப்பற்ற பரிசுகளுடனும், மக்கள் வங்கியின் ஜயஸ்ரீ 2 தான் உங்களது நல்லதிஷ்டத்துக்கான தாரக மந்திரம். ஜயஸ்ரீ 2 ன் மூலம், அதிஷ்டச் சீட்டிழுப்பிற் பரிசு பெறும் வாய்ப்பு ஒவ்வொரு நாளும், ஒவ்வொரு மாதமும், ஒவ்வொரு வலயத்திலும், ஒவ்வொரு வருடமும் உங்களுக்கு உண்டு. எந்தவொரு சேமிப்புக் கணக்கும், நடைமுறைக் கணக்கும் இந்தச் சீட்டிழுப்புக்குத் தகுதி கொண்டன என்பதே - முக்கியமான விடயம்.*

ஜயஸ்ரீ 2 ல் தகுதி பெறுவதற்கு நீங்கள் செய்ய வேண்டியதெல்லாம் - ஒரு மாதம் முழுவதற்கும் உங்கள் நடைமுறைக்கணக்கில் ஆகக் குறைந்த நிலுவையாக ரூ.5000/- ஐ அல்லது உங்கள் சேமிப்புக் கணக்கில் ஆகக் குறைந்த நிலுவையாக ரூ.10,000/-ஐ வைத்திருப்பதேயாகும். அதுமட்டுமல்ல, உங்களது கணக்கிற் சேரும் ஒவ்வொரு மேஸ்திக ரூ.5000/-மும் உங்களது வெற்றிபெறும் சந்தர்ப்பங்களை அதிகரிக்கும் என்பதையும் நினைவில் வைத்திருங்கள். நீங்கள் அதிகமாகச் சேமியுங்கள்! அதிகம் பரிசுகளைப் பெறுவீர்கள்!!



- දිනපතා රන්කඩ 12 ක් !
- මාසික දිනුම් ඇදීමෙන් නවීන මෝටර් රථයක්, පරිගණක 3 ක්, මෝටර් හයිලැන්ඩ් 5 ක්, ස්කූටර් 5 ක්, ශීතකරණ 5 ක්
- කලාප මට්ටම් දිනුම් ඇදීමෙන් මෝටර් බෝට්ටු 1 ක්, වැඩමර් 1 ක්, අත් වැඩමර් 5 ක්, රන්කඩ 10 ක් !
- වාර්ෂික දිනුම් ඇදීමෙන් මහාමෝටර් ජීප් රථයක්

මහජන බැංකුවේ ජය ශ්‍රී 2 ඔබට ආවේණික සැහි කන්දරාවක් හිමිකර දෙන සැබෑම වාතනා උපරතක්. දිනපතා, මාසපතා, කලාප මට්ටමින් සහ වාර්ෂික දිනුම් ඇදීමෙන් ජය ශ්‍රී 2 වාතනාවට හිමිකම් කියනන ඔබට උපරිත. මහජන බැංකුවේ සැම ඉගුරුම සහ ජංගම හිමුමක් ජය ශ්‍රී 2 දිනුම් ඇදීම සඳහා වලංගු.*

මාසයේ පුරා රුපියල් 5000/= ක අවම රේඛයක් ජංගම හිමුමක පවත්වාගෙන යන සහ රුපියල් 10,000/= ක අවම රේඛයක් ඉගුරුම හිමුමක පවත්වාගෙන යන සැම හිමුම් හිමියන්ම ජය ශ්‍රී 2 දිනුම් ඇදීම් සඳහා සුදුසුකම් ලබති. මීට අමතරව ඔබේ හිමුමේ තැන්පත් කෙරෙන සැම අමතර රුපියල් 5000/= කටම අතිරේක දිනුම් ඇදීම් අවස්ථා උදාවනවා! වැඩියෙන් ඉතිරි කළොත් වැඩියෙන් දිනුම් අවස්ථා!

ඔබේ සිතුවම් පැතුම් සඳහා මහජන බැංකුව කමිහිත් ඔබේ අනාගත සුවසේන උදකරන්න.