Chapter 3

AGRICULTURE, FISHING AND FORESTRY

3.1 Overall Trends

The agriculture sector recovered only partially in 2002 from the adverse effects it suffered from the severe drought in the previous year. The output of major agricultural produce, viz. paddy, tea and rubber, improved from the low levels in the previous year. Paddy output grew by 6 per cent owing to an increase in both the extent sown and the extent harvested during both Maha and Yala seasons. Favourable weather continued to prevail during the year and the availability of irrigation water enhanced the acreage under paddy, which also resulted in a low availability of land for other field crops. Except potato and soybeans, the extents and the production of all the other field crops dropped during the year compared to 2001. Potato output, which has shown an increasing trend during the last few years, under a high import tariff protection, increased by a further 53 per cent during 2002.

TABLE 3.1

Production and Price Changes of Major Agricultural Items

Item	Unit	Production		% Change in 2001/2002	
		2001	2002	Production	Prices
Tea	Kg.Mn.	295	310	5.0	3.7
Rubber	Kg.Mn.	86	91	5.2	25.4
Coconut	Nuts Mn.	2,769	2,392	-13.6	84.9
Paddy	MT '000	2,695	2,860	6.1	13.0
Sugar	MT '000	48	38	-21.5	23.3
Fish	MT '000	285	301	5.8	3.4

Sources : Central Bank of Sri Lanka
Relevant Authorities

Tea production, which declined during the previous year, recovered remarkably and reached an all time high output of 310 million kg. Rubber output, which was on a declining trend during the last few years and reached the lowest output in 2001, improved by 5 per cent in response to an improvement in local and international prices. However, coconut production, which declined during the previous year, declined further due to the lagged effect of the drought, which prevailed in 2001. Sugar output also declined due to a shortage of sugarcane intake at both Sevanagala and Pelwatte factories.

3.2 Agricultural Policy and Institutional Support

Unlike the policies on other sectors of the economy, agricultural policy is much more diverse. It spans a vast area covering environmental protection and management, bio-diversity, sustainability of the sector, infrastructure development, wasteland and watershed management, agricultural research, agricultural technology and technology transfer, input management, agricultural diversification, extent of liberalisation of both domestic and international trade in agricultural products, intervention in pricing, intervention in production, protecting intellectual property rights, developing policies on new developments such as genetically modified products, developing an incentive system that does not lead to distortions in resource allocation and moral hazard in the long run, extension services, and welfare of farmers and consumers. The process of policy making becomes even more complex since the agriculture sector is strategically important in the political process.

Agricultural policy has been aided by a healthy environmental policy being adopted by the Ministry of Environment and Natural Resources. Among other activities, the Ministry pursues a sound policy on managing the country's biodiversity and natural resources. The Ministry has taken several steps to prevent land degradation and desertification, improve water conservation, and facilitate biodiversity planning. The Ministry was actively engaged in introducing proper land use systems and soil conservation measures to ensure a balance between production and protection in a sustainable manner in the critical watershed areas.

The Ministry of Irrigation and Water Management has been managing and developing major irrigation systems, and implementing the government policy of participatory irrigation management of major and medium schemes under its 'Wap Haula' Programme. This programme aims at facilitating an efficient, effective and sustainable joint management of water resources for improved water and land productivity with beneficiary participation. The programme is expected to enhance farmer incomes and transfer environmentally favoured improved agricultural technology to obtain high yields with better water management practices.

Irrigation infrastructure was further developed by the Mahaweli Authority of Sri Lanka. The 'one-area-one-product programme' attempted to concentrate on producing more profitable agricultural and animal products in one area, to increase agricultural productivity to improve market links and exercise optimal utilisation of irrigation water.

Marketing infrastructure was improved with the action taken to establish Dedicated Economic Centres (DECs) in the

main fruit and vegetable growing areas. These centres provide a convenient trading floor for farmers to sell their products to the retail and wholesale dealers directly and obtain a better price for their produce. It is expected that the two DECs at Meegoda and Embilipitiya under construction at end 2002, will provide opportunities for the rural community in those areas.

The marketing infrastructure was further enhanced with the promotion campaign of the Forward Sales Contract System, introduced in 1999, among farmers, buyers, bankers, policy makers and the general public. In 2002, the programme was vigorously promoted by the prize money received under the World Bank's Development Market Place competition.

The question of supplying quality seeds to farmers in order to raise their productivity and through it, farmer incomes, has been an important issue in agricultural policy in Sri Lanka. Though a seed policy, which relies basically on the private sector for seed production was approved by the government in 1997, and an action plan for its implementation was developed, no sustainable solution has been found for the non-availability of quality seeds for field crop cultivation. It is necessary to remodel both the Plant Protection Act and the Seed Act to allow greater flexibility for private sector participation in this vital area. A satisfactory development has been the increased participation of the organised private sector, co-operatives, farmer organisations and farmer companies in the production of quality seed.

The fertiliser subsidy scheme continued with revisions made in October 2002. Under the revised scheme, the subsidy was fixed at Rs. 6,000 per metric ton of urea, irrespective of the international prices. The new scheme is expected to encourage imports when international prices are low. This could be considered a major improvement as the previous scheme resulted in a pervese outcome of urea being imported when the international price was at its highest, as the subsidy was linked to import prices.

Genetically Modified (GM) foods have become a hotly debated issue in the recent past, with scientific community defending GM foods, while some sections of the civil society canvass against them. In such a situation, it is necessary to clearly identify the merits and risks involved in GM foods before making any policy decision regarding their use in Sri Lanka. Any policy decision should also be backed by strong economic considerations such as raising food production in tandem with rising population, cost of enforcement of laws and the nature and reliability of evidence available against the use of GM foods. However, Sri Lanka's handling of the issue has been in a confused manner. GM foods were totally banned in Sri Lanka initially, without examining the practicability of the measure. Then, the decision was changed to a 'mandatory labelling' though there are no means of identifying transgressors of the requirement. Hence, it is advisable that decisions on important issues of this nature should be taken after weighing all the evidence for and against.

As pointed out by the final report of the Plantation Development Project (PDP), the high management fees charged by Regional Plantation Companies (RPC) has been a major issue. Due to the high and inflexible management fee, the profits reported by RPC s have reduced substantially, thereby lowering the share value of those companies in the stock market. Further, it increases the cost of production of plantation crops. The PDP report recommended that the government and RPCs sign a Memorandum of Understanding (MOU) on this issue. Some of the RPCs agreed to reduce their management fees, while some others are negotiating with the government on its request to reduce management fees in lieu of the government freezing the management rental at the 2001/2002 level. Those who do not sign the MOU will not be eligible for the ADB funded credit line for the development of the plantation sector.

In line with government's policy of deregulating the main sectors of the economy to accelerate economic growth, a Regulatory Review Task Force (RRTF) was appointed to review regulations in the tea sector. Its recommendations are presently under implementation. Accordingly, a Tea Industry Federation has been established in October 2002 as an apex body with the representation of all stakeholders in the industry. The aim is to address the problems associated with the tea sector, including existing government regulations and procedures affecting the marketing of tea. The Ministry of Plantation Industries has also appointed two other task forces on quality certification and process improvement during the year. RPCs may get an opportunity to diversify their activities into other areas such as power generation, tourism and gem mining with the relaxation of some of the existing regulations. A new collective agreement was signed with respect to increases in wages of the estate sector with effect from July 2002, after the lapse of the previous agreement, which was effective from March 2001. Accordingly, the total daily wage rate in the tea sector was increased from Rs 121 to Rs 147 (including price share supplement and attendance allowance), while in the rubber sector, it was increased from Rs 109 to Rs. 131.

Government also intervenes in marketing activities to stabilise prices of several goods at both upper and lower levels. To avoid plummeting farm gate paddy prices, the government intervened through the marketing arms of the CWE and cooperatives to purchase paddy of acceptable quality at Rs 13 per kg during the harvesting periods of Maha 2001/2002 and Yala 2002. In general, governments are not well equipped to intervene in private marketing activities. For example, in the case of paddy, even though government expressed the desire to purchase paddy during the peak harvesting season, the inability to store purchases and marketing problems have undermined the objectives of the exercise. Thus, it is preferable for the government to refrain from becoming involved in commercial activities. Instead, it could provide a consistent policy regime and an efficient infrastructure, and supply other essential public goods and services, which the private sector fails to supply.

The attempts to write-off agriculture loans have spread a serious moral hazard problem in the agriculture sector, where even the farmers able to repay may refrain from repaying their debt, expecting a future debt write off. This discourages the banking sector from granting credit to the agriculture sector, and encourages them to add an extra risk premium to the price of funds.

Sri Lanka has shown a mixed performance in terms of international trade liberalisation of agriculture products. In 2002, tariff on agricultural products remained low except for a few commodities such as potatoes, chillies, onions, green gram and rice. During the year, however, several changes were made to tariffs on agricultural imports. The surcharge of 40 per cent imposed on the import duty on rice, paddy, milk powder, potatoes, red onions, big onions and chilies was removed to bring down the cost of living. Tariff structures on some of the food items were also changed to protect the local farming community. The import duty of 35 per cent on paddy and rice was changed to a specific duty of Rs. 7 per kg with effect from 21 January 2002 and further reduced to Rs 5 per kg with effect from 6 November 2002. A specific import duty of Rs. 30 per kg on chillies, Rs. 6 per kg on big onions and Rs. 5 per kg on red onions was imposed with effect from 23 March 2002. The duty on green gram and cowpea was also changed to a specific duty of Rs. 5 per kg with effect from 06 November 2002. This conversion from ad valorem duty to specific duty is to provide adequate protection to domestic farmers, minimising price risk due to seasonal fluctuation of commodity prices. This will also eliminate the possibility of underestimation of import value.

Sri Lanka has maintained the bound rate on most agricultural products at 50 per cent with the World Trade Organization (WTO) in 2002. Sri Lanka maintains some measures of domestic support allowed in the Green Box or permissible categories and Article 6.2 subsidies of the WTO. However, Sri Lanka's support is much less than the WTO permissible support levels.

Despite various efforts, Sri Lanka's agriculture continues to suffer from natural shocks, technology gaps, low investment, inadequate availability of quality inputs, inadequate funding, transportation problems, marketing problems and the lack of a consistent set of trade and tariff policies. The problems are manifested in post-harvest losses, low labour productivity, producer unrest, out-migration of labour, and volatile prices. The sector has to evolve into a self-reliant and efficient sector, since any government intervention in supporting the sustainability of the sector, which crowds out private sector activities, has failed both historically and internationally. Inadequate irrigation systems increase the vulnerability of the sector to droughts. Small and fragmented lands do not yield economies of scale, thus discouraging mechanisation and capital investment. This in turn raises costs of production and lowers international competitiveness, as well as any profit margins. Furthermore, in the absence of productivity enhancing mechanisation, the subsidy-stimulated use of fertiliser, and pesticides may enhance productivity at the expense of deterioration of aquifers and soil.

Investment in agriculture could be stimulated if the policies governing the sector are well-specified, and consistent, and if the infrastructure facilities are put in place. As most investment in agriculture derive benefits in the long-run, the long-run policy should be made known to all stakeholders. Sri Lanka suffers from a serious policy drawback of making ad hoc changes on trade related policy measures as governments attempt to maintain a balance between low consumer prices and high producer prices.

A viable response to the falling productivity in the agriculture sector is an intense research and extension service aiming at enhancing productivity. It is often alleged that private sector research is discouraged due to inadequate intellectual property rights prevailing in the country. Government sector research activities are not well focussed on the needs of farmers and consumers, but rather are those governed by the availability of research facilities. The outcome of existing research is also not well connected with extension services.

Agriculture research in Sri Lanka is conducted by 12 state departments and institutes. The Council for Agriculture Research and Policy (CARP) has formulated the National Agriculture Research Policy (NARP), to reorient agriculture research to support the proposed National Agricultural Policy. NARP covers development and management of technology by improving its effectiveness through several innovative approaches. It emphasises developing partnerships with universities and the need for partnership building with the private sector to increase demand driven research and development activities.

As the transfer of technology is the weakest link in the research and extension system in Sri Lanka, the policy attempts to streamline the extension services, to increase the process of dissemination of information and new innovations, and to attract investment. It also proposes to regularly update an electronic database on agricultural research and establish a Technology Forecasting Intelligence System to create awareness among researchers.

Agricultural research received a further boost when the government allocated Rs.100 million from Budget 2003, to CARP for research on the crop, livestock, forestry and fishery sectors. This fund is to undertake research on high priority areas for demand driven research in both private and state sector institutions. This will enhance the growth of the agricultural sector by improving agriculture technology, which leads to increased productivity. It is also important to strengthen efforts in product development in agriculture, including by-product utilisation.

The policy thrust for sustainable agriculture development in the medium term was defined by the draft policy paper prepared by the Ministry of Agriculture and Livestock on 'National Agriculture Policy and Strategy' (NAPS). The objective of NAPS was to present a series of measures aimed

at harnessing and energising the growth potential in the food crop and livestock sectors to maximise its contribution to economic development.

The NAPS has clearly identified several important issues and challenges. It correctly recognises that improving labour productivity is a key factor. It further asserts that although food security is an important aspect, it cannot be pursued at the cost of increasing domestic food prices. Finally, the paper recognises that the development of an efficient food processing industry is critical for the sector's growth.

The key reform areas identified in NAPS are market reforms, enhancing the role of private entrepreneurship in agriculture, closer integration with the food processing industry, conservation and sustainable use of resources. Agriculture and livestock sectors are facing new issues and challenges arising from changing macro economic policies, and increasing openness and globalisation of the economy. NAPS is oriented to accommodate changes in the fundamentals of the economy, while guiding agriculture in the desirable direction.

Policies and strategies advocated in NAPS will not inhibit the essential structural transformation in the sector, which is crucial to improve the competitiveness of the sector and its growth potential. A shortage of agricultural labour will be a serious problem in the future. One way to overcome this will be to increase labour productivity. However, economies of scale through mechanisation cannot be reaped due to the present pattern of small-scale land ownership, which is hindering the process of mechanisation. The consolidation of small landholdings to larger landholdings is necessary to encourage investment in capital-intensive technology in agriculture.

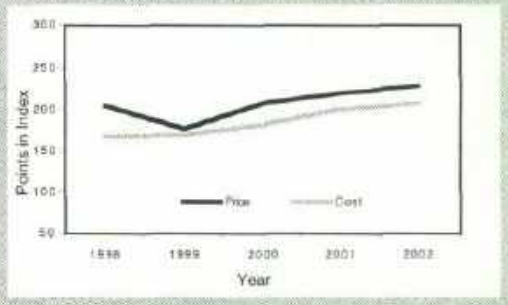
NAPS is planning to adopt product zoning and area specialisation as a targeting strategy to promote conditions for realising economies of scale in production, processing and service delivery. A rapid modernisation of the sector through the introduction of technologies covering the entire range from production to post harvest practices will be adopted, rather than introducing technology on a piece-meal basis. Budget 2003 proposed to establish an Agro-Enterprise Development Fund to improve cultivation practices among medium-scale farmers, and to introduce new crops and new technology to benefit the farmers.

3.3 Export Crops

Tea

Tea production in 2002 increased by 5 per cent and reached an all time high level of 310 million kg surpassing the previous peak output of 305 million kg recorded in 2000. This is attributed to improved management practices as well as the favourable weather conditions that prevailed, especially in high elevation areas, during the year. Output increases in all three elevational areas contributed to the overall performance of the tea sector. High grown tea production reported a significant increase of 16 per cent reaching 87 million kg, the highest output from the high grown sector since 1966 and accounting for 28 per cent of the total output. The low grown teas, which accounted for over 54 per cent of the total output, increased by 2 per cent, while medium grown tea output increased marginally from the output level in 2001. The production of cut, tear and curl (CTC) teas at 17.8 million kg recorded an increase of 4 per cent compared to 2001. Meanwhile, CTC tea imports for blending and re-exports declined by 3.7 per cent to 2.6 million kg in 2002.

Chart 3.1
Price and Cost of Production Indices: Tea
(1990=100)



The smallholder sector continued to play a dominant role in the tea industry contributing to 61 per cent of the national output in 2002. Majority of the smallholders are concentrated in low grown areas where the productivity is well above that of mid and high grown areas. The average yield in the smallholder sector amounted to 2,286 kg per ha in 2002 compared to the estimated average yield of 1,462 kg per ha in the estate sector[1]. The estimated national average yield of 1,875 kg per ha is much lower than the average yield of competing countries such as Kenya and India. The smallholders have a large share of their extent under high yielding vegetatively propagated tea, compared to the estate sector, which still has a substantial area under low yielding old seedling tea plantations.

The scarcity of labour, especially tea pluckers in the low grown area, has become a serious problem in the plantation sector. Irregular plucking affects the quality of tea and thereby lowers the price which such tea can fetch in the market. It was reported that post harvest damage in green tea leaf in the bought leaf industry is high due to high density packing and unsuitable methods of transportation. Damaged green leaf too contributes to reducing the quality of made tea.

During the year, the cost of production increased by 3 per cent to Rs 125.00 per kg due to increases in fuel and electricity charges, price increases of other inputs such as fertilisers and agro chemicals, and a wage increase of estate

[1] Average yield of the estate sector is based on the bearing extents provided by the Plantation companies, while the smallholder yields are provided by TSHDA.

workers in July 2002. This adversely affected the profit margins of the tea sector. Therefore, it is necessary to adopt measures to reduce costs, including restructuring of the plantation sector, linking salary increases to productivity and voluntary reduction of management fees by RPCs, for the long term growth of the tea sector.

TABLE 3.2

Statistics of the Tea Sector

Item	Unit	2000	2001(a)	2002(b)
1. Production	Kg.Mn.	306	295	310
High grown	Kg.Mn.	84	75	81
Medium grown	Kg.Mn.	56	54	54
Low grown	Kg.Mn.	166	166	175
2. Extent				
Total extent (c)	Hectares '000	180	180	181
Extent in bearing (d)	Hectares '000	166	165	165
3. Fertiliser used	MT '000	192	167	181
4. Replanting	Hectares	1,094	1,048	1,013
5. New planting	Hectares	264	402	387
6. Prices				
Colombo Auctions	Rs./Kg.	135.53	143.96	149.30
Export (f.o.b)	Rs./Kg.	184.73	208.89	218.78
7. Cost of production (e)	Rs./Kg.	110.64	121.67	125.06
8. Exports	Kg.Mn.	288	295	291
9. Export earnings	Rs. Mn.	53,133	61,002	63,106
	US$ Mn	700	690	660
10. Value added as % of GDP (f)		2.6	2.3	2.4

(a) Revised
(b) Provisional
(c) Extents revised based on the estate sector survey conducted in 1999 by the Tea Commissioner's Division. (excludes abandoned tea lands)
(d) Based on the data provided by Plantation Companies and Tea Small Holdings Development Authority.
(e) Includes green leaf suppliers profit margin
(f) In growing and processing only

Sources: Sri Lanka Tea Board
National Fertiliser Secretariat
Tea Small Holdings Development Authority
Plantation Companies
Central Bank of Sri Lanka

The quantity of tea traded at the Colombo Auctions increased only marginally in 2002, despite the record tea production reached during the year. The annual average Colombo Auction price in rupee terms increased from Rs 143.96 per kg to Rs 149.30 per kg in 2002, but in US dollar terms declined by 10 per cent to US dollar 1.50 per kg. Global tea prices were not very attractive during early 2002 due to the record level of global tea output in 2001. However, production shortfalls reported in major producing countries, except in Sri Lanka, during the latter part of 2002 helped absorb the excess supply of tea. Tea export volumes recorded a slight drop during 2002 in comparison to the previous year. The total export earnings from tea in rupee terms was Rs 63.1 billion, indicating an increase of 2.4 per cent compared to the previous year. However, in US dollar terms, earnings from tea declined by 4.3 per cent. The share of bulk tea exports increased from 60 per cent to 64 per cent thereby reducing the average export price for tea. This was due to a sharp decline in exports of packeted teas. However, unit values of value added tea exports showed a significant improvement in 2002.

Some large Sri Lankan tea exporters have started to build their own brand names to market tea in international markets and generate value for their products. The Sri Lanka Tea Board (SLTB) has initiated a major promotional drive to find new markets for value added tea products. These include the participation in international food and beverage trade fairs, uni-national promotion of Ceylon tea through commercial divisions of Sri Lankan Missions abroad, approval of 36 brand promotion projects with the objective of strengthening and sustaining the market share of Ceylon tea brands in selected countries. South Korea, Singapore, China and Malaysia have been identified as potential new markets for value added tea exports. In addition, a special brand promotional project was implemented to support Sri Lankan exporters to promote their brands in India under the Indo Lanka Free Trade Agreement (ILFTA). It is expected that SLTB promotional schemes would help increase value added tea exports from Sri Lanka.

The Tea Small Holdings Development Authority (TSHDA) continued to play a vital role in supporting the tea smallholders by providing necessary advisory and extension services. The TSHDA also implemented various subsidy schemes to encourage replanting and new planting. To enable small holders to cope with the increasing cost of cultivation, the replanting and infilling subsidy rates were revised upwards during the year. However, the subsidy scheme for tea planting with coconut was removed due to lack of funds from of the Coconut Cultivation Board. The TSHDA established 1,232 SmallHolder Development Societies as at end 2002 with a total membership of 159,377. The 'Tea Shakthi Fund', which was initiated in 1997 to provide social security to members as well as to encourage the investments in 'Tea Shakthi Projects', had a total membership of 136,349 at end 2002 with total savings of Rs 131 million. Under the Social Security Benefit Scheme, a sum of Rs 45 million has been paid to the smallholders. It is necessary to improve the transparency and the efficiency of the operation of all these funds to ensure good governance and optimal usage of resources.

Rubber

Rubber production, which reported the lowest output in 2001, improved by 5.2 per cent to a production of 91 million kg in 2002. The declining trend in output observed during the last few years reversed due to the improvement in international and local prices after April 2002. The output increase is attributed to the improvement in prices, which encouraged the tapping of some of the abandoned fields, as well as the increase in the number of tapping days on account of the dry weather that prevailed during the first half of the year. Any further increase was affected due to the rainy weather that prevailed during the latter half of the year, which reduced the number of tapping days. The average yield level also improved by 11 per cent to 724 kg per hectare after reaching the lowest level in 2001. Although the Rubber Research Institute (RRI) has developed several high yielding clones, the national average yield of

Chart 3.2
Price and Cost of Production Indices: Rubber
(1990=100)

rubber is very low in Sri Lanka compared to other countries. Low yields could be attributed to poor management practices of the smallholders who account for about 70 per cent of the total extent under cultivation. Depressed prices, which prevailed over a prolonged period of time, discouraged the use of fertiliser and the adoption of other agronomic practices, resulting in low yield levels. The entire rubber extent is in the wet zone, which also loses a considerable number of tapping days due to rainy weather. Rain guards introduced by the RRI earlier were not widely used by the rubber growers as they were reluctant to invest in those due to very low prices that prevailed for rubber for a long period. However, with the current attractive prices, it is expected that rubber growers will invest in rain guards to increase the number of tapping days.

TABLE 3.3
Statistics of the Rubber Sector

Item	Unit	2000	2001(a)	2002(b)
1. Production	Kg.Mn.	88	86	91
2. Area (c)				
Under cultivation	Hectares '000	157	157	157
Under tapping	Hectares '000	128	132	125
3. Yield	Kg./Hectare	683	653	724
4. Fertiliser used	MT '000	13	9	7
5. Replanting (d)	Hectares	793	557	712
6. New planting (d)	Hectares	251	141	225
7. Prices				
Export (f.o.b)	Rs./kg.	66.95	66.35	69.53
Colombo (RSS 1)	Rs./kg.	54.78	54.70	68.76
8. Cost of production	Rs./kg.	44.50	48.00	48.50
9. Exports	Kg.Mn.	33	32	37
10. Domestic consumption	Kg.Mn.	53.9	54.4	56.0
11. Export earnings	Rs. Mn	2,179	2,129	2,552
	US$ Mn	29	24	27
12. Value added as % of GDP (e)		0.4	0.4	0.5

Sources : Rubber Development Dept.
National Fertiliser Secretariat
Central Bank of Sri Lanka

(a) Revised
(b) Provisional
(c) Based on a survey of Agricultural Crops and Livestock-1993, by the Dept. of Census and Statistics
(d) Extents covered by cultivation assistance schemes of the Rubber Development Department
(e) In growing and processing only

During the year, sheet rubber output increased by 41 per cent, accounting for 47 per cent of the total output, compared to 35 per cent reported in 2001. Meanwhile, crepe rubber output declined by 18 per cent. Crepe rubber accounted for 29 per cent of the total output compared to a share of 37 per cent in 2001.

Rubber prices, which have remained at a low level since the East Asian crisis in 1997, began to improve after April 2002. Prices improved on account of a global short supply in the wake of an increase in demand from China. An MOU signed by the three major producers of natural rubber, viz., Thailand, Malaysia and Indonesia, to curtail rubber output by 4 per cent also helped improve the international prices. Meanwhile, the price of synthetic rubber also increased from April 2002 with the rapid increase in the international price of crude oil. The annual average price of all grades of RSS improved by over 25 per cent in rupee terms. The annual average price of crepe grades improved by 20 to 32 per cent. The price of latex crepe 1X and 1 reached over Rs.100 per kg during December 2002 compared to a price of approximately Rs.50 per kg reported during December 2001. The price of scrap crepe grades too increased during the year. In the wake of high domestic rubber prices, about 4 million kg of RSS 4 were imported by solid tyre manufacturers during 2002.

Coconut

Coconut production continued to drop for the second consecutive year. The output fell to 2,392 million nuts in 2002, the lowest production recorded since 1993. The drop in production is attributed to the lagged effect of the drought that prevailed during the previous year. Dry conditions were conducive to the proliferation of mite infestation, especially in certain parts of the coconut triangle, which had a negative impact on the output. As in 2001, over 1,000 metric tons of copra were imported to meet the severe shortage of the nut output.

In keeping with the depressed nut output, the production and export of the three major kernel products declined during the year. The nut equivalent of desiccated coconut (DC) production, which declined by 43 per cent in 2001, declined

Chart 3.3
Price and Cost of Production Indices: Coconut
(1990=100)

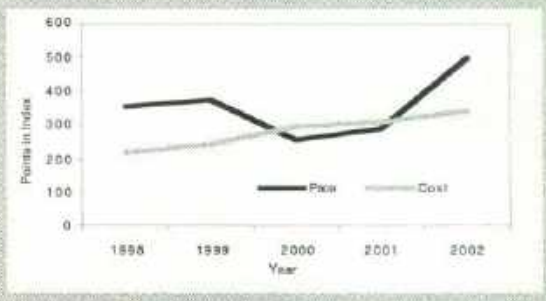


TABLE 3.4

Statistics of the Coconut Sector

Item	Unit	2000	2001(a)	2002(b)
1. Production (c)	Nuts Mn.	3,096	2,769	
Desiccated coconut	Nuts Mn.(d)	712	408	
Coconut oil	Nuts Mn.(d)	391	566	
Copra (e)	Nuts Mn.(d)	84	81	
Fresh nut exports	Nuts Mn.	29	28	
Domestic nut consumption (f)	Nuts Mn.	1,849	1,788	
Coconut cream and milk powder	Nuts Mn.(d)	31	30	
2. Total extent	Hectares '000	439	439	
3. Replanting/ Underplanting (g)	Hectares	714	667	
4. New planting (g)	Hectares	934	993	
5. Fertiliser used	MT '000	34	30	
6. Cost of production	Rs./Nut	3.27	3.65	
7. Retail price of a fresh nut	Rs./Nut	9.04	10.50	
8. Average export price f.o.b. (h)	Rs./Nut	7.35	7.05	
9. Export earnings	Rs.Mn	9,174	7,348	
	US$ Mn.	121	82	
Kernel products (h)	Rs.Mn.	5,786	3,639	
	US$ Mn.	77	41	
Other products	Rs.Mn.	3,388	3,709	
	US$ Mn.	45	42	
10. Value added as % of GDP (i)		2.2	2.0	

(a) Revised
(b) Provisional
(c) Estimated (breakdown does not add up to total production due to adjustments for changes in stock)
(d) In nut equivalent - converted at
1 mt DC = 8,000 nuts
1 mt Oil = 8,800 nuts
1 mt Copra = 5,775 nuts.
1 mt Coconut cream/milk powder = 8,000 nuts.
(e) Net exports only
(f) Estimated on the basis of household per capita consumption of 94.8 nuts per year. Excludes industrial use.
(g) Extents covered by cultivation assistance schemes of the CCB.
(h) Three major coconut kernel products only.
(i) In growing and processing only.

Sources :Coconut Cultivation Board
Coconut Development Authority
National Fertiliser Secretariat
Central Bank of Sri Lanka

further by 40 per cent and reached 246 million nuts, which is the lowest DC output since 1988.

The coconut oil production, which reported a significant improvement in 2001, also suffered a severe setback during the year due to the low crop. Coconut oil output declined by 53 per cent to 265 million nut equivalents, the lowest level recorded since 1993. Copra exports and fresh nut exports too declined by 12 per cent and 21 per cent, respectively. However, in contrast, coconut cream and milk powder exports, which account for about 1 per cent of the total nut production, recorded a 10 per cent improvement compared to the previous year, reflecting a desirable change in export structure in coconut products.

The average prices of DC, coconut oil and copra in the local market remained at attractive levels during 2002. Compared to 2001, the local market price of DC, coconut oil and copra reported increases of 72 per cent, 35 per cent and 69 per cent, respectively. Meanwhile, the average export fob price of DC in US dollar terms was 56 per cent higher than the previous year. However, Sri Lanka could not benefit from high international prices due to the non-availability of adequate stocks of nuts for export purposes. The DC industry had to compete with the oil industry and domestic consumers for the limited available nuts. The average export fob price of coconut oil and copra also reported significant increases of 44 per cent and 67 per cent, respectively, in US dollar terms. In keeping with the shortfall in the nut production, the average retail price of nuts increased by 36 per cent to Rs.14.29 per nut.

In spite of a drop in the volume of kernel products export earnings improved by 9 per cent in rupee terms purely on account of the attractive prices that prevailed for kernel products throughout the year. In the wake of increasing coconut oil prices in the domestic market, the government reduced the surcharge on the import of edible oil from Rs.20 per kg to Rs.5 per kg with effect from 1 April 2002. This led to a large quantity of edible oil imports, which more than doubled during 2002.

There was a sharp increase in domestic fresh nut prices due to the drop in production in 2002. However, a bumper harvest in 2000 and duty waivers given to importation of edible oil until mid 2000 resulted is a sharp decline in farmgate prices thereby adversely affecting profit margins of coconut growers. This discouraged the fertiliser application and other inputs, which contributed to the poor performance in coconut production in 2002. There was a suggestion to import coconut to relieve the consumers from the burden of high prices of fresh nuts. Although importing coconuts may be a short-run solution, strategies should be adopted to increase productivity of coconut plantations for sustainable growth in the coconut industry. Such strategies should include introduction of micro irrigation systems such as drip irrigation to minimise dependence on weather and encouraging intercropping coconut with cash crops to increase farm income. Attractive farmgate prices received during 2002, coupled with the assistance given to revive the coconut sector, will encourage growers to increase fertiliser application and improve management practices. It would contribute to a recovery in coconut production in 2003, there by benefiting the coconut industry as a whole.

Other Export Crops

The other export crops sector, which consists of spices and other agricultural commodities such as un-manufactured tobacco, arecanut, cashew kernels, essential oils and foliage and cut-flowers, recorded an improved performance during 2002. In rupee terms, earnings from this sector, as a whole, rose by 31 per cent to over Rs 16 billion, much more than the total export earnings from rubber and coconut in 2002.

Cinnamon is the most important crop in this sector. Sri Lanka is the world's largest producer and exporter of cinnamon, accounting for nearly two thirds of the global output. The extent under cinnamon cultivation is estimated at

TABLE 3.5
Production of Other Export Crops

metric tons

Crop	2000	2001 (a)	2002 (b)
Coffee	2,540	2,350	2,360
Cocoa	1,300	1,275	1,100
Cinnamon	13,490	13,600	12,000
Pepper	10,676	7,650	12,600
Clove	1,700	2,700	4,100
Cardamom	62	60	60
Nutmeg and Mace	1,100	1,100	1,600
Cashew	935	1,239	1,292

(a) Revised
(b) Provisional

Source : Department of Export Agriculture
Sri Lanka Cashew Corporation

approximately 25,300 hectares. According to estimates of the Department of Export Agriculture (DEA), the cinnamon production during 2002 has declined by 4 per cent, but export volumes have increased in raw form. Both farmgate prices and export prices increased during 2002. Earnings from cinnamon in primary form amounted to Rs 4.3 billion, while earnings from cinnamon bark oil and leaf oil exports amounted to Rs 258 million. There has been a steady increase in earnings from cinnamon exports in recent years and it has become the third largest export agricultural crop, next to coconut, since 1998. There is considerable potential for Sri Lanka to increase value added exports from cinnamon and measures should be taken to gain this capability in the medium term. At present, most of the cinnamon is exported as quills in bulk form. Therefore, it is necessary to encourage the value added cinnamon industry by adopting proactive measures and creating awareness among exporters.

Provisional estimates by DEA, based on export volumes, reported a 65 per cent increase in the output of pepper during 2002. However, the export volume of 2002 may have contained the previous year's stocks, thus leading to an over estimation of the output. The export volume of pepper increased more than two fold, to 7,900 metric tons, in 2002 compared to the previous year, earning nearly Rs 1.5 billion. More than 80 per cent of the pepper was exported to India under the Preferential Trade Agreement in 2002. However, international pepper prices were not attractive due to stiff competition among major producing countries in the global market in the wake of a decline in the pepper consumption in Europe.

The attractive prices that prevailed during the last two years encouraged cultivators to increase fertiliser application and improve other agronomic practices, resulting in a 64 per cent growth in clove production during 2002. Consequently, exports of cloves more than doubled to over 4 million kg, thereby increasing export earnings to a level above Rs 2.7 billion, surpassing the earnings from rubber during 2002. As a result of the preferential tariff rate enjoyed by Sri Lanka with India, more than 95 per cent of cloves were exported to India in 2002. Clove oil was exported in limited quantities and earnings from oil exports in 2002 amounted Rs. 19 million.

The foliage and cut flower sector too made a significant contribution towards the export earnings during the year. This sector expanded its activities with the assistance of the Department of Agriculture (DOA) and the Export Development Board (EDB). DOA continued to assist the floriculture sector by providing technical assistance, conducting training programmes, and issuing plant varieties through the National Botanical Gardens. EDB too assisted to develop the floriculture sector, especially among small-scale growers, and to find export markets. Export earnings from foliage plants, rooted cuttings and cut flowers rose by 7 per cent to Rs. 776 million during 2002.

DEA continued to assist the development of the export agriculture sector by implementing subsidy schemes and providing necessary inputs, technical information and extension services in cultivating and processing spices. However, the subsidies disbursed under the Export Agriculture Assistance Scheme (EAAS) declined from Rs. 72 million to Rs 25 million during 2002 due to lack of funds. As in 2001, more than 50 per cent of the subsidy payment was for pepper. The Second Perennial Crop Development Project (SPCDP) continued to assist the perennial crop sector by providing credit facilities through eight participatory banks. SPCDP also supported institutional strengthening of DOA and DEA and upgrading the quality of the research of the Council for Agriculture Research Policy (CARP). Further, it assisted DOA and DEA in the production of seeds and planting material through its projects.

Oil palm is gradually gaining popularity as a plantation crop, especially in the Southern Province. At present, the extent under oil palm in three Regional Plantation Companies (RPCs) is approximately 3,000 ha. Oil palm cultivation has been expanding in recent years, replacing unproductive rubber lands. The low labour utilisation, low cost of replanting and a shorter gestation period compared to rubber encouraged RPCs to shift to oil palm cultivation. During 2002, local crude palm oil production amounted to about 8 million kg, while palm kernel oil production amounted to 380 metric tons. However, there is a concern among the villagers in oil palm growing areas that the cultivation of oil palm could result in depleting the water table. Scientists of RRI have indicated that water transpiration in oil palm is higher than in rubber and the rate of transpiration further increases during droughts. However, the CRI is of the view that even though the water absorption capacity is high in oil palm, its productivity is higher compared to rubber, coconut and many other crops. Further research has to be conducted for economic processing of the biomass produced by oil palm and waste generated from palm oil extraction to provide value addition to the industry.

There is a big potential for organically cultivated horticultural products as they receive very attractive prices in the European markets. Therefore, assisting cultivation of those high value agricultural products by educating farmers and providing necessary inputs would generate a good income for

rural farmers. A Task Force has been set up to make recommendations to develop spices and allied products and to come up with a long- term plan to expand this sector.

3.4 Domestic Agriculture

Paddy

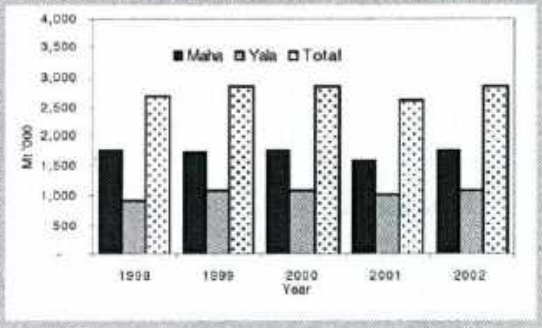
Paddy production, which suffered a setback during the 2001 cultivation year, recovered partially during 2002 with the improvement in the weather. The output grew by 6 per cent and reached 2.86 million metric tons (137 million bushels) during 2002. Extents sown and harvested, as well as output, increased during both Yala and Maha seasons. However, the annual average yield, which recorded an increasing trend during the last few years, reaching a peak level in 2001, dropped by 1.5 per cent approximately to 3.9 metric tons per hectare in 2002. This was as a result of a 9 per cent drop in the average yield in the Yala season. Adequate rainfall at the beginning of the season led to the cultivation of even the marginal lands, which resulted in lowering the average yield during the Yala season. However, the average yield during the Maha season improved by 3 per cent and reached an all time high level of approximately 4 metric tons per hectare.

Paddy output during the 2001/2002-Maha season improved by 10 per cent due to a 6 per cent increase in the extents sown and harvested and a 3 per cent improvement in the yield. The Uda Walawe area, which was severely affected by the drought in the previous Maha season, reported the highest improvement. The production in Uda Walawe recorded an almost fifteen-fold increase, while the districts of Kurunegala, Puttalam and Anuradhapura reported increases of 23 per cent, 25 per cent and 12 per cent, respectively. With the improvement in the security situation, the output in almost all the districts in the Northern Province increased during the season. As in the last few years, the five major paddy producing districts of Kurunegala, Polonnaruwa, Ampara, Anuradhapura and Mahaweli 'H' area, together, accounted for more than half the Maha output (52 per cent).

Paddy output during the Yala season recorded a marginal increase, in spite of a 9 per cent drop in the yield, purely as a result of an increase in the extents sown and harvested. Kurunegala District reported a more than two fold increase in output during the Yala season. The other districts which reported noteworthy improvements were Galle, Hambantota, Puttalam and Moneragala, with increases of 79 per cent, 21 per cent, 39 per cent and 44 per cent, respectively. Most of the districts in the Northern Province too reported improved outputs with the cessation of hostilities and the free movement of fertiliser such as urea. However, the output in the other major paddy producing districts such as Polonnaruwa, Ampara, Anuradhapura and Mahaweli 'H' area reported declines of 16 per cent, 9 per cent, 36 per cent and 42 per cent, respectively. In Polonnaruwa and Anuradhapura commencing of Yala cultivation was delayed due to inadequate supply of water. The three districts of Ampara, Polonnaruwa and Kurunegala accounted for more than a half (52 per cent) of the Yala output. For the ninth consecutive year, Ampara reported the highest Yala output and accounted for over one fifth of the total production during the season, where the entire extent under paddy is irrigated in the Yala season.

After six consecutive years of implementation, the special 'Yaya' demonstration programme organised by the Extension Division of DOA to improve productivity in paddy lands was discontinued during 2002 due to lack of funds. DOA claims the programme contributed positively towards improving the national average yield levels and that yields obtained in the fields where the demonstrations were carried out were much higher. Necessary funds should be made available to the DOA to continue the 'Yaya' demonstration programme as it is proven to be successful.

Chart 3.4
Paddy Production



The farmgate price of paddy remained above Rs. 14.00 per kg. throughout the year, except for two short spells during the peak harvesting period immediately after the Maha and Yala harvests.

The 35 per cent import duty on imported rice was changed to a specific duty of Rs. 7.00 per kg. with effect from 21 January 2002. However, the CWE was allowed to import 30,000 metric tons of rice at a reduced duty of Rs. 4.00 per kg to contain the increasing domestic rice prices at the beginning of the year before the Maha harvest. Licensing requirement imposed on the importation of rice in July 2000 were also removed in March 2002 and specific duty was reduced to Rs. 5.00 per kg with effect from 6 November 2002. As the paddy sector is protected through a tariff barrier, there is no need for a non-tariff barrier such as a licensing requirement. The removal of the licensing is a step in the right direction. It is expected that since the import policy is simple and transparent, the market will respond to any price fluctuations by importing as and when necessary.

Removal of the licensing requirement on the importation of rice, coupled with the depleted stock position at the beginning of the year due to a significant drop in output during

TABLE 3.6
Statistics of the Paddy Sector

Item	Unit	2001(a)			2002(b)		
		Maha	Yala	Total	Maha	Yala	Total
Gross extent sown	hectares '000	479	319	798	510	342	852
Gross extent harvested	hectares '000	471	294	765	496	321	820
Net extent harvested	hectares '000	418	264	682	444	290	734
Production	mt '000	1,613	1,082	2,695	1,774	1,086	2,860
	bushels '000	77,287	51,821	129,108	85,002	52,027	137,029
Yield (c)	kg./ hectare	3,860	4,102	3,954	3,990	3,742	3,896
Credit granted	Rs.mn.	251	170	421	234	315	549
Purchases under the GPS	mt '000	-	-	-			
Rice imports	mt '000	-	-	52			95
(Paddy equivalent)	(mt '000)	-	-	76			140

(a) Revised
(b) Provisional
(c) Yield per hectare for Maha and Yala are calculated using data from the Department of Census and Statistics which are based on crop cutting surveys while total yield is calculated by dividing total production by the net extent harvested.

Sources : Department of Agriculture
Ministry of Agriculture and Livestock
Department of Census and Statistics
Sri Lanka Customs
Central Bank of Sri Lanka.

2001, led to an increase in the imports of rice during 2002. Imports of high quality 'basmati' rice also increased to cater to the tourist sector, which was reinvigorated by the successful negotiations for lasting peace in the country.

During the year, DOA released two new varieties of high yielding and pest and disease resistant paddy varieties with a 3 1/2 months cultivation period. These varieties had been developed at the Bombuwela and Ambalantota research stations of DOA.

Other Field Crops

As in the previous year, the performance of other field crops during 2002 was not very satisfactory. The declining trend observed in the output of most of these crops continued in 2002, with the exception of potato and soyabean. The potato output continued to increase for the fourth consecutive year owing to the heavy protection provided to potato through a high tariff on imports. The specific duty of Rs.20 per kg imposed on consumption potato imports in December 2000 continued in 2002 as well. Potato production, which improved by 19 per cent in the previous year, reported a further 53 per cent improvement during 2002. The output increased purely on account of a 55 per cent increase in the extent cultivated. The heavy protection provided to potato assures the farmers of a remunerative income, which has resulted in the cultivation of a large extent under potato at the expense of cultivating vegetables in the Nuwara Eliya and Welimada areas. As a result, the price of vegetables rose during the year due to the reduction in the supply.

Chillie production, which has been on a declining trend during the last few years, declined further due to a reduction in the extent cultivated. However, the average yield level achieved was 12 per cent higher than the previous year indicating that the more productive lands remained under chillie cultivation, while the less productive ones, which could not face the competition from imports, moved out. Output of big onions and red onions too continued to drop for the third consecutive year. Therefore, with a view to protecting the chillie and onion farmers from cheap imports, the tariffs were revised in March 2002. The tariff of 35 per cent was replaced with a specific duty of Rs.30 per kg for chillies and Rs.6 per kg and Rs.5 per kg for big onions and red onions respectively.

The output of green gram, black gram and cowpea, which has been declining since 1998, declined further during the year, due to reduction in the extent cultivated. The average yield of all three crops was better than in the previous year indicating that the more productive lands have remained under these crops, while the less productive ones have dropped out. With a view to protecting the farmers, the ad valorem tariff on green gram and cowpea was also changed, to a specific duty of Rs.5 per kg for both crops with effect from 06 November 2002.

Local purchases of big onions by the CWE increased by 23 per cent while the purchase of dried chillies and green gram declined by 81 per cent and 51 per cent, respectively. In keeping with the increased output of potatoes, imports declined by 40 per cent during the year. Big onion imports increased by 18 per cent in response to the reduction in domestic production.

Fruits and Vegetables

The overall vegetable production declined by 4 per cent to 530,000 metric tons in 2002, according to provisional estimates of the Department of Census and Statistics. The production of low country vegetables and up country vegetables declined by 4 per cent and 3 per cent, respectively. The decline in the production of up country vegetables is due to the reduction in the extent under cultivation as the lands were used for potato cultivation. Prices of many varieties of vegetables during 2002 were relatively higher than in 2001 due to supply shortages as well as high input prices such as agrochemicals, and fertiliser, and increased transport costs. During the year there was a wide fluctuation in the prices of vegetables. The annual average retail prices of low country vegetables ranged between Rs 22.00 and Rs. 43.00 per kg, while the prices of upcountry vegetables ranged between Rs. 23.00 and Rs.55.00 per kg.

The fruit and vegetable sector largely operated in small farm allotments and home gardens, except for a few large-scale commercial farms of pineapple, banana and rambutan. Protected agriculture technology (in a controlled environment) is being used by organised groups of farmers to grow high value vegetables such as bell pepper, tomato, cucumber and lettuce in greenhouses, which, coupled with the application of necessary inputs, increases productivity and quality, and reduce incidence of diseases. Even though demand for high value vegetables is increasing due to increased demand by super markets, the tourist industry etc., production and marketing planning should be in place to minimise price fluctuations. To generate high income in this sector, development of storage, packing houses, packing materials and transport facilities with a controlled environment, and expansion of marketing facilities such as forward purchase agreements would be needed.

DOA released new varieties of banana, grapes, mandarin and vegetables during the year and carried out several training programmes on protected agriculture to increase awareness in the farmer community. The Institute of Post Harvest Technology too conducted several training programmes and workshops for the farmer community on post harvesting and agro-processing. It is encouraging to note that the private sector actively engaged in providing technical assistance for high tech agricultural activities such as drip irrigation, poly tunnels and protected agricultural systems.

During 2002, more than 10 million kg of vegetables with a value of Rs 661 million and 6 million kg of fresh and dried fruits, valued at Rs. 379 million were exported. In addition, the processed fruit and vegetable product exports amounted to 7 million kg, with a value of Rs. 726 million. The main markets for fruits and vegetables were the Middle East, the Maldives and Europe.

Sri Lanka imported more than 48,000 metric tons of fruit, valued at Rs 1.7 billion, during 2002. As in the previous year, apples, oranges, dates and grapes were the main varieties of fruits imported.

Sugar

Sugar production, at 38,000 metric tons, was 21 per cent less than the output in 2001. The production declined for the third consecutive year and reached the lowest level since 1987. The domestic production of sugar accounted for less than 7 per cent of the total sugar consumption in 2002. The output at Sevanagala declined by 32 per cent, while that at Pelwatta fell by 14 per cent. Despite an improvement in the recovery rates, sugar production dropped purely as a result of a reduction in the volume of sugarcane crushed at both factories. The total cane input crushed at these factories declined by 24 per cent to 430 thousand metric tons. At Pelwatta, its own and private cane purchases declined, resulting in a 19 per cent drop in the quantity crushed. Meanwhile, the cane crushed at Sevanagala declined by 31 per cent.

The overall sugar recovery rate improved by 3 per cent to 8.77 per cent in 2002, purely due to a recovery rate of 9.03 per cent at Pelwatta. In contrast, the recovery rate at Sevanagala declined to 8.4 per cent.

With the intention of reducing its involvement in sugarcane cultivation and production of sugar, the government sold 90 per cent of the shares held in Sevanagala Sugar Industries to a private entrepreneur for Rs.550 million. The balance 10 per cent of the shares was retained by the government to be gifted to the employees. Meanwhile, 53 per cent of equity shares in Pelwatta Sugar Industries Ltd, was sold by the government at Rs.8.25 per share, yielding Rs.289 million. The new management is planning to go ahead with a massive expansion programme, including the promotion of dairy farming along with the sugarcane cultivation.

The Sugarcane Research Institute (SRI) continued its research activities during the year. For the first time in Sri

TABLE 3.7

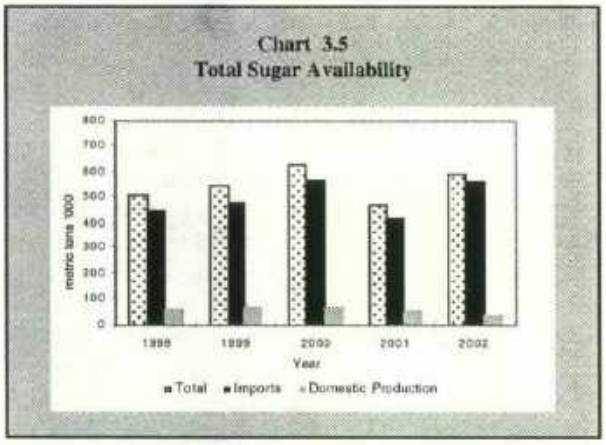
Statistics of the Sugar Sector

Item	Unit	Sevanagala Sugar Factory		Pelwatte Sugar Factory		Total	
		2001 (a)	2002 (b)	2001 (a)	2002 (b)	2001 (a)	2002 (b)
1. Total area under cane (with ratoons) (c)	Hectares	3,466	3,665	4,091	3,820	7,557	7,215
2. Area Harvested (c)	Hectares	2,702	2,798	3,343	2,702	6,045	5,500
3. Cane Harvested (c)	MT '000	236	151	132	103	368	254
4. Private cane purchased	MT '000	1	0.1	197	163	198	163
5. Quantity of cane crushed	MT '000	237	163	329	267	566	430
6. Average yield (c)	MT/Hectare	85	54	98	38	55	46
7. Sugar production (without sweepings)	MT '000	20	14	28	24	48	38
8. Sugar recovery rate (d)	%	8.51	8.40	8.64	9.03	8.48	8.84

(a) Revised.
(b) Provisional
(c) Includes nucleus estates and allottees.

(d) Recovery rate = $\frac{\text{Sugar produced}}{\text{Quantity of cane crushed}} \times 100$

Sources: Pelwatte Sugar Industries Ltd.
Sevanagala Sugar Industries Ltd.



Lanka, SRI produced a new improved cane variety using tissue culture technology. The new variety, which is suitable for rain-fed cultivation, is reported to give higher yields, both in terms of sugar and crop tonnage per hectare, than any other currently grown commercial variety in the Moneragala District. It is also resistant to a major sugarcane disease prevalent in the sugarcane growing districts of Sri Lanka.

3.5 Fish and Livestock

Fish

The Ministry of Fisheries and Aquatic Resources Development reported fish production at 301,460 metric tons, a growth by 5.8 per cent in 2002. Output in the marine sector increased by 7.2 per cent while the aquaculture sector declined by 5.8 per cent. The increase in the marine sector is due to the increased fishing activities in the Northern and Eastern coastal areas with the cessation of hostilities after the signing of the ceasefire agreement between the government and the LTTE.

Reflecting the reduced output in the aquaculture sector, the volume and value of prawn exports declined by 19 per cent and 27 per cent, respectively. The drop in output of aquaculture and the inland fishery sector was attributed to the reduction in breeding and stocking of fingerlings. Fresh and frozen fish exports declined by 14 per cent in volume terms to 7,750 metric tons, which resulted in the export earnings declining by 11 per cent to Rs. 2.9 billion. Despite the huge potential, the country is still a net importer of fish and fishery products. Annually, a large quantity of canned fish and dry fish is being imported. Total fish imports declined by approximately 4 per cent to 74,000 metric tons of which canned fish and dried fish accounted for 66 per cent.

In response to an increase in the output, the price of all varieties of fish at the Colombo market reported a relatively lower price increase during the year despite the increased demand, with the economic recovery. Average wholesale price of fish increased by around 3 per cent, in comparison to an increase of around 8.5 per cent in 2001.

Due to a reduction in the availability of funds, the issue of crafts and fishing gear to fishing community by the Ministry of Fisheries and Ocean Resource Development was curtailed during 2002. Only 2 multi-day boats, 351 traditional crafts and 17 sets of fishing gear were issued during the year, which was much less than the issues in the previous year. Subsidies disbursed to the marine fisheries sector under various subsidy schemes too declined, by 42 per cent, to Rs. 21 million during 2002.

At present, Sri Lanka accounts for about 1 per cent of the global ornamental fish industry. During the year, the earnings from the exports of ornamental fish declined marginally to Rs 529 million.

TABLE 3.8
Fish Production

metric tons '000

Sub-Sector	2000	2001(a)	2002(b)
Marine (c)	267	255	273
Aquaculture	37	30	28
Total	304	285	301

(a) Revised
(b) Provisional
(c) Coastal and deep sea sectors

Source: Ministry of Fisheries and Aquatic Resources Development
National Aquatic Resources Research and Development Agency

Livestock

The livestock sector consists mainly of the dairy and poultry sub sectors. According to the Ministry of Agriculture and Livestock (MAL), milk production was estimated at 266 million litres recording a marginal increase during 2002. Domestic production of dairy milk accounts for about 42 per cent of the national milk requirement. In addition, 83 million litres of buffalo milk were produced during the year, which was mainly used for processing of curd. The price paid for milk during the year was Rs. 15.00 per litre compared to Rs. 14.56 per litre in 2001. However, the increase in the prices of coconut poonac and cattle feed during 2002 increased the cost of production significantly and adversely affected the profit margins of the dairy farmers. To support the livestock industry, maize imports were made duty free from March 2002 to bring down prices of cattle feed.

The total milk collection by the major milk processing industries such as MILCO, Nestle Ltd. and International Dairy Products Ltd. during 2002 declined by 10 per cent to 92 million litres. Even though the milk production has increased in recent years, the collection was poor due to various factors such as low farmgate prices and poor marketing systems, which resulted in a decline in the milk products during the year. The total quantity of milk products imported during 2002 amounted to 65,821 metric tons at a cost of Rs 10,488 million of which milk powder accounted for nearly 56,000 metric tons.

There is an urgent need to uplift the livestock industry to make available an adequate supply of liquid milk, especially among rural children, to curb malnutrition. As the dairy sector

has a tremendous potential to increase its contribution to economic growth, particularly the development of the rural economy, it is necessary to encourage private sector participation to invest in the livestock industry.

The poultry industry has made significant progress in recent years due to the active participation of the private sector. MAL has reported that national poultry meat production increased by 26 per cent to 88 million kg. This could be partly attributed to greater demand resulting from the revival of the tourist industry, uninterrupted power supply and the incentives provided by the government. However, egg production during 2002 declined by one per cent to approximately 954 million. The reduction is attributed to the spread of a poultry disease in the first half of the year, which affected the output of eggs.

In order to promote poultry exports, Budget 2002 introduced an export rebate scheme for exports of poultry meat. A rebate of Rs. 20 per kg is granted for chicken exported to any country with effect from October 2002 for eligible exporters under the scheme. The direct exporter will receive Rs. 17 per kg while the exporter designated contract farmer will receive Rs. 3 per kg. The rebate is limited to the first six million kg exported under this scheme. The aim of the scheme is to encourage exporters to enter the Gulf and the Maldivian markets. Under this scheme one exporter exported approximately 60,000 kg of chicken to the Maldives during 2002.

3.6 Inputs

Fertiliser

Total fertiliser issues during 2002 increased by 13 per cent to 657,000 metric tons. This was largely due to an increase in fertiliser issued to the paddy sector during the 2002 calendar year. Fertiliser issues to paddy increased by 25 per cent in 2002 and accounted for more than 53 per cent of the total issues. Increased issues to the paddy sector are attributed to the increase in the extent under paddy during 2002 Yala and 2002/03 Maha seasons. Fertiliser issues to coconut too increased by 25 per cent in 2002 as a result of the attractive nut prices that prevailed during the year in the wake of a shortfall in production. However, fertiliser issues to the tea sector declined by 3 per cent especially during the last two months of the year due to an increase in the price of urea after the reduction in the subsidy provided to urea imports.

Chart 3.6
Fertiliser Application Major Crop Categories
(1990=100)

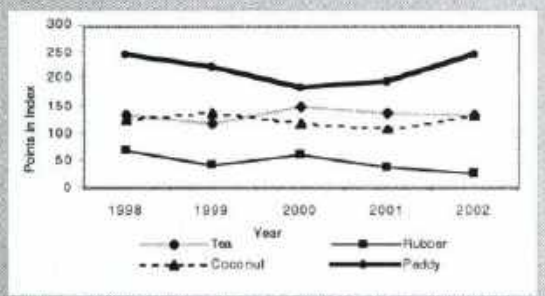


TABLE 3.9
Fertiliser Usage by Crops

metric tons '000

Crop	2000	2001(a)	2002(b)
Paddy	262	279	349
Tea	200	187	181
Rubber	14	9	7
Coconut	34	30	37
Other Field Crops	40	30	41
Other Export Crops	9	9	8
Others	34	36	33
Total	593	580	657

(a) Revised
(b) Provisional

Source: National Fertiliser Secretariat

Fertiliser issues during April to July 2002 increased substantially, in anticipation of an increase in the price of urea after the announcement of the withdrawal of the fertiliser subsidy in the budget of March 2002. Budget 2002 proposed to revise the Fertiliser Subsidy Scheme with a view to providing direct benefits to small farmers under a subsidised Farm Input Support Scheme. The mode of operation of the scheme was to issue coupons for a specified amount per acre to small farmers who could use the coupons to purchase agrochemicals, fertiliser, planting material or farm implements at subsidised rates based on the value of the coupon. However, the proposed Farm Input Support Scheme has not been implemented as yet. Instead, a new fertiliser subsidy scheme was implemented from 10 October 2002. According to the new scheme, a fixed sum of Rs. 6,000 per metric ton is given as a subsidy payment for urea imports. As a result, the price of urea in the open market increased from Rs. 350 per 50 kg bag to about Rs. 650 per 50 kg bag. The new method of granting the subsidy may encourage the importers to import when the international prices are at low levels. As at end 2002, the total subsidy payments to urea amounted to Rs. 2.2 billion.

Seed

The total quantity of certified seed paddy produced by the public sector and the private sector increased by 13 per cent to 12,780 metric tons in 2002. However, the certified seed paddy produced by the public sector, which accounted for 13 per cent of the total certified seed paddy produced, declined by 12 per cent. The public sector certified seed production programme had been hampered by a lack of funds, which resulted in a decline in certified seed paddy produced, especially by the contract growers' programme. Meanwhile, the private sector certified seed paddy production increased by 18 per cent, offsetting the decline in the public sector production. Of the total seed paddy requirement of the country, the certified seed

produced by both public and private sectors and the provincial councils and the co-operatives catered to only about 14 per cent of the requirement. Therefore, encouraging faster expansion of private sector seed paddy production is critical in improving productivity in the paddy sector.

The special seed potato production programme initiated to develop low cost virus free seed potatoes recorded significant progress during the year. Approximately 280 metric tons of basic seed potatoes were produced during 2002, which was a more than three fold increase compared to the previous year. The performance of the certified seed produced by DOA with respect to other field crops was much better during the year. Certified seed production was higher than in the previous year in respect of chillie, cowpea, green gram, groundnut and kurakkan. However, the certified seed production of maize and sesame was less than that in the previous year.

The vegetable seed production programme of DOA was also successful during 2002. Almost all requirements of seeds in respect of 18 different crops were met by DOA. Approximately 1,400 metric tons of basic seeds and 65,500 metric tons of certified vegetable seeds, especially low country vegetable species, were produced by DOA. Since the liberalisation of the seed trade, almost the entire stock of exotic vegetable seeds is imported by the private sector.

Agrochemicals

The Registrar of Pesticides has provisionally estimated the use of pesticides in 2002 to be 5 per cent more than that of the previous year. The use of fungicides has increased by 27 per cent, while insecticide usage reported a 10 per cent increase. In contrast, weedicide usage dropped by 4 per cent during the year. There were 28 agrochemical importers and 837 pesticide dealers registered with the Registrar of Pesticides as at end 2002.

3.7 Forestry

The Forest Department (FD) continued to implement the Forestry Sector Master Plan in 2002 and carried out several projects for forestry related activities with the assistance of foreign donor agencies. The ADB provided Rs 60 million for implementation of the Upper Watershed Management Project in the districts of Badulla, Nuwara Eliya and Ratnapura. Activities such as buffer zone planting, maintenance of buffer zone and timber farms, homestead development, stream reservation planting, seedling production, boundary survey and boundary marking of natural forests were carried out under this project.

The UNDP granted Rs 21million for the Global Environment Activity Project to carry out activities such as staff training programmes, awareness programmes, and extension services, while the World Bank granted Rs. 10 million for activities under the Medicinal Plant Project.

TABLE 3.10

Statistics on the Forestry Sector

Item	Unit	2000	2001(a)	2002(b)
1. Total forest cover (c)	Hectares '000	2,119	2,119	1,943
Closed canopy forest (d)	Hectares '000	1,583	1,583	1,471
Sparse Forest	Hectares '000	464	464	472
Mangroves	Hectares '000	8,687	8,687	8,504
2. Extent Deforested (e)	Hectares	244	314	511
3. Extent Reforested (f)	Hectares	826	840	661
4. Number of forest offences recorded	No.	4,626	4,344	4,157
Volume of timber detected	cubic meters	5,882	4,201	4,527
Value of timber detected	Rs. mn.	56.0	58.0	47.6

Source : Forest Department

(a) Revised
(b) Provisional
(c) Total forest cover showed a marked decline after updating the figures using latest satellite imagery and aerial photographs in 2002.
(d) Includes mangroves
(e) Estimates
(f) Excluding extents under Participatory Forestry Project

During the year, 26 agreements were signed between the FD and private sector entrepreneurs for the cultivation of commercial scale private forest plantations on leased out state land. Under this project, the preparation of land and planting of saplings are currently in progress. Some plantation management companies also have diversified into the planting of forest trees in identified locations, where the traditional plantation crops have been unproductive. The government has encouraged this development, as it would help generate income for investors, as well as increase the availability of timber. Approximately 12,800 hectares are under forest cover in the lands managed by the Regional Plantation Companies.

The State Timber Corporation continued to supply timber to the state and the public sector. During 2002, the total output of logs, sawn timber and firewood of the State Timber Corporation declined by 15 per cent to 207,125 cubic meters compared to 2001.