

3. AGRICULTURE, FISHING AND FORESTRY

3.1 Production Trends

Agricultural output grew by 4.5 per cent in 1999 with major sectors responding well to the very favourable weather conditions throughout the year. Favourable weather helped to increase the extent of cultivation under field crops and production. Paddy production at 2.9 million metric tons, the highest output ever, grew by 7 per cent in 1999, following the 20 per cent growth in 1998. Tea reached a new peak production level of 284 million kg from the peak level of 1998, recording a 1 per cent growth in 1999. However, tea could not generate an increase in export earnings as a result of low prices resulting from the Russian crisis. Tea prices improved during the latter part of 1999 with the recovery in Russia and a global decline in production caused by fall in output in India and Kenya. Coconut output of 2,808 million nuts, the highest production since 1986, recorded a 10 per cent growth in 1999. The lagged effects of the favourable weather conditions that prevailed during the previous year, well distributed rainfall in 1999 and increased application of fertiliser contributed positively towards the enhanced coconut output. Among other export crops coffee, cinnamon quills, cloves, cardamoms, nutmeg and mace and citronella registered higher output. Among other field crops, big onion output increased threefold while potato and kurakkan production increased by 5 per cent and 9 per cent, respectively. Chillies, black gram, sesame and green gram registered lower production levels than in the previous year. Fish production increased by 8 per cent during 1999. The production of poultry and sugar also improved during the year.

TABLE 3.1
Production and Price Changes of Major Agricultural Items

Item	Unit	Production		% Change 1999/98	
		1998	1999	Production	Prices
Tea	Kg.Mn.	280	284	1	-14
Rubber	Kg.Mn.	96	97	1	-9
Coconut	Nuts Mn.	2,552	2,808	10	12
Paddy	MT '000	2,692	2,863	7	18
Sugar	MT '000	61	65	7	-12
Fish	MT '000	260	280	8	-2

Sources: Relevant Authorities
Central Bank of Sri Lanka

3.2 Agricultural Policy

Agricultural policy continued to evolve broadly in the direction of gradual government withdrawal from the production of crops and seeds, liberalisation of extension services and insurance, while developing market based methods of enhancing farmer welfare and safety nets.

In line with the National Seed Policy of commercialising the seed and planting material sector announced in 1996, the Seed Act is being drafted and will be presented to Parliament in the near future. The Seed Act focuses on enhancing the production and marketing of high quality seeds. Government has already initiated the duty free import of seed and planting material. In order to develop the production of quality seeds within the country, the government granted Rs.100 million in 1999 to strengthen seed production centres at Maha Illuppallama, Batalagoda, Ambalantota, Bata-Ata and Nikaweratiya. The private sector is expected to play an important role in the seed industry. Government has privatised in 1998 the Hingurakgoda seed farm owned by the Department of Agriculture (DOA) and the preliminary work connected with the privatisation of the Pelwehera seed farm was completed. The privatised seed farm at Hingurakgoda is progressing well and positive results are evident from the fact that there was no scarcity of seed paddy during the last Maha season.

In order to enhance the scope of agricultural insurance activities, a new act, the Agriculture and Agrarian Services Act was enacted during the year. With the enactment of the new act, the former Agricultural Insurance Board (AIB) was reconstituted with a wider scope and was named the Agricultural and Agrarian Insurance Board (AAIB). The new act will permit private insurance companies to take up crop insurance activities, which were a monopoly of the former AIB.

Agricultural extension services, provided solely by the government as a free service, was subject to liberalisation in 1999. With a view to improving efficiency and to making agricultural extension activities competitive, a fee based private extension service was initiated as a pilot project during the year, under the Second Perennial Crop Development Project funded by the Asian Development Bank (ADB).

Privatisation of state owned plantation companies, which commenced in 1995, continued during the year. The remaining government owned shares of the Namunukula and Talawakelle plantations, amounting to 20 per cent each, were sold to the public through the Colombo Stock Exchange in 1999. In the long-term interests of the viability of the plantation sector the Golden Shareholder was expected to monitor closely the activities of the plantation companies.

In the context of unsuccessful guaranteed price schemes to alleviate problems faced by small farmers in securing a reasonable price, the Central Bank initiated a forward contract mechanism for agricultural produce under the 'Govi Sahanaya Scheme' in a few districts. Forward contracts allow

Box 2

Forward Sales Contracts for Agricultural Produce: Price Stabilisation through the Market Mechanism

A disturbing feature in the agricultural sector in many countries has been wide fluctuations in prices of agricultural produce between the season and the off-season. In season, prices fall sharply, usually below the cost of production, making agricultural activities unprofitable and unviable. In contrast, off-season, short supply pushes prices up giving wrong signals to farmers, on the one hand, and raising the cost of living of the consumers, on the other. In Sri Lanka, the amplitude of such price fluctuations between season and off-season in major agricultural produce has been unusually high. Greater stability of the prices of agricultural produce would sustain the farmer and ease the burden on the consumer.

The conventional solution to this problem has taken two forms: the introduction of floor price schemes and the establishment of government marketing institutions. Though these measures have been effective in the very short-run in achieving their objectives, in the long-run, both strategies have proved to be self-defeating. This has been mainly due to difficulties in maintaining a dual price system continuously and the inefficiency of government marketing boards in functioning as effective marketing institutions. It has become necessary to approach the problem through a system, which would be effective both in the short-run and in the long-run. Many countries have achieved this by establishing forward sales contract systems for agricultural produce to guarantee an acceptable price for both the seller and the buyer in the market.

A forward sale contract is a legally binding agreement between a buyer and a seller. By this agreement, the seller agrees to sell (and the buyer to buy) a given quantity of agricultural produce of a specified quality on a given future date at a pre-determined price. Such contracts amount to marketing arrangements in advance, which would secure a confirmed order to the seller, on the one hand, and an assured supply to the buyer, on the other. A system of that nature was promoted by the Central Bank in 1999 under the promotional title of 'Govi-Sahanaya' (relief to the farmer). Although Sri Lanka has had such forward marketing arrangements for selected perennial crops on an informal basis for a long time, the Govi-Sahanaya was the first attempt to introduce a forward

contract system on a formal basis. The forward contracts derive their legal status from the Sale of Goods Ordinance, enacted in 1896. In the system introduced in Sri Lanka, in addition to the buyer and the seller, provision has been made for a bank to participate as a facilitator of the contract. Hence, it can be called a tripartite arrangement among the farmers, buyers and the bank. A forward sale contract is purely a voluntary action. The three parties involved would enter into the contract of their own accord. It is a system of stabilising prices through the market.

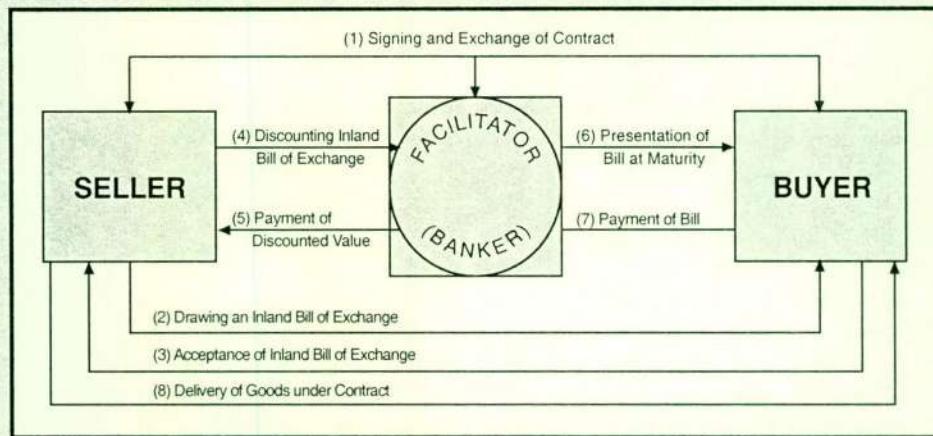
The contract helps the farmer by assuring a stable price for his produce. The price can be fixed by a mark-up over the cost of production, thereby giving an assured net profit to the farmer, depending on market conditions. At the same time, it assures a guaranteed supply to the buyer at a given price, thereby helping him to pre-plan his procurement process and the cash flow properly. The role of the banker in the contract is simply to disseminate information on the cost of production and the time of availability of products, and bring together potential buyers and sellers. For these services, the banker is entitled to charge a commission from both the buyer and the seller. In addition, the process could also be financed by the bank by extending a direct loan or providing an indirect facility. In the former case, a direct loan could be extended to the farmer to finance cultivation. Once the goods are delivered, the same process could be financed further by extending a loan to the buyer. The bank could help the parties involved by discounting an inland bill of exchange, which is drawn by the seller on the buyer and accepted by the buyer. On the due date, the bank which discounted the bill will forward it to the buyer for payment. A further refinement to the operational process is the introduction of an internal letter of credit which could be opened by the buyer on the seller.

A schematic presentation of the operation of a Forward Sale Contract System is given in the Chart.

In order to encourage the use of forward contracts by farmers and buyers of the agricultural produce, the government announced in its Budget 2000, a waiver of the stamp duty on Sale Contracts, Inland Bills of Exchange and Internal Letters of Credit that may be generated to facilitate a Forward Sale Contract.

Box 2 (contd.)

A Schematic Presentation of a Forward Sale Contract



farmers and traders to enter into agreements for the purchase of pre-determined quantities of produce at pre-determined prices on a future date. Forward contracts facilitate farmers to reduce fixed marketing risks and realise less unstable prices. They will also benefit traders and consumers with stable supplies and prices.

3.3 Export Crops

Tea

The upward trend in tea production since 1993 continued in 1999 and reached a new record level of 284 million kg. This was an increase of one per cent over the peak production of the preceding year. This improvement in production was entirely due to good performance reported from the high elevation areas. Output in the high elevations, which declined by 9 per cent during 1998, improved by 7 per cent in 1999 to 81 million kg. Favourable weather conditions that prevailed in the hill country tea growing areas and improved agricultural practices and management contributed to this satisfactory performance. Output in the low elevation area declined by 1 per cent to 149 million kg. In spite of this drop in production, the low grown teas accounted for 52 percent of the total output. Production in the medium elevation area declined by 1 per cent to 53 million kg.

Tea production in the smallholder sector declined by 1 per cent to 164 million kg in 1999 when compared to 1998. Majority of the smallholders who had neglected pruning their tea fields during the last few years resumed pruning during the first half of 1999. Poor prices also discouraged the application of fertiliser by smallholders, with a negative

impact on the average yield, which declined by 1 per cent to 2,166 kg per hectare. However, resumed pruning will improve productivity in the long run. The average yield in the estate sector was 1,087 kg per hectare. The average national yield was 1,514 kg per hectare.

The downward trend in tea prices recorded since September 1998 triggered off by the rouble crisis as well as the global over supply continued until June 1999. Tea prices, which remained depressed during the first half, recovered after July 1999 with the onset of the quality season. This increasing trend continued till the end of year in the wake of a production shortfall in major producing countries such as India and Kenya and the active participation of Russia at the Colombo Auctions. Tea production in India and Kenya declined by about 100 million kg in 1999 owing to unfavourable weather conditions. Despite a significant improvement in prices in the second half of the year, the annual average price of tea at the Colombo Tea Auctions was 14 per cent lower in 1999 than in 1998.

Export earnings of tea in 1999 declined by 15 per cent to Rs.43,700 million largely due to low export prices during the first half of the year. The average export price of tea declined by 12 per cent to Rs.162 (US dollars 2.30) per kg from Rs.185 (US dollars 2.88) per kg. The quantity of tea exported was slightly lower than in 1998. Five major buyers including Turkey, Syria and the UK purchased 51 per cent of total tea exports from Sri Lanka. The UAE and Russia bought 30 per cent of the total tea, each accounting for about 15 per cent.

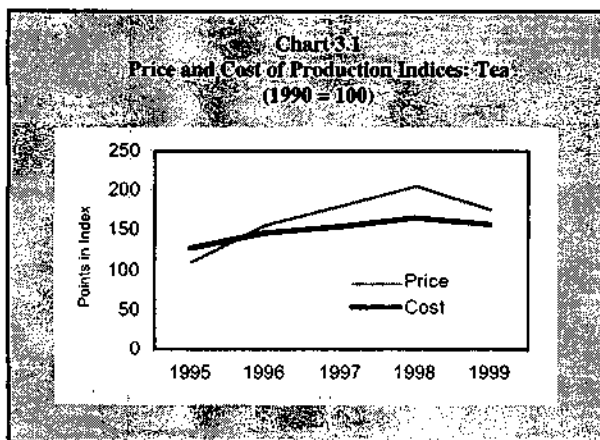
Exports of 'value added tea' did not show a promising performance in 1999 in spite of the incentives provided to

TABLE 3.2
Statistics of the Tea Sector

Item	Unit	1997	1998(a)	1999(b)
1. Production	Kg.Mn.	277	280	284
High grown	Kg.Mn.	84	76	81
Medium grown	Kg.Mn.	57	54	54
Low grown	Kg.Mn.	136	150	149
2. Extent (c)				
Total extent	Hectares '000	194	195	195
Extent in bearing	Hectares '000	177	180	187
3. Fertilizer used	MT '000	160	182	166
4. Replanting	Hectares	926	1,234	1,358
5. New planting	Hectares	340	400	424
6. Prices				
Colombo (net)	Rs./Kg.	119.40	134.35	115.31
Export (f.o.b)	Rs./Kg.	158.39	184.94	162.39
7. Cost of production	Rs./Kg. (d)	90.26	100.71	95.36
8. Exports	Kg.Mn.	269	272	268
9. Export earnings	Rs. Mn.	42,533	50,260	43,728
	US\$ Mn.	719	780	621
10. Value added as % of GDP (e)		2.4	2.8	2.4

- (a) Revised. Sources: Sri Lanka Tea Board
 (b) Provisional. National Fertiliser Secretariat
 (c) Based on a tea land survey conducted in 1994/95 by the Tea Commissioner's Division (excludes abandoned tea lands).
 (d) Includes green leaf supplier's profit margin
 (e) In growing and processing only.

promote value added tea production. The export share of tea in packs and tea bags declined to 30 per cent and 4.2 per cent, respectively from 34 per cent and 4.4 per cent in 1998. The share of bulk tea exports, which stood at 49 per cent in 1995, increased gradually to 59 per cent in 1998 and 64 per cent in 1999. Value added products such as tea bags, ready to serve cold tea and flavoured tea have good potential for development in local and international markets. Extensive research work worldwide on the health and curative aspects of tea should be used in the international



promotional campaigns of tea. Some private companies initiated organic tea production to cater to markets in Germany, France, and the UK. There was a growing demand for organic tea in the world and India has planned to increase the production of organic tea to cater to health conscious consumers in the USA, Europe and Japan.

Tea imports for blending purposes amounted to 1.9 million kg in 1999, a decline of 56 per cent from 1998. Total imports accounted for less than one per cent of domestic tea production.

Most private tea factory owners faced financial difficulties owing to the drop in prices of tea in the early part of the year. As a relief measure, the Ministry of Plantation Industries proposed a short-term loan scheme to tea factory owners amounting to two months of working capital. Loans up to Rs.7 million and repayable within two years with a grace period of three months, at a concessionary rate of interest were distributed through commercial banks. The Sri Lanka Tea Board assisted the commercial banks to determine the capacity of tea factories and the Treasury provided a guarantee. At end December 1999, Rs.162 million had been granted under that loan scheme.

The Tea Small Holder Development Authority (TSHDA) continued to assist the tea industry by implementing subsidy schemes for replanting and new planting of tea, and providing advisory and extension services. In addition, the TSHDA also continued programmes for 1,153 Tea Small Holder Development Societies in which the total membership amounted to 130,460 at end 1999. TSHDA continued to implement in 1999 the 'Tea Shakthi' scheme, which covers insurance, savings, and investment and pension benefits for smallholders. Total membership at end 1999 was 100,924 while total savings and investment under the scheme amounted to Rs.86 million and Rs.80 million respectively. At end 1999, insurance benefits of Rs.14 million were paid to 438 beneficiaries under the Tea Shakthi pension scheme. The 1998 budgetary allocation of Rs.200 million for the Tea Shakthi Investment Project was completely utilised, for upgrading the transport network, purchase of colour separators and establishment of tea factories. There was a target to establish 21 tea factories in selected locations for the benefit of small growers. Under the 'Development Fund' programme, tea smallholders were provided with credit facilities to purchase necessary inputs. The maximum extent for replanting of tea for which a subsidy could be received was limited to one acre per permit holder under the tea replanting subsidy scheme implemented by the TSHDA. In addition, a productivity improvement programme was implemented in order to increase the average yield per hectare up to 2,300 kg in the year 2000.

The TSHDA continued the implementation of the Fertiliser Credit Scheme through Tea Development Societies.

The administration of the scheme was handed over to the TSHDA from the Tea Commissioner's Division in 1999. During the year 11,936 metric tons of fertiliser was supplied under this scheme.

Rubber

Rubber production, which has been declining since 1996, recovered by 1 per cent to 97 million kg in 1999. Favourable dry weather conditions that prevailed in rubber growing areas made possible an increase in the number of tapping days. The abolition of the cess in 1998 and the depreciation of the currency helped smallholders to withstand the sharply declining prices to some extent.

The annual average prices of RSS 1 and latex crepe 1X dropped by 10 per cent and 18 per cent, respectively, compared to the previous year. However, there was an improvement in prices at the Colombo Auctions during the last quarter reflecting international market trends. The average price of RSS 1 was Rs.52 per kg during the last quarter of the year compared with the annual average price of Rs.45 per kg. A similar trend in prices was witnessed in the case of latex crepe 1X where the average price during the last quarter was Rs.61 per kg while the annual average price was only Rs.52 per kg. In response to relatively poor prices fetched for latex crepe and the RSS grades, processing of rubber has shifted towards the manufacture of centrifuged latex, increasing its share from 5 per cent in 1998 to 18 per cent in 1999.

Sri Lanka decided to withdraw from the International Natural Rubber Agreement (INRA) in 1999. Malaysia and Thailand too have withdrawn from the agreement. This was in response to the failure of the price stabilising arm of INRA, the International Natural Rubber Organization (INRO) to prevent the gradual deterioration of international rubber prices, which affected all rubber producing countries including Sri Lanka. As a result of these withdrawals, the INRA was terminated in 1999.

An improvement in the price of natural rubber is expected with increased demand from the USA, South Korea

and China. Further, the demand for natural rubber will increase with the increase in synthetic rubber prices along with rising petroleum prices.

Replanting of rubber, which has shown a declining trend since 1996, continued further in 1999 due to the poor prices, that prevailed during the year. In fact, some of the smallholders are planting other crops in the uprooted rubber lands adversely affecting replanting activity. The area under new planting declined drastically by 58 per cent to 218 ha. during the year.

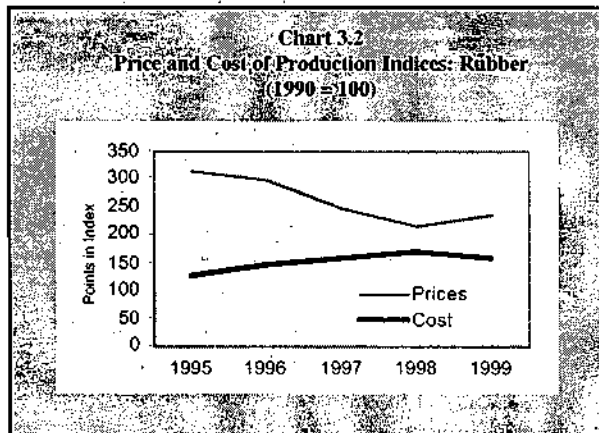
The national average yield of rubber in Sri Lanka (900kg/ha.) is far below the potential yield in the range of 1,500-2,000 kg/ha as estimated by the Rubber Research Institute. Non-application of recommended levels of fertiliser as well as the non-use of rain guards by a majority of rubber growers had led to depressed yield levels.

Rubber is an important raw material in the rubber based manufacturing industries. The domestic consumption of

TABLE 3.3
Statistics of the Rubber Sector

Item	Unit	1997	1998(a)	1999(b)
1. Production	Kg.Mn.	106	96	97
2. Area (c)				
Under cultivation	Hectares '000	163	158	159
Under tapping	Hectares '000	129	125	128
3. Yield	Kg./Hectare	822	768	755
4. Fertiliser used	MT '000	12	15	11
5. Replanting (d)	Hectares	1,172	1,160	643
6. New Planting (d)	Hectares	793	515	218
7. Prices				
Export (f.o.b)	Rs./kg.	75.96	67.72	53.90
Colombo (RSS 1)	Rs./kg.	56.62	49.76	45.33
8. Cost of production	Rs./kg.	40.37	42.00	43.50
9. Exports	Kg.Mn.	62	41	43
10. Domestic consumption	Kg.Mn.	44	54	54
11. Export earnings	Rs. Mn US\$ Mn.	4,640 79	2,808 44	2,305 33
12. Value added as % of GDP (e)		0.7	0.5	0.4

- (a) Revised. Sources: Rubber Development Department
(b) Provisional. National Fertiliser Secretariat
(c) Based on the Survey of Central Bank of Sri Lanka
Agricultural Crops and Livestock-1993. Department of Census and Statistics.
(d) Extents covered by cultivation assistance schemes of the RDD.
(e) In growing and processing only.



rubber in the industrial sector, which has shown a steady increase over the last few years, continued in the same direction during 1999. Domestic consumption increased marginally to reach 54 million kg and accounted for 56 per cent of domestic rubber production. At present Sri Lanka is the world's largest industrial tyre manufacturer. However,

a shift towards the manufacture of quality pneumatic tyres is desirable, as the value added in pneumatic tyres is higher than in industrial tyres. Treated rubber wood is used in several countries for the manufacture of high quality furniture. There is high potential to expand the treated rubber wood based furniture industry in Sri Lanka.

Coconut

Coconut production, estimated at 2,808 million nuts, recorded a significant improvement of 10 per cent in 1999. This is the highest output since 1986. The improvement in production could be attributed to the increased use of fertiliser, the lagged effect of the favourable weather conditions that prevailed throughout 1998 and the well distributed rainfall in the coconut growing areas during 1999. With increased production, the output of all kernel products except coconut oil increased during the year. The most significant improvement was reported in the desiccated coconut (DC) industry, which reported an almost 50 per cent increase compared to the previous year. The production of coconut cream and milk powder too showed a 35 per cent increase compared to the previous year, while the export of copra and fresh nuts improved by 41 per cent and 20 per cent, respectively.

The price of DC remained attractive throughout the year on account of global shortages. Output in Indonesia and Philippines was hampered by the adverse impact of the El-Nino and La-Nina climatic phenomena, which affected these countries during the last two years. As a result, the annual average price of DC at the Colombo Auction improved by 23 per cent over the previous year. The improved prices of DC helped to increase the output of DC at the expense of coconut oil production.

The price of coconut oil, which remained attractive during the first half of 1999, commenced declining during the second half due to the availability of cheap substitute oils such as palm oil, as well as the recovery of the coconut oil industry in the Philippines during the latter part of the year. The price of copra, which remained attractive at the beginning of the year, suffered a temporary setback during the later stages of the second and the third quarters due to the unstable political situation in Pakistan, the major buyer of copra. The annual average price of copra recorded a 15 per cent improvement over the price reported in the previous year.

The average export price (f.o.b) of the three kernel products increased by 20 per cent to Rs.9.95 per nut. The export earnings from kernel products increased by 64 per cent in rupee terms and 52 per cent in US dollar terms. The export earnings from non-kernel products increased by 27 per cent to Rs. 3,146 million.

The coconut development loan scheme (Kapruka Ayojana) implemented by the Coconut Cultivation Board

(CCB) in June 1998 was a significant departure from the traditional cess assisted subsidy schemes. The scheme introduced 11 categories of loans for coconut cultivation, inter cropping, rehabilitation, irrigation, provision of farm machinery, nurseries etc. The Kapruka Ayojana scheme will assist the development of 25,000 acres of coconut lands over a period of 5 years with an anticipated investment of Rs.1,300 million. During the year, over 1,600 preliminary applications were received from the farmers, of which 724 have been submitted to the participating credit institutions. During the year 461 loans amounting to approximately Rs.50 million were granted under the programme. Coconut lands

TABLE 3.4
Statistics of the Coconut Sector

Item	Unit	1997	1998(a)	1999(b)
1. Production (c)	Nuts Mn.	2,631	2,552	2,808
Desiccated coconut	Nuts Mn. (d)	524	361	541
Coconut oil	Nuts Mn. (d)	289	334	309
Copra (e)	Nuts Mn. (d)	42	44	62
Fresh nut exports	Nuts Mn.	18	17	21
Domestic nut consumption (f)	Nuts Mn.	1,744	1,779	1,799
2. Total extent	Hectares '000	417	439	439
3. Replanting/ Underplanting (g)	Hectares	1,221	595	698
4. New planting (g)	Hectares	931	656	660
5. Fertiliser used	MT '000	35	38	42
6. Cost of production	Rs./Nut	2.26	2.40	2.68
7. Retail price of a fresh nut	Rs./Nut	10.55	11.17	11.75
8. Average export price f.o.b. (h)	Rs./Nut	9.63	8.31	9.95
9. Export earnings	Rs.Mn.	6,939	6,110	9,119
Kernel products (h)	US\$ Mn.	118	94	129
Other products	Rs.Mn.	4,864	3,632	5,973
Other products	US\$ Mn.	82	56	84
Other products	Rs.Mn.	2,075	2,478	3,146
Other products	US\$ Mn.	35	38	45
10. Value added as % of GDP (i)		2.4	2.6	2.9

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

(a) Revised.
Provisional.

(c) Estimated (breakdown does not add upto total production due to adjustments for changes in copra stock).

(d) In nut equivalent converted for 1998/99 at 1 MT DC = 8,000 nuts
1 MT Oil = 8,800 nuts
1 MT Copra = 5,775 nuts.

Note: Conversion rates have been revised in 1998 based on a study conducted by the CDA in 1996/97. 1997 conversion rates are as given in the Annual Report of 1997.

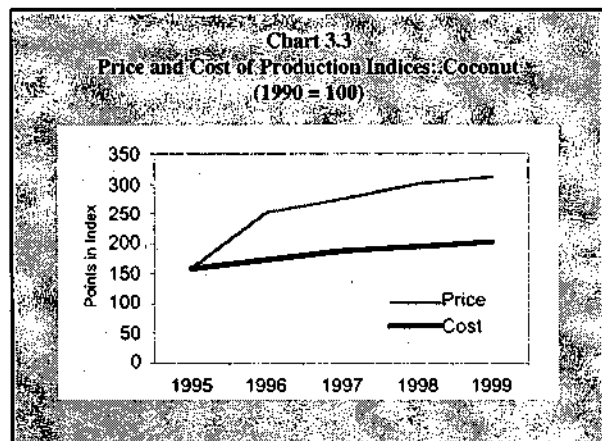
(e) Exports only.

(f) Estimated on the basis of per capita household 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 producing and processing only.



replanted during the year increased by 17 per cent to 698 hectares, while the newly planted extent reported a marginal increase to 660 hectares. During the year, the CCB distributed over 780,000 plants for cultivation in homesteads. The Coconut Research Institute (CRI) made a major breakthrough to develop a few whole plants under a tissue culture research programme. This technique could be used in future to propagate high yielding seedlings for commercial cultivation. A study carried out by the CRI revealed that the yield gap between the potential and the actual output in estates (less than 20 acres) has widened over the years. The non-adoption or the incorrect adoption of the recommended cultural practices is identified as the main cause contributing to this increasing gap in yield. CRI is planning to organise a training programme to educate the farm managers on all aspects of coconut cultivation including recommended cultural practices to arrest the widening yield gaps and to improve the productivity of coconut lands.

Other Export Crops

The other agricultural exports sector has gained importance since 1990, recording earnings higher than rubber and coconut exports. In 1999, earnings from other export crops grew by 5 per cent and amounted to Rs.11,598 million. Traditionally, other export crops include spices such as cinnamon, cloves, nutmeg, mace, pepper, cardamoms, commodities such as coffee, cocoa, sesame seeds, cashew kernels and other agriculture products such as arecanuts, betel leaves and essential oils. Cinnamon is the single most important item in this category. Unmanufactured tobacco and pepper were other important items and these three items together contributed to 65 per cent of the earnings from the other export crops sector in 1999.

Among other export agricultural crops, cinnamon accounts for the largest extent under a single crop. Sri Lanka is the largest producer of cinnamon in the world and contributes about two thirds of the global production. About 90 per cent of the production is exported. Mexico is the major market for cinnamon. USA and Spain are the other

important markets. Sri Lanka also exports cinnamon oil to USA, France, UK and India. Export earnings from cinnamon quills and chips amounted to Rs.3,530 million, a 9 per cent increase compared to the preceding year. In addition, earnings from cinnamon oil exports amounted to Rs.168 million. Farm gate prices of cinnamon quills were lower in 1999, while leaf oil prices were higher than in 1998.

In view of the higher international prices, cultivation of pepper has increased rapidly in recent years. However, production declined in 1999 owing to rainy weather conditions experienced during the flowering season. Consequently, there was a decline in the volume of exports. Export earnings from pepper declined by 24 per cent despite an increase in the average farm gate price by 10 per cent to Rs.300. Sri Lanka exports pepper and a small quantity of pepper oil mainly to India, Canada and USA.

According to estimates of the Department of Export Agriculture, production of cardamoms, cloves, coffee, nutmeg and mace increased in 1999. Farm gate prices of cloves, cardamoms and nutmeg and mace too increased significantly. The price of cloves improved significantly due to a global shortage owing to reduced production in Indonesia, the world's largest clove producer. With increased prices and export volumes, export earnings from cloves, nutmeg and mace increased by 194 per cent and 152 per cent, respectively.

Exports of cashew nuts declined markedly during the year. A drop in production owing to rain during the flowering period, as well as a significant rise in domestic consumption, led to a reduction in exports. The domestic price of cashew increased sharply in this tight supply situation. The new subsidy scheme initiated in 1997 for cultivation of cashew continued in 1999 as well. There were approximately 3,660 hectares in 13 districts selected under the subsidy programme. The rate of subsidy was Rs.8,645 per hectare and is disbursed over a period of 3 years.

Currently, Sri Lanka produces cinnamon leaf oil and citronella oil in fairly large quantities and also exports small

TABLE 3.5
Production of Other Export Crops

Crop	Metric Tons		
	1997	1998(a)	1999(b)
Coffee	2,165	2,343	2,422
Cocoa	1,709	1,904	1,538
Cinnamon Quills	11,453	10,813	11,503
Cinnamon Leaf Oil	100	150	139
Pepper	2,912	6,776	4,557
Cloves	2,333	1,744	1,902
Cardamom	75	60	70
Nutmeg and Mace	1,108	1,257	1,335
Citronella	210	102	108

(a) Revised
(b) Provisional.

Source: Department of Export Agriculture

quantities of other varieties of essential oils from spices such as pepper, nutmeg, mace, cardamoms, mustard and cloves. These are high value-added products, which are widely used in pharmaceuticals, cosmetics and perfumery industries. The Export Development Board (EDB) assisted producers of spices in organic farming and assisted exporters to participate in trade fairs on essential oils and spices.

Commercial cultivation of foliage and cut flowers has increased in recent years and exports of these have a good potential as a source of foreign exchange. Major markets for live foliage plants are Netherlands and Japan. Cut flowers such as carnations, roses and anthuriums are exported to Japan and the Middle East. Export earnings from foliage and cut flowers amounted to Rs.573 million in 1999. The EDB assisted the floriculture sector by providing field training under test cultivation programmes to anthurium growers and marketing assistance to exporters to participate at exhibitions on floriculture held in France, Japan and UAE. The EDB initiated a long-term rapid multiplication programme for anthurium plants and aquatic plants with the Royal Botanical Gardens at Peradeniya.

The land area under spices and citronella is estimated to have increased by 1 per cent to 91,106 hectares in 1999. From the newly planted extent of 1,252 hectares 78 per cent was under pepper. Subsidies disbursed for this sector amounted to Rs.53 million, while 64 per cent of the total amount was disbursed for the cultivation of pepper.

The second Perennial Crop Development Project (PCDP) of the Ministry of Agriculture and Lands, which commenced in September 1998 to assist commercialisation of cultivation of perennial fruits, spices, flowers and foliage, continued to assist cultivators and processors through a scheme of financial and technical assistance. This project is operational in 17 districts, excluding the Northern and Eastern provinces. In 1999, the project has approved 320 loans to the value of Rs.155 million through selected commercial banks and Rs.105 million has been disbursed. The majority of these loans have been approved for the cultivation of fruits in the Gampaha and Kurunegala districts. In addition, Rs.2.3 million has been spent on awareness programmes under the project and Rs.5.4 million has been utilised for perennial crop related research by the Council for Agricultural Research Policy (CARP).

3.4 Domestic Agriculture

Paddy

Paddy production during the 1999 cultivation year improved by 7 per cent and reached a peak output level of 2.9 million metric tons (137 million bushels). This surpassed the previous best output level reported in 1995 by 2 per cent. While there was an improvement in the extents sown and

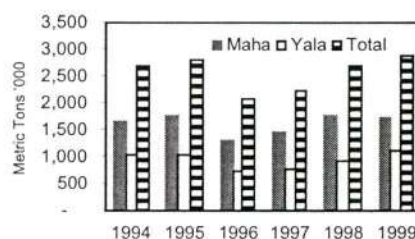
harvested, especially during the Yala season, the average yield also was higher on account of increased fertiliser application.

Paddy output during the 1998/99 Maha season declined by 2 per cent to 1.7 million metric tons. Delays in the onset of the North East monsoon rains resulted in a reduction of the extents sown and harvested during the season. Areas mainly affected were minor irrigated and rainfed areas. Crop damage was reported from the North Central and the Eastern provinces due to floods, which occurred during the latter stages of the crop. Estimated crop loss due to flood damages was in the region of 1.2 million bushels (25,000 metric tons).

Compared to the previous Maha season, the most notable improvements were seen in the districts in the Northern Province. Paddy output in the districts of Jaffna, Mannar and Vavuniya indicated significant increases of 28 per cent, 32 per cent and 93 per cent respectively. Removal of the restrictions on the transport of kerosene and fertiliser to the Jaffna peninsula and certain districts in the Northern province resulted in a recovery in agricultural activities in the region. In addition to the increase in the extents cultivated, some of these districts also reported significant improvements in yields. Accordingly, paddy yields in the districts of Vavuniya, Trincomalee and Jaffna rose by 30 per cent, 28 per cent and 15 per cent, respectively. Meanwhile delays in monsoon rains had a negative effect on paddy cultivation in the districts of Kurunegala, Anuradhapura and the Mahaweli 'H' areas. Paddy output in these areas declined by 16 per cent, 20 per cent and 15 per cent, respectively.

Paddy output during the 1999 Yala season recorded a 23 per cent improvement over the previous Yala output and reached 1.1 million metric tons. This was the best Yala output ever recorded and surpassed the previous best reported in 1984 by 6 per cent. This was achieved mainly on account of a 29 per cent increase in the extent harvested during the season. The paddy output in all districts, except Badulla, Ampara, Hambantota and Mannar were better

Chart 3.4
Paddy Production



during the 1999 Yala season compared to the previous Yala season. For the sixth consecutive year, the Ampara district recorded the highest Yala output and accounted for almost one fifth of total Yala production. The three districts of Ampara, Polonnaruwa and Kurunegala together accounted for nearly half of the Yala output (47 per cent).

The increasing trend in annual average yields continued for the third consecutive year and reached 3,672 kg per hectare, an improvement of 1 per cent over the previous best yield reported during the 1998 cultivation year.

The average yield during the Maha season improved by 2 per cent to 3,618 kg per hectare, while it declined by 1 per cent in the Yala season to 3,760 kg per hectare. Although the overall yield in the Yala season indicated this decline, yield levels in nearly two thirds of all paddy growing districts had improved compared to the previous season. During the Maha season too, the yield levels in the majority of the districts were better than those in the previous Maha season. The best average yield during both Maha and Yala seasons was in Uda Walawe, with the Mahaweli 'H' area in second place.

The 'yaya' demonstration programme organised by the Extension Division of the Department of Agriculture continued for the fourth consecutive year. During the year, nearly 1700 'yaya' demonstrations for over 37,000 farmers were conducted, compared with 668 demonstrations for 16,000 farmers in the previous year. The objective of this demonstration programme is to introduce a package of

practices with new technologies to increase productivity.

These demonstration programmes have contributed positively to the improvement in productivity. The yield levels achieved by farmers involved in the demonstration programmes have been, on average, over 20 to 30 per cent higher than by other farmers. The package includes timely cultivation, using quality seeds coupled with the application of straw and green manure along with inorganic fertilisers.

The attractive prices, which prevailed for paddy throughout the year, encouraged farmers to apply adequate levels of fertilisers which had a positive impact on the yield levels. Hence, fertiliser issues to the paddy sector increased during both Maha and Yala seasons. The fertiliser issues on a cultivation year basis increased by 23 per cent to 311 thousand metric tons.

Credit granted under the New Comprehensive Rural Credit Scheme (NCRCS) to the paddy sector during the 1998/99 Maha season amounted to Rs.208 million, compared with Rs.230 million, during the previous Maha season. Credit granted during Yala 1999 remained at Rs.110 million.

Rice imports during the year amounted to 214,000 metric tons. Of the total imports, over two thirds were imported during the months of November and December during which period a partial reduction of duty on imported rice was granted. The import duty on rice was reduced to 10 per cent from 35 per cent for the period 23 October 1999 to 31 December 1999, with a view to help stabilise domestic rice prices.

TABLE 3.6
Statistics of the Paddy Sector

Item	Unit	1998(a)			1999(b)		
		Maha	Yala	Total	Maha	Yala	Total
Gross extent sown	Hectares '000	574	274	848	551	345	896
Gross extent harvested	Hectares '000	563	266	829	542	332	874
Net extent harvested	Hectares '000	501	239	740	483	298	781
Production	MT '000	1,781	910	2,692	1,748	1,120	2,868
	Bushels '000	85,345	43,607	128,952	83,781	53,681	137,462
Yield (c)	Kg/ Hectare	3,555	3,802	3,634	3,618	3,760	3,672
Credit granted	Rs. Mn.	230	110	340	208	110	318
Purchases under the GPS	MT '000	-	-	-	-	-	-
Rice imports	MT '000	-	-	168	-	-	214
(Paddy equivalent)	(MT '000)	-	-	240	-	-	306

(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 Census and Statistics
Department of Agriculture
Ministry of Agriculture and Lands
Paddy Marketing Board
Sri Lanka Customs
Central Bank of Sri Lanka

Other Field Crops

As in the previous year, the other field crops sector reported a mixed performance during 1999. The output of both big and red onions, soya beans, kurakkan and potatoes increased, while the production of green gram, cowpea, black gram and sesame declined.

The production of big onions showed the most significant improvement, increasing more than three-fold to 62,700 metric tons. A three-fold increase in the extent cultivated and a 9 per cent improvement in the yield were the main factors contributing to this growth. The attractive domestic prices that prevailed during 1998 on account of a ban on exports by India prompted many farmers in the Matale District and Mahaweli 'H' area to cultivate big onions during the 1999 Yala season. The Mahaweli 'H' area and the Matale District together accounted for 80 per cent of the extent under big onion cultivation while the balance was cultivated in the Anuradhapura and Polonnaruwa districts. As a result of a glut in production during the Yala season, some farmers faced difficulties in marketing their product and the Co-operative Wholesale Establishment (CWE) had to intervene and purchase big onions from the local market. In keeping with the increased output, big onion imports declined by 16 per cent to approximately 84,000 metric tons.

Potato production during the year increased by 5 per cent from the very low level of production in the previous year indicating that the sector is gradually adjusting to changed ground rules after the elimination of import licensing requirements. Output increased purely on account of an improvement in yield levels, in spite of a drop in the extent cultivated. The extent under potato, which has been declining since 1996 with the removal of the ban on imports, declined by a further 7 per cent to 2,171 hectares by end 1999.

Kurakkan is gradually gaining popularity as a health food. The extent cultivated increased by 6 per cent for the second consecutive year and the output increased by 9 per cent in 1999. Sesame being a drought tolerant crop, the extent under this crop declined due to the well-distributed rainfall in the low country dry zone districts. As a result, sesame production dropped by 16 per cent. Sesame oil has a very high demand locally, as it is free of cholesterol. Sesame also has a very high potential export market. The export market demands white sesame while the locally popular variety is black or the mixed seeds. Because of the cross-pollination in sesame, it is difficult to maintain pure white seeds, in areas where black sesame is also cultivated.

Maize is a main ingredient in the provender industry and has a very high potential domestic demand. However, the extent cultivated and the output of maize declined by 3 per cent and 6 per cent, respectively, in 1999. Maize is used as an important input in the preparation of poultry feed. Unlike most of the other agricultural products, there was no

tariff protection for maize. While this helps the poultry industry, the local producers have been at a disadvantage. Taking this into consideration, Budget 2000 introduced a 5 per cent import duty on maize. The quantity of maize imported during the year amounted to approximately 128,000 metric tons indicating the high shortfall in domestic supply.

Vegetables and Fruits

The available preliminary estimates indicated a 6 per cent increase in vegetable production during 1999. The total volume has been estimated at 554,641 metric tons. Up country vegetables such as cabbages, carrots, leeks, tomatoes and beet are grown extensively in the Badulla and Nuwara Eliya districts. Production of up country vegetables increased by about 10 per cent, reflecting farmer preference to grow more vegetables in place of potatoes. Accordingly, there has been an increase in the extent under cultivation of vegetables. Low country vegetables such as brinjals, ladies fingers, bitter gourd, snake gourd and pumpkins are widely grown in Hambantota, Matale, Ratnapura and Kurunegala in both the Yala and Maha seasons. The production of low country vegetables too increased by about 5 per cent. In response to the increase in supply, vegetable prices during the year 1999 were relatively lower and more stable than in 1998.

Vegetables are exported in fresh, semi processed and processed forms to different markets such as the Middle East, the Maldives and Europe. Among fresh vegetable exports, the main items are leeks, capsicum and mixed vegetables. Among processed vegetables, semi processed gherkins and processed gherkins were the major items. Japan was the major market for processed gherkins.

Cultivation of fruits in Sri Lanka is done in a non-commercial manner, except for pineapples and bananas. Pineapples are commercially grown throughout the year in the Gampaha and Kurunegala districts, while bananas are grown in the Hambantota and Ratnapura districts. Mangoes, rambutan, mangosteen and durian are seasonal fruits, which have good demand from domestic and foreign consumers.

Approximately 7,000 metric tons of fresh and dried fruit including tamarind were exported in 1999. The export earnings from these amounted to Rs.476 million. Pineapples were the major export item while mangoes, papaw, avocado and watermelon were exported in relatively small quantities to the Middle East, the Maldives and Europe. Fruit juices, jellies, jams, marmalades and other canned forms too were exported to these markets. Some amounts of local fruits are processed into jams, cordials, chutneys, ready to serve drinks etc. to cater to the domestic market. There is a very good potential to expand the processing of fruits and vegetables for both domestic and export markets. However, this has not been exploited due to insufficient infrastructure facilities to store produce during the glut season, failure to

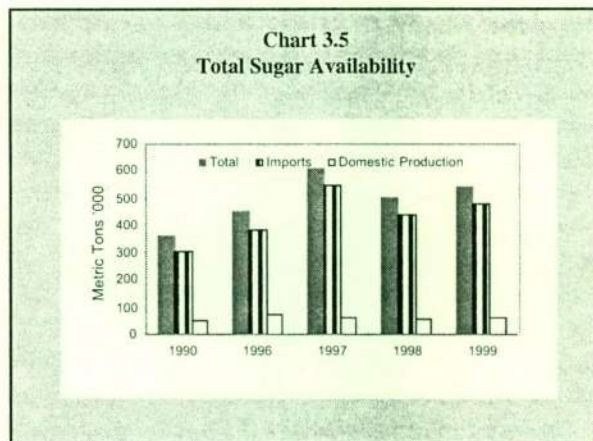
link producers and processors and poor marketing systems. The new liberalised environment, together with the incentive to develop a more forward formal market for agricultural products under the 'Govi Sahanaya' introduced recently is expected to improve the marketing network and help the development of infrastructure facilities.

There was a significant increase in fruits imported to Sri Lanka and the quantity imported more than doubled during the last four years. During 1999, Sri Lanka imported nearly 40,000 metric tons of fruits worth one billion rupees, an increase of 43 per cent over the quantity imported in 1998. Apples, dates, grapes and oranges were the main varieties of fruits imported.

Sugar

Sugar production in 1999, at 65,220 metric tons, was 6 per cent higher than in 1998. As in the previous year, sugar was produced only at the Sevanagala and the Pelwatte factories. The Hingurana factory remained closed for the second consecutive year. The improvement in overall output was achieved solely on account of a 9 per cent improvement in output at the Pelwatte factory. This is the second best production level ever achieved at the Pelwatte factory since its commissioning in 1986. Meanwhile, production at the Sevanagala factory declined by 2 per cent during the year due to a reduction in the quantity of cane harvested.

The average yield at Pelwatte registered a further 27 per cent improvement to 56 metric tons per hectare during 1999. Yield improvements in Pelwatte are attributed to the favourable weather conditions during the year. The average yield at Sevanagala declined by 3 per cent to 79 metric tons per hectare. Yet the yield levels achieved at Sevanagala are



still superior to that at Pelwatte because the fields at Sevanagala are irrigated while at Pelwatte, it is mainly rainfed cultivation.

The total quantity of cane crushed improved by 2 per cent to 745 thousand metric tons in 1999. The overall improvement was achieved purely on account of a 4 per cent increase in the quantity of cane crushed at Pelwatte. The quantity of cane crushed at Sevanagala declined by 3 per cent to 192 thousand metric tons in 1999 compared to the previous year. Almost half the cane crushed (49 per cent) at Pelwatte is accounted for by private purchases while at Sevanagala the private purchases account for about 1 per cent of the cane crushed. The sugar recovery rate at both Sevanagala and Pelwatte factories improved to 8.74 per cent compared to 8.37 in 1998.

The sugar industry provides employment opportunities for a large number of people in the Ampara, Moneragala

TABLE 3.7
Statistics of the Sugar Sector

Item	Unit	Sevanagala Sugar Factory		Pelwatte Sugar Factory		Total	
		1998 (a)	1999 (b)	1998 (a)	1999 (b)	1998 (a)	1999 (b)
1. Total area under cane (with ratoons) (c)	Hectares	2,950	3,314	4,470	4,662	8,543	7,976
2. Area harvested (c)	Hectares	2,423	2,413	3,928	3,712	6,350	6,125
3. Cane harvested (c)	MT '000	195	190	174	209	369	399
4. Private cane purchased	MT '000	2	2	358	344	360	346
5. Quantity of cane crushed	MT '000	197	192	532	553	729	745
6. Average cane yield (c)	MT/Hectare	81	79	45	56	58	65
7. Sugar production (without sweepings)	MT '000	17	17	44	49	61	66
8. Sugar recovery rate (d)	%	8.65	8.70	8.35	8.77	8.37	8.74

(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.

and Badulla districts. Total employed in the two factories and the nucleus estates is about 15,000 while another 30,000 families are involved in growing cane as smallholders. Despite these employment opportunities, domestic sugar production is adequate to meet less than 15 per cent of the total consumption requirement. The short fall in domestic supply was met from the import of 479 thousand metric tons during the year. The average international price of sugar dropped by 9 per cent to US dollars 222 per metric ton during the year. However, there was only a 12 per cent drop in the retail price of sugar in the local market. At present the local sugar industry is heavily protected by an import duty of Rs.3,500 per metric ton. Despite this protection, the financial viability of the sugar industry in Sri Lanka has been threatened by the high costs of production compared with that in other countries in the region. The high cost of production could be attributed to the poor sugar recovery rates and the high cost of overheads in the factories. The sugar recovery rates in India (over 10 per cent) are much higher than in Sri Lanka. Recovery rates are directly related to the sugar content in the cane and the processing efficiency. The sugar content in the local cane is low mainly due to poor field management. One of the biggest drawbacks to improving the quality of cane is the existing pricing mechanism for cane. At present, the payment for cane is based purely on the tonnage at Pelwatte. Though a quality based payment system for cane is available at Sevanagala, it does not identify the individual grower's cane quality as the payment is based on the overall seasonal average. There is no distinction between the cane with a high sugar content and a low sugar content at the time of purchase. Hence, the individual cane grower has no incentive to improve the quality of his cane through better field management.

3.5 Fish and Livestock

Fish

According to estimates provided by the Ministry of Fisheries and Aquatic Resources Development, the total fish production in the marine and inland sectors improved by 8 per cent to approximately 280 thousand metric tons. The off shore and deep-sea sector, which accounts for about one third of the total marine fish production, showed a significant improvement of 20 per cent over the previous year. This improvement is attributed to the increased assistance received by fisherman in the form of day and multi-day boats, traditional craft, outboard motors and fishing gear. Meanwhile, fish production in the coastal and the inland/aquaculture sectors expanded by 3 per cent and 5 per cent, respectively.

The fisheries sector plays a vital role in the economy of Sri Lanka, not only because nearly one million people depend on the fishing industry for their livelihood, but also because it helps to alleviate the problem of malnutrition in

the country. The country is rich with fisheries resources, having a coast line of about 1,700 km. and an exclusive economic zone (EEZ) extending to 200 km. from the coast, covering an area of over 500,000 sq. km. Marine fishing has been traditionally concentrated in the coastal areas, which accounts for less than one eighth of the EEZ.

Though the country has a high potential to develop the fishery industry, a large quantity of dry fish and canned fish is imported into the country. The total imports of fishery products during 1999 amounted Rs.3,933 million compared with Rs.3,923 million in 1998.

With a view to harnessing the potential marine fishery resources, the government has taken the initiative to encourage deep-sea fishing. In this respect the promotion of the use of multi-day boats with improved cold storage facilities and the ability to stay longer at sea is contributing to increased production. Under the producer subsidy scheme, assistance has been granted for 56 multi-day boats and 233 day boats during the year as against 44 and 56, respectively, in the previous year. Further, 459 traditional craft and 577 sets of fishing gear were also made available to fishermen under the subsidy programme during the year. Investments were also directed towards the development of infrastructure facilities related to the fishery industry. Three new fisheries harbours are being constructed at Kudawella, Hikkaduwa and Panadura under the Fisheries Sector Development project, funded by the ADB, in collaboration with the Ceylon Fisheries Harbour Corporation. Meanwhile, the existing harbours at Beruwala, Mirissa and Puranawella were rehabilitated and provided with all essential shore facilities and services.

The government, having identified the potential for developing the inland fisheries and aquaculture sector, established the National Aquaculture Development Authority (NAQDA) on the 29 January 1999. The Authority is responsible for the management and development of aquaculture resources within the country. During the year, over 3 million fingerlings have been produced under aquaculture development and community based programmes and released to 80 rural tanks.

TABLE 3.8
Fish Production

Sub-Sector	Metric Tons '000		
	1997	1998(a)	1999(b)
Marine (c)	213	240	248
Aquaculture (d)	27	30	31
Total	240	270	280

(a) Revised.

(b) Provisional.

(c) Coastal and deep sea sector.

(d) Inland sector, coastal brackish water prawn and cultured prawn production.

Source: Ministry of Fisheries and Aquatic Resources Development

The quantity and the value of fish and fishery product exports, however, declined by 14 per cent and 24 per cent, respectively, during the year. This was mainly the result of a significant decline in the exports of prawns due to the outbreak of white spot and yellow head diseases, particularly in the Western and NorthWestern provinces. Over crowding of the farms beyond the capacity of the water body of the Dutch canal and contravention of environmental regulations lead to the rapid spread of diseases. Consequently, several prawn farms were closed during the year. Prawn farming became a very lucrative business, which resulted in several unauthorised farms being established over the years. At present, there are over 1,300 farms, of which nearly half (48 per cent) are unauthorised.

Another sector with a high potential for expansion is the breeding and export of ornamental fresh water fish. Appropriate measures need to be taken to develop this industry as it has a high value addition component and provides considerable employment opportunities. During the year, the exports of ornamental fish amounted to Rs.559 million, an increase of 6 per cent over the previous year. The main markets for ornamental fish are Japan, USA, Germany and France. Sri Lanka's market share in the international ornamental fish market is less than 1 per cent. This is an indication of the potential for expansion in this industry.

The Ministry of Fisheries and Aquatic Resources Development undertook four fisheries housing programmes for uplifting their living standards. About 20,000 housing units were constructed under the 'Diyawara Gamnana' housing programme, 'Diyawara Pura' housing scheme, 'Wisiri Nivasa' housing programme and the fisheries housing projects implemented with the collaboration of the National Housing Development Authority. Over 90,000 people have so far benefited from these programmes.

The Ministry also undertook several other development programmes during the year, which include the setting up of a Fishery Gene Bank at Negombo, establishment of a fisheries museum at Hambantota, the education of fishermen on satellite communication and the recruitment of 200 coast guards for coast conservation activities.

Livestock

The livestock sector consists mainly of the dairy and the poultry sub sectors. In the dairy sector both cow milk and buffalo milk production increased by 2 per cent each to 260 million liters and 82 million liters, respectively. Milk collection by the main processing companies namely, Kiriya Milk Industries of Lanka (Pvt.) Limited (KMILL), Nestle Lanka Limited (NLL), International Dairy Products Limited (IDPL) and other processors together amounted to 109 million litres indicating a 5 per cent reduction compared to the previous year. The main reason for the reduction in the collection of milk was the drop in collection by KMILL

due to an industrial dispute, which hampered its milk collection programme. Of the total milk collection, KMILL accounted for 43 per cent while NLL and IDPL accounted for 26 per cent and 11 per cent, respectively.

KMILL had formed over 400 'Farmers Managed Societies' (FMS) by the end of the year to improve and promote milk collection at the village level. Under this system of milk collection, the quality of milk supplied by individual farmers is tested separately on a daily basis, and the payments are based on the fat percentage and SNF (solids non fat) percentage. This has resulted in an improvement in the quality of milk and an improvement in the incomes of the individual dairy farmers who supplied milk direct to KMILL rather than through a middleman.

At present, the country's milk supply is adequate to meet only about 20 to 25 per cent of the requirements. The balance is imported mostly in the form of powdered milk. During the year 54,000 metric tons of powdered milk were imported incurring an expenditure of Rs. 7,118 million.

The possibility of improving milk production by way of upgrading the local cattle stock and improving veterinary services should be looked into from the point of view of enhancing the nutritional standards of the population.

According to the estimates of the Department of Census and Statistics, national egg production during the year rose by 3 per cent to 898 million eggs. A major problem faced by the small-scale poultry producers is the high cost of feed. The cost of production of an egg is estimated to have risen by about 7 per cent to Rs.3.50 per egg.

Poultry meat production has shown a steady increase in the recent past and is fast becoming a common source of animal protein in the diet of the people. According to the estimates of the Ministry of Livestock Development and Estate Infrastructure, poultry meat production during the year increased by 10 per cent to approximately 57,000 million kg. In the face of import competition, some uneconomical poultry farmers have abandoned poultry farming.

Livestock is an essential component of agricultural activities and should come within the purview of the Ministry of Agriculture. Having both crops and livestock within the same ministry will be conducive to better crop livestock integration.

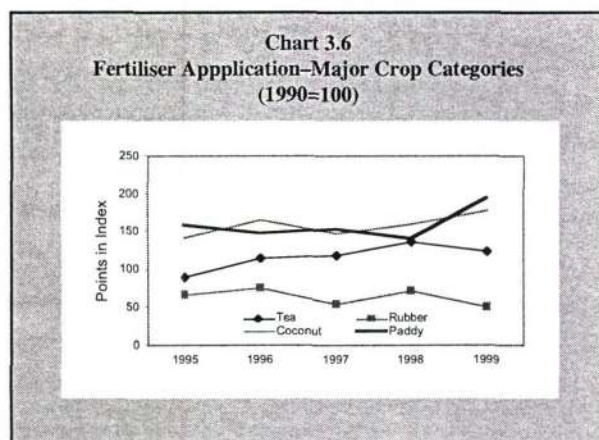
3.6 Inputs and Credit

Fertiliser

The use of fertiliser increased by 9 per cent to 612,000 metric tons during 1999. The most notable increase in the use of fertiliser was in the paddy sector, which showed a 25 per cent improvement. Attractive prices for paddy, which prevailed throughout the year, and the favourable weather conditions which helped increase the area under cultivation, led to higher demand for fertiliser by farmers. Issues to the

coconut sector also increased by 11 per cent due to the same reasons.

Fertiliser application to tea, rubber, other field crops and other export crops declined by 9 per cent, 31 per cent, 7 per cent and 18 per cent, respectively. In the case of tea and rubber, the smallholders in particular reduced the application of fertiliser in response to poor prices which prevailed in the first half of the year.



The fertiliser subsidy, which has been confined to urea only since 1997, continued during the year. The quality control programme initiated by the National Fertiliser Secretariat to check the adulteration of fertilisers in 1998 was continued during the year.

TABLE 3.9
Fertiliser Use by Crop

Crop	Metric Tons '000		
	1997	1998(a)	1999(b)
Paddy	224	252	315
Tea	162	182	166
Rubber	12	16	11
Coconut	34	38	42
Other Field Crops	49	44	41
Other Export Crops	7	11	9
Others	20	19	28
Total	508	561	612

(a) Revised.

Source: National Fertiliser Secretariat

(b) Provisional.

Seeds

High quality seeds are an important input to increase the productivity of agricultural crops. In this respect the proposed Seed Act will play an important role as it will give the Seed Certification Service legal authority to regulate the quality of locally produced and imported seed and planting material. The Act specifies minimum standards for seeds and planting material. The authority for implementation will be the Director General of Agriculture. Though seed certification is voluntary, minimum quality standards specified under the

Act will have to be maintained when marketing seeds and planting material.

According to the National Seed Policy, the Department of Agriculture (DOA) is entrusted with the responsibility of producing and disseminating high quality basic seed to private sector seed producers for multiplication purposes. With the intention of providing low cost seed potato to farmers, the DOA commenced a special seed potato production programme using the Rapid Multiplication Technique. The quantity of seed paddy issued by the government and private sector organisations together amounted to approximately 11,200 metric tons, a 2 per cent increase compared to the previous year.

The issue of Other Field Crops (OFC) seeds, vegetable seeds and potato seeds by the DOA increased by 25 per cent, 38 per cent and 13 per cent, respectively. Some private companies produce and sell OFC and vegetable seeds. Private sector seed importers dominate the import and distribution of exotic vegetable seeds.

During the year, four new rice varieties bred at the Rice Research and Development Institute at Batalagoda were released to farmers for commercial cultivation. One of the varieties is a 3 months variety while the other three are 3 months varieties. A new high yielding pole bean variety named 'Keppetipola Nil' and a high yielding green gram variety named 'Ari' were also released to the farmers during the year.

Agro-chemicals

The use of agro chemicals became popular with the introduction of new high yielding varieties, which were susceptible to various pests and diseases. According to provisional estimates of the Pesticide Registrar the use of pesticides, which includes insecticides, fungicides and herbicides, increased by 13 per cent during the year. The quantity of insecticides used increased by 25 per cent, while fungicide sales increased by 32 per cent.

The Department of Agriculture is conducting an Integrated Pest Management (IPM) programme with the aim of reducing the use of pesticides. During the year the Department conducted 235 field days. Over 4,500 paddy farmers have been trained under this programme. It is important to conduct IPM programmes for vegetables as well, since very high doses of pesticides are applied on certain intensively cultivated vegetables.

Credit

Cultivation loans granted under the New Comprehensive Rural Credit Scheme (NCRCS) by the Regional Development Banks, the two state banks and the domestic private banks continued in 1999. Under the NCRCS, loans to farmers are granted at an interest rate of 12 per cent, from funds available with the Participating Credit Institutions. The

government gives an interest subsidy of 10 percentage points to the banks.

The total amount of credit granted during the 1998/99-cultivation year declined by 1 per cent to Rs. 463 million. Of the total loans granted, the Maha season accounted for 61 per cent and the Yala season for the balance. As in the previous year, the major share of the loans was obtained by paddy farmers who accounted for two thirds of the loans (Rs.318 million). Even though the extent under paddy during the Yala season increased by over 26 per cent over the previous Yala season, the credit granted for paddy increased marginally. Loans to the subsidiary food crops sector during the year amounted to Rs. 145 million.

The two state banks continued to dominate the loans granted under the NCRCS and accounted for nearly 60 per cent of the total loans granted. About 25,000 farmers have benefited under the NCRCS during the year. However, this is only a small fraction of the credit needs of the farming population. A large percentage of the farmers still depend on informal sources for their credit needs.

3.7 Forestry

The Forest Department (FD), with the assistance of foreign donor agencies, carried out several projects for forestry related activities with special emphasis on the conservation of forests and environment management. With the initiative of the FD, the ADB completed the preparation of project proposals for the five year implementation programme of the Forestry Sector Master Plan, viz. the Forest Resource Management Project (FRMP), and a memorandum of understanding was signed. A loan of up to US dollar 30 million will be available for 7 years starting from the year 2000 for the above project.

ADB and Australian Aid (Aus-aid) provided funds worth Rs 99 million and Rs 71 million, respectively, for the implementation of the Participatory Forestry Project during the year 1999. Under this project, 11 million seedlings were produced and forest plantations were raised through homestead development (4,948 hectares), farmers wood lots (2,566 hectares), protective wood lots (740 hectares) and miscellaneous tree planting programmes (482 hectares) during 1999. Under forestry extension, 1.2 million seedlings

TABLE 3.10
Statistics of the Forestry Sector

Item	Unit	1997	1998(a)	1999(b)
1. Total forest cover (c)	Hectares '000	2,119	2,119	2,119
Closed canopy forest (d)	Hectares '000	1,583	1,583	1,583
Sparse forest	Hectares '000	464	464	464
Mangroves	Hectares '000	8,687	8,687	8,687
2. Extent deforested (e)	Hectares	205	210	210
3. Extent reforested	Hectares	205 (f)	571	556
4. Number of forest offences recorded	No.	5,158	4,193	3,928
Volume of timber detected	Cubic Meters	2,488	2,589	2,912
Value of timber detected	Rs. Mn.	29.5	29.7	28.7

Source : Forest Department.

- (a) Revised
 (b) Provisional
 (c) Approximately 72,350 ha. of viable forest plantations are included.
 (d) Includes mangroves.
 (e) Estimates
 (f) Excluding extents under Participatory Forestry Project.

were raised and 4,765 kg of seeds were collected. The FD completed silviculture treatment in 3,699 hectares, surveys in 1,430 hectares and post felling inventory in 1,973 hectares under forest inventory management during 1999.

The FD continued the Sinharaja and Knuckles Conservation Project and the Mangrove Conservation Project in 1999 under the Environment Management Project. Conservation area management, buffer zone management, extension and awareness programmes, training programmes, maintenance of buildings, construction and maintenance of roads were the activities carried out under the above projects. The FD received funds from the World Bank and Global Environmental Fund (GEF) for forestry related activities under the Medicinal Plant Conservation Project. Medicinal plant conservation activities were implemented in the Matale, Ratnapura, Galle, Anuradhapura and Moneragala districts.

The volume of illicitly felled timber increased by 12 per cent to 2,912 cubic meters. However, the recorded number of forest offences declined by 6 per cent to 3,928 during 1999. The FD continued the monitoring of regulations relating to the transportation of timber and surveillance checks to restrict illegal deforestation.

Box 3

Deregulation of Agricultural Insurance in Sri Lanka

The Agricultural Insurance Board (AIB) was established in 1973 to extend comprehensive insurance coverage for paddy and subsidiary food crop cultivation and livestock farming in the country. As the insurance business was a monopoly of the government at that time under the Agricultural Insurance Law (AIL), the AIB was given the monopoly power of providing agricultural insurance in respect of paddy cultivation by making it mandatory for a farmer engaged in paddy cultivation to obtain insurance cover from the AIB. With regard to other crops and livestock farming, farmers were permitted to obtain insurance cover on a voluntary basis.

Over the years, the AIB provided insurance cover for paddy cultivation but since the premia collected was not sufficient to meet the indemnity payments, a substantial sum of money had to be provided by the Treasury to the AIB to meet the deficit. This shortage of funds restricted, to a large extent, the expansion of services of the AIB. Consequently, when the payment of indemnities was decided, the AIB was forced to match the payments with the resources available, thereby making the insurance coverage inadequate for the insured farmers to meet their actual crop losses.

In the early 1980s, the general insurance business in Sri Lanka was opened to private sector insurance companies. However, along with this liberalisation, no matching liberalisation was effected in the agricultural insurance sector. As a result, the AIB continued to enjoy its monopoly power with respect to paddy cultivation. Even though the other subsidiary crops and livestock farming sectors did not have such restrictions, the low volume of business did not attract private insurance companies for agricultural insurance. It has been reported that only one private company, which started a limited insurance scheme in selected areas, has entered the field since the opening up of agricultural insurance to the private sector.

As agricultural insurance for paddy cultivation can be provided only by the AIB, lending banks are required to accept only AIB insurance policies as collateral for loans granted for paddy cultivation under officially sponsored loan schemes. In respect of loans for other crops and livestock farming there is no such restriction.

However, as private insurance companies have not entered the field, there have been no opportunities for lending banks to accept such policies as collateral for loans.

In order to establish a viable and sustainable crop insurance sector in the country, it is necessary to promote competition among different insurance companies which will give the farmers a wider choice of insurance policies. It is, therefore, necessary to remove this monopoly power vested with the AIB in respect of crop insurance for paddy cultivation.

Having recognised the recommendations made by the relevant authorities, the government took measures to repeal the AIB Act and enacted new legislation in the form of 'The Agricultural and Agrarian Insurance Act No.20 of 1999' with a view to achieving the following objectives.

- (a) To broaden the scope of the AIB and establish an Agricultural and Agrarian Insurance Board (AAIB) to provide insurance for agricultural and horticultural crops and medicinal plants, livestock, fisheries and forestry, agricultural equipment and implements, the storage and preservation of agricultural and horticultural produce and products of medicinal plants, fisheries and forest produce.
- (b) To provide medical benefits and social security schemes for agriculturists and
- (c) To repeal the Agricultural Insurance Law No.27 of 1973, thereby permitting private insurers to undertake crop insurance.

With the implementation of the Agricultural and Agrarian Insurance Act from 16 August 1999, the activities hitherto handled by the Agricultural Insurance Board (AIB) were transferred to the newly established Agricultural and Agrarian Insurance Board (AAIB). Since the monopoly of the AIB in respect of agricultural insurance was eliminated by the new Act, other insurance companies involved in the sector have the opportunity to enter agricultural insurance.

Farmers are now able to obtain agricultural insurance from an insurer of their choice.