CHEMICAL FERTILIZER AND AGRO - ECONOMY

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The use of chemical fertilizer has become absolutely essential to obtain a high yield from agricultural crops in Sri Lanka. In the Government's agricultural development programmes too, the use of chemical fertilizer has been considered important. In platations in particular, systematic use of chemical fertilizer has been practised from the very beginning. Setting up of 57 rural fertilizer depots by the Agrarian Services Department of Sri Lanka throughout the island with help from the United Nations Food and Agricultural Programme can be considered as an attempt to persuade the farmers to use fertilizer.

Cultivation activities of Sri Lanka require about 508,606 metric tons of fertilizer per year. A major part of this, viz. 44% is used in the cultivation of paddy, while 8% is used for coconut, 5% for rubber, 4% for minor food crops, and 2% for minor export crops.

Table 1

Fertilizer Consumption - Cropwise

	1989 (Mt. '000)	%	1985-89 Annual Avg.	%
Paddy	240.2	(46)	223.7	(44)
Tea	126.3	(24)	135.9	(27)
Rubber	22.0	(4)	24.2	(5)
Coconut	38.5	(5)	39.1	(8)
M. F. C.	29.3	(6)	23.2	(4)
M. E. C.	5.6	(1)	3.6	(1)
Tobacco	6.5	(1)	6.2	(1)
Others	53.7	(10)	52.7	(10)
Total	522.1	(100)	508.6	(100)

Source: National Fertilizer Secretariat

For the making of fertilizer compounds in Sri Lanka basic kinds of fertilizer are imported. Chief among them are urea, ammonium sulphate, triple super phosphate, Muriate 06 potash rock phosphate Kiezerite and N. P. K. (5: 15: 15). In addition local rock phosphate and dolomite are also used. (Please see table 2).

The annual average expenditure on the import of chemical fertilizer in the period 1981-89 was Rs. 1878.2 million. This amounts to 2.2% of the total expenditure on imports. The minimum and maximum limits of this expenditure have been Rs. 560 million in 1982 and Rs 2384 million in 1988. The annual average amount has been 362,759 m. t., and its minimum and maximum limits have been 174,789 m. t. in 1982 and 544,174 m. t. in 1988. Foreign aid has accounted for 52% of the cost of fertilizer imports (1989) and loans have constituted 7% of the balance. Thus the financial allocation has been 41% only. The recent rise in the price of fertilizer in the world market and the devaluation of the rupee have pushed the cost of fertilizer further up

Table 2

Fertilizer Imports

	1989 (Mt. '000)	%	1985-89 Annual Avg.	%
S. A.	88.8	(23)	84.9	(19)
Urea	142.7	(39)	168.8	(38)
R. P.	10.0	(03)	21.9	(5)
T. S. P.	20.4	(06)	45.8	(10)
M. O. P.	67.6	(18)	89.6	(20)
N. P. K.	25.7	(07)	23.8	(5)
Kiez	05.7	(02)	5.2	(1)
Others	06.8	(02)	4.5	(1)
Total	364.9	(100)	444.6	(100)

Source: National Fertilizer Secretariat

Until 1964 the import and wholesale marketing of fertilizer was done by private business institutions led by A. Baur and Co., Shaw Wallace and Hedges and Colombo Commercial Company. Under the Business Acquisition Act of 1970 the Colombo Commercial Company was brought under Government control. The fertilizer section of Shaw Wallace and Hedges was attached to the Janatha Estate Development Board. In 1964 Ceylon Fertilizer Corporation was started by the Government. By 1971 the Fertilizer Corporation had the monopoly of import and distribution of fertilizer. In 1979 the Government's policy of open economy permitted private business institutions to import fertilizer again. Now 5 institutions including the Fertilizer Corporation are in the forefront of fertilizer importers, of which, three belong to the state sector. Of the total spent on fertilizer imports in 1989, the percentages allocated to different institutions were: Ceylon Fertilizer Corporation 40, Janatha Estate Development Board 27, Colombo Commercial Company Ltd. 14, A. Baur & Co. 8, Anglo Asian Co. Ltd. 6, and Ceylon Tobacco Co. Ltd. 5. The main countries which supply Sri Lanka's fertilizer requirements, according to amounts spent in 1988 were: Bangladesh 26.9%, Canada 21.4%, Japan 17.5%, Netherlands 15.1% and Iran 4.9%.

The Government has implemented fertilizer subsidy schemes and low interest loan schemes as an incentive for cultivators to use fertilizer. The fertilizer subsidy scheme introduced by the Government in 1962 is one of the more important among these schemes. At the beginning these subsidies were made available for paddy cultivation only. Later they were extended to other crops too. The subsidy was given directly to the institutions which imported fertilizer. This programme was administered by the Fertilizer Secretariat. The subsidized price was determined by the Fertilizer Secretariat in consultation with the importers. Due to the subsidy scheme the cultivators were able to get chemical fertilizer at a very low price. The fertilizer subsidy was allocated by the Goverment each year through the budget. A sum of Rs. 870 million was allocated by the budget in 1980 and in 1981 the amount was increased to Rs. 1000 million. In 1987 it was brought down to Rs. 700 million and in 1988 to Rs. 600 million. The amount allocated in the budget was often adequate, but in 1980 and 1984 the expenditure exceeded the allocation. The amounts were Rs. 1200 million and Rs. 1037 million respectively.

After the Government stopped the subsidy with effect from January 1, 1990; the price of fertilizer was allowed to be determined by the market forces. As a result the price of fertilizer increased at a very high rate. The maximum increase and the minimum were 167% and 30% respectively. The prices of fertilizer mostly used, viz. urea, T. S. P. and M. O. P. have increased by 119%, 167% and 131% respectively. On 24.05.1990 the Fertilizer Corporation brought down the prices by a rate between 6% and 12%.

Due to the removal of the subsidy the cost of production had to go up. But as it is the market forces that determine the selling price, that price can sometimes be below the cost of production. If the prices of agricultural prod-

Table 3

Changes in the selling prices of important fertilizers (Ex-Colombo/Rs. per metric ton)

Fertilizer	Upto 4.8.88	From 5.8.88	Change %	From 1.1.90	Change %	From 24.5.90	Change %
Urea	2850	3650	28.0	8000	119.2	7380	- 7.8
Sa	2750	3300	20.0	5800	75.8	5280	-10.5
TSP	2850	3650	28.0	9750	167.1	9130	- 6.4
IRP	2000	2950	47.5	5000	69.5	4380	-12.4
LRP	1330	1880	41.3				
MOP	2750	3550	22.8	8200	131.0		
NPK 5:15:15	3500	4300	22.8	9200	90.7	7580	- 7.8
Kiezerite	4800	5600	16.7	9000	36.4	8380	- 6.9

Source: National Fertilizer Secretariat

ucts cannot be increased in the market, use of fertilizer can go down as a result of declining income. Whether its next consequence will be a decline in productivity is the question.

Tea 67% of the tea lands belongs to state corporations. Use of fertilizer by these institutions in plantations is done very well and at a very high rate on the advice of the Tea Research Institute. But the use of fertilizer by owners of small tea estates is very limited. As revealed by a survey done by the Fertilizer Secretariat, 57% of the owners of small tea estates had not used any fertilizer. The reason given was that the price of fertilizer was too high. If that was so, the situation could be still worse when facilities for the use of fertilizer were reduced. As the use of fertilizer in the public sector is done properly there is good productivity. In 1982 the productivity per hectare was 1264 kilograms. In small estates the productivity had been 928 kilograms.

The cost of fertilizer comes to about 4.08% of the cost of production of 1 kg. of tea. This will increase further when the price increases. The price of tea is determined by international demand. Therefore even when the cost of production increases, the market price cannot be changed. This is made clear by the fact that the price of tea in 1988 was less than the cost of production.

Table 4

Fertilizer Cost (Rs)

Per Kg	Total Cost	Fertilizer Cost	Fertilizer Cost Cost as %
Tea 1989	52.29	2.26	4.08
Rubber 1989	30.56	.95	3.11
Coconut 1989	2427.00	676.00	27.85
Paddy 1986/87 (per Acre)	3303.64	434.54	13.15

* Kalutara – Rainfed

Sources: State Plantation Corporation
Central Bank of Sri Lanka.

Rubber 3.11% of the cost of production for 1 kg. of rubber is spent on fertilizer. Selling price of rubber too is determined by international demand. For Example in 1989 the selling price of rubber was less than the cost of production. Of the total acreage of rubber the state owns 33%. The balance 67% is owned by the private sector. Of that too the greater part is owned by small holders. The monthly income of these small holders is very low. Therfore many of them seek other sources of income. Many of them pay no attention to the use of fertilizer.

Coconut

In the coconut sector, cost of fertilizer represents 28% of the total cost of production. In Sri Lanka 80% of the coconut plantations belong to small holders. According to the Coconut Development Board, the amount of fertilizer used in the period 1985-88 was 40,000 m. t. per year. This amount was sufficient for 208,333 acres of coconut, or 20% of the total. Even in the 1960's when there was maximum use of fertilizer, the acreage in which fertilizer was used did not exceed 30%. What this reveals is that it is the large land owners who pay more attention to the use of fertilizer. Some people therefore agree that there will be no reduction in the use of fertilizer even if its price increases. However, with the increase in the price of fertilizer the cost of production can increase leading to a reduction in the profit margin. The market price of coconut depends also on external factors. Another view that prevails is that when the supply of coconuts increases the price of coconut declines very much, while when the production decreases the price increases. Accordingly, even though the production decreases when the use of fertilizer declines, the income remains constant. However, when the other industries connected with coconuts are considered, problems can arise when raw materials required by those industries become scarce. Besides, when the entire economy is taken into consideration, the above view appears to be incorrect. In any event, a decline in the coconut production will affect the income of the other sectors connected to it.

Paddy

Any rise in the price of fertilizer is supposed to have a deep impact on the paddy sector. The incomes of many paddy cultivators are very low. Some of them survive at a subsistence level. At present 13% of the cost of paddy cultivation goes for fertilizer. With the increase in the price of fertilizer, it is estimated that this will go up to about 20%. In this situation, many cultivators are likely to give up or minimise the use of fertilizer. The market prices are also likely to go up to some extent.

The increase in the price of fertilizer will have a varying impact on other minor agricultural products. Because the agricultural sector contributes 28% to the gross national product 60% of the foreign exchange earnings and provide half the employment of the country. It is clear that problems in the agricultural sector will have a deep impact on the economy.

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