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Financial Incentives for the Maintenance and Development of Coconut Plantations*

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Coconut occupies 1,152,400 acres of agricultural land in Sri Lanka covering something close upon 900,000 holdings. The lands are concentrated in the 8 major coconut growing districts *viz.* Colombo, Kalutara, Galle, Matara, Kurunegala, Hambantota, Puttalam and Kegalle and account for about 86% of the area under coconut. These districts receive adequate rain fall from both Monsoons for the successful cultivation of coconut and are densely populated.

The estimated national production of coconut per year is approximately 2,000 to 2,500 million nuts. On the basis of this estimate the average production per acre is around 2,300 nuts which is even less than 1/2 the yield of some of the best estates. The distribution of area under coconut by size class holdings as reported in the 1962 Agricultural Census is as follows:—

<i>Size Class of holdings</i>	<i>Extent under coconut (Acres)</i>	<i>Percentage</i>
Under $\frac{1}{4}$ acre	6,144	0.5
$\frac{1}{4}$ to under $\frac{1}{2}$ acre	18,322	1.6
$\frac{1}{2}$ to under 1 acre	42,205	3.6
1 to under $2\frac{1}{2}$ acres	158,637	13.8
$2\frac{1}{2}$ to under 5 acres	177,807	15.4
5 to under 10 acres	176,541	15.3
10 to under 25 acres	161,603	14.0
25 to under 50 acres	102,397	8.9
50 acres and over	308,792	26.9
Total	1,152,418	100.0

From the above figures it would be observed that the lands between $2\frac{1}{2}$ to 5 acres cover the highest acreage in small holdings. This means 177,807 acres are in holdings of varying sizes reanging from $2\frac{1}{2}$ to 5 acres, but if one is to take the holdings from $\frac{1}{4}$ of an acre to 10 acres, the extent amounts to nearly 50.2% of the total extent under cocount.

Also the figure 308,792 acres shown at the extent under lands above 50 acres which a few years back were considered as large estates needs revision in the light of changes that took place consequent to the Land Reform Act. The maximum extent that any individual in Sri Lanka is entitled to possess under the Land Reforms Act is 50 acres. It is also known that nearly 115,350 acres have been vested in the Land Reforms Commission from the estates which were earlier above 50 acres, thereby leaving only about 200,000 acres in 50 acre holdings. The distinction drawn earlier between small holdings and estates will therefore no longer be valid.

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The area that demands immediate attention of the authorities responsible for the coconut industry in Sri Lanka is that category of holdings which range from $\frac{1}{4}$ of an acre to 50 acres in size. This is about 70% of the total extent under coconut in Sri Lanka.

The Coconut small holdings display poor standards of management. In most small holdings the annual average yield can hardly reach the national average. Proper cultivation and management practices are seldom adopted in these lands nor do owners show any interest in soil and moisture conservation steps. The fact that the palms would continue to yield, in spite of the absence of any attention to the tree, has resulted in the farmer being indifferent towards his plantation. The lack of capital on his own and the absence of a source of easy credit to the farmer to improve the condition of his plantation can be put down as major reasons for the low level of productivity in small holdings.

Fertilizer

With a view to provide a sufficient incentive to the coconut farmer to regularly manure his palms, the Government in 1956 introduced the Coconut Fertiliser Subsidy Scheme. This scheme was implemented by the then Coconut & Cocoa Rehabilitation Department until 1972 in which year the function was taken over by the Coconut Cultivation Board. Application of fertilizer contributes to a very large extent to an increase in the nut production within a matter of few years. The pattern of fertilizer consumption since 1957 show that it reached its peak in the year 1968 when a total of 63,200 tons was used.

Coconut fertiliser was made available at a 50% subsidy as against fertiliser for other crops being 35% till April 1976 from which month the fertiliser subsidy was made a general subsidy at 50% for any variety of fertiliser. From 1970 onwards the use of fertiliser had been dwindling and in the year 1977 only a very dismal quantity of nearly 8,800 tons was used. This is the lowest on record. It must be added that since 1974 the price of fertiliser went up by nearly 100%, but the decrease in fertiliser usage since 1974-1977 cannot be attributed solely to increasing prices. The major constraint in the field of distribution of fertiliser to coconut growers was its non-availability. It is true that the 'pay back' period or in other words the period that takes the tree to show its response in terms of yields to added fertiliser is about $1\frac{1}{2}$ - 2 years. This may perhaps be one factor which disuades the small holder from applying fertiliser. No doubt a small holder who more often than not, is a subsistence farmer will look for immediate results from his investment. Where this is not forthcoming it would be very difficult to get him committed to a long term investment of this nature. It is for this reason that fertiliser has to be made readily available to the farmer more to ensure continuous application.

The Coconut Cultivation Board has accepted the responsibility for the distribution of coconut fertiliser to coconut growers. Nearly 13 coconut fertiliser distribution points have been established by the Board and they are located in the major coconut growing areas. These are inadequate to serve the entire coconut industry. A wider net work of coconut fertiliser distribution centres is called for. What hampers the establishment of such a net work is the lack of buildings for storing fertiliser in remote village areas. Added to this difficulty is the difficulty in transporting fertiliser from the Colombo mixing plants. The necessity to make fertilizer easily available and at the correct time at the door step of the farmer should be the primary aim of any organisation responsible for its distribution and the success to be achieved in that direction can only ensure the application of fertiliser on coconut. Fertiliser can provide a 30-50% increase in the yield and it is only a yield increase of that magnitude that could have a sizeable impact on production.

The Ceylon Fertiliser Corporation enjoys the sole monopoly for the importation of fertiliser. It is not a secret that different state institutions responsible for different varieties of crops have taken over the servicing of these crops. For example the Department of Rural Institution and Productivity Laws Division under Ministry of Agriculture is handling the transport and distribution of Fertiliser for Paddy. The Coconut Cultivation Board transports and

distributes Coconut Fertiliser. The Tea Small Holders Authority on the other hand distributes Tea Fertiliser to tea small-holdings. In the case of Rubber, the Rubber Controller supplies fertiliser on credit to small holders through his Rubber Purchasing Depots for replanting purposes. These several Institutions have to get their fertiliser from one source, *i.e.* the Ceylon Fertiliser Corporation. This arrangement leads to immense difficulties in executing these orders at the Ceylon Fertilizer Corporation mixing point, for the different crops and also arranging Transport to different destinations throughout the island at a time when transport of any item by rail or road is itself a problem.

Coconut Rehabilitation Subsidy Scheme

This scheme was introduced in May 1974. Performance since its inception is as follows:—

<i>Year</i>	<i>Target</i>	<i>Permits Issued (Acres)</i>	<i>Work completed on (Acres)</i>	<i>Subsidy Payment</i>	<i>Provision</i>
1974	10,000	11,323	562	40,344/-	1,736,230
1975	10,000	21,346	7,330	806,454/-	1,656,250
1976	10,000	13,831	7,800	600,768/-	55,000
1977	11,000	24,235	7,639	695,000/85	1,765,000

Major item of work under this scheme is the establishment of contour drains on coconut lands. The subsidy rates were worked out as far back as 1973 and were mainly based on the labour costs involved. The rate of Rs. 9/- per chain to Rs. 15/- per chain depending on the different soil types, is the estimated 2/3rd cost of cutting a chain of contour drain. At that time the total cost that a land owner was called upon to bear to cut a chain of drain was estimated to be in the region of Rs. 22/-. The short-fall was due to many reasons. Despite every effort taken by the Board to give publicity to this scheme, it was found that the rates paid for this work were somewhat unrealistic in terms of the rising labour costs and as such the rates approved did not provide sufficient inducement. Most land owners have complained that the payments made are not sufficient.

Upto 1976, this scheme was confined to lands above 1 acre to 20 acres in extent. The exclusion of lands above 20 acres and below 1 acre deprived nearly 50% of the land holdings from making use of this scheme. This limitation was removed with effect from 1.1.77 and the scheme is now applicable to any coconut land above 1/2 an acre. The extent of coconut lands covered by the permits issued in each year had always been above the target set for. The drought periods from 1974 onwards coupled with rising labour costs impeded the achievement of the annual physical targets.

Most of the big coconut lands were vested in Government controlled institutions like Janawasas, Janawasamas, National Livestock Board, Multi-purpose Co-operative Societies and Electoral Co-operatives. These institutions except the National Livestock Development Board hardly made any attempt to avail of the facilities afforded by this scheme. A recommendation made by the Board to increase the subsidy rates is now receiving the attention of the Ministry of Plantation Industries. An increase of upto 60% on the present rates has been recommended.

Table 1. *Coconut Rehabilitation Subsidy Scheme*

Year	Permits Issd.		Lands Rehabilitated		ITEMS OF WORK					
	No.	Acres	No.	Acres	Subsidy Paid		Contour Drains (Chains)	Drainage Drains (Chains)	Vacancies Filled (Nos.)	Excess palms Removed (Nos.)
					Rs.	Cts.				
1974 from May	2,447	10,687	180	198	41580.75		2,077	206½	77	699
1975	5,248	20,104	1,247	6,268	6,01985.00		41,764½	2,402½	8,959	8,215
1976	3,185	13,831	1,720	7,801½	6,51024.75		51,995	3,556½	14,292	8,984
1977	5,186	24,235	1,922	7,639	6,95000.85		60,155½	2,523	12,211	9,759
Total	16,066	68,157	5,069	21,906½	19,89591.35		155,992	8,689	35,539	27,657

Pasture Subsidy Scheme:

Pasture subsidy scheme was introduced in 1973 to encourage land owners to establish pasture under coconut. This scheme provides granting financial incentives to coconut growers who wish to establish pasture and fodder in their holdings for rearing cattle and sheep in areas which receive an average annual rain fall of 60" or more. The scheme is implemented in the following districts:—Colombo, Kalutara, Puttalam, Kurunegala, Ratnapura, Kegalle, Matale, Galle, Matara, Kandy and Badulla.

The present subsidy is Rs. 300/- per acre which is paid in two instalments of Rs. 175/- and Rs. 125/-. The subsidy is available for coconut lands of ½ acre or more in extent and falling within the districts listed. Funds for the Pasture Subsidy Scheme is provided by the Ministry of Agriculture and is operated by the Coconut Cultivation Board. The progress of this subsidy scheme from its inception upto and of 1977 is given in the Table 2.

Table 2. *Pasture Subsidy Scheme*

Year	Permits Issued				Extent planted			Subsidy paid Amount
	No.	A.	R.	P.	A.	R.	P.	
1973/74	541	4664	3	3	1254	1	—	Rs. 128,297.50
1975	554	5882	3	—	394	3	—	128,257.50
1976	1081	5610	2	—	1141	3	—	248,643.75
1977	558	2730	1	—	1704	1	20	447,494.37

Subsidy Scheme to Government Allotments of less than one acre:

A large extent of Crown land was distributed among the landless after 17th October 1973, the date of the Land Sales Act. Similarly many large lands were acquired by the Crown and were fragmented and distributed for village expansion purposes, among the landless. The settlers or the allottees of these small blocks of land were expected to reside on the land and develop them. The scheme aimed at helping these allottees to plant a few seedlings on these allotments so that within a matter of 5-6 years they could be self-sufficient in their daily requirements of coconut.

The allotment should be less than 1 acre and a minimum of 10 seedlings should be planted in each allotment in order to receive the subsidy.

A total subsidy of Rs. 23/- per seedling is paid in 4 annual instalments.

1st Year	—	Rs. 8/- per seedling
2nd Year	—	Rs. 5/- per seedling
3rd Year	—	Rs. 5/- per seedling
4th Year	—	Rs. 5/- per seedling

Almost 40,000 seedlings have already been planted under this scheme. Land allotments coming under large development schemes like the Mahaveli Development Scheme, are being brought under this Assistance Scheme.

Replanting/Underplanting Subsidy Scheme:

In 1949 a Scheme was initiated to issue selected seedlings at subsidised price to owners of coconut lands for replanting and underplanting. More than 1 million seedlings per year have been issued to the public by the Coconut Research Institute during the period from 1949 to 1977. A rough estimate on the basis of 75 seedlings per acre show that nearly 373,000 acres at least should have been planted with these seedlings. Even if 50% of these seedlings survived and came into bearing, its impact on the country's nut production would have been considerable. To what extent this scheme had been successful has yet to be assessed. The first serious attempt by the Government to initiate a scheme to promote systematic replanting or underplanting in the island was made in July 1976. This was when the Government approved the Coconut Replanting/Underplanting Subsidy Scheme under which fairly attractive financial assistance was granted.

The responsibility for the implementation of this scheme was given to the Coconut Cultivation Board. Assistance under this scheme applicable to lands with an annual yield of less than 1,000 nuts per acre due to senility. The holdings should be more than $\frac{1}{2}$ acre in extent. A subsidy equivalent to $\frac{2}{3}$ rd the estimated cost of replanting or underplanting is paid in 8 annual instalments in the case of Talls and in 5 annual instalments in the case of hybrids. The subsidy rates per acre under each categories are as follows:—

Underplanting with Talls	—	Rs. 1,530/-
Underplanting with Hybrids	—	Rs. 1,275/-
Replanting with Talls	—	Rs. 1,100/-
Replanting with Hybrids	—	Rs. 840/-

The progress upto end of 1977 is given in the Table 3.

Table 3. *Replanting/Underplanting Subsidy Scheme from 26.7.76 to 31.12.77*

	Permits Issued			Extent planted			Subsidy paid	
	No.	A.	R.	P.	A.	R.	P.	Rs. Cts.
1. Replanting								
Ord. Talls	194	652	2	21	35	3	16	13,269.48
Hybrids	12	17	—	22	4	2	22	1,539.52
2. Underplanting								
Ord. Talls	3021	9943	3	06	115	0	02	34,971.69
Hybrids	339	1238	1	32	27	1	00	10,730.49
Total	3566	11852	0	01	738	0	23	246,914.17

Newplanting Subsidy Scheme:

The Land Utilisation Committee appointed by the Minister of Lands, Irrigation and Power in 1967 observed that around 50,000 acres of un-utilised lands in the country are suitable for coconut. It is generally accepted that nearly all land suitable for coconut have already been brought under coconut. The 50,000 acres referred to by the Land Utilisation Committee were marginal lands that could be brought under coconut. In addition to this 50,000 acres, there were lands under other crops going out of production and scattered blocks either under jungle or barren which could profitably be converted to coconut plantations.

In April 1977 the Government considered it both necessary and desirable to bring such lands within the pail of a subsidy scheme in order to encourage their owners to plant them with coconut. The New Planting Subsidy Scheme approved in April 1977 aimed at this objective. The scheme provides a financial incentive of Rs. 1,590/- per acre and is payable in 8 annual instalments to the land owners. The stipulated items of work in each year have to be completed to receive the subsidy instalments. Under this scheme it is proposed to bring about 5,000 acres in the first year and to cover 25,000 acres of new land during the next 5 years. The progress of the subsidy scheme upto 1977 is given in the Table 4.

Table 4. *New Planting Subsidy Scheme*

Year	Permits Issued			Subsidy paid			Amount	
	No.	A.	R.	P.	A.	R.		P.
1977	1851	5501	2	20	21	—	03	10,560.00

Subsidy Scheme for Perennial Intercrops:

Intercropping coconut lands with certain compatible perennial crops is found to be a promising proposition in home gardens and in a few coconut estates. A scheme of assistance for systematic mixed cropping of coconut plantations was introduced in April 1977, with the objective of increasing agricultural productivity of coconut lands and generating employment within the coconut industry. This scheme which is implemented by the Coconut Cultivation Board enables the coconut land owners to utilise the assistance provided under it to plant cocoa, coffee and pepper in these lands. The coconut land owners having their lands in agro-climatically suitable areas for the cultivation of the above crops are eligible for these cash subsidies, provided their lands are located in areas specified below.

- Cocoa — Areas having an average annual rainfall of over 70" in the districts of Kurunegala, Kegalle, Kalutara, Badulla, Kandy, Matale and Galle.
- Coffee — Areas having an average annual rainfall of over 70" in the districts of Kurunegala, Kegalle, Kandy, Matale, Galle, Matara, Colombo, Badulla and Ratnapura.
- Pepper — Areas having an average annual rainfall of over 70" in the districts of Kandy, Matale, Ratnapura, Kegalle, Kalutara, Galle, Matara, Colombo and Badulla.

The expenditure incurred in the establishment and maintenance of the secondary crops until they reach maturity is subsidised under this scheme. The cash subsidies calculated on the basis of the estimated cost per acre are paid out in a phased out programme as follows:—

	Cocoa	Coffee	Pepper
First annual instalment	415.00	490.00	760.00
Second " "	190.00	210.00	240.00
Third " "	165.00	170.00	200.00
Fourth " "	165.00	—	—
Total	935.00	870.00	1,200.00

Rs. 935/- is paid for inter-cropping an acre of coconut with a minimum of 290 cocoa plants. Rs. 670/- or Rs. 1,200/- respectively for the cultivation of at least 360 plants of coffee or pepper in an acre of coconut. In order to ensure that the cultivation of the secondary crop is properly done, the payment of the annual instalments under this scheme is made only after the required cultivation practices on the crop mix are carried out.

The progress of the scheme since April 1977 is given in Table 5.

Table 5. *Subsidy Scheme for perennial intercrops*

Year	Permits Issued											
	Cocoa			Coffee				Pepper				
	No.	A.	R.	P.	No.	A.	R.	P.	No.	A.	R.	P.
1977	10	49	3	—	212	485	2	28	263	465	2	20

Concluding Remarks

(i) The Coconut Industry which had occupied a pre-eminent position in the economy of the indigenous population of this country had been neglected during the past few decades. Besides the fertilizer subsidy scheme and the subsidised coconut seedling distribution scheme implemented by the Coconut Research Institute no form of assistance what-so-ever was available to the coconut cultivator until 1972.

A Rehabilitation Subsidy Scheme for Rubber had been introduced by the Government in 1953 under which more than 300,000 acres have been replanted by 1976. Similarly assistance to Tea growers has been given by the State under Tea Replanting Subsidy Scheme introduced in 1959. Yet the fact that the total extent under coconut is more than the total acreage under both Rubber and Tea, had escaped the notice of those responsible.

The present coconut crisis resulting from an annually decreasing nut production can therefore be the out-come of the absence of any long term plan for systematic Replanting or Underplanting of the Coconut plantations. The inadequacy of the financial incentives available under several subsidy schemes introduced after 1972 is a serious limitation. Substantial increase in the subsidy rates should therefore be favourably considered.

(ii) The 50% subsidy on coconut fertilizer cannot be profitably made use of by the coconut grower unless his requirement of fertilizer could be made available to him conveniently and at the appropriate time. Present distribution arrangements which are hardly an excuse for this have to be expanded and adequate provision made for an efficient distribution system to ensure the easy flow of fertilizer to every holding where fertilizer is required.

The efficiency of the distribution system will depend wholly on the ready availability of supplies as well as a well co-ordinated transport system.

(iii) Compared with the total acreage under coconut in the country the progress so far achieved under the Rehabilitation Subsidy Scheme which is about 7,500 acres per year should be admitted to be negligible. On the basis of even 10,000 acres per year it is very easy to calculate how long it would take to rehabilitate the 900,000 acres in small-holdings even if one is to leave out the balance to be in larger estates. The same applies to the impact that one could expect from the Replanting and Underplanting and the New planting subsidy scheme. The farmer encounters much difficulty in getting good coconut seedlings for planting. The 15 seedling nurseries of the Coconut Research Board which supply seedlings to coconut growers are located

in such a way that not every coconut grower could make a trip to the nursery without incurring much expenditure and undergoing inconvenience. The only possible way to obviate this difficulty is the decentralization of the coconut seedling nurseries. Earlier it is done easier it would be to accelerate the pace of the replanting/underplanting and new planting programmes.

The extension and advisory staff is presently limited to about 100 field personnel. Each of these officers has to cover an extent ranging from 8,000 - 15,000 acres. It is humanly impossible for a Field officer to establish personal contact with every coconut farmer and to pass on the necessary technical advice and guidance for the proper cultivation and Management of the plantation. A system has to be evolved whereby this technical know-how would permeate to the village level. This calls for a highly intensive field extension service. The present strength of the field staff has to be increased considerably and the area of operation of each officer has to be reduced to a manageable size under which conditions he would be in a position to personally visit and inspect each and every coconut holding in his area and advise and if necessary demonstrate how the holding could be developed and maintained at an economically profitable productive level.

The Coconut small holder unlike estate owners lack primary capital for the development of his land. Lending institutions seldom accommodate the small holder. He is also not in a position to furnish acceptable co-lateral or even personal guarantors to get credit facilities. This is a major constraint that has to be overcome if any head-way is to be made for the development of the coconut small holdings in this country. The Coconut Cultivation Board has negotiated with the People's Bank and the Bank of Ceylon to formulate a credit scheme for the small holders who come under the different subsidy schemes administered by the Board. The People's Bank has already finalised the scheme and instructions are believed to have been already issued to its branches. Even under this scheme the banks have insisted on guarantors.