

A Review of Planning for Paddy Production in Sri Lanka, 1947-1970*

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The word planning is defined in various ways. It is hardly rewarding to enumerate the definitions. In general, planning means tracing a certain course of action with a view to attaining a definite predetermined objective. There is a wide variety of purposes for which planning is applied and accordingly, there are different types of planning. These can be divided into two broad groups: physical planning and economic planning. The former is concerned with the designing and construction of specific physical objects like buildings, bridges, roads or even the lay-out of the urban and rural landscape. The latter deals with the utilization of scarce resources to achieve maximum benefits. Though in practice physical planning is complementary to economic planning, in this paper it is from the point of view of the latter¹ that planning for paddy production in Sri Lanka is reviewed. In this review, the formulation of policies to increase the production of paddy, either on the basis of formally prepared economic development plans, or without them, is regarded as planning for paddy production. An attempt is made to examine the degree to which paddy production was planned in terms of specific production projects, firstly to suit locational characteristics and regional differences and secondly, to ensure the optimal use of resources. The first part of the paper focuses attention on the need for considering regional differences. The second and the third sections review the process of planning for paddy production firstly as appearing in the development plans and secondly, as evident from the agricultural policies. Though a general review of planning up to about 1968 appears in a recent work,² its focus has obscured the theme of discussion presented in this essay.

1. Planning for Paddy Production in a Context of Regional Differences

Physical and cultural features produce distinct differences between locations and regions. Such differences in turn affect the costs and returns in almost all economic activities. This is more so in respect of agricultural production

* Based on post-graduate research conducted at the University of Sussex during 1969-1972. The writer wishes to acknowledge gratefully the guidance received from Mr. Michael Lipton of the IDS, University of Sussex. I am grateful to Drs. Buddhadasa Hewavitharana, Michael Roberts and Gerald Peiris for their comments on an earlier draft of this paper.

1. Economic planning here is considered in the context of under-developed countries. It is distinguished from the rest by the term 'Development Planning;' see W. Arthur Lewis, *Development Planning* (London, George Allen & Unwin Ltd., 1966) pp. 13-24. Also see 'Diplomacy by Terminology', Gunnar Myrdal, *Asian Drama*, vol. iii (London, Allen Lane, the Penguin Press, 1968) pp. 1839-1842.
2. Birger Moller, *Employment Approaches to Economic Planning in Developing Countries: With Special Reference to the Development Planning of Ceylon* (Sri Lanka) (Scandinavian Institute of Asian Studies, Monograph Series No. 9, 1972). Also see, Donald R. Snodgrass, *Ceylon: An Export Economy in Transition* (Illinois, Homewood, Richard D. Irwin Inc., 1966) pp. 108-113 & 152-168.

in general and paddy production in particular. Though the limitations resulting from regional constraints could be greatly overcome by means of technological innovations the differences in cost-benefit relations between regions cannot be cancelled off. Adoption of innovations in fact is likely to make such differences more marked.

Innovations lead to changes in the techniques of production which in turn result in differences in production costs e.g., costs of cultivation under irrigated and rainfed conditions, or that on infertile soil as against fertile soil. The variation of costs between regions is further enhanced when the requisite inputs of production have to be procured from other regions and also when the output has to be disposed of outside the regions of production. Insofar as there are differences in production costs between regions, there are also marked differences in returns from production. Variations in temperature, rainfall, day length, humidity and wind result in wide differences in yields even between areas of similar relief and soil fertility. Production in some regions is riskier than in others. When risks are high, farmers are hesitant to try out innovations. High and low risk areas have different input/output relationships. Factors like landlessness, form of land tenure, population density, degree of urbanization and certain social rigidities add to regional differences in the costs and the returns in production.

In Sri Lanka the regional differences affecting the input-output relationship of paddy production are pronounced. Topographically, the land ideally suited for paddy cultivation should be flat with a gentle slope. Such land is available in the dry zone and along the southwestern coastal belt. Nevertheless, some areas along the coastal belt, though flat, do not have a sufficient degree of slope to facilitate drainage: water-logging, salinity and even influx of sea water create conditions which are unfavourable to paddy cultivation. In most parts of the Jaffna peninsula the thinness of the soil mantle reduces the water holding capacity of the soil. Here surface water storage is problematic. In the dry zone the surface water storage is possible, though at a high cost. These contrasts require the adoption of different modes of irrigation or different cropping patterns. In the hilly areas of the island, valley slopes and valley bottoms need terracing for paddy cultivation. On the terraces the technique of tillage has to be different from that in the other areas.

The availability of water is the most critical factor in paddy production. The distribution of precipitation in the island shows a marked variation, producing consequently a variation in water deficits too. The entire dry zone experiences a scarcity of water for paddy cultivation during the Yala season. Even during the Maha season, the rainfall incidence is concentrated within a period of about three months. In the wet zone the precipitation is abundant and more evenly distributed; but crop damages either from floods or unexpected dry spells are more frequent in certain areas. In some areas in the wet zone the problem is one of water excess rather than its scarcity. The areas which are transitional to the wet and the dry zones are more vulnerable to the adverse effects of rainfall variation, especially during the Yala season.

Depending on the population densities, the sizes of holdings also vary between different regions; e.g., in the dry zone on average the sizes are between 2 and 6 acres and the chief source of income is paddy; but in the thickly populated areas of the wet zone, especially those in the vicinity of urban centres, the holdings are even less than $\frac{1}{2}$ acre, and for many people paddy is only a

subsidiary source of income. Closer to the urban centres new methods and techniques of production can be introduced without much investment on farmer education, demonstration and extension programmes. In these areas, the diffusion of information and innovations is fairly rapid in contrast to that in the remote villages of the dry zone and the hill country. These are but a few illustrations of the regional differences that cause inter-regional variations in the cost-benefit relationship in paddy production in the island.

Nor can the element of transport costs in the production of paddy be taken for granted. The effective distribution of seed paddy, fertilizers, agro-chemicals, machinery and equipment is considered to be crucial to yield increases. The costs of distributing these inputs to different regions vary. Surplus production takes place mostly in the sparsely populated areas in the dry zone. The extra labour required in these areas has to be garnered from the densely populated areas in the wet zone; this means higher wages for labour. Alternatively, labour saving equipment (e.g. tractors) will be needed. These bring their own gamut of problems.

It is evident therefore, that the varied combination of factors referred to above would produce differences in the costs and the returns of paddy production between the different regions in Sri Lanka. This *a priori* expectation is confirmed by the actual results as the tables 3 and 7 and the figures I and II would testify. This situation points to the need for fulfilling two requirements in successful planning: firstly, technically sound paddy production projects must be identified to suit the respective regional characteristics; secondly, out of such feasible alternatives the projects which are most profitable, both socially and privately, have to be selected for implementation. The following two sections in the paper examine to what extent these requirements have been fulfilled in the plans and the policies in the past.

2. Paddy Production and the Development Plans

2.1 Post-war Development Proposals³

Post-war Development Proposals of 1946 marked the beginning of formal planning in Sri Lanka. In this plan, the development proposals sponsored by each of the departments that had a direct bearing on paddy were mostly ancillary and not directly related to paddy production; provision of marketing facilities and an island-wide transport organization, colonization of crown lands, irrigation works, crop research and construction of rice mills are some of the examples. Projects directly concerned with paddy production were limited to two, viz: the granting of a subsidy and the distribution of manure to paddy growers.

As the planners themselves have admitted, this plan was only a "rough outline into which the individual development projects are fitted." (p. 35). The projects were neither co-ordinated nor studied in requisite detail. Costs and benefits of the projects were assessed only in monetary terms: their social cost-benefit relationship was not known. The projects included in the plan were not a selection from a number of alternatives available: any project that was available at the time of plan preparation seems to have been included. Some of them were continuations of works undertaken during the pre-plan period.

3. Ceylon, *Post-war Development Proposals* (Colombo, 1946).

The plan as a whole had no consistent plan framework indicating the overall magnitudes and relationships of the variables. Nor was there a specific programme of paddy production consisting of carefully studied projects formulated to suit the regional characteristics and also to ensure the optimal use of resources. Contrary to a more rational approach of planning that could have been followed the planners contended that,

it will be more expedient to concentrate our development in the immediate future in the direction of agriculture and to build up our resources for our future industrial development during this period. In keeping with this emphasis the first object of the plan has been to produce locally as much of our staple food and other requirements as we are able to do with reasonable efficiency. (pp. 36-37).

Thus, the planning procedure appeared more to have been guided by hunch and the apparent urgencies arising from the food needs of the time, than the considerations of optimum resource use and the exploitation of any comparative advantages. The planners' objectives were to be achieved through the expansion of the area under cultivation, by opening up new lands, setting up colonization schemes and providing irrigation facilities. The plan, however, was never implemented.

2.2 First Six Year Plan⁴

This plan appeared in the form of the budget speeches of 1947-48 and 1948-49. The latter was more elaborate than the former. Under the plan, food production was intended to be achieved in two ways: (1) intensive and scientific cultivation of the land already under cultivation in the wet zone, and (2) expansion of the cultivated area in the dry zone. To promote intensive cultivation the need for the adoption of six measures was indicated: (1) opening up of agricultural stations in several parts of the wet zone and appointing trained instructors to provide guidance to the peasants to adopt scientific methods of cultivation, (2) organization of Agricultural Producers' Co-operative Societies, (3) supply of credit through the Co-operative Banks, (4) provision of scientific irrigation in the wet zone by the repair of minor irrigation works, (5) encouragement of double cropping and (6) control of flood waters.

Although a programme of intensification was suggested, the agricultural development plan for the six years as detailed in the appendix (b) of the plan consisted of only irrigation and land development schemes (sixteen) that were either already being undertaken or proposed at the time. However, the programme of intensification was not elaborated in terms of either investment or output targets. There were no particular production projects formulated on a regional basis. The large scale land development projects represented the continuation of the earlier policy which was followed not necessarily for paddy production. The lack of an evaluation of their economic implications was also conspicuous. Moreover, there is no evidence that the plan was implemented.

4. Ceylon, Department of Information, *A Six Year Plan for Ceylon: Budget Speech 1947-48 and 1948-49*, Building the Nation Series, No. 1 (Colombo, 1947).

2.3 Second Six Year Plan⁵

Paddy production in this plan was considered under two aspects: (1) extension of the acreage and (2) improvement of the productivity of the land already under cultivation. Extension to the acreage was envisaged in the same manner as that proposed in the First Six Year Plan. To improve the productivity of the land, five kinds of measures were recommended: (1) the use of pureline seed paddy,⁶ (2) the application of manure, (3) the adoption of effective cultural practices, (4) the improvement of irrigation facilities and (5) the provision of additional irrigation by means of wells. Reference was also made to the need for continuing the fertilizer subsidy introduced in 1951, the guaranteed price scheme that was already in operation and research into implements of cultivation suitable to local conditions. Since the "yields in the wet zone with its different soils and abundance of water are still on the low side for want of proper varieties of seed", it was pointed out that "Future research on paddy will be concentrated... on evolving suitable purelines for the wet zones" (p. 206).

Though the plan was more elaborate than the earlier ones, it was not dovetailed with either sector programmes or projects. For this purpose the plan should have been further elaborated into annual operational plans. Still, such an exercise would not have necessarily ensured the preparation of a consistent programme of paddy production under this plan since the plan itself was not properly conceived. The projects that were included in the plan happened to be those which were already in progress at the time at which the plan was prepared. They remained as disconnected units without a specific programme to co-ordinate the functions. With such projects it is difficult to achieve the objectives in a given order of priority.

The plan stated that, "in the non-export sector, however, both an extension to the acreage is envisaged as well as improvement to the productivity of the land now being cultivated" (p. 160). But the investment allocation for the latter was only 3.46 per cent as against 68.99 per cent for the former out of the total allocation of the Ministry of Agriculture, Irrigation and Fisheries. Thus the pattern of development outlined in this plan also resembled that of the earlier one. For paddy production the emphasis was on the extension of the existing acreage. Improvements in the productivity of the land or the formulation of projects after locational studies which sought to incorporate them in a specific

5. Ceylon, Planning Secretariat, *Six Year Programme of Investment 1954/55-1959/60* (Colombo, Government Press, 1955). Between this plan and the first Six Year Plan a different type of plan known as the Colombo Plan, was initiated by the Consultative Committee of the Colombo Plan Territories at the Sydney meeting held in May 1950 (*The Colombo Plan for Co-operative Economic Development in South and South-east Asia: Report by the Commonwealth Consultative Committee. Sept.-Oct., 1950, H.M.S. Office*). In this a programme was formulated to integrate the aid from the member countries to certain development projects. An investment of Rs. 503 million was allocated for agricultural development in Sri Lanka. This amounted to 37 per cent of the proposed total investment of Rs. 1359 million. By 1957 it was planned to increase the acreage under food crops by an addition of 200,000 to 250,000 acres including the target of 131,000 laid down in the programmes prepared earlier. Agricultural development in the plan was restricted to land development and colonization schemes. In this programme a predominant role was assigned to the government purposely to simplify the problem of administration.
6. This was thought important at the time since the cultivators were not quite particular about the use of unimixed seed paddy. This also partly contributed to the low yields prevalent at the time.

programme of paddy production that was integrated with the overall development policy, had received inadequate attention. Noticing this drawback Kaldor remarked that, "The most unsatisfactory feature of the present situation is the slow progress made in planning—both in the elaboration of projects at the technical level, and in working out a consistent set of targets for an overall plan..."⁷ As it was, any merits the plan may have had proved immaterial as it was not implemented.

2.4 Agricultural Plan⁸

The Agricultural Plan followed the newly enacted Paddy Lands Act.⁹ At this time the proposed Crop Insurance Scheme¹⁰ was also under consideration. The plan made an attempt to relate the intended course of development in paddy production to these new policy measures. Effort was now more concentrated on agricultural development and planning. The change of strategy in planning for paddy production was a noteworthy feature in the plan: the increase of yield per acre was considered as the main objective and a 50 per cent increase was expected during a five year period. The planners were apparently more concerned with the attainment of self-sufficiency rather than the economic implications of such an all out effort. The importance of land policy, agricultural credit and research into fertilizer use in the attainment of this objective was pointed out.

The second part of the plan was a collection of papers prepared by various sub-committees. The programme of paddy production presented in the paper on "Rice Production," was detailed under five main aspects which in the context of this programme may be regarded as schemes or projects: mapping of rice soils, use of fertilizers, pureline seed paddy, implements and machinery and disease and pest control. Besides such detailing the plan also focussed attention on a further aspect which did not appear in the earlier plans; i.e. the need for adjusting the programme to suit the regional variation of the conditions of production. This idea was carried forward further by two recommendations: (1) to map Sri Lanka's paddy soils for fertilizer response and (2) to make a distinction between the areas in terms of cultivation under major and minor irrigation works and rainfed cultivation in setting the targets of fertilizer application.

Although this was a noteworthy deviation, the other shortcomings of the earlier plans remained in this programme too. The schemes cannot be considered as production projects designed for the particular locations. They were only some public sector projects indicating the anticipated physical targets. Their economic justifiability or the conditions of feasibility in the different locations were not adequately examined. Moreover, the other relevant aspects like agricultural credit, land policy, irrigation and crop insurance were

7. See Ceylon, National Planning Council, *Papers by Visiting Economists* (Colombo, Planning Secretariat, 1959) p. 31.
8. Ceylon, Ministry of Food and Agriculture, *Agricultural Plan: First Report of the Ministry Planning Committee* (Colombo, Government Press, 1958).
9. *Paddy Lands Act No. 1 of 1958*.
10. For details see Dr. P. K. Ray, *Report to the Government of Ceylon on the Implementation of the Pilot Paddy Crop Insurance Scheme and on Extension of Insurance to Other Crops and Cattle*, Sessional Paper XVI—1962 (Colombo, Government Press, 1959) referred to hereafter as *Sessional Paper XVI—1962*.

not integrated into the programme. From the point of view of one integrated production operation, it is difficult to see the projects building up the programme. The proposed schemes were related only to certain aspects of production. They themselves could not be expected to achieve the targets unless co-ordinated schemes were formulated, bearing in mind the ultimate form in which the operation should take place for the achievement of the final results. Although the proposals made in the plan were put into operation in bits and pieces from time to time, such activity never gave the impression of the implementation of any specific plan. Thus, it is not inaccurate to say that like the earlier plans even this plan was not implemented. Nevertheless, the Agricultural Plan seems to have influenced greatly the pattern of thinking in respect of paddy production in the subsequent plans. It also must be noted that, as would be clear from the discussion later (see section 3), a great deal of activity relating to paddy production was going on outside this type of formal planning.

2.5 Ten Year Plan¹¹

The Ten Year Plan (1959-1969) is the first comprehensive development plan prepared in Sri Lanka. Its programme of development in respect of paddy production was stated as follows:

A considerable increase in rice production is a major objective. The plan aims at more than doubling of present rice output by 1968. A substantial contribution to this increase will accrue through the raising productivity per acre. This requires a concentrated drive towards this end involving the application of a variety of measures which touch on several aspects of peasant farming. But special emphasis will be placed on such strategic factors—the use of fertilizer is an example—as exert a crucial influence on productivity (p. 97).

The programme in the plan showed the total paddy requirements and the amount of increased production needed during the period. The estimated amount of production was to be achieved by both methods: extension of the cultivated acreage and increasing the yield per acre. The “very definite advantages” of the latter method both in respect of lesser costs and quicker results were recognized. The cost calculations, however, seem to have been made only in financial terms and the comparison was only with the alternative of increasing production through an expansion of acreage. But the significance of locational characteristics in the two alternatives appears to have been completely ignored. The practicability of raising the per acre yield was recognized by an observation of the low yield prevailing at the time. Increase of production through the extension to the acreage, however, was considered to be necessary as the “country is in the fortunate position of still having unutilized land which can be brought into cultivation” (p. 244). This is not the right type of criterion to justify the allocation of resources. But the planners had been more concerned with increasing employment opportunities and expanding the acreage under paddy than maintaining a desirable balance between the rele-

11. Ceylon, National Planning Council, *The Ten Year Plan* (Colombo, Government Press, 1959).

vant development objectives. This trend of thinking is observable even in the recommendations meant to provide guidelines to the formulation of the plan.¹²

The expansion of the acreage was proposed in three ways: (1) opening up of new lands, (2) double cropping on existing lands, and (3) increasing the cropped acreage by reducing damages to crops from pests, diseases and adverse weather conditions. The increase of yield per acre was considered under six schemes: (1) fertilizer usage, (2) liming, (3) mapping of rice soils, (4) breeding of high yielding strains, (5) adoption of improved cultivation techniques and (6) continuation of the guaranteed price scheme. The benefits resulting from these schemes were estimated only from the viewpoint of the individual cultivators, and not from that of the economy as a whole. The schemes suggested also did not lead to a well co-ordinated programme of paddy production. To formulate such a programme, identification of specific production projects to suit the characteristics of the different locations would have been necessary. Perhaps all these details could not have been worked out in a plan of this nature. They should have been elaborated in annual operational plans based on the Ten Year Plan. But they were never prepared. Thus, like the earlier plans even the Ten Year Plan did not lead to the preparation of a programme of paddy production consisting of projects carefully studied and chosen from a number of alternatives using suitable criteria; nor was the plan implemented.

2.6 Short-term Implementation Programme¹³

After the Ten Year Plan, the Short-term Implementation Programme, apparently either based on the Ten Year Plan or meant to be an elaboration thereof, was presented to cover a period of three years. As the planners stated, it was a programme of action and implementation (presumably connected with the Ten Year Plan) and hence meant to be operational. By the time this programme was prepared, it was realized that increased paddy production as a programme had not been integrated with the major part of the government investment which sought to extend the acreage brought under paddy. "In the years 1959 to 1961, 81 to 87 per cent of government's investment in non-export agriculture was in fact spent on irrigation, land development and colonization schemes" (pp. 152-53). Thus, the programme concentrated on increasing the yield per acre by adopting measures which involve low capital application in relation to the anticipated returns. But the expansion of the acreage under cultivation was not altogether neglected. There was also concern over the possibility of expanding the harvested acreage in the already asweddumized area. The measures intended to be implemented were: improvement of the existing irrigation facilities, weed, pest and disease control, reclamation and encouragement of double cropping whenever possible. Arrangements needed to ensure the supply of seed paddy, fertilizers, insecticides, fungicides, weedicides and implements were discussed. The importance of continuing the guaranteed price scheme and the provision of

12. Robinson says: "In the programme here outlined we recommend that the opening up of new lands should continue until industry (including raising of industrial crops) has developed far enough to offer employment to all surplus labour." But Kaldor says: "In particular large scale schemes for the development of food production—by means of irrigation schemes, &c—are bound to be very wasteful in comparison with large scale schemes for the development of plantation agriculture." But he favours irrigation schemes for large scale cultivation of commercial crops. See *Papers by Visiting Economists*, op. cit., pp. 49 and 25 respectively.

13. Ceylon, Dept. of National Planning, *The Short-term Implementation Programme* (Colombo, Government Press, 1962).

effective marketing facilities were stated as in the earlier plans. In the fourth part of the plan these were summarized as recommendations of the planners. The plan had indicated only some of the projects that seemed to be necessary for increasing paddy production in the country at a low capital investment. As in the earlier plans, these projects were not sufficiently studied for incorporation in a development programme. Another operational programme had to be prepared after making detailed studies. This also would not have necessarily guaranteed the preparation of a satisfactory programme as the recommended projects, though inadequately studied, would have been implemented irrespective of their merits and demerits. Even this plan was not broken up into annual operational plans consisting of projects optimally suited for the different locations. Hence the process of implementing the general ideas, referred to in the plan, was bound to take its own course conventionally in accordance with the discipline imposed by the budget, but without much relevance to the plan.

2.7 Development Programme 1964-65 ¹⁴

The Development Programme 1964-65, covering a period of one year, was prepared after the termination of the period of the Short-term Implementation Programme. In the third section of the plan, the need for paddy production was emphasized in two respects; as an essential article of food and as an item of import substitution that leads to the saving of foreign exchange. It was regarded as a cheaper method of saving scarce foreign exchange than manufacturing industries protected by high tariff barriers. It was also stated that, "It costs almost the same to produce rice locally as to import it from abroad" (p. 33). Though not explicitly stated here, what the planners meant is the production of the extra quantity of rice. But it is not known whether the conclusion was made after an analysis of the related social costs and benefits resulting from production in the different locations in the country. Both extensive and intensive methods of cultivation were suggested to achieve the objective of increased production. But the development programme had been conceived entirely as a public sector programme on a more or less uniform basis. How intensification of paddy production could be successfully carried through entirely within such a framework remains obscure.

The investment allocation for paddy production was included in the category of non-export agriculture and fisheries. The amount allocated for the entire group was only Rs. 47 million out of a total of Rs. 769 million set apart for the sector. The two other items in this sector, export agriculture and irrigation and land development, were allocated Rs. 53 million and Rs. 77 million respectively. This shows that the government's commitment (though less than it was in the 1950s) to irrigation and land development still exceeded expenditure on all other aspects of agriculture. It is doubtful whether the planners examined the consistency of this allocation from the standpoint of rational economic planning. The manner in which the expenditure set apart for paddy under non-export agriculture and fisheries was intended to be invested in individual programmes had not been further detailed. Thus, there was no possibility of implementing the proposals as a package programme which consisted of individual production projects formulated from the point of view of individual cultivators farming in locations of varied costs and returns. In the absence of

14. Ceylon, Department of National Planning, *The Development Programme 1964-65* (Colombo, Government Press, 1964).

such production projects, nor was there a possibility of ascertaining whether any particular production project was preferable to another. Moreover, the manner of implementation itself was bound to be vague. This uncertainty and inadequate preparation was stated in the plan itself as follows: "It might not be possible to achieve any spectacular results during the coming year so as to reduce the bill on imports of various agricultural commodities. Efforts will, however, be made to increase production in this sector in subsequent years" (p. 37).

2.8 Agricultural Development Proposals ¹⁵

Unlike the earlier plans, excepting the Agricultural Plan of 1958, the Agricultural Development Proposals (1966-1970) were only a sector plan and were not related to an overall plan covering the entire economy. Specific investment and output targets relating to paddy production were worked out in the plan considering only the change of population. The consumption levels were assumed to remain unchanged. The expected increase in production was estimated to be 40 per cent over the level of production in the base year. The programme of investment was broken up into seven components: (1) fertilizers, (2) fertilizer stores, (3) seed paddy, (4) seed paddy stores, (5) tractors and other machinery for paddy cultivation and their spare parts, (6) agro-chemicals and application equipment and (7) vehicles for the extension services. The overall targets were disaggregated into these components on an annual basis. Along with these, an attempt was made to harmonise institutional arrangements with the main programme of production. Thus, the position regarding agricultural credit, crop insurance and Paddy Lands Act was reviewed with a view to effecting the necessary revisions.

A separate three year programme, seeking to increase the cropped area under paddy by 100,000 acres, was drawn up. The research programme of the Department of Agriculture was arranged to proceed with research on aspects like rice breeding, agronomy, rice soils, rice physiology and pests and diseases. In the rice research programme, the breeding of improved varieties to suit the different environmental conditions like low temperature, poor drainage, droughts, salinity and flooding was proposed. Some aspects of implementation like staffing of the departments were also included in the plan. Although the proposed investments and the anticipated returns were calculated in terms of financial expenditure and increment to the physical output, these do not reflect the actual costs and benefits that the economy as a whole was committed to incur under the programme or due to particular schemes. The explanation in the plan was that, "There is no single yardstick by which the returns on an investment of this magnitude can be assessed particularly in relation to a crop such as paddy which is primarily a crop of the small-holder" (p. 92). This is not acceptable in a planning context. It leads to resource wastage since one is not in a position to assess the social costs and benefits associated with the proposed development projects. It is as good as launching investment projects without any development planning.

However, this plan unlike the earlier plans was further developed into annual programmes of implementation. In the process much of the original plan was revised. Such revision was possible as there was a better exchange of ideas at the lower levels of implementation, especially when there were difficul-

15. Ceylon, Ministry of Agriculture and Food, *Agricultural Development Proposals 1966-1970* (Colombo, Ministry of Planning and Economic Affairs, 1966).

ties in implementing the plan proposals as they were originally conceived. This led to some adaptation of the plan to suit the different locational characteristics. But revisions created other problems like resource wastage since no assessment was made of the merits and demerits of the revised schemes. Moreover, the revised schemes were not always technologically sound. It was so, because the problems of paddy production from the point of view of an operational unit functioning in some specific location, had not been closely studied. The plan also identified the development proposals as separately functioning schemes of public investment. At the level of implementation, there was a basic necessity to collect them together. Implementation, therefore, led to problems not envisaged earlier. It was in the process of solving these problems that there was some adaptation of the plan to suit the locational characteristics which inevitably resulted in other problems of resource wastage and low efficiencies. The implementation of the plan was heavily dependent on publicity, propaganda and persuasion conducted by a corps of public officers, both in the central administration and at the regional level. To evoke the requisite cultivator response this is a poor substitute for a policy guided by a programme based on a study of the locational problems of paddy production.

2.9 The Five Year Plan 1972-1976 ¹⁶

This, the latest development plan of Sri Lanka, is presented as a summary of the programmes of development drawn up for the major sectors of the economy. The detailed programmes, not included in the plan, are expected to be adapted to meet the problems that would develop from year to year in the process of implementation. As stated in the plan, the programme of paddy production is formulated to increase the use of fertilizers, weedicides and pesticides. Emphasis is placed on the improvement of the network of fertilizer distribution, paddy storage, revision of anomalies in the Paddy Lands Act,¹⁷ and also the organization of credit facilities through the primary co-operative societies and the People's Bank. Provision is also made for the expansion of the area under cultivation by bringing about 100,000 acres of new land under irrigation, and supplying irrigation water to another 80,000 acres of land already under paddy (pp. 43-44). Nevertheless, the main emphasis is on the increase of production from the already asseweddumized acreage; the estimated proportion is 80 per cent of the total increase. Hence a heavy dependence on intensification. If the achievements during the plan period take place as anticipated, 97 per cent of the 1976 demand for rice is expected to be met out of local production. This scheme too seems to relegate to a secondary place the importance of adjusting the programme of paddy production to suit the locational characteristics. The production target, according to the above estimate, is 116 million bushels. This is a projected increase of 39 million bushels over the 1970 output level of 77 million; a 50 per cent increase.

In addition to the already functioning village level institutions, the newly set up Divisional Development Councils are expected to play a leading role in the implementation of the plan. Proposed District Development Committees

16. *The Five Year Plan*, (Colombo, Ministry of Planning and Employment 1971). This plan is preceded by another agricultural plan called *The Draft Agricultural Development Plan 1971-77*. When the writer had the opportunity of seeing it, the plan was in a mimeographed form and subject to further revisions and modifications. See ILO, *Matching Employment Opportunities and Expectations: A Programme of Action for Ceylon* (Geneva, ILO Office, 1971) pp. 86-87.

17. *Paddy Lands Act* No. 1 of 1958.

would be used as a co-ordinating authority at the regional level (pp. 130-131). These are approaches different from those of the previous plans. Attention seems to have been given to the implementational aspect of the plan, a requirement which was taken for granted earlier. Provision made for a greater degree of participation by the people through these institutions is a forward step taken in order to ensure implementation by minimizing friction. The plan, however, does not say whether the programme of intensification, on which there is so much of dependence, is based on regional productivity differences. The verification of returns on investment between the different sectors must be extended to the examination of the returns on investment between the different regions also. To be consistent with economic resource allocation, the criteria of resource allocation must be carried through right down to the level of the individual projects.

Since the plan is only a broad framework and the estimates made are only preliminary and subject to revision, it is too early to say whether the aspects of the nature referred to above will be incorporated into the plan or not. Programmes and projects are still to be finalized for implementation. Thus, it is too premature for any review of the latest Five Year Plan of Sri Lanka.

2.10 Plan Targets and Achievements

With the exception of the latest Five Year Plan and the Agricultural Development Proposals 1966-70, the other plans were not implemented in the sense of following a course of action as laid down in a plan to achieve the predetermined targets with consistent evaluation and revision. If the proposals contained in the three year Short-term Implementation Programme and also the one year Development Programme 1964-65 were implemented, such action does not seem to have been consistently followed in the form of an all-out effort directed to achieve the targets stated in the plans. In many of the plans, neither a course of action nor the targets were adequately defined through further elaboration. Except in certain instances, the general pattern is that the achievements are rather associated with policies followed quite independently of plan implementation as such. While postponing the examination of this aspect for the next section therefore, to serve as an over-view of the foregoing account, the targets set in the plans and the achievements made in paddy production by implementing the plans or otherwise, may be briefly examined.

No specific targets can be identified in the Post-war Development Proposals of 1946 or in the first Six Year Plan. If at all, the estimates given under the individual schemes may be interpreted as targets. But estimates for paddy production as a separate investment were not made. In the Six Year Programme of Investment 1954/55-1959/60 also estimates for paddy were not given separately. Apparently some implicit quantities were included in the estimates set apart for (a) the improvement of non-export agriculture and (b) irrigation and colonization (non-export crops) in amounts Rs. 31,929,000 and Rs. 636,467,000 respectively (p. 35). No further break-down either in monetary or physical terms was made. In the Ten Year Plan, the total gross investment during the period 1959 to 1968 at 1957 market prices, was estimated for the category "other agriculture and animal husbandry" (including tea, rubber and coconut) under two sub-categories as (a) irrigation and land development Rs. 1,092,000,000 (80 per cent of the total investment) and (b) specific agricultural crops and animal husbandry Rs. 785,000,000 (5.8 per cent of the total investment), (p. 69). Investment in paddy production was not separately indi-

cated. This was possibly included under both sub-categories. Planners expected the production to reach the level of 77 million bushels by 1968 from the 1957 level of 31,500,000 bushels (p. 80), an increase of 144 per cent. Since none of the three plans referred to were implemented the question of target achievement does not arise. Nevertheless, if the actual production of paddy in 1968 is compared with the planners' expectations it was only 64,600,000 bushels¹⁸ as against the anticipated 77 million, despite the fact that 1968 was climatically a fair year.

In the Agricultural Plan of 1958 the targets were a little more elaborately laid down than in any of the earlier plans. Almost all the targets were stated either in qualitative or physical terms; the respective amounts of investment were not estimated. One target was phrased as follows: "Increase in paddy production must of course have as its target self-sufficiency in rice as far as Ceylon is concerned" (p. 9). During a five year period the planners expected a yield increase of 48 bushels per acre from a level of 32 at the time (p. 9), a 50 per cent increase. The plan was not implemented and the yield at the end of the period, i.e., in 1963 was only 38 bushels per acre.¹⁹ Mapping of paddy soils for fertilizer response was to be completed by 1963 (p. 46). Perhaps as a matter of coincidence, this work seems to have proceeded as the planners expected. By the end of 1960 over 22,000 experimental plots were laid down in more than 3000 locations in the island, and the all-island rice soil fertility survey was initiated at the beginning of 1962.²⁰ Fertilizer use by 1963 was planned as follows:

- (a) the application of an average of 40 lbs. of nitrogen per acre over the total extent of land under major irrigation and 240,000 acres under minor irrigation;
- (b) balance acreage under minor irrigation and 400,000 acres of rainfed land to receive an average dosage of about 30 lbs. of nitrogen per acre;
- (c) at least 20 lbs. of nitrogen per acre to be applied as a top dressing one month before heading, over the total rice acreage;
- (d) liming to be extended to 100,000 acres by 1963. (pp. 46-47).

As an all-island average, the above fertilizer targets work out to about 35 lbs. of nitrogen per acre. But during this year, the amount of nitrogen applied per acre of cultivated paddy land, on an average, was only about 10 lbs.²¹ The number of acres treated with liming in 1963 is not known as the information is not available. If the closest available figures are taken, the extent treated with lime, gypsum and other soil dressings in 1961/62 was only 10,364 acres.²² By 1960/61 the use of pureline seed paddy was projected to be 600,000 bushels. The exact quantity of improved seed paddy used by this time is not known. But even by 1964/65, the total quantity of certified seed paddy distributed to the

18. Ceylon, Department of Census and Statistics, *Statistical Pocket Book of Ceylon*, 1969 (Colombo, Government Press, 1969) p. 57.

19. Source: Department of Census and Statistics.

20. C. R. Panabokke, 'Fertilizer Recommendations for Rice,' *Tropical Agriculturalist*, vol. cxix, nos. 3 & 4 (1963) pp. 167-169; (a paper read at the 1963 sessions of the Ceylon Association for the Advancement of Science).

21. Calculated from the *Administration Report of the Commissioner of Agrarian Services for 1968-69* (Colombo, Government Press, 1971) p. KK 66, referred to hereafter as *A. R. CAS*.

22. Ceylon, Department of Census and Statistics, *Ceylon Census of Agriculture 1962*, vol. iii (Colombo, Government Press, 1966) p. 98.

cultivators was only about 80,000 bushels.²³ Tractor tilling was to be expanded to cover 76 per cent of the semi-dry sown acreage (p. 48). The need for this appears to have been the problems of "heavy weed infestation, late seeding, waste of irrigation water and other ills that attend 'kekulan' sowing" (pp. 47-48).²⁴ But the semi-dry sown extent tilled with tractors in 1963 is not known (though the target does not seem to be a well thought out one). By the end of the plan period the broadcast sown acreage was to be reduced to 300,000 acres; but by 1961/62 still it amounted to about 1,300,000 acres.²⁵ It is not known whether the targets set for the manufacture of agricultural implements were met; the relevant figures are not available. The proposed disease and pest forecasting service intended to be set up in 1961 (p. 48) also has not materialized so far. Nor is it possible to say to what extent the use of pesticides prevailed.

Under the Short-term Implementation Programme, by the end of the plan period i.e., 1964, the yield was to have been raised to 42.0 bushels per acre from the 1961 level of 36.1 bushels. But the actual yield in the year was 38.8 bushels per acre.²⁶ The planned rise in output was to achieve a total output of 54,800,000 bushels as against the 1961 output of 43,200,000 bushels. The actual total output received in 1964 however, was 50,500,000 bushels.²⁷ The expansion of fertilizer use from 29,000 tons in 1960/61 to 60,000 tons in 1963/64, just exceeded the target as is to be observed from the table 2; actual quantity distributed was 60,096 tons.²⁸ The investment set apart for paddy production was not indicated as a separate item. It seems to have been included in a broad category of "crops and animal husbandry." However, "a review of the past performance during the first programme period indicates that while in the export sector both investment and production have more or less measured upto the target there have been heavy shortfalls in the non-export sector."²⁹

In the one year Development Programme 1964-65, the target fixed up in respect of the total output was 53,900,000 bushels. But the actual production during the year was 36,252,000 bushels.³⁰ The consumption of fertilizers was 42,046 tons³¹ as against the estimated figure of 65,000 tons. As in the previous plans investment for paddy production was not separately presented. Some of the other aspects which may be considered as targets, but were expressed only in a descriptive sense and only indirectly related to paddy production were: (1) continuation of the survey of the Mahaveli Ganga basin, (2) taking action to stop the wasteful use of irrigation water in paddy cultivation and (3) undertaking a thorough investigation with a view to improving the collection and maintenance of agricultural statistics. Out of these, the survey was continued; no progress was noticeable in others.

In the Agricultural Development Proposals 1966-70, the programme for paddy production was elaborated into targets in great detail³² showing the

23. *Agricultural Development Proposals 1966-1970, op. cit., p. 84.*

24. Here the term 'kekukan' in local usage means the system of semi-dry sowing.

25. *Ceylon Census of Agriculture 1962, vol. iii, op. cit. p. 35.*

26. *Source: Department of Census and Statistics.*

27. *Source: Department of Census and Statistics.*

28. *A. R.C.A.S. for 1968-69, op. cit., p. KK 65.*

29. *The Development Programme 1964-65, op. cit., p. 34.*

30. *Source: Department of Census and Statistics.*

31. *A. R.C.A.S. 1968-69, op. cit., p. KK 65.*

32. See for example, Ministry of Agriculture and Food, *Implementation Programme and Targets 1966* (Colombo, Government Press, 1966).

annual estimates of the respective input and output quantities, both in terms of physical and value units. Without going into all the details, the targets and the achievements only in respect of the total output and the average yields per acre are presented in the table 1.

From the foregoing account it is now clear that, in the preparation of the plans there has been a noticeable omission of the regional approach firstly, in the formulation of alternative paddy production projects; and secondly, in their selection after an economic evaluation before incorporating in a specific production programme. The other salient characteristic is that many plans were not implemented.

TABLE 1
Targets and Achievements of the Agricultural Development Proposals
1966 - 1970

	1966	1967	1968	1969	1970	
(1) Target*	51.97	53.87	56.58	60.01	64.75	
Paddy output						(bushels in millions)
Achieve**	45.7	55.7	64.6	65.9	76.8	„
(2) Target*	39.3	40.7	42.7	45.2	48.9	
Av. Yld. per Ac.						(bushels)
Achieve**	35.5	41.4	45.5	49.7	61.8	„

* Figures relating to targets are taken from the plan itself.

** Figures relating to achievements are from the Department of Census and Statistics.

Even those plan proposals that were implemented, except perhaps in a few cases, show inefficient performance even when external factors like weather conditions were not adverse. Moreover, implementation without proper economic evaluation may have led to a considerable amount of resource waste, especially in view of the existence of high and low risk areas in respect of which the optimal levels of investment were not examined. How much of resources was wasted and where, therefore, is not known. The situation cannot be considered better in respect of the policies followed. A review of these is made in the next section.

3. Policies for Paddy Production

3.1 Agricultural Policies

Agricultural policies, in general, can be divided into four categories:³³

- (1) supply of material inputs of production: (a) expansion of cultivable land by land development, reclamation and irrigation and (b) the supply of fertilizers, seed, agrochemicals and agricultural implements;
- (2) improvement of efficiency by (a) getting people oriented to commercial production and promoting their profit maximizing behaviour;

33. S. R. Sen, *The Strategy for Agricultural Development and Other Essays on Economic Policy and Planning* (Bombay, Asia Publishing House, 2nd ed., 1966) p. 75.

- (b) moving people along production frontier towards tangency with the price line with the dissemination of price information; (c) helping people to push out production frontier through the organization of effective extension work and the use of new technology and (d) organizing the necessary research to discover ways and means of pushing out production frontier;
- (3) provision of economic incentives for production: (a) subsidies, floor prices and import restrictions and (b) risk reduction;
- (4) introduction of institutional reforms and (a) land reforms and (b) servicing institutions and marketing arrangements.

A plan is prepared to provide guidance in the formulation of these policies which, once implemented, would satisfy the requirement that society's benefits are maximized by the utilization of given resources. Although policies covering all the four main categories stated above have been adopted in paddy production drives pursued in Sri Lanka, it is doubtful that these policies have met the requirement of efficient resources utilization, especially when it is to be observed that even those with some guidance from plans appear to have failed to meet the requirements of planned development.

3.2 Supply of Material Inputs of Production

It was with the restoration of Kalawewa³⁴ in 1890, that a beginning was made for the provision of new land for paddy cultivation under a government assisted scheme of colonization.³⁵ But the use of crown lands for paddy cultivation was not taken up to any large extent till the passing of the Land Development Ordinance in 1935. The change of policy in favour of the use of land for paddy production occurred due to several reasons: (a) a land commission whose report in 1929 pointed out that the main object of future land policy should be the preservation of the interests of the peasantry; (b) the favourable circumstances following the trade depression in 1930's which turned the attention of the government from the plantation crops to food crops; so that the development of the dry zone for paddy cultivation was considered to be necessary for increasing the production of food and (c) the constitutional reforms introduced by the Donoughmore Commission in 1931 also stimulated this change of policy. However, though the Land Development Ordinance was passed in 1935, schemes of colonization and irrigation were initiated on a large scale in the dry zone after 1939. With the eradication of malaria since 1940, the land development and colonization received a new impetus. Lands developed under these schemes were made available for paddy cultivation. But the policy cannot be considered as designed mainly for the increased production of paddy: the provision of land to the landless peasantry, the resettlement of the jungle-covered thinly populated dry zone and relieving population congestion in the wet zone areas were the other objectives.³⁶ The land policy up to 1965 was influenced by "the growing unemployment, population pressures and landlessness in the wet zone."³⁷

34. *Wewa* is the local term for irrigation tank.

35. Reference to factual data on land and irrigation policy in this and the following paragraphs is based on, Ceylon, Ministry of Land Irrigation and Power, *Plan of Development of Ministry of Land Irrigation and Power 1966-1970* (Colombo, Ministry of Planning and Economic Affairs, 1966) pp. 109-132, referred to hereafter as *Plan ML*.

36. See B. H. Farmer, *Pioneer Peasant Colonization in Ceylon* (Oxford University Press, 1957) pp. 123-160.

37. *Plan ML*, *op. cit.*, pp. 109-110.

Almost all the major colonization schemes were opened up in the dry zone, the suitability of which for paddy cultivation was taken for granted provided water could be made available; because historical evidence, tradition and the prevailing practice all had shown that paddy had been the main crop in this area. At the beginning of the post-war period when colonization schemes were being formulated, the government had recognized the importance of increasing the production of paddy. The strategy adopted for this was the expansion of acreage under paddy cultivation. These considerations seem to have obscured the necessity for conducting soil surveys and other feasibility studies to ascertain the locational suitability of land in the proposed colonization areas for paddy or other crops. Hence major irrigation works were designed with the expressed purpose of providing irrigation water for paddy cultivation in the major colonization areas irrespective of whether paddy production is socially unprofitable or relatively less profitable in these locations.

In the major colonization schemes, the extent of paddy allotted per cultivator has been gradually reduced from 5 and 3 to 2 acres. The reduction from 5 to 3 acres was made on the ground that 5 acres is too large an extent to be intensively cultivated with the labour available to one cultivator family. Further reduction from 3 to 2 acres was to accommodate the increasing demand for land in the colonization schemes. A total of 169,900 acres was allotted to peasants for paddy cultivation during the period 1935 to 1964. These alienations have involved public investment expenditure on irrigation, land development and settlement of colonists. Recurrent expenditure for maintenance and repair is an additional commitment. Although this expansion has provided land to over 50,000 cultivator families and added to the total quantity of paddy produced, it is not certain whether the increment to production is sufficiently high in relation to the cost involved in the whole operation; if it is sufficient, it is not known where specifically such results have been reached because studies have not focussed on different types of location. The fact is that land policy relating to paddy production was merely an outgrowth of colonization schemes which were motivated by several other aims as well. The attainment of these objectives was presumed to be the most important consideration notwithstanding the costs incurred in the process. From this discussion it is clear that the land and irrigation policy in respect of paddy production had already been evolved before the beginning of formal planning. The development plans only incorporated the schemes that were proposed in conformity with the prevailing policy till the preparation of the Short-term Implementation Programme which indicated the desirability of a change in the former policy of acreage expansion through large scale irrigation. It is no wonder that systematic locational studies are lacking both in plans and policies.

The lands that were made available for paddy cultivation under colonization schemes are provided with irrigation water from the major irrigation schemes which form an inseparable part of the colonization programme in the dry zone. Irrigation policy from the beginning was concerned with supplying water for paddy production. It was recently that interest was taken in the cultivation of other crops like sugarcane, cotton and subsidiary food crops with irrigation water. When compared with the acreage that is irrigated for paddy, the irrigated acreage under other crops is only a small fraction.³⁸ In the wet

38. Up to 1965 a total of 11,000 acres were under sugarcane at Gal Oya and Kantalai. Under the proposed schemes more lands are expected to be irrigated for crops, like cotton, vegetables, onions and chillies.

zone also minor irrigation schemes have enabled the increase of the cropped area by double cropping. During the ten year period 1954 to 1964, both under the major and minor schemes, a total of 173,850 acres have been added to the cultivated area. Of these, 96,096 fall under the major schemes in the dry zone while the remaining 77,742 acres come under the minor irrigation works mostly in the wet zone.³⁹ It is not too incorrect to say that, the criteria of investment for these irrigation schemes have been the prospects of land alienation, the existence of repairable irrigation works, popular requests and the availability of funds. These are not the right criteria that must be employed to make investment decisions in planned development as is clearly seen from the cost-benefit analysis of the Gal Oya project.⁴⁰

Land reclamation for paddy production has not been a policy that was followed so enthusiastically as the land development and irrigation policies. But along the coastal belt, paddy lands are rendered uncultivable due to the inflow of sea water. The blocking of river mouths by sand dunes and the refuse of fibre mills in the coconut cultivated area cause poor drainage conditions in the paddy fields. It was only recently that these problems were considered with some concern. But neither the development plans nor the policies adopted examined the desirability of undertaking relevant projects in these locations.

The policy in the supply of machinery and agricultural implements was not guided so much by the development plans except in the case of Agricultural Plan of 1958 and Agricultural Development Proposals of 1966-70. Whether guided by plans or not, no economically rational decision to make a distinction between the areas of scarce and excess labour supply appears to have been made in the supply of agricultural machinery and implements. In locations with excess labour where there are no handicaps for either the rearing or the use of draught animals there is no need to introduce modern machinery like tractors as in the case of other locations where such conditions do not prevail.⁴¹ The same type of technique may not be equally profitable in the two types of locations. In situations of this nature policy decisions must be preceded by locational considerations. But an adherence to such procedure is not evident from the policy decisions concerned with the choice between the capital and labour intensive techniques in paddy production. On the contrary, the use of capital intensive techniques appears to have been indiscriminately encouraged by making available machinery like tractors at subsidized prices.⁴² More striking is the almost total lack of attention regarding the use of draught animals in paddy production work. Even in the latest agricultural plan, The Draft Agricultural Development Plan, 1971-77, this aspect seems to be completely

39. *Plan ML., op. cit.*, p. 4.

40. It is found that for the Gal Oya Project "as a whole the benefit cost ratio is 0.5 and the discounted costs exceed the discounted benefits by Rs. 277,313,510." See *Report of the Gal Oya Project Evaluation Committee* Sessional Paper No. I-1970 (Colombo, Department of Government Printing, 1970) p. 134.

41. See also ILO, *op. cit.*, pp. 74-75.

42. Tractors are priced lower than the true value of foreign exchange used for their importation. This is virtually another form of subsidy. The c.i.f. price of a four wheel tractor of the type that is commonly used in tillage is about Rs. 12,500/-. Its basic retail price is around Rs. 15,600/-. After the introduction of the FEECs scheme in May, 1968 the retail price has gone up to about Rs. 21,000/-. But according to the true value of foreign exchange, i.e. double the c.i.f. price, the cost of a tractor amounts to about Rs. 25,000/- For more details see, Sathiyawadi Stores and Motor Transporters, *A Report on Tractor Imports, Assembly and Distribution submitted to the Tractor Committee* (Kurunegala, 1970).

neglected. If sufficient notice was taken of the importance of regional differences in planning and policy formulation, omissions and shortcomings of this nature could have been greatly reduced.

Fertilizer distribution is the earliest supply function the government undertook to encourage the increased production of paddy.⁴³ This was one of the proposals incorporated in the Post-war Development Proposals. But it did not include a subsidy. A subsidy of one-third the cost of fertilizer was introduced in 1951. This however, was not the intention of the original proposals. In the late forties and the early fifties, the supply service was organized through the Co-operative Agricultural Production and Sales societies (CAPS). Importation and distribution of fertilizers were in the hands of the private trade. These policies were not guided by any plans. The Agricultural Plan of the Ministry of Food and Agriculture in 1958 pointed out the necessity of government intervention in the fertilizer trade. It recommended the setting up of a National Fertilizer Corporation to undertake the function of importation, distribution and manufacture of fertilizer. Now a fertilizer Corporation has been set up and the importation and distribution functions are undertaken by it. But the plans for the manufacture of fertilizers have not yet materialized.

A network of co-operative societies and cultivation committees* is available for the distribution of fertilizers to the cultivators at the village level. As a remedial measure to overcome the lapses of inefficient and weak societies and also to cater to the needs of the cultivators living and working in locations far away from these organizations, authorised private dealers were appointed for the distribution of fertilizers after the implementation of the Agricultural Development Proposals 1966-1970. Under this implementation programme, village level fertilizer targets were prepared, and the cultivators were persuaded by government officers involved in plan implementation to use more fertilizers in the paddy fields. The entire approach was conceived in terms of a standardized public investment project for general implementation. This is not a rational approach to fertilizer use in paddy cultivation. The mix of artificial fertilizers is area specific not only in the combination of such components as nitrogen, phosphates and potash (NPK), but their quantities of application may also have to be varied to suit the varying degrees of risk and water availability in the different locations. Though the technically suitable fertilizer mixes have been worked out for the different locations, the economically justifiable fertilizer levels for them still remain to be worked out.

The adoption of fertilizer use by paddy cultivators is dependent upon several factors. First of all, there must be an adequate supply of water at the time when fertilizer has to be applied. Fertilizers should be available on time. For this the availability of transport and cash or credit facilities is vital. Above all, farmers must be convinced that fertilizer use is a profitable practice, and the government must ensure that it is socially profitable too. When planning and implementation proceeds

43. Provision of credit to the peasants through the co-operative societies started earlier; but this may more appropriately be considered as an institutional function. For details see *Report of the Royal Commission on the Co-operative Movement in Ceylon*, Sessional Paper No. II-1970 (Colombo, Department of Government Printing, 1970).

* With the enactment of the Agricultural Lands Law, No. 42 of 1973 of the National State Assembly the cultivation committees are being reconstituted. They are also expected to function as village level institutions affiliated to Agricultural Productivity Committees set up under the Agricultural Productivity Law, No. 2 of 1972 of the National State Assembly.

without due consideration of these problems, there is always poor performance and resource wastage. One example as the writer could observe in the Kandy district is that the enthusiasm to reach the targets set up in the Agricultural Development Proposals resulted in an accumulation of unsold fertilizers in the co-operative societies which were more or less compelled rather than persuaded, to buy fertilizers for distribution among the farmers. When the farmers did not buy the fertilizers due to one or more of the problems stated above, some of the stock of fertilizers bought by societies was wasted. The cultivators are more judicious in spending for their cultivations. Mere enthusiasm is hardly sufficient to make cultivators change their time-tested practices and patterns of cultivations. A selective policy, devised to emphasize the utilization of fertilizers, has to be based on a programme that is formulated after studying the profitability of production in the different areas. This has, so far, not received sufficient attention either in the plans or the policies. In contrast, the same-type of incentives, e.g. 50 per cent subsidy on the purchase of fertilizers is provided to cultivators in all locations irrespective of the social costs and returns in them.*

The Agricultural Development Proposals 1966-1970 stated that, "theoretically the application of the full quantity of fertilizer as recommended by the Department of Agriculture throughout the total cultivated area of 1.5 million acres will lead to an annual fertilizer consumption of nearly 240,000 tons," (p. 80). But by the end of about the third year of the plan period, i.e. in 1968/69, the quantity of fertilizer issued by the Department of Agrarian Services was only 86,066 tons. The table 2 shows the pace of fertilizer supply over the years. The rise of fertilizer use has been steady; but still even in 1968/69, the year with the highest figure, it is just about 36 per cent of the theoretically computed annual consumption of 240,000 tons. Though this is a rather noteworthy increase of about 16 per cent over the amount supplied in 1966/67, the first year of the plan period,⁴⁴ the shortfall in achievement, when compared with the targets set, indicates the unrealistic nature of the approach adopted in the promotion of fertilizer use. This could have been corrected if adequate locational studies were used as a basis for policy formulation.

Although reference was made to the importance of the use of pesticides and weedicides in the Agricultural Plan of 1958 and the Short-term Implementation Programme, a more concentrated effort to implement this proposal was made only with the implementation of the Agricultural Development Proposals 1966-1970. Arrangements were made to make the agro-chemicals and their spraying equipment available for distribution to the farmers. But the programme was incomplete as far as the location of more susceptible areas is concerned. The pest and disease infection to crops is not a uniform occurrence throughout the country. Different weather conditions and fertilizer practices give rise to regional differences in disease and pest incidence. The areas more susceptible to diseases and pests must be located in order to follow effective policies for crop protection. In addition to the supply of agro-chemicals, arrangement has to be made to help the cultivators identify pests and

* Since mid-1974 the fertilizer subsidy has been dispensed with.

44. However once again there is a drop in fertilizer consumption in 1969-70 (82,000 tons). See ILO, *Matching Employment Opportunities and Expectations: A Programme of Action for Ceylon*, Technical Papers (Geneva, ILO Office, 1971) p. 103.

TABLE 2*
Annual Supply of Fertilizers to Paddy Cultivators

Year	Quantity Issued (tons)
1951-52	2,554
1952-53	3,912
1953-54	6,945
1954-55	8,989
1955-56	12,837
1956-57	14,139
1957-58	16,942
1958-59	26,341
1959-60	20,137
1960-61	29,041
1961-62	38,075
1962-63	47,058
1963-64	60,096
1964-65	42,046
1965-66	40,485
1966-67	52,855
1967-68	84,231
1968-69	86,066
1969-70	82,000**

* Figures in the table are extracted from the *A. R. CAS*, 1966-67 & 1968-69, pp. KK 46 and KK 65 respectively.

** According to ILO, *Technical Papers, op. cit.*, p. 103.

diseases. This could be done either by the organization of centralized district or divisional services for pest and disease control, or by a more intensive programme of cultivator training in collaboration with the personnel of the cultivation committees once the locational characteristics of disease and pest incidence are identified.

The success of a programme for the increase of yields by the intensive application of fertilizers, rests to a great extent on the use of appropriate seed paddy bred specifically to respond to a certain fertilizer formula. Fertilizers, agrochemicals and improved seed paddy are in effect complementary inputs that cannot be dispensed with in a programme designed to increase the paddy yields. Attention to this fact has been drawn in the plans prepared after the Six Year Investment Programme 1953/54-1959/60. Accordingly, the government has undertaken the breeding of seed paddy for distribution among the farmers. However, so far this function has not been completely successful in that, the seed paddy requirements of the farmers are not entirely fulfilled by the programme. Almost in every season, the hopes of the cultivators in obtaining the certified seed paddy distributed by the government are frustrated due to the shortage of stocks.

Under this scheme the supply of 444 bushels of seed paddy in respect of eligible cultivators in the Polonnaruwa district was authorized during the year. Due to the non-availability of the required variety of paddy a cash subsidy amounting to Rs. 5,853.60 was paid to those cultivators.⁴⁵

The shortage of seed paddy is not the only problem in the supply programme: lack of proper storage accommodation and inadequate staff have even resulted in the distribution of spoiled seed paddy causing damage to the cultivators who used such seeds. The worst is the loss of confidence of the cultivators in the seed paddy programme. When these shortcomings are considered, a policy adopted to serve the seed paddy requirements of the areas where the productivity is high and reliable, seems to be more promising. It is a lesser burden, leading to the success of the programme, if seed paddy breeding is oriented to meet the local needs with production within the respective localities themselves. That an all-island programme in seed paddy has proved to be a sizeable burden on the government at the initial stage of development is stressed in an indirect manner in the Agricultural Development Proposals 1966-70:

Admittedly the construction of separate seed stores to be maintained by the Department of Agriculture will involve a heavy capital expenditure on stores construction and a recurrent expenditure for a small increase in the cadre. But a beginning should be made and it is proposed that special seed stores be constructed in the following principal seed producing areas.⁴⁶

Although high yielding varieties like H4 and IR8 (the latter is suitable only for dry zone areas like Amparai) have been introduced, still varieties to suit different environmental conditions like flooding, low temperatures, droughts, salinity and acidity of the soil, have to be improved. Work done in Sri Lanka in seed breeding has produced encouraging results. But proceeding with breeding and distribution programmes to suit these regional requirements is only worthwhile if the cultivation of such improved varieties with all the requisite arrangements bring a higher net return out of possible alternatives.

3.3 Improvement of Efficiency

The research programme of the Department of Agriculture concerning paddy breeding, fertilizer response, diseases and pests and water consumption needs has contributed a great deal to the increase of yields during the past two decades; between 1952 and 1970 paddy yields in Sri Lanka have increased by 103 per cent. The old high yielding varieties of paddy like H4, H8, H7 and Ptb-16 with a very high degree of fertilizer response, have been successfully bred and propagated among the cultivators. More recently, new improved varieties like IR8, BG-11-11, BG-34-6, BG-34-8 and LD66 have brightened the prospects of further dramatic increases in yields. The scheme of fertilizer application is being perfected with revisions to suit the different regions and the different varieties of paddy. As pointed out in the development plans, soil surveys to determine fertilizer requirements and other cultural practices, have been conducted. Accordingly, now a detailed fertilizer scheme indicating the proportions and amounts of fertilizers that should be applied in the different D.R.O.

45. A. R. CAS., 1966-67, *op. cit.*, p. KK 54.

46. *Agricultural Development Proposals, op. cit.*, p. 85.

divisions⁴⁷ in the island is available. But one problem is that the cultivators are unable to follow detailed technical formulas of fertilizer use unless there is consistent guidance and direction or else the technique of fertilizer use has to be simplified. As a result, a "notable feature in the present trend of consumption of fertilizer is the use of nitrogen without the application of the correct amounts of potassium and phosphate fertilizers."⁴⁸ Problems like this still remain although "this matter is engaging the attention of the Department of Agriculture and there is a proposal to recommend mixed fertilizers."⁴⁹ A further shortcoming is that, still the research conducted has not been sufficiently familiarized to the cultivators through regular demonstration and application in the cultivators' fields. However, recently, some encouraging work in this direction has been undertaken with the introduction of a 'minikit programme'.⁵⁰ Other than the research undertaken by the Department of Agriculture, no research directed at the problems of production, crop management and marketing under the uncontrolled field conditions of the cultivators in the different regions, is conducted in any organized fashion though there is a strong need for such research. Nor has the need for research programmes of this nature been indicated in the plans. Thus, many regional problems still remain to be studied if socially more beneficial policies are to be formulated.

Agricultural extension work plays a predominant role in the transformation of the traditional pattern of paddy production. The propagation of improved methods of cultivation like transplanting, row seeding and weeding and the persuasion of the cultivators to adopt the use of improved seed paddy and artificial fertilizers need a considerable amount of extension work. In addition to these, a different type of extension work has to be carried out in the organization of the farmers to make use of the supply services, credit and marketing facilities. All this work is being followed up by three departments, Agriculture, Agrarian Services* and Co-operative Development. In effect the three departments are also engaged in extension work related to paddy production. Although they are equipped with a large number of personnel and the requisite organization, the results of work leave room for a great deal of improvement. If the increase of staff is not desirable, the employment of the existing staff with better co-ordination and concentration on selected regions could improve the situation. Revision and implementation of the policy in this respect, however, has to be preceded by an assessment of the probable costs and benefits involved in such revised forms of extension work organized on a selective regional basis; i.e. extension programmes must be organized in conformity with the technical and economic feasibility studies in the different areas. Planning in Sri Lanka has not led to the preparation of programmes satisfying these requirements of policy formulation.

The cultivators are handicapped to different degrees in the adoption of improved cultural practices in the different regions. For example, the success

47. According to the delimitation by 1968 there were 138 such D.R.O. divisions (Divisional Revenue Officers' divisions) in the island. Since 1st July 1972, Divisional Revenue Officer is called Assistant Government Agent.

48. *A. R. CAS.*, 1966-67., *op. cit.*, p. KK 49.

49. *Ibid.* This was implemented recently.

50. 'minikit programme' is an extension device which enables the cultivators to verify on their own the yield performance of the selected varieties of improved paddy. For this they are given an experimental package of inputs consisting of fertilizers and seed to try out the experiment in their own fields. Besides this there is a programme of 'production kits' to enable farmers to multiply the selected seeds in their own fields.

* Since 1st January 1974 this department functions as the Rural Institutions and Productivity Law Division in the Ministry of Agriculture and Lands.

of a practice like the Japanese method of transplanting is dependent on the availability of an abundant supply of water and labour; but in some areas both these conditions are hard to meet. Although the weedicides are now available, still the cultivators have not taken to the use of weedicides on a large scale. The reasons for this must be examined without rushing to conclusions regarding either the effectiveness of weedicides, or the lethargy and conservatism of farmers.

Local varieties of high quality paddy fetch a higher price in the open market. These also usually take a longer period, ranging from five to eight months, to mature. They are mostly grown in rainfed areas only during one season of the year. The well-watered hinterland mostly to the north and east of the Colombo city, especially during the Yala season, is normally cultivated with this type of paddy. This practice, however is not contributory to the objective of increased production. The purpose is defeated in two ways: (a) long-aged varieties consume more water and their fertilizer response is less than that of the improved varieties, and (b) with them cultivation is possible only in one season; hence land is wasted during the rest of the period. Consequently, labour is also wasted as there is not much scope for alternative employment. Whereas, if short-season paddy is cultivated, the same land can be double cropped thereby intensifying the use of both land and labour. The breeding of paddy varieties which mature within a short period and also possess the same qualities as those of the presently grown high quality local varieties therefore needs greater emphasis. Advances have already been made in the breeding of such varieties. To propagate them a good deal of extension work has to be organized in the areas which still continue the use of unimproved varieties. However, this again has to be preceded by an examination of the causes which make the cultivators adhere to the former practice; a verification of the performance of new varieties in the area itself is also necessary.

3.4 Provision of Economic Incentives

The incentives provided for paddy cultivation mostly take the form of subsidies. Noticing this the ILO Mission points out that, the emphasis placed on the pricing of scarce resources is not sufficient to ensure their economic use in the interest of the society. The total value of subsidies on irrigation, seeds and fertilizers constituted 24.3 per cent of the value of production in 1968-69.⁵¹ Until recently (1971) the fertilizer subsidy was granted in two parts: a subsidy of 33½ per cent when the fertilizers were bought on loan from the co-operative societies and a subsidy of 50 per cent on ready cash purchases. According to the latest revision, the subsidy is fixed at 50 per cent irrespective of the mode of purchase, i.e. on loan or ready cash. The fertilizer scheme introduced in 1951 was not guided either by the Post-war Development Proposals or the First Six Year Plan. The plans only pointed out the need for distribution. The necessity for a subsidy was not indicated. Nevertheless, the subsidy was continued during the period, uniformly all throughout the island though there are marked differences in returns between the locations of high and low risks in cultivation (see the figs. I & II).

This same characteristic is observable in other subsidies too. The cost per bushel of improved seed paddy to the government was about Rs. 18-/-; but it was sold to the farmers at Rs. 16/-* In many areas irrigation tax is

51. ILO, *op. cit.*, pp. 109-111.

* Since 1st January 1974 these prices were revised. Now both the purchase price as well as the sale price is Rs. 35/- per bushel and hence there is no subsidy on seed paddy.

either just a nominal sum as low as Rs. 5- per acre per year or completely waived off thereby making costly irrigation water a virtually free resource. Before the initiation of the current agricultural credit scheme, the interest rate on credit granted was also subsidized. The government charged an interest of only 4 to 5 per cent from the cultivators while the open market rates were 12 to 18 per cent or even more. The premiums collected from the cultivators in lieu of the payment under the crop insurance scheme were inadequate to meet the full amount of compensation. The payment of the balance as seen from the table 5 amounted to another form of subsidy.

Maintaining a guaranteed price for paddy is also supposed to consist of a subsidy. But more appropriately, it may have to be regarded as a price stabilization measure than a subsidy. The cost of production per bushel of paddy in 1966/67 Maha in the different districts was as shown in table 3. According to an estimate made in 1972 Yala⁵² it has varied in five districts as shown below:

Hambantota	Rs. 14.43 per bushel
Polonnaruwa	9.67
Kurunegala	12.64
Kandy	9.80
Colombo	11.68

TABLE 3*

Cost of Production per Bushel of Paddy in 1966/67
Maha in the Different Districts

District	Cost per Bushel in Rs.
Amparai	12.36
Anuradhapura	8.12
Badulla	13.60
Batticaloa	10.89
Colombo	23.96
Galle	11.88
Hambantota	8.21
Jaffna	14.47
Kalutara	13.00
Kandy	16.80
Kegalle	17.06
Kurunegala	11.97
Mannar	8.52
Matale	14.40
Matara	14.83
Moneragala	11.34
Nuwara Eliya	18.42
Polonnaruwa	9.84
Puttalam	14.04
Ratnapura	15.00
Trincomalee	9.69
Vavuniya	8.80
All Island	11.17

* Based on the table 35 of *Survey on Cost of Production of Paddy* (Central Bank of Ceylon 1969) p. 55.

52. K. Izumi & A. S. Ranatunge, *Cost of Production of Paddy, Yala 1972* (Colombo, Agrarian Research & Training Institute, 1973) p. 7.

As against these costs of production per bushel of paddy in the different districts, the guaranteed prices during 1966/67 and 1972 were Rs. 12.00 and Rs. 14.00 respectively (see table 4). The figures clearly show that the price policy for paddy has not been based on the variation of production costs in the different areas.

TABLE 4*
Guaranteed and Import Prices of Paddy
1948 - 1969
(In Rs. per bushel of paddy)

Year	Guaranteed Price	Import Price (c.i.f.)	True Value of Foreign Exchange
1948	8.00	7.88	15.76
1949	8.00	7.79	15.58
1950	8.00	7.74	15.48
1951	9.00	8.15	16.30
1952	12.00	11.24	22.48
1953	12.00	10.95	21.90
1954	12.00	9.43	18.86
1955	12.00	7.99	15.98
1956	12.00	7.45	14.90
1957	12.00	6.78	13.56
1958	12.00	6.85	13.70
1959	12.00	6.73	13.46
1960	12.00	6.37	12.74
1961	12.00	6.43	12.86
1962	12.00	6.59	13.18
1963	12.00	5.10	10.20
1964	12.00	5.94	11.88
1965	12.00	6.13	12.26
1966	12.00	6.20	12.40
1967 upto November	12.00	7.36	14.72
1967 November onwards	14.00	7.36	14.72
1968	14.00	11.54	23.08
1969	14.00	9.34	18.68
1970	14.00	—	—
1971	14.00	—	—
1972	14.00	—	—
1973 upto February 15th	14.00	—	—
1973 Feb. 15th onwards	18.00	—	—
1973 October onwards	25.00	—	—

* Figures upto 1962 are extracted from *Agricultural Marketing: Proceedings of a Ceylon National Training Centre, 28th May—13th June 1964* (Colombo, Department of Agrarian Services, 1966) p. 61. Figures from 1963 onwards are computed from *Administration Report of the Food Commissioner for 1968-69* (Colombo, Government Printing Department, 1970) p. II 57. There is a discrepancy in calculation between the figures upto 1962 and after 1963. The price of a bushel of paddy according to the former set of figures is inflated by about Rs. 1/- more than the calculation in the latter set of figures. This error is due to the compilation of the figures from two different sources. True value of foreign exchange has been derived by doubling the c.i.f. price.

Though the price paid by the government is higher than the import price of the paddy equivalent of rice, it is doubtful whether the guaranteed price involves a real subsidy if the true value of foreign exchange (which is about double the c.i.f. value) is taken into consideration (see table 4). However, the table 4 shows that, from the inception of the scheme though the guaranteed price was revised several times it has always been fixed above the c.i.f. price. Whether

this maintenance of guaranteed prices above the import prices of rice (paddy equivalent) was merely coincident or deliberate remains unclear. However, such clarification is not of much use since the relevant logic lies elsewhere. If the imports were getting dearer and local production appeared to be socially more profitable there is a case for providing encouragement to the local paddy growers by means of incentives like subsidy prices for the produce (given that consumer price is subsidized and the normal substitution does not work). This approach could be further rationalized by identifying the locations where such forms of subsidy prices are socially more or less profitable. When this is so, there is no reason why the 'above import price' should be taken as the right threshold of subsidy.

These subsidies have, to a very great extent, resulted in low costs of production as well as protected market prices for paddy as against other crops,⁵³ a situation that militates against a socially desirable pattern of diversification. The subsidies also have over-burdened the drive for increased production of paddy with a series of items of expenditure. When this expenditure is contrasted against the yield patterns represented graphically in the figures I and II (also see table 7) a reappraisal of the policies by taking account of regional productivities and their benefit-cost relations appears to be very necessary.

The damages to cultivation caused by the vagaries of weather were relieved to a certain extent by the distribution of free seed paddy in the early stages. The crop failures resulting from natural hazards like floods and droughts led the government to seek the assistance of the FAO, to formulate a scheme of crop insurance.⁵⁴ With this, the government involvement in paddy production was extended to the adoption of a policy to cover cultivator risks. The insurance scheme was originally started in 1958/59 as a pilot project, covering an extent of only 26,000 acres selected from five revenue districts (Anuradhapura, Batticaloa, Colombo, Hambantota and Kegalle). The scheme was successively expanded and by 1966/67 Maha, the expected expansion was to cover 300,000 acres of paddy lands.⁵⁵ But during the year, expansion as anticipated did not occur and the acreage remained at the former level of 200,000 acres.⁵⁶ This area was distributed over sixteen out of the twenty two districts constituting only 16 per cent of the total extent of asweddumized paddy lands in the island.

Under the scheme, the cultivators were indemnified upto a maximum of 50 per cent of the value of their crop. The amount covered varied from Rs. 100/- to 180/- per acre. This variation was maintained to make adjustment for the risk and productivity differences of the different areas. A coverage 10 per cent higher than the normal rate was offered to cultivators who adopted improved methods. The purpose was to promote the cultivators to increase the per acre yields. But a study was not made to ascertain the effects of this scheme on yield increases in the regions for which crop insurance is a critical necessity. Thus, it is not possible to say whether crop insurance has brought about a change in productivity commensurate with the cost of the scheme. The premium charged to the farmers remained uniform throughout the island. In the

53. Guaranteed price scheme covers about 21 crops including paddy, all in the peasant sector. But out of these, the cost of production is subsidized only in respect of paddy. For details regarding the crops which are under the Guaranteed Price Scheme see *A. R.C.A.S. for 1968-69, op. cit.*, p. KK 69.

54. See *Sessional Paper XVI—1962, op. cit.*,

55. *Agricultural Development Proposals, op. cit.*, p. 130.

56. *A. R.C.A.S. for 1966-67, op. cit.*, p. KK 50.

districts where the scheme was implemented, it was made compulsory. In some districts like Colombo and Kegalle, there was opposition to this compulsory premium recovery. Even in other districts the peasants are still not too responsive to the scheme. The table 5 represents the progress in the payment of the premium, and the surplus or deficit of the premium collected as against the indemnities and commission paid under the insurance scheme.

TABLE 5
Payment of Premiums and Indemnities under the Crop
Insurance Scheme

Financial Year	1 Rs. cts.	2 Rs. cts.	3	4 Rs. cts.
1958-59	140,472 00	17,602 07	12.5	-23,432 25
1959-60	140,604 00	24,399 27	16.6	-15,365 94
1960-61	142,764 00	31,165 75	21.8	+ 17,010 73
1961-62	182,124 00	75,812 18	41.6	+ 54,181 32
1962-63	408,184 00	167,692 21	41.1	+ 46,392 85
1963-64	1,049,130 00	404,693 27	38.6	+ 67,249 81
1964-65	1,517,938 00	460,199 50	30.3	-915,310 49
1965-66	1,532,002 00	830,142 25	54.2	-1,470,387 25
1966-67	1,545,982 00	633,779 20	41.0	-1,323,347 21
1967-68	1,627,164 00	607,837 77	37.4	-957,440 32
1968-69	1,637,442 00	509,008 98	31.1	-1,198 905 89
Total	9,923,806 00	3,762,332 45	37.9	-5,719,354 64

1. Premiums due, 2. Premiums collected, 3. Percentage of collection, 4. Surplus or deficit of premium collected and indemnities and commission paid.

Source: *A. R. CAS for 1968-69, op. cit.*, p. KK 73.

Probably with the intensification of extension work this resistance would be overcome. Besides extension work the scheme also may have to be modified to enlist the co-operation of the peasants. But all that is necessary only if it pays socially to do so in the different regions. A distinction between the high and low risk areas, by an adjustment of the premium to suit the frequency and the magnitude of the risks should be made only after such investigation. It is only in the Agricultural Development Proposals 1966-70 that a crop insurance scheme was examined with a view to providing guidance to policy. But the details required for the formulation of policy to meet the regional differences have yet to be worked out. However, agricultural insurance in Sri Lanka is likely to take a new turn with the enactment of the Agricultural Insurance Law No. 27 of 1973 of the National State Assembly.

3.5 Introduction of Institutional Reforms

With the passing of the Paddy Lands Act. No. 1 of 1958, a certain degree of reform was introduced in the land tenure system which hitherto was traditionally determined. Though the provisions in the Act were rather shaky, it ensured the tenant cultivators a security of tenure. This helped remove some of the disincentives to increased production but not to the extent that is usually claimed and believed.⁵⁷ The Act also provided for the organization of the cultivators

57. For example, still the number of evictions of tenants is fairly high (so far a total of 37,898 reported). See *A. R. CAS. for 1968-69, op. cit.*, p. KK 64.

through the Cultivation Committees. But in laying down the requirement that no other crop than paddy should be cultivated in the existing paddy fields it restricted the freedom of the cultivators to make rational economic choices in land utilization. This is very much similar to the effect created by the adoption of selective price subsidies for paddy. Limitations placed by water scarcities during one of the two seasons in certain areas make paddy cultivation less economic when compared with other crops like vegetables or tobacco. A typical case is the Badulla district which "is one of the main suppliers of vegetables. During the Yala season much of this is cultivated on paddy fields."⁵⁸ The provision of the act also restricts the conversion of the marginal paddy lands into more economic alternative uses. Perhaps the motivation of self-sufficiency in rice has been the guiding principle in the formulation of this policy. But the neglect of the regional differences in paddy production has at the same time created glaring inconsistencies with the regional practices adapted to suit the individual localities and changing market situations. The latest developments in the field of agricultural legislation are observable from the enactment of the following acts:

- (a) Land Reform Law, No. 1 of 1972 of the National State Assembly;
- (b) Agricultural Productivity Law, No. 2 of 1972 of the National State Assembly;
- (c) Agricultural Insurance Law, No. 27 of 1973 of the National State Assembly;
- (d) Agricultural Lands Law, No. 42 of 1973 of the National State Assembly.

Governmental intervention in meeting the credit needs of the cultivators began in 1947 with the granting of credit at low interest rates. The credit was extended through the co-operative societies. Earlier, a fund known as the Local Loans Development Fund was set up to provide loans to the co-operative societies. But these loans were not specifically meant for agricultural development. They were a form of government assistance to the societies. With the extension of credit for agricultural purposes in 1947, the Department of Land Development was made responsible for credit administration.⁵⁹ From 1952 to 1957, it was managed by the Department of Food Production. Since 1957, agricultural credit became one of the main functions of the Department of Agrarian Services which continued to administer credit through the co-operative societies.

After the organization of the Multi-purpose Co-operative Societies (MPCS) in 1957, the earlier credit limit of Rs. 75/- was increased to a minimum of Rs. 250/- (five times the value of one share in the society). Credit was granted for production, marketing, purchase of livestock and storage of agricultural crops; and the loans were of three types, short-term, medium-term and long-term.

In 1963, the credit policy was reviewed by a special committee appointed by the Minister of Food and Agriculture.⁶⁰ The objective was to examine the possibility of intensifying the credit supply to promote the cultivators to adopt

58. Badulla District Agricultural Committee, *Badulla District Agricultural Programme, Maha 1967-68*, p. 2 (unpublished).

59. For further details see *Administration Report on the Working of the Co-operative Societies from May 1st 1945 to August 20th 1948* (Colombo, Government Press, 1949).

60. Ceylon, Ministry of Food and Agriculture, *Report of the Committee on Agricultural Credit* issued in 1967 (unpublished).

improved cultural practices. Of the twenty two recommendations made by the committee, twelve were in respect of credit expansion. Others laid down the procedure for loan supervision and recovery. Although the recommendations for credit expansion were implemented, those concerning loan recovery and supervision were not treated with equal concern. The importance of loan recovery measures was realized only with the accumulation of the overdue loans. It was only in 1964 that the necessary legal amendments were enacted for the purpose. Even after this, the recovery was a problem since the law could not be enforced. Hence after one year of operation, the intensity of the loan scheme was significantly reduced.

Another committee, appointed in 1966 to review the situation, observed three principal defects in the credit structure: (a) a rising trend in the incidence of loan defaulters, (b) 'mis-use' of loans by the cultivators and (c) mis-use of loans by the co-operative societies. Reference to a mis-use of loans by the cultivators and the treatment of this as a defect in the credit structure seems a little misplaced and one-sided. What is implied by this reference unmistakably is the non-utilization of credit for production as envisaged by those who sponsor a credit scheme. It is quite common that instead of using the credit granted for the purchase of material and labour inputs the cultivators use it for other more urgent needs like day-to-day consumption or for the purpose of fulfilling social obligations.⁶¹ But is it realistic to call such use categorically a mis-use of loans? If the farmers do not get proper food their labour output gets very low.⁶² It is also unrealistic to expect a cultivator behaviour in a state of social seclusion. He is not engaged in farming operation in a social vacuum. In a state of low income and low levels of living it is no irresponsible cultivator behaviour if loans meant only for production are used even for day to day consumption needs. Although this appears as a mis-use of loans, from the cultivators' view point there is hardly any justification to regard it so. This, however, is not to deny the existence of some mis-use especially in instances when some cultivators spend the loans on gambling and liquor. A fact that should not be forgotten by this sort of instances is that the production credit cannot be strictly isolated from the needs for consumption credit in the peasant sector.⁶³ Nevertheless, instead of modifying the credit structure, the committee insisted on the efficient and co-ordinated management of the institutions. Accordingly, the government credit policy was again modified in 1966. But the same old credit structure and the assumptions on the use of production credit remain. The outstanding changes are that, the granting of credit to co-operative societies was handed over to the People's Bank from the Department of Agrarian Services, and the interest rate was raised to 12 from 4 per cent.⁶⁴

61. It was noticed in a survey conducted in 1963 that, 43.7 per cent of the total loans is used for consumption purposes. This together with loans taken for unspecified purposes amounted to 65 per cent as against the loans taken for agricultural production which constituted only 24.0 per cent of the total; see *Report on the Sample Survey of Consumer Finances, Part I* (Colombo, Central Bank of Ceylon, 1964) p. 127. In the latest survey of rural indebtedness it is found that, about 32 per cent of the total debt is for consumption purposes, and out of this 16.6 per cent for food almost entirely from non-institutional lenders. See Central Bank of Ceylon, *Report of the Survey of Rural Credit and Indebtedness 1969* (Colombo, 1971) p. 88.
62. See Paul Streeten and Michael Lipton, *The Crisis of Indian Planning* (London, Oxford, University Press, 1968) pp. 126-128.
63. See W. M. Tilakaratne, *Agricultural Credit in a Developing Economy—Ceylon* (Colombo Central Bank of Ceylon, 1963) pp. 4-7.
64. For more details see Ceylon, Ministry of Food and Agriculture, *The Operation of the New Agricultural Credit Scheme* (Colombo, Government Press, 1967).

The committee's argument for the change is that when credit is granted by a government department cultivators treat it more as a welfare grant; hence the irresponsible use and defaulting. Although this may be one of the reasons, still the more relevant causes may be related to low incomes and many day to day needs, the low rate of return on the loan outlays and the intermittent crop failures resulting from unfavourable weather, pests and diseases. Lack of reliable and regular records does not warrant a ruling out of these possibilities.

The salient features of the agricultural credit policy from its very inception are (a) the bias in favour of paddy production, (b) the liberalization of credit without adequate follow up of recoveries, (c) the lack of supervision, (d) an expansion of the institutional structure so as to pump more and more credit into the rural sector, and (e) the granting of credit unrelated to any specific production programme (until 1966). Nowhere can one see any adjustment to suit the varying locational characteristics and requirements. The results of this indiscriminate and spatially uniform credit policy are illustrated in the table 6.

TABLE 6
Particulars of Agricultural Loans 1947-69

(amounts in rupees)

Year	Loans Granted	Recoveries	Balance Outstanding	Loans in Default
1947-48	4,356,000	2,544,000	1,812,000	N.A.
1948-49	5,563,000	2,040,000	5,335,000	N.A.
1949-50	4,247,000	3,654,000	5,924,000	N.A.
1950-51	6,695,000	4,147,000	8,472,000	N.A.
1951-52	8,836,000	7,420,000	9,888,000	N.A.
1952-53	15,864,000	7,428,000	18,324,000	N.A.
1953-54	11,709,000	11,305,000	18,728,000	N.A.
1954-55	14,674,000	15,030,000	18,372,000	5,940,000
1955-56	18,370,000	17,512,000	19,230,000	4,460,000
1956-57	21,934,000	21,787,000	19,377,000	6,488,000
1957-58	13,809,000	12,544,000	20,642,000	7,888,000
1958-59	18,382,000	13,022,000	26,002,000	12,304,000
1959-60	13,961,000	13,815,000	26,148,000	16,766,000
1960-61	11,404,000	13,395,000	24,159,000	17,236,000
1961-62	12,618,000	13,134,000	23,643,000	17,467,000
1962-63	10,667,000	9,462,000	24,848,000	18,419,000
1963-64	34,588,000	16,200,000	43,200,000	25,894,000
1964-65	27,500,000	16,500,000	54,200,000	34,000,000
1965-66	28,138,000	21,324,000	61,052,000	N.A.
1966-67	32,307,000	14,825,000	78,534,000	N.A.
1967-68	2,630,000	6,146,000	75,018,000	10,700,000
1968-69	3,078,000	1,527,000	76,569,000**	18,900,000
1969-70***	1,367,000	1,140,000	76,796,000	N.A.

Figures upto 1964-65 are extracted from the *Agricultural Development Proposals, op.cit.*, p. 97. All other figures subsequent to 1964-65 excepting the amounts in default for 1967-68 and 1968-69 are taken from the *A. R. CAS, for 1968-69, op. cit.*, p. KK 72. The amounts in default for 1967-68 and 1968-69 are taken from Central Bank of Ceylon, *Annual Report 1969* (Colombo, 1970) p. 128.

** Of this amount loans granted prior to 1.10. 1958 amounting to Rs. 5,784,000 have been written off leaving a balance of Rs. 70,769,000 outstanding.

*** The figures for this year are from the latest *A. R. CAS (for 1969-70)* p. KK. 56.

Although the credit policy was revised several times, the variation of the regional pattern of production has been overlooked in making such revisions. In addition to the average yields, a distinction is clearly apparent between the regions of high and low yield fluctuations (see figs, I & II). It is observable that in spite of the repeated liberalization and the increase in the volume of credit granted, the yields of some districts are still low, while those of some others have shown marked improvement.

However, in the long run these indiscriminate credit policies have not proved to be as promising as originally expected. A policy having the characteristics outlined above also seems antiquated. This is evident from the latest statistics on credit utilization and repayment. Credit granted for paddy cultivation in the Maha 1970-71 and the Yala 1971 has declined by more than 40 and 50 per cent respectively from the credit utilization levels of the earlier seasons.* Similarly, the rate of default has also progressively increased.⁶⁵ The ILO Mission feels that the credit policy should be

TABLE 7
Regional Productivity Differences in Paddy Production
in Ceylon during the Period 1952 to 1970

District	No. of Years		Average Yield per Acre in Bushels		
	Yala	Maha	Yala	Maha	Annual
1. Colombo	19	19	32.85	38.12	35.49
2. Kalutara	19	19	28.38	30.81	29.60
3. Kandy	19	19	49.53	54.17	51.85
4. Matale	19	19	44.21	56.16	50.19
5. Nuwara Eliya	14	17	55.29	59.47	57.38
6. Galle	18	19	26.27	29.33	27.80
7. Matara	19	19	35.47	33.05	34.26
8. Badulla	13	17	45.33	56.61	50.97
9. Ratnapura	19	19	33.44	37.07	35.26
10. Kegalle	19	19	40.28	50.55	45.42
11. Hambantota	19	19	62.52	49.08	55.80
12. Jaffna	16	19	37.28	27.57	32.43
13. Mannar	14	19	45.39	43.94	44.57
14. Vavuniya	16	19	41.01	37.32	39.17
15. Batticaloa	19	19	41.95	35.49	38.72
16. Amparai**	9	9	43.10	40.42	41.76
17. Trincomalee	19	19	48.24	42.62	45.43
18. Kurunegala	18	19	38.18	37.72	37.95
19. Puttalam	16	19	29.41	31.22	30.32
20. Anuradhapura	18	18	42.62	47.34	44.98
21. Polonnaruwa	17	18	47.15	58.84	53.00
22. Moneragala**	8	9	39.44	56.38	47.91
Ceylon			40.91	45.23	43.07

** Amparai and Moneragala districts were separated from Batticaloa and Badulla districts respectively only after 1961. The figures for these two districts before 1961 are therefore included in the average for Batticaloa and Badulla districts.

Source: Based on the statistics extracted from the Statistical Abstracts of Ceylon and also the Dept. of Census and Statistics.

* Performance of Yala 1971 could be lower than usual due to the problems resulting from insurgency during the period. But the same reasons cannot be adduced to the low performance of 1970-71 Maha.

65. See Central Bank of Ceylon, *Annual Report 1971* (Colombo, 1972) pp. 120-123.

DISPERSION OF MAHA PADDY YIELDS 1952-1970

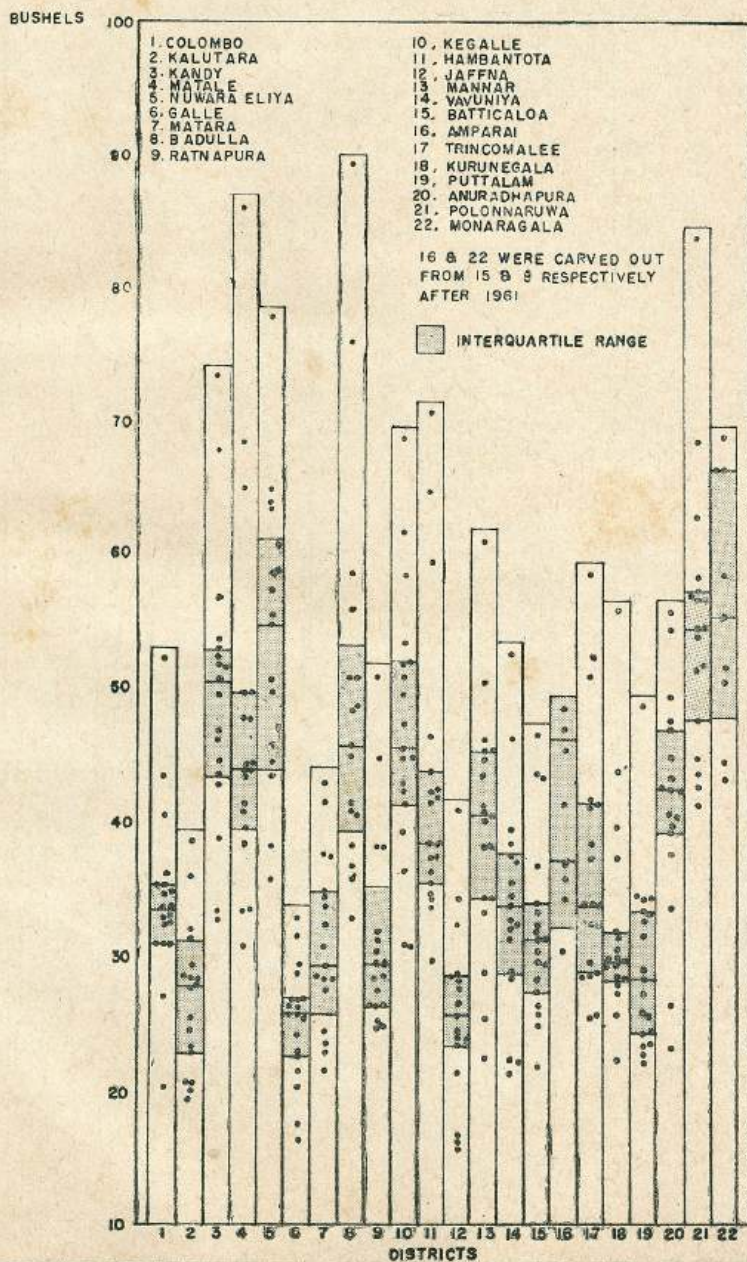


FIGURE - 1



DISPERSION OF YALA PADDY YIELDS
1952-1969



FIGURE - II

reoriented to promote the adoption of appropriate practices of cultivation.⁶⁶ What the appropriate practices are cannot be identified without a study of the factors affecting production in the different locations.

It is true that government credit has freed the peasants from the clutches of the private money lenders to a considerable extent. But at the same time they are now indebted to the government. The difference observable is that the government has written off the irrecoverable loans. It is a genuine welfare measure as otherwise many of these peasants would have been rendered landless if they continued to be indebted to private sources. But the question is, whether a study has been made to ascertain how many peasants and in which areas would have faced such circumstances, had the government restrained itself in its liberal credit extension and adopted a more discrete credit policy to suit the regional characteristics. Has the liberalization of credit reduced the degree of indebtedness of the cultivators? Credit facilities should have improved the productivity as well as the income levels. Moreover, what are the inflationary effects generated by these past credit policies and the pricing of rice far below the guaranteed purchase price? Only more detailed studies can answer these questions. However, even without such detailed studies it can be said that, a more judicious credit policy based on the productivity of the different areas and the actual credit needs of the cultivators could have benefitted both the society and the individual cultivators more than the uniform type of policy followed so far.

The cultivators who have been cultivating their fields for a number of years are the best judges of their limitations and problems. Unless they and their problems are known intimately, the right solutions may not be identified. The increase of production through a process of modernization is not attainable by providing agricultural credit alone. Agricultural credit becomes effective when the farmers are positive of both less risks and increased returns on borrowed capital. But in certain areas the success of cultivations after such capital investments is uncertain. The rainfed cultivation in the intermediate and the dry zones is of this nature. If the credit policies are formulated bearing these factors in mind much of the waste can be avoided.

Since the inception of the marketing scheme, the government only introduced modifications by way of price changes, an expansion of the purchasing network and the provision of storage and financing through co-operative societies and cultivation committees. An effort to concentrate activity in regions where production is socially more profitable is not noticeable. The government also has not been able to purchase the full quota of paddy sold by the cultivators. The inability to provide storage and quick purchasing arrangements at the village and district levels, the prevalence of higher market rates outside the government purchasing scheme, and the rigidity of the government marketing arrangements are some of the main causes. Moreover, the organization of marketing arrangement in an uniform manner over the entire island has become very costly. On the other hand, purchases under the guaranteed price scheme also show remarkable districtwise variations. These variations reflect a number of factors affecting the sale of paddy to the government. Broadly, they are related either to the deficiencies of the government marketing arrangements or to the inherent regional characteristics. Together they suggest the desirability of modifying the marketing policy to suit the respective regional

66. See ILO, *op. cit.*, p. 99.

conditions. Such modifications may be fruitfully conceived by an assessment of the benefits resulting from the costs incurred in providing the requisite facilities to the respective areas. Marketing arrangements, as a means of inducing the farmers for surplus production, are of significance especially in the areas where paddy production is socially justifiable. It is in such areas, the solution of problems of transport, storage, labour and urgent financial requirements must be specifically planned in order to derive the full benefits of the marketing scheme.

From the foregoing review, it is clear that many of the agricultural policies and institutional changes have been introduced outside the framework of any development plan. Conversely, no plan was developed in the required degree of detail to provide guidance for the formulation of a rational economic policy seeking to achieve the objective of increased paddy production while satisfying the requirements of planned economic development, i.e., optimal resource use and implementability of policy with the minimum of friction and failures. Besides, as already well known, many of the development plans were not implemented. Even in the attempts made to implement a few, there was no possibility of conforming to a planned course of action as almost all the plans, prior to the Agricultural Development Proposals 1966-70, were not further elaborated into annual operational plans consisting of specific programmes and projects. Nor were there any plan budget links so important in planning for implementation.⁶⁷ Plans were not elaborated consistently in all the stages required for implementation.

An economic plan has to be elaborated in three stages: (1) the macro-economic stage when the overall framework of development concerning the entire economy is outlined, indicating the magnitudes of the major variables and their relationships; (2) the sectoral stage when the macro-aggregates are detailed into programmes of development and (3) the project stage when the programmes are elaborated into individual projects. Detailed planning for paddy production really begins, therefore, with the programming at the sectoral stage. A programme developed in this manner should consist of a collection of individual production projects.

It is clear now that, for a plan to provide proper guidance to policy formulation, planning has to be continued right down to the project level. Projects are the implementational units of a plan. The major problem is to select the projects to be incorporated in a programme for implementation. There are three aspects to this problem.

Firstly, as many projects as are technically sound have to be identified and formulated. Secondly, they must be carefully studied. To follow King, such studies must be made in respect of six different aspects: economic, technical, managerial, organizational, commercial and financial.⁶⁸ Thirdly, the projects must be selected by using a suitable criterion. A number of criteria are in use: capital output ratio, internal rate of return, recoupment period, social marginal product and benefit/cost ratio are among these. The criterion selec-

67. See Albert Waterston, "Crisis in Planning," a conference paper read at the Institute of Development Studies, University of Sussex at a conference held between 29th June to 10th July 1969 (mimeographed). Also see Mike Faber and Dudley Seers, *The Crises in Planning* (London, Chatto & Windus for Sussex University Press, 1972) pp. 81-108.

68. John A. King Jr., *Economic Development Projects and Their Appraisal* (Baltimore, The Johns Hopkins Press, 1967) p. 7.

ted for application must be one that enables the selection of projects which conform to the requirement that social benefits are maximized by the utilization of the given resources; for this is the aim of economic planning although the concept of benefits may change with the value systems and political decisions.

A collection of projects that maximizes the net social gain with the given resources, is a programme that can provide guidance to a more realistic development policy that is consistent with the objective of economic planning. Such a development policy could also be applied with the least degree of friction since a programme prepared on the foundations of a collection of projects which are selected after a detailed study can identify the bottlenecks in the path of development, and make provisions to overcome them with a greater awareness of the problems of implementation. This form of project approach is an effective link between planning, budgetary commitment, and implementation. However, the effectiveness of the approach depends on adequate attention being given to such a fundamental dimension as that of location in the process of project identification, formulation and evaluation. The planning process is not an abstract theoretical exercise. The development projects which add flesh and blood to the skeleton provided by any plan must be associated with specific locations. The locational aspect and the influence of regional differences, therefore, cannot be overlooked in planning for economic development. This is particularly true for agricultural planning. Yet as this review has illustrated, it is this very aspect which has been grossly neglected in the various plans for paddy production compiled in the past. If this were to continue, all the blueprints which seek to augment food supplies with the limited resources at our command will be bedevilled with operational difficulties and failures.

BOOK REVIEWS

CHANDRA RICHARD DE SILVA: *The Portuguese in Ceylon 1617-1638*, H. W. Cave and Company, Colombo, 1972, pp. viii + 267 + maps.

The sixteenth and seventeenth centuries in Ceylon history have a dynamism and a romantic charm of their own that the preceding and even the succeeding centuries lack. They are years of continuing political action, constantly shifting political boundaries and, perhaps more fundamentally, a realignment of economic and social systems and even of social ethos. Much of this activity has still not been clearly understood and the few pioneer historians who have hazarded to write on these periods have but revealed the tip of the ice-berg. A lot lies hidden, some of it in remote repositories of Portugal, Spain and Holland, others in national language collections, and even more irretrievably lost to posterity.

Dr. P. E. Pieris and Fr. S. G. Perera, those two intrepid researchers into Portuguese records, have for a long time remained virtually our sole authorities on the history of Portuguese rule in Ceylon. As pioneers, wading through a mass of documentary and chronicle sources, they had necessarily to limit themselves to overviews and to explaining the broad direction of events and policies. Generations of students and teachers are indebted to them for filling the gap of what would otherwise have been, in terms of Ceylon's historiography, a dark age. Now there have appeared two historians, both products of the Peradeniya school of history, who are determined to carry on where these pioneers left off. Both have acquired a sound knowledge of the early modern Portuguese language, both have spent long periods in Portuguese repositories and both have sharpened their critical tools in some of the best schools of history. Dr. T. B. H. Abeyasinghe, the first of these latter day authorities, has served up some of the fruits of his work in the form of a monograph (*Portuguese Rule in Ceylon 1594-1612*, Colombo: 1966) and other articles in learned journals. These gave a foretaste of what a concentrated attack on a mass of Portuguese records over a short period could achieve.

Hard on Abeyasinghe's heels now appears Dr. C. R. de Silva, taking off where he left in chronological terms, subjecting the same series of sources to an equally minute and critical analysis and providing us with another valuable monograph on the years 1617-1638. C. R. de Silva's investigation of Portuguese sources has been thorough and exhausting and one gets the impression that he has seen everything there is to see. In that sense this is as definitive a work as one is likely to get for a long time on the period.

De Silva's period of study is a great period of political struggle, dominated by the towering personalities of Constantine de Sa and Senerat, and we also have glimpses of the early career of that other very colourful personality in Sinhalese history, Rajasingha II. Portuguese policy is meticulously followed in its tortuous course through every shift and change and the major battles of the period are explained both in political and in military terms. The confused politics of the Jaffna kingdom and the events leading to its annexation are made clear, as is also the nature of South Indian involvement in the island's politics. The author is always aware of the regional dimension of the problems he deals with and introduces elements of Portuguese Asian policy as and when necessary for an understanding of the Ceylon situation.

A major problem the author has had to face is that of studying events of which the only accounts are left by one of the participants. De Silva is able to overcome this by confronting his documents against each other and by a necessary element of reading between the lines. He is helped in this by the intensive infighting that went on among various sections of Portuguese officialdom as between the clerical and secular wings of the Portuguese presence in Ceylon, as well as by the chaotic procedure of right of access to the highest authorities in Lisbon by a number of officials in the Ceylon service.

The last one hundred pages of the book deal with social and economic questions. It appears that the Portuguese records reflect indigenous societies even less than Dutch records. We are grateful for whatever de Silva has been able to offer us in respect of land revenue, trade and religious policy. Current historical belief is that the Portuguese, and for that matter the Dutch, used the traditional agrarian structure to gain their ends and did not fundamentally alter traditional land relations at the basic level of the cultivator. De Silva manfully tries to refute this viewpoint and offers a number of instances of apparent change in the proprietary and tenurial systems. While these changes are granted, it does appear to the present reviewer that a majority of the instances cited are changes at the secondary level of dispersal of taxes and revenue rather than those of the conditions of tenure of the tiller, the person nearest to the land. It appears to fit in with the pattern of utilization of the exist-

ing taxation and tenurial structure to entrench and advance Portuguese interests. Admittedly there is one important reference to dispossession and landlessness, but the question is — how widespread was this? Certainly there is a great deal of change in the nature of the interests and groups that live off the land. This always happens in periods of political change. But do we not see the main principles of a tenurial system handed down intact to the Dutch and then to the British?

Another example of economic change is rather unfortunately chosen. De Silva cites the Portuguese monopolization of the cinnamon and elephant trade as basic changes. Surely there was a form of royal monopoly in the export of cinnamon and elephants under the Kotte kings. Nor can it be said that the form of trading in these articles under the Portuguese and even under the Dutch brought any significant changes internally — except increasing heavily the burdens on communities engaged in their supply. It would be possible to go along with the author's concluding view that all these changes "distorted the economic structure" without agreeing with the more extravagant claims earlier on.

In sum, de Silva has produced a very useful monograph that advances our view of the Portuguese impact on Ceylon. The work is a nice balance of microscopic examination of events and interpretation of effects in a broader perspective.

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LORNA SRIMATHIE DEWARAJA: *The Kandyan Kingdom of Ceylon, 1707-1760*, Lake House, Colombo, 1972, 245 pp., 2 plates, endpaper sketch-maps.

This admirable study of the political, administrative and social structure of the kingdom of Kandy in the first half of the eighteenth century is a major contribution to the history of Sri Lanka. It fully measures up to the high standards set by K. W. Goonewardena, S. Arasaratnam, T. B. Abeyasinghe, and C. R. de Silva, proving that Sri Lanka, whatever her political difficulties, has produced (with the aid of the School of Oriental and African Studies at the University of London) a school of historians of international stature.

This book falls naturally into two halves. After an introductory chapter, which sets the scene and discusses the sources, chapters II-VI give a narrative history of the Nayakkar dynasty from its origins to 1760. Chapters VII-X, which form the second part, provide an analytical discussion of "Religion and State," "the Central Government," "The Provincial Administration and the Judiciary," "Kingship and Court Ceremonial." The book is rounded off with some useful appendices and an adequate index. It reads very smoothly, leading one to believe that the writer must be completely bilingual.

The reviewer, not being an authority on the internal history of Sri Lanka, is uncertain how much is new to experts in that field, but *The Kandyan Kingdom* certainly contains a great deal which is new to him, particularly in the second, or structural and institutional, portion of the book. Dr. Dewaraja gains the reader's confidence at the beginning by her judicious evaluation of the available sources, whether indigenous or foreign, and she consistently displays a mastery of them throughout. She also has a number of interesting asides and comparisons with other contemporary cultures and institutions, whether in Europe, the Far East, or Indochina. Perhaps one or two of these are a trifle far-fetched, such as that of the *squarsons* of rural England with the *gane bandara* (noble monks) of Kandy, but they are none the less stimulating.

In her detailed and documented discussion of the Nayakkar dynasty and its origins, Dr. Dewaraja seems to prove that of the four kings who formed this dynasty, only the two sons of Narenappa Nayakkar could boast of a somewhat remote connection with the royalty of South India, from which all their brides were supposed to be descended. How then did they maintain their position on the throne of Kandy, amidst a powerful Sinhalese land-owning oligarchy? One reason, she argues, was the mistaken notion prevailing in Sri Lanka that the Nayaks of Madura who provided the royal brides were themselves of *ksatriya vamsa*, or the royal lineage, though in actual fact they were of *sudra* origin. Dr. Dewaraja's argument (pp. 42-43) is evidently correct, although this reviewer still feels a little puzzled as to why the Sinhalese nobility did not discover the true state of affairs sooner or later, especially when they resented the numerous Hindu relatives and hangers-on who came over with the pseudo-royal princesses. Incidentally, a genealogical table of the Nayakkar dynasty in any future edition would help to clarify the discussion of this dynasty in chapter II.

There was, in fact, constant friction between the bureaucratic Sinhalese aristocracy and the "royal" kinsmen of Indian origins who surrounded the throne. But the Kandyan nobles themselves were disunited, due to family feuds and personal jealousies, so that they rarely

maintained a united front for long. Moreover, that "divinity which doth hedge a king" had such a deterrent effect on conspirators that when Rajasinha II was entrapped by more than 200 rebels in December 1664, not one of them dared to strike a mortal blow at the defenceless ruler, who was able ultimately to escape. The palace-revolts which recurred intermittently throughout the eighteenth century were the work of disgruntled individual nobles or officials, and the people with their traditional reverence for monarchy remained loyal to the throne.

Conscious of their South Indian origins, the Nāyakkar rulers lavishly patronised Buddhism and the Buddhist clergy (*sangha*), which certainly secured the loyalty of the common people, although it did not prevent aristocratic Buddhist monks from joining in treasonable plots on occasion. In her analysis of the relationship between the royal family and the *sangha* Dr. Dewaraja shows (p. 101) that Hans Dieter Evers' tentative hypothesis "that the Nāyakkar kings tried to strengthen the Buddhist *sangha* in order to weaken the Sinhalese aristocracy" is in fact correct. The complex relationship between the king and the *sangha*, and the degree of their mutual inter-dependence are admirably analysed in chapter VII.

In her illuminating discussion of the provincial administration and the judiciary (chapter IX), Dr. Dewaraja quotes Hugh Boyd's impressions of the Kandyan system in 1782: "Although even criminal law be founded on the absurd and abominable principle of rating and punishing crimes according to the rank of the criminal and not by the enormity of his guilt; yet as the Kandyan monarchs have been for the most part sensible and benevolent men, their interest and feelings unite to render their legal decisions always lenient and mild to the indigent and often impartial to the rich; never inflicting the cruelties authorised by the practice of tyrants, on culprits of lower ranks, and seldom permitting delinquents however high their calling to escape unproved." This was certainly more than could be said for justice as practised by most European governments at that time.

Dr. Dewaraja has a very good analytical discussion of the social structure and caste system in the first half of the eighteenth century, although perhaps her chapter on the *govikula*, or "farmer aristocracy," and the basis of its power (pp. 44-60) will be more useful for readers unfamiliar with Sri Lanka than for those born and bred there. Although this book unlike most of its predecessors, is mainly concerned with the internal rather than the external affairs of the kingdom of Kandy, she has interesting observations on the ambivalent relationship between the king's "faithful Hollanders" who controlled the coastal districts and the independent highlanders. The Roman Catholic missionaries of the oratory also make a brief but important appearance. In this connection, it might have been mentioned that these priests were not Portuguese or Eurasian, but pure-blooded Goans; and a fairly recent work on them, edited by M. da Costa Nunes, former Patriarch of the Indies, should be added to the bibliography: *Documentacao para a historia da Congregacao do Oratorio de Santa crus dos Milagres do Clero Natural de Goa* (Lisbon: 1966).

To sum up Dr. Dewaraja's invaluable work, we can say that she has admirably succeeded in describing and analysing the various contending forces at work in Kandy, which between them preserved a precarious equilibrium: an alien king trying to ensure his grip on the throne; sovereign power slipping imperceptibly into the hands of Sinhalese nobles; but this same nobility weakened by factional disunity; and the people still gripped by the kingly *charisma* which helped to preserve the monarchy until the last king made himself so unpopular that the British invasion of 1815 was unopposed.

C. R. Boxer

From the early seventeenth century to the conquest by the British in 1815, the Kandyan Kingdom remained the sole independent state in Sri Lanka. The institutions and the way of life of the people of this highland domain have therefore attracted the attention of writers from time to time. Robert Knox in the sixteenth century, John D'Oyly in the early nineteenth and Archibald Lawrie in the late nineteenth were all Englishmen who voluntarily or otherwise spent a sizeable part of their lives in the Kandyan highlands and left invaluable records on many aspects of Kandyan life and society. More recently, the historian H. W. Codrington and the sociologist Ralph Pieris have added their contributions to our store of knowledge. Yet by and large, it is true to say that in the context of the general advance of historical knowledge relating to other periods and other areas of Sri Lanka, the study of the highland kingdom has somewhat lagged behind. It is therefore all the more welcome that a historian of the present generation should try her hand at examining the subject.

In respect of the internal political history of the period Dr. Dewaraja's study provides us all that we could hope for. A carefully documented chapter examines the question of the origin of the Nayakar dynasty that held sway in Kandy from 1739-1815. This theme, which could

so easily have become a catalogue of names and intricate family relationships, is handled by the author with considerable skill. The same ability to ferret out genealogical information and present it in a meaningful and readable form is also illustrated in the chapters that study the relations between the kings of the new dynasty and the local nobility (pp. 61-118). Only a person who has delved into Sinhalese *ola* manuscripts to obtain historical information will appreciate the care and labour devoted to this section.

On the other hand several other sections of the work could leave the perceptive reader somewhat dissatisfied. The descriptions of the tenurial conditions in lands held by the Buddhist *sangha* (pp. 137-145) seem to be based almost totally on nineteenth century evidence. The same may be observed in relation to the chapters on administration which form over a fifth of the book (pp. 151-207). While it is possible to argue that the basic structure of the Kandyan kingdom could not have changed substantially in fifty years or more it would be unwise to rely (as Dr. Dewaraja seems to have done) on sources so far removed from the period under examination for specific details. For instance, one would hesitate to assert that each prisoner who was discharged from prison in Kandy paid a fee of two *ridi* to the *adigar* in the first half of the eighteenth century merely on the authority of John D'Oyly who, despite his wide knowledge of the subject, was essentially commenting on Kandyan administration as it operated in the early nineteenth century. Similarly it seems rash to assume, as Dr. Dewaraja does (p. 141), that the Muslims were willingly part and parcel of the Buddhist *vihara* land organisation in the period 1707-1760 on the evidence provided by the Report of the Service Tenure Commissioner for 1870 and the *Gazetteer* prepared by Lawrie in the late nineteenth century. At times Dr. Dewaraja herself seems to find it difficult to get away from the Euro-centric view of the 'unchanging east' which she so correctly rejects in her introductory chapter (p. 3).

In writing about the social organisation the ruling *govikula* caste is given considerable attention. This is perhaps natural for most eighteenth century writings that have survived were written by members of this caste, who also seem to have effectively monopolised the higher levels of the Buddhist *sangha*. Dr. Dewaraja's book however has hardly any information on the castes that are traditionally placed lower in the ritual hierarchy.

These criticisms should not, however, discourage readers from coming to grips with this interesting piece of writing. The layman will find to his relief that the work is well-written throughout. The critical scholar will be grateful that the work, originally presented as a doctoral thesis to the University of London, has been published with its copious footnotes intact. But those who try to use it as a reference work to elicit specific information will find the index woefully inadequate. In sum, the book is a good buy at Rs. 40.00 for a hard cover edition.

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South Asia: Journal of South Asian Studies, Published by the South Asian Studies Association of Australia and New Zealand in conjunction with the South Asia Institute, University of Heidelberg, No. 1, 1971, pp. 160; No. 2, 1972, pp. 153; No. 3, 1973, pp. 151. Annual Subscription: Six Australian Dollars.

The growing concern evident in recent years among intellectuals in Australia and New Zealand about the need to give serious consideration to the implications of the physical setting of these two countries has been accompanied by a significant effort directed towards understanding the peoples, cultures and the current political processes in the Asian continent and the South East Asian archipelago. Facilities for Asian studies are now available at almost all the major Universities in Australia and New Zealand and among them are to be found about a dozen centres of South Asian studies. The formation of the South Asian Studies Association of Australia and New Zealand in 1969 and the launching of *South Asia* in 1971 were important events in this most welcome development in the academic scene in this area. The journal appears annually. Since 1972 it has been published in association with an editorial committee at the South Asia Institute of the University of Heidelberg.

The first three issues of the journal present twenty-six papers, fifteen of which are contributions by scholars in Australia and New Zealand. In addition to articles and book-reviews, the journal devotes a section to news of scholarly work in progress in South Asian studies. The numerical preponderance of historians among research workers in South Asian studies is reflected in the papers presented in these three numbers. Sixteen are historical studies, and fifteen of these deal with themes from modern history. This selection reveals a

shift of emphasis away from the familiar themes of colonial policy and constitutional development. Particular mention should be made of the group of highly stimulating essays on the history of the nationalist movement in India by Ravindra Kumar (1971), R. Sunderalingam (1972), Ray T. Smith (1972) and Ira Klein (1973) who deal with such aspects as ideology, types of leadership, patterns of mobilisation and the role of mass media. "The Politics of Commerce in the Coastal Kingdoms of Tamil Nad, 1650-1700" by S. Arasaratnam (1971), "Bombay in the 1870s: A Study of Changing Patterns in Urban Politics" by J. C. Masseles (1971), "Social Factors in the Making of Bengali Islam" by Asim Roy (1973) and M. N. Pearson's "Wealth and Power: Indian Groups in the Portuguese Indian Economy" (1973) are other examples of the type of fare that the journal offers to the student of history.

It was stated in the first issue that the journal hopes to encourage interdisciplinary contributions, and that it would emphasise social studies "leavened from time to time with articles on the arts and earlier phases of history and civilization." So far, in addition to a review by Judy Birmingham of pottery finds from the chalcolithic and early iron age sites in West Bengal, which appears in the second issue (1972), a short paper by Ian McCleod on the highly controversial problem of the "interlinear inscriptions" from Sri Lanka has been published in the third issue (1973).

Readers would perhaps prefer a varied selection of articles more representative of the major disciplines in the field of South Asian studies. Anthropology, sociology, politics and economic geography are represented in the three numbers under review, but not adequately. However, it has to be conceded that this is not merely a question of editorial policy.

South Asia is a most welcome new forum for researchers in this field and all students of this region would find in this journal stimulating contributions conforming to exacting academic standards.

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MODERN CEYLON STUDIES

Volume III

1972

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CEYLON STUDIES SEMINAR

This seminar group has been organised by members of the Faculty of Social Sciences at the Peradeniya Campus with the object of stimulating research, encouraging interdisciplinary discussion, and assisting research work in progress.

The association has continued to function as a self-supporting organisation financed by subscriptions and by the sale of publications. Due to increased costs, it has been necessary to revise the prices of papers prepared in 1973 and of previous papers which have been reproduced to meet steady demands. Prices noted in this advertisement are to be considered definitive. **Payment for Mimeographed Papers** by cheque, postal or money order made out to "A/c No. 844 People's Bank, Peradeniya" or to "Ceylon Studies Seminar" and addressed to The Ceylon Studies Seminar, Department of History, University of Sri Lanka at Peradeniya, Sri Lanka (Ceylon).

1968/69, 1969/70 and 1970/72 Series: lists can be located in volumes 1 and 2 of the *Modern Ceylon Studies*.

1973 Series

33. Vedda: Some Aspects of Creolization, *K. N. O. Dharmadasa*.
34. Foreign Resources and Domestic Choices: The Politics of Aid Utilisation, *John White*.
35. The Operation of the Paddy Lands Act in a Village in the North Central Province, *Kapila P. Wimaladharma and John Clifford*.
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40. Some Aspects of the Impact of Cola Rule in the Trincomalee District, *S. Gunasingham*.
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- *43. The Career of Muidasa Cumaratunga: Its Socio-Political Significance, *K. N. O. Dharmadasa*.
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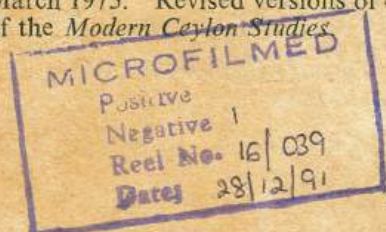
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