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**CONTEMPORARY CHANGES
IN AGRARIAN STRUCTURE**

SRI LANKA 1973

selected case studies

AGRARIAN RESEARCH & TRAINING INSTITUTE

COLOMBO

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PREFACE AND ACKNOWLEDGEMENTS

The year 1973 will be remembered in Sri Lanka for the introduction of legislation paving the way for major changes in the country's Agrarian situation. The first Law to be enacted under the New Constitution restricted individual Land ownership to fifty acres (or twenty-five in the case of paddy lands). The second Law, the Agricultural Productivity Act, was a companion measure to ensure greater productivity, not only of the lands alienated, but of all agricultural lands. It also established the foundation of a new institutional base for agriculture. The Agricultural Lands Bill, soon to be presented, seeks to extend the principles enunciated originally for the tenure of paddy lands to all agricultural lands and re-establishes Cultivation Committees with wider powers as the village level representative body of all cultivators and the extension agency at that level.

The Government is giving priority to agriculture in planning and is restricting food importation in a determined attempt to make the country self-sufficient in all the basic foods. The plantation sector continues to provide the major export commodities - tea, rubber and coconut - but increasing emphasis is being placed on other agricultural crops and livestock to feed the nation and to generate new employment opportunities. A programme has been launched to start 500 co-operative farms on alienated lands; the uneconomic plantations will be diversified with other crops and livestock.

In this rapidly changing scene it has not been easy to select hitherto unpublished case studies relevant to the situation in flux. Associated with the Paddy Lands Act, the first study selected provides up-to-date information from the field. The recent Land Ceiling Act will have little effect on the paddy sector. In the area of the case study: Environmental and Social Constraints on Paddy Production under Existing Conditions in Sri Lanka (Hambantota District) the authors conclude that urgent enforcement of rent regulation is necessary to increase production and improve incomes.

The second case study Fragmentation of Paddy Land in a Cluster of Five Purana Villages in Anuradhapura District, Sri Lanka provides an interesting picture of the land holding situation in a cluster of villages which have both economic and kinship ties. The tenurial situation of paddy lands in Sri Lanka is no less complex than in many Asian countries, and more 'grassroots' studies of this type are needed if a practicable consolidation feature is to form part of any future 'land-to-the-tiller' programme for paddy lands.

The Land Ceiling Act proposes immediate alienation of lands which include a considerable acreage of coconut, and the third study: Husbandry of 245 Small-Holdings (Below 10 acres) in the Coconut Triangle of Sri Lanka, 1972 indicates serious shortcomings in current

small-holding management in the area studied. These need to be overcome if the sector is to increase not only in numbers but in productivity.

This kind of situation was undoubtedly one of the major considerations in framing the Agricultural Productivity Law which not only legislates for the Government to take over unproductive holdings, but more significantly aims to involve rural people actively in their own agricultural development. For this reason the fifth case study The Transfer of Administration of an Irrigated Settlement Scheme from Government Officials to a People's Organisation - Than-nimurippu Paripalana Sabai which represents one of the few recorded attempts in Sri Lanka to secure this kind of popular participation is interesting, and as the authors point out, offers experience of which the newly formed Agricultura Productivity Committees may well take note.

One of the major problems still to be resolved is that of institutional credit for farm inputs and the other vital needs of the rural community. The recent history of Sri Lanka's cooperative credit schemes is not a happy one, particularly in respect of the usual problem of loan repayments. At a time when farm inputs are vital to the success of plans for self-sufficiency in rice and most other food products, there is an acute need for a viable credit scheme. The fourth case study The Socio-Economic Factors in Rural Indebtedness: Tract 2: Kagama Kattiyawa Special Project describes farmer attitudes to various types of credit and his priorities for repayment, and the information collected should not be ignored in framing new credit schemes to meet this type of situation. This and several of the other studies also provide useful data on land settlement.

Many people have contributed to the preparation of this collection of case studies. I wish to express appreciation particularly to Mr. Mahinda Silva, Secretary, Ministry of Agriculture and Lands for the Introduction (which originally formed part of an address given to the Joint Seminar of the Agrarian Research and Training Institute Colombo and Institute of Development Studies, Sussex, 1973); to the Director of the ARTI, Mr. C. Narayanasamy, for permission to include Case Studies Nos. 1, 3 and 5, to the Land Commissioner, Mr. K. N. Weerakkody and to Mr. H. de S. Manamper, Chairman, Mahaveli Development Board for permission to use data in Studies Nos. 2 and 4, earlier collected under their auspices and revised for this Volume; to the ARTI Production Economics Unit for Study No. 1; to the ARTI Land Tenure and Economics Unit for Study No. 3 and to the ARTI Land Settlement Unit for Study No. 5; to Mr. T.P. Ganewatte, Sociologist in the Land Commissioner's Department for Studies Nos. 2 and 4 which were specially revised in the field for this Volume. The authors in turn have acknowledged assistance of individuals in the field and in Government Departments and other Institutions and I hope these people will accept this collective appreciation of their valuable assistance. Finally, may I thank all the staff of the Agrarian Research and Training Institute for their generous cooperation at all stages in the production of this collection of case studies.

F. G. Saunders
(FAO Chief Adviser) Editor

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INTRODUCTION: A DECADE OF AGRARIAN CHANGE

1.1 From colonial times Sri Lanka inherited two agrarian worlds, often referred to as the "dual economy." One was the estate or the export sector based on tea, rubber and coconut and included a variety of services, commercial, financial, transportation, communications and other activities undertaken by both the State and the private sectors. The estates depended on private, foreign and local entrepreneurship, immigrant labour and imported or re-invested capital. The important indigenous resource was the extensive land suitable for the cultivation of tropical tree crops. This land and the relatively cheap labour was organised on modern commercial lines, in a capitalised and technologically advanced but high labour - and land-intensive system. This was especially true of well-managed tea estates.

A
dual
economy

1.2 The other world often referred to as the domestic or non-export sector was characterised by small-holdings of both paddy land and highland, a high incidence of tenant cultivators, low levels of productivity, indebtedness, the neglect of the highland, dependence on family labour, production for subsistence and at best for a limited domestic market. The world of the small-holder was also sub-divided into those living in State-aided colonisation schemes, the so-called "colonists," and those living in the traditional or "purana" villages.

1.3 The plantation sector was generally well organised, commanded social and political prestige and was recognised as the main stay of the economy earning nearly all the foreign exchange necessary to keep everything else going. So long as world market prices were good and stable, there was no need to examine the efficiencies of the plantation system or the need to improve and diversify the agricultural system of the country. Imported food, including luxury items, were freely available and domestic agriculture based on the small-holder was supported largely as a necessary measure of social welfare.

The existence of this "dual economy" with its concomitant separations in ways of living, thinking and feeling is basic to an understanding of the agrarian situation in Sri Lanka.^{1/}

^{1/} Donald R. Snodgras in "Ceylon: An Export Economy in Transition", 1966, described this situation well when he said that "the two sectors were virtually in different countries."

Land
Develop-
ment
Ordi-
nance

2.1

It is however a curious fact that while the primary dependence was on imported food, there was a concerted drive from the 1930s for the alienation of land to the peasant class. This policy was carried out primarily through the Land Development Ordinance of 1935. The policies and problems associated with the alienation of Crown land primarily to persons of the peasant class is a long and complicated story worthy of special study. For the purpose of this review I can only refer to the more salient features of this policy. The distribution of land under the Land Development Ordinance fell largely in the dry zone regions of the country. Since the land available in the wet zone was already in private hands or had been established as estates for export crops, the dry zone regions attracted attention as possible areas for food production under a system of State-aided peasant settlements. There was also a romantic and nationalistic motivation for settlement in the dry zone which was the centre of a great civilization during the time of the ancient Sinhala kings. Dry zone settlement was also supported by the idea that it could provide a major solution to the population and employment pressures in the over-crowded wet zone regions of the Island.

2.2

It was not easy to attract new settlers to the difficult climatic regime of the dry zone and Government policy provided for a very generous scale of assistance for the new settlers. The size of the holding, which was not determined by income criteria, was initially 8 acres. This included 5 acres of irrigated paddy land and 3 acres of unirrigated highland. The physical planning of these settlements left much to be desired. There was little or no conception of community life or the provision of facilities for subsequent industrial growth. Most settlements were carved out on a simple understanding of land use where irrigable land was alienated for paddy cultivation and land that could not be irrigated was left as homestead without a productive agricultural function. The settlers were placed generally along the channels and this type of "ribbon" settlement has been the cause of much social discontent afterwards.

2.3

The selected settlers were generally from the peasant class and preference was given to those with large families. Landlessness was taken into account but not experience or aptitude for farming. There was no attempt at providing a homogeneous social base for the new settlers. In fact the application of sociological concepts in settlement planning was almost unknown at the time. There was a great neglect of farmers' institutions and community development. By 1967/68 a total of approximately 339,000 acres of land had been alienated to about 76,000 settlers. Of this extent about 218,000 acres was paddy land and the balance highland.

2.4 An important feature of settlement under Land Development Ordinance of 1935 was that a person receiving a unit of land could not legally sell it, mortgage it or sub-divide it. He was required to pay an annual land tax to the Crown and when the allotment was fully developed he was entitled to receive what was known as a "Crown grant." Even then a "Crown grant" was not a freehold and the settler could not sell it or sub-divide it. The settler was allowed to have a nominated successor to whom the allotment would pass over on his death. The tenurial provisions of the Land Development Ordinance were intended to safeguard the peasant against land speculators and fragmentation. In practice, the intentions of the Ordinance have not been altogether fulfilled. By various informal arrangements the lands have been sub-divided and have often been sold or mortgaged to others. Some basic changes to the Land Development Ordinance are due to be introduced shortly.

2.5 With the passage of years it was realised that the 8 acre unit of alienation had to be reduced, that the scale of Government assistance had to be curtailed and that greater attention should be paid to the experience and aptitude of the selected settler rather than to his landlessness and the largeness of his family. At present the unit of alienation is generally two acres of irrigated paddy land and one acre of unirrigated highland. The scale of financial assistance has been severely curtailed.

2.6 The policy of colonisation has been a major event of agricultural development in Sri Lanka after 1933. To those specially interested, a substantial body of documentation on the development of colonisation policy and the contemporary problems is now readily available. The important criticisms that have been made over the years on the policy of colonisation have been as follows:-

- a) that the capital investment involved in establishing new colonisation schemes was too high and that the economic returns were not yet commensurate with the investment. In the early phase of colonisation the Government spent nearly Rs. 20,000 in establishing one peasant family;
- b) that the colonists were dependent on the Government for nearly everything.
- c) that the emphasis was almost exclusively on the cultivation of paddy and that there was no attempt to develop a farming system which takes into account both the paddy land and the highland.
- d) that the problems of land administration arising from the implementation of the Land Development Ordinance were given greater weightage over agricultural extension itself;

- e) that the settlements were not established on the basis of land capabilities and income criteria;
- f) that the social cohesion of the purana villages had been destroyed in the Colonisation Schemes.

All these criticisms have considerable validity and have been documented in several reports and studies. ^{1/}

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| Land Acquisition | <p>3.1 The distribution of Crown land under the Land Development Ordinance was also supported by a land re-distribution programme under the Land Acquisition Act No 9 of 1950. Under this enactment the Government was able to acquire private land in areas where Crown land was not available and alienate it to landless persons for both village expansion and productive use.</p> <p>3.2 The combined effect of the Land Development Ordinance and the Land Acquisition Act was that a land reform programme has been underway in Sri Lanka from the 1930s. However, the essential point to remember is whether the policies of land alienation were motivated primarily by consideration of domestic agricultural production or by considerations of social welfare. This is a question to which an easy answer cannot be found. A definitive answer can be given only after a close study of the innumerable factors entailed in this policy. Nevertheless, I am inclined to the view that up to the 1960s the land alienation programmes were inspired more by considerations of social welfare and that the country's dependence on imported food was not seriously questioned.</p> |
| Paddy Lands Act. | <p>4.1 The domestic agrarian situation in Sri Lanka which was guided for over three decades by the Land Development Ordinance and to a much lesser extent by the Land Acquisition Act had its first breach in the Paddy Lands Act of 1958. This legislation sought to change the traditional relationship between the owners and tenants of paddy land. In doing so it was in fact effecting changes in the relationships between farmers themselves and between farmers and the Government. The Paddy Lands Act provided security of tenure to former share-croppers ('ande' cultivators). It determined the rent that had to be paid by the tenant. This was again in an area of agrarian reform though confined only to paddy lands. In those areas where landlordism had inhibited productivity, the Paddy Lands Act proved to be a productive force. However, the implementation of this law was not without its serious difficulties.</p> |

^{1/} A case in point is the report on the Gal Oya Project Evaluation Committee (Sessional Paper No I of 1970).

Evasion of the provisions of the law took various forms. Large scale evictions occurred and nearly 5,000 cases yet await disposal.

Culti-
vation
Commi-
tees

- 4.2 Nevertheless, the changes generated by the Paddy Lands Act of 1958, created a new agrarian situation in the country and life in the rural areas was affected by this legislation. The Paddy Lands Act introduced for the first time a new village level institution of the farmers called the Cultivation Committee and placed a strategic responsibility for development of paddy cultivation on this new institution. The history of the Paddy Lands Act and the problems encountered in its implementation are worthy of a separate study. For the present purpose I would only say that the majority of the cultivation committees have failed to live up to the aspirations embodied in the Paddy Lands Act. There are a variety of reasons for this failure. There were serious legal difficulties which obstructed proper functioning of cultivation committees from their very infancy. Successive amendments to the Paddy Lands Act have not entirely removed the legal disabilities that have arisen from time to time in the working of the cultivation committees. The cultivation committees have had no financial resources to play the role that was expected of them. The elected committees had no administrative experience in managing their own affairs. The vested interests where possible rendered the committee non-functional or used it as a cover for preserving their self-interest.

- 4.3 In 1966, the Department of Agrarian Services conducted a sample survey of cultivation committees with a view to ascertaining among other matters "the extent to which cultivation committees have developed as village level institutions in the management and promotion of paddy cultivation." The report of this survey has this interesting paragraph which is of relevance even today:

"The importance of the cultivation committee lies in the fact that this was the first instance where leadership was offered to the typical peasant paddy cultivators. Traditionally, leadership in the village had been in the well established farmers, the professional class such as the village school teacher and the physician and to some extents merchants and traders. This was a historic development leading from the old feudal society. The peasant farmer had been content to carry on his work without actively participating in the village level organisation. This has resulted in the passing of control in the village level organisations to groups of people who do not have common interests with the peasant. Even with the formation of cultivation committees this trend was noticed in certain areas where the peasant paddy cultivators who were legitimately eligible to be the sole membership of the cultivation committee were content to

see village financiers who were not genuine cultivators assuming office in the cultivation committee in the guise of cultivators. A great deal more of farmer education, guidance and supervision by trained personnel is therefore necessary to ensure that the peasant cultivators themselves would assume the responsibility of managing their own affairs."

These remarks of the 1966 survey echo the humane objectives of the Paddy Lands Act itself.

- 5.1 While the agrarian situation developed in this manner from the 1930s to the 1960s, the real push for a comprehensive domestic agricultural production programme came. I believe, from the foreign exchange crisis which affected policy thinking during the last decade. The immediate reaction to the foreign exchange crisis was to launch a policy of import substitution in domestic agriculture. This policy of import substitution was first concentrated in the area of rice production and has been gradually expanded to cover a wide range of field crops and animal husbandry.
- Import Substitution
- 6.1 The recognition of the foreign exchange crisis was also accompanied by a recognition of a grave unemployment situation affecting particularly the educated young men and women. The report of the Seer's Mission has given a very comprehensive analysis of the problems of unemployment facing the country. It is my submission therefore that agricultural development policies in Sri Lanka during the last decade have been conditioned and directed by the overriding pressures of foreign exchange and unemployment.
- Unemployment
- 7.1 The established colonisation schemes received very early attention in the policy for increased food production in the country. An IBRD Mission which visited Sri Lanka in 1966 directed special attention to the need to increase productivity per acre in major colonisation schemes so that there would be an optimum return on the heavy capital investments made in these projects. As a follow-up on the recommendations of this IBRD Mission a series of 'Special Projects' was established in nearly the major colonisation schemes. These special projects provided for intensive extension coverage not only for purposes of improved productivity but also for building the institutions necessary for the farming communities.
- Special Projects
- 7.2 The first of these special projects was established in the Elahera Colonisation Scheme in 1967/68, and has now provided a considerable body of experience in the planned development of agriculture, services and human resources within colonisation schemes. The Government of Sri Lanka in association with the Government of Japan is engaged in a comprehensive development programme of the Devahuwa Colonisation Scheme, which was established in 1949.

7.3 The strategy of special projects located in major colonisation schemes has succeeded in improving levels of production in paddy to a very high order. The special projects have played a pioneering role in the diversification of crops on paddy lands during the Yala season. The traditional concept of linking paddy land and water only for the cultivation of paddy is breaking down in favour of the rational use of paddy land for a variety of other crops depending on the availability of water during the Yala season.

7.4 Another major development in colonisation schemes has been the productive use of the highland specially for short-term food crops such as chillies and onions under a system of lift irrigation using the water available in the channels. The largest of these lift irrigation projects for highland cultivation can be seen in the Rajangana Colonisation Scheme in Anuradhapura District.

8.1 The problem of educated youth unemployment and the need for an income-oriented agriculture received concrete implementation with the inauguration of a youth settlement scheme programme in 1966. The important features of the programme were -

Youth
Settle-
ment
Schemes

- a) settlement of unemployed youths in colonisation schemes giving priority to the age class 18 - 25 years and those possessing the General Certificate of Education;
- b) all development work in the scheme was to be undertaken by the youths themselves on a self-help basis;
- c) the Government's contribution was to be confined to equipment, materials, subsidies, technical supervision and organisation.

The schemes fell into three broad categories, namely

- i) those based on gravity irrigation from minor irrigation tanks;
- ii) those in colonisation schemes based on lift irrigation from wells or rivers;
- iii) highland colonisation schemes in tea, rubber, coconut, passionfruit and other field crops.

8.2 The youth settlements programme inaugurated in 1966 departed from traditional colonisation schemes in several important ways. The youth schemes place heavy emphasis on the cultivation of field crops other than paddy under irrigation. There was a conscious income target of Rs. 250 to Rs. 300 per month fixed on the basis that an educated youth engaged in agriculture should get an income comparable to that of a youth with similar educational qualifications engaged in a white collar job in the Government, commercial or industrial sectors of the country. The schemes were intended to be

comparatively small, consisting of about 50 to 100 youths only as this number was considered to be a manageable unit for efficient operation on co-operative lines. In the selection of the youths emphasis was to be placed on agricultural aptitude and experience and willingness to take up agriculture as a career and not on the question of landlessness or other social considerations.

8.3 About 40 schemes involving approximately 3,000 youths have been established under this programme. Most of the schemes have achieved the targetted level of income and in a fair number of them the youths get an average income of over Rs. 500 per month. In exceptionally successful schemes like Viswamadukulam in Vavuniya District and Ihala Hewasse in Kalutara District, the average level of monthly income has exceeded Rs. 1,000. In the field of agricultural production these schemes have broken new ground and given a new direction. The emphasis laid on the cultivation of food crops other than paddy under irrigation has yielded very satisfactory results. The Schemes have shown that educated youth with an agricultural background will respond better to new technology. These youths are expected to form the backbone of farming systems based on multiple cropping.

8.4 The original intention that these youth settlement schemes would be worked entirely on co-operative lines has not been realised. In nearly all the schemes the youths have demarcated their individual allotments and the co-operatives where they do so function as service co-operatives. The limited experience with these youth settlement schemes has provided valuable data in planning for an income oriented agriculture for the educated unemployed.

9.1 The policy reactions to the foreign exchange crisis demanded a large scale import substitution programme. But at the same time the unemployment crisis demanded attention to farm incomes and speedy ways of settlement. It seems to me that this marriage between import substitution and employment generation in agriculture at a satisfactory level of income is having far reaching effects in the agricultural development programme. Sri Lanka is now compelled to think in terms of diversified farming, farm incomes labour intensive methods of agriculture and creation of new employment with minimum delay and minimum capital investment. The decisions already taken to stop the imports of potatoes, chillies, onions, greengram and a variety of other food items, have created a most favourable climate for the development of a diversified domestic agriculture.

9.2 The pressures of the foreign exchange and employment crisis have made it clear that new settlement schemes in the dry zone as was undertaken in the 1930s and 1940s are no longer practicable. We

have neither the money nor the time for the establishment of such schemes. The Special Development Authorities of Uda Walawe and Mahaweli will undoubtedly provide new employment and productivity in the given areas. But the new employment and the new productivity has also to be quickly provided in areas where agricultural land and the necessary facilities for new settlements are already available.

- Land Reform**
- 10.1 This is indeed the principal economic and moral justification for the Land Reform Law No. 1 of 1972 which has placed a ceiling on the extent of agricultural land that an individual can hold. The land thus vested with the State in terms of this Law will have to be given out speedily in viable units for productive use. At present there is a programme for the establishment of agricultural farms on a co-operative basis. These farms are generally between 250 to 500 acres in extent and the land is given without fragmentation to a registered co-operative society formed by the settlers themselves. There is also a programme whereby small agricultural projects sponsored under the Divisional Development Council Programme are being established on land extents ranging from 25 to 50 acres.
- Agricultural Productivity**
- 11.1 The Land Reform Law No. 1 of 1972 was followed soon after by the Agricultural Productivity Law No. 2 of 1972. Traditionally, people in Sri Lanka have taken pride in the ownership of land. They have been willing to spend money and time in litigation seeking to establish rights of ownership. The Productivity Law while respecting a citizen's right to ownership of land seeks to introduce the far more valuable concept of using the land for the fullest productive purpose. The productivity of land rather than the fact of ownership is what is important today. Under the Productivity Law simple rules of good husbandry which can be fulfilled by nearly all farmers within the resources available to them have already been announced.
- 11.2 The Productivity Law also establishes a new institution called a Productivity Committee at the area of a Village Council. These Committees will function from a well-appointed building known as an Agricultural Services Centre which will bring together all services for the farmer at one centre in a Village Council area. Every agricultural service centre - of which about 150 will be established this year, out of a total programme of 440 - will have a branch of the Bank of Ceylon for developing systems of rural credit.
- 11.3 The Minister of Agriculture and Lands expects to present to the National State Assembly very early a bill entitled "Agricultural Lands Law" which will replace the Paddy Lands Act of 1958, which

Agricul-
tural
Lands

will empower Cultivation Committees to exercise authority on all agricultural land (both paddy land and highland) falling within their area of operation.

11.4

New Role
of Culti-
vation
Committees

The Cultivation Committees will be required to function as agents of Productivity Committees in respect of all matters in which the productivity committees have been vested with powers and responsibilities. In other words, while the Agricultural Productivity Committee is intended to function as the development institution at the Village Council level, the Cultivation Committee will hereafter be expected to function as the development agency at the village level.

11.5

New Ins-
titutional
Base

These two institutions which have to be conceived as parts of one development institution are expected to be the institutional basis for agricultural development in Sri Lanka in the future.

11.6

I should also mention that the Agricultural Productivity Law provides for the establishment of Agricultural Tribunals. This is an important feature because a special institution functioning at the district level will be available for determining matters in dispute on agricultural lands. This new institutional arrangement is intended to dispose of disputes expeditiously and with the least expense and inconvenience to the farmers.

12

This rapid and compressed survey of the agricultural scene in Sri Lanka will indicate clearly that we are in the midst of far-reaching changes whereby the settled framework of the domestic agrarian situation as seen between the 1930s to the 1960s is in the process of being transformed.

CASE STUDY: ENVIRONMENTAL AND SOCIAL CONSTRAINTS
ON PADDY PRODUCTION UNDER EXISTING CONDITIONS IN
SRI LANKA (HAMBANTOTA DISTRICT)

I. PROBLEMS

Throughout South and East Asian Countries the most severe constraints for expanding the diffusion of high yielding varieties are the lack of assured water supply and the antiquated tenure systems. This study examines the influence from these environmental and social factors on Paddy Production.

The diffusion of high yielding varieties of paddy in this country has been very rapid, especially since 1971 with the appearance of the "new high yielding varieties" (NHYVs) such as Bg 11, BG 34-8 and LD 66. The cultivation of improved varieties of paddy in this country started as early as the 1960s with the appearance of hybrid varieties. Although the productivity potential of hybrid varieties is much lower than that of NHYVs a maximum per acre yield of 101.7 bushels of Maha and 116.7 bushels for the Yala season (i.e. April - September) was obtained under experimental conditions. ^{1/} These yield figures for Maha (i.e. October-March) and Yala from H 4 are still more than double the latest national average.

^{1/} The following nitrogen fertilizer production functions from the experimental data for Maha 1961/62 and Yala 1962 at Ambalantota Rice Experiment Station, Hambantota District.

$$\text{Maha 1961/62} \quad : Y = 68.497 + 0.610x - 0.0028x^2$$

$$\text{Yala 1962} \quad : Y = 82.810 + 0.831x - 0.0051x^2$$

Where - Y is bushels of Paddy per acre and
X is nitrogen applied in lbs per acre.

Nitrogen fertilizer production functions for NHYVs can be found in K. Izumi: "Economics of Nitrogen Fertilizer Application to High Yielding Varieties of Paddy in Sri Lanka" July 1972.

Until 1970 the increase in both the yield per acre and the total national output of paddy came mainly from the diffusion of hybrid varieties and related agricultural extension work. For example, in 1950/60 Maha, the area under H 4 variety was only 1,100 acres, but in 1964/65 it increased to 455,100 acres, and in 1969/70 it reached 800,000 acres which constituted about 67 per cent of the total extent sown for Maha paddy. During the 1960s the yield of Maha paddy increased from 37.7 bushels in 1959/60 to 52.2 bushels in 1969/70. The rate of increase per unit area during the last decade was almost 40 per cent. The same tendency was found for Yala paddy.

Although the yield fluctuation of paddy in Sri Lanka since 1951 has been less than in most other countries of this region ^{1/} there were still two big upward and downward movements of yields during the 1960s. The yields of Maha paddy per acre in 1964/65 (34.11 bushels) and in 1969/70 (52.1 bushels) were the typical examples representing the worst and the best crop years respectively.

Let us examine how the yield of paddy fluctuated during the last decade using the trend equation of the yield of Maha paddy for the period 1951/52 to 1969/70, measured for the first time. ^{2/}

The trend equation of the yield of Maha Paddy was

$$q_t = 90.888 (10^{0.0124t})$$

where t: time in years which for 1951/52 is zero and

q_t : yield of Maha paddy for a given year.

^{1/} See, for example: The State of Food and Agriculture, 1970" FAO, Rome, Figure II-2, page 83.

^{2/} K. Izumi: "The Development Stage of Paddy Production in Ceylon" Mineograph 1972 p.8.

The following table indicates the difference between the actual yields harvested and the yields estimated from the trend equation for the best and worst crop years during the 1960s.

Table 1-1: Yield Fluctuation in Percent in Best and Worst Crop Years during 1960s - Sri Lanka

t(year)	Actual yield of Maha Paddy harvested per acres		Estimated yield of Maha Paddy per acre		Deviation of actual yield from trend curve in %
	Index (A)	Bushels	Index (B)	Bushels	
13(1964/65)					
Worst Yr.	110.6	34.6	131.7	40.64	-16.0
18(1964/65)					
Best Yr.	169.2	52.21	152.0	46.88	+11.3

Note: 1. Index of the actual yield for 1951/52:100.00

$$2. C = \frac{B - A}{B} \times 100\%$$

It is clearly indicated in this table that the downward movement of the yield in the worst year was much bigger than the upward movement in the best year. If we apply this trend curve to the present food situation we could say that one of the reasons for the present difficulties created by the rice shortage came from the fact that the 1970s started with one of the best crop years since 1951, but just after one year the country had to face one of the worst crop years due to failure of monsoon rains.

Thus one of the crucial problems of paddy production in Sri Lanka is the weakness of the irrigation system. In spite of a relatively high percentage of irrigated land, the yield of paddy per unit area in this country is not high as compared to other countries in the region where ratios of irrigated areas are much less than in this country. One of the excellent indications of this characteristic of paddy production in this country can be found in the Figure 11 at page 518 in 'Asian Agricultural Survey'.

1/ Published by the Asian Development Bank: University of Tokyo Press, 1969.

According to this graphic presentation, the yield of paddy per hectare in Sri Lanka should be 3.0 instead of 1.5 tons corresponding to the irrigation ratio of 60 per cent. We could therefore assume that this very big deviation of the yield from the regional trend curve was mainly the result of the weakness of irrigation facilities in this country.

Using actual data from one of the major paddy producing districts in this country, we could examine how the conditions of water supply influence paddy production.

In Table 1-2, 153 paddy cultivators randomly selected from Hambantota District are classified into the four groups on the basis of the yield of Maha paddy per acre at each farm. In this table, a very close relationship is found between the yield of paddy and the water conditions during the two crucial stages of production, i.e. the land preparation - sowing stage and the flowering stage of paddy. The water conditions during the latter stage in particular seems to have a much closer relationship to higher yields. For example, during this stage the water conditions of more than 50 percent of the cultivators who belong to the lowest yield group were poor while almost 80 percent of the cultivators in the highest yield group had good water conditions. In addition, these water conditions are also closely associated with the high ratio of the area under NHYVs and old high yielding varieties (OHYVs) in each yield group, making the size of operational holding of a higher yield group smaller than that of a lower yield group (see Table 1-3). Here we find one of the most important and interesting pictures of the production situation after the introduction of high yielding varieties.

The second problem of paddy production in Sri Lanka has to be reviewed from institutional aspects, especially with reference to the present tenure system.

At present the paddy sector in this country is outside the Land Reform Act except for a small number of landlords whose paddy holdings are above 25 acres, and it seems to be broadly acknowledged by policy makers and government officers that no actual tenurial problems seriously hamper the drive towards self-sufficiency in rice. Most of them still seems to think that the more important institutional arrangement for the paddy sector is the reconstruction of cooperatives and banking systems through which all required credit, loans, fertilizer and agro-chemicals could be made smoothly available to cultivators. There is no doubt that the institutional re-construction of these areas is indispensable, but we must pose the question: "without improvements to the present tenure system, is it really possible to encourage tenant cultivators who occupy quite a large part of the land to push paddy production?"

Table 1-2: Yield Per Acre of Maha Paddy and Water Conditions during Season - Hambantota District - 1971 - 1972

Yield/ ac in bu Maha Paddy	No of farms	Av.Yield per acre of Maha Paddy	Number of Farms Classified According to Water Conditions							
			Land Prep.and Sowing Stage				Flowering Stage			
			Good	Fair	Poor	Total	Good	Fair	Poor	Total
- 20	47	8.39 bu	29	10	8	47	15	7	25	47
(%)	(30.7)		(61.7)	(21.3)	(17.0)	(100.0)	(31.9)	(14.9)	(53.2)	(100.0)
20-40	53	31.29	37	11	5	53	29	11	13	53
(%)	(34.6)		(69.8)	(20.8)	(9.4)	(100.0)	(54.7)	(20.8)	(24.5)	(100.0)
40-60	30	55.77	24	3	3	30	20	6	4	30
(%)	(19.6)		(80.0)	(10.0)	(10.0)	(100.0)	(66.7)	(20.0)	(13.3)	(100.0)
60 -	23	81.34	17	5	1	23	18	3	2	23
(%)	(15.1)		(73.9)	(21.7)	(4.4)	(100.0)	(78.3)	(13.0)	(8.7)	(100.0)
Av.	153	32.84	107	29	17	153	82	27	44	153
(%)	(100.0)		(69.9)	(19.0)	(11.1)	(100.0)	(53.6)	(17.6)	(28.8)	(100.0)

Table 1-3: Yield Per Acre of Maha Paddy and Average Area Sown under Different Varieties per Farm - Hambantota District - 1971-1972

Yield per ac. of Maha Paddy in bu.	No of farms	Av. size of paddy holding per farm	Av. Area Sown under Maha Paddy				Av. Yield of Maha Paddy in Bushels
			NHYVs	OHYVs	TRAD.	TOTAL	
- 20	47	5.19	0.88	2.74	0.27	4.32	8.39
			(20.4)	(73.3)	(6.3)	(100.0)	
20-40	53	4.36	1.35	2.32	0.25	3.92	31.29
			(34.4)	(59.2)	(6.4)	(100.0)	
40-60	30	4.78	31.5	0.88	0.10	4.13	55.70
			(76.3)	(21.3)	(2.4)	(100.0)	
60-	23	3.89	2.77	0.98	0.05	3.80	81.34
			(72.9)	(25.8)	(1.3)	(100.0)	

Before analysing the tenurial situation of paddy cultivators, it could be assumed that a cultivator who possesses land has better chances of applying more inputs and of obtaining a higher yield than a tenant cultivator, because he requires no payments of land rent or a crop share. In Sri Lanka the main characteristic of the tenurial arrangements between landlord and tenant in the paddy sector may be summarised as "share-cropping with the rent ratios varying between 25 and 50 per cent of the produce". In most wet and intermediate zone districts where the size of operational holding is small but a yield from year to year is relatively more stable than in most dry zone districts, a tenant cultivator usually pays 50 per cent of harvested paddy to the landlord, while the latter supplies 50 per cent of required seed paddy, fertilizer and agro-chemicals to his tenant as collateral help. In most dry-zone districts, on the other hand, where the size of holding is bigger but yields fluctuate from year to year depending on rainfall, a tenant pays 25 per cent of the produce to the landlord, but the latter offers no collateral help to the farmer. From the above description, we could say that a tenant cultivator in the dry zone is less oppressed by the share-cropping system even without collateral help from his landlord. If so, we also could expect a high rate of progress from the former group. But if the difference in the ratios of crop shares in these two agro-climatic zones is in fact nominal and if 25 percent of the crop share exerts a heavy pressure to a tenant cultivator preventing him from intensive application of labour and inputs, this ratio has also to be considered in relation to possible 'rent regulation' and 'land to the tiller' policies.

Let us examine how the present sharecropping seriously affects the economic status of tenant cultivators in both dry and wet zone districts using our recently completed 'Cost of Production Study'.

Table 1-4 indicates gross returns, farm expenses and farm family earnings per acre of paddy under owner cultivators in Polonnaruwa and Kandy Districts. If we assume that all the cultivators in this table are tenant cultivators who produce the same amount of paddy per acre applying the same amount of labour inputs, we get a quite a different picture from that of the owner cultivators' in terms of farm expenses and earnings. The tenurial arrangements in these two districts were explained with reference to wet and dry zones. As indicated in Table 1-5 land rent figures are the biggest item of farm expenses, and as such restrict and reduce farm earnings to extremely low levels - only Rs. 60,000 in Polonnaruwa and Rs.145.00 in Kandy. This picture may suggest the following socio-economic situation of tenant cultivators in this country.

Table 1-4: Gross Returns, Expenses and Family Farm Earning per acre of Paddy under Owner-Cultivator - Yala 1972

	Agro-climatic Zone	No of farms	Average size of operational holding under paddy	Av.Yield per ac in bu.	Per Acre in Bu		
					Gross Returns	Expenses	Family Farm Earnings
Polonnaruwa	Dry Zone	16	4.09 ac.	75.8	1,061.20	733.05	328.15
Kandy	Wet Zone	24	1.31	71.7	1,003.80	648.80	355.00

1. A tenant cultivator cannot adopt the common cultural practices widely found among owner cultivators, because even if he produces as much as owner cultivators in terms of yield per acre, his farm earnings after the deduction of land rent are negligible or negative as indicated in Table 1-5.
2. Therefore a tenant cultivator in the dry zone as well as in the wet zone and intermediate zones has to reduce farm expenses both in cash and in kind to ensure returns to family labour, and this unsatisfactory situation may force him to make his farming more extensive in terms of hired labour and input application than in an owner cultivator, thus dropping his yield per unit to a lower level. Alternatively the tenant may have to make his size of holding smaller than that of the owner-cultivator.

Table 1-5: Gross Returns, Expenses and Family Farm
Earnings per Acre of Paddy under
Tenant-Cultivator - Yala 1972

	Nof of farms	Per Acre in Bushels			
		Gross Returns	Farm Expenses Expenses excluding land rent	Land Rent	Family Farm Earnings
Polonnaruwa	16	1,061.20	733.05	265.30	62.85
Kandy	24	1,003.80	648.80	501.90	-146.90

The above is a hypothetical framework formulated from the research findings of our 'Cost of Production Study - Yala 1972'. If this is accepted together with the first hypothesis (-the crucial role of water supply) uneven levels of productivity and incomes among cultivators as well as the relatively low level of living generally found in the paddy sector of this country are the result of agrarian conditions where a combination of these two environmental and social factors determines the resource use pattern of each individual peasant farm. When this type of socio-economic situation pre-dominates in a rural area, the classification of cultivators on the basis of the size of paddy holding could not give any definite picture of rural structure for the present analysis. For example, in Table 1-6 156 paddy cultivators are classified according to the size of holding, but this table indicates only that the ratio of tenant land in a larger size group is bigger than in a smaller size group; there is no relationship between the size of holding and the yield of paddy per acre.

The analysis in the next section, therefore, has been done with a different approach which clarifies the relationship between the size of holding and the tenurial status of cultivators.

Table 1-6: Size of Operational Paddy Holding, Ratio of Tenant Land and Yield of Paddy Per Acre, Hambantota District, 1971 - 1972 Maha

Size of operational paddy holding in acs.	No of farms	Av. size of paddy land under operation in acres				Av. area sown under Maha paddy in acs.				Yield per ac. in bushels
		Owned or allotted	Rented in	Others	Total	NHYVs	OHYVs	Trad.	Total	
-2.00	28	0.84	0.59	0.05	1.48	0.31	1.04	0.10	1.45	31.98
%		(56.8)	(39.9)	(13.3)	(100.0)	(21.4)	(71.7)	(6.9)	(100.0)	
2.00-4.00	52	1.00	1.92	0.06	2.98	1.26	1.19	0.19	2.64	30.28
%		(33.7)	(64.2)	(2.1)	(100.0)	(47.7)	(45.1)	(7.2)	(100.0)	
4.00-6.00	49	0.91	4.17	-	5.08	2.27	2.25	0.20	4.72	34.29
%		(17.9)	(82.1)	(-)	(100.0)	(48.1)	(47.7)	(4.2)	(100.0)	
6.00	27	2.53	6.81	0.30	9.64	3.35	4.01	1.01	8.37	33.25
%		(26.2)	(70.6)	(3.2)	(100.0)	(40.0)	(47.9)	(12.1)	(100.0)	
Av.	156	1.21	3.23	0.07	4.51	1.77	1.99	0.22	4.08	32.84
%		(26.8)	(71.6)	(1.6)	(100.0)	(43.4)	(48.8)	(7.8)	(100.0)	

I. THE SIZE OF FARM ECONOMY AND THE EFFICIENCY OF PRODUCTION AMONG CULTIVATORS WITH DIFFERENT TENURIAL STATUS:

Our approach to the analysis of the agrarian situation in the paddy sector begins by examining the relationship between the tenurial status, the size of economy and the efficiency of production among cultivators.

In Table 1-2, 144 cultivators in Hambantota District are classified on the basis of their tenurial status and the size of paddy holding. In this Table the following criteria were used to classify cultivators.

1. Tenant cultivator (T): A cultivator whose entire paddy land under operation is tenant land and who does not have any paddy land which is rented/leased out.
2. Owner cultivator (O): A cultivator whose entire paddy land under operation belongs to him and who does not have any paddy land which is rented/leased out.
3. Tenant-owner cultivator (TO): A cultivator in whose case more than 50 per cent of paddy land under operation is tenant land and who does not have any paddy land which is rented/leased out, and
4. Owner-tenant cultivator (OT): A cultivator in whose case more than 50 per cent of paddy land under operation belongs to his ownership and who does not have any paddy land which is rented/leased out.

According to this Table the size of operation paddy holding in acres of Group T is larger than that of Group O, while the yield per acre of both Maha and Yala paddy of the Group T is much less than that of the latter group. But no significant difference in the relative percentages of the areas under the three major groups of varieties were found between these tenurial groups. The ratio of the area under NHYVs in Yala 1972 in all four groups was larger than that in Maha 1971/72. In the absence of other reasons the difference appears mainly due to the additional five to six months between Maha 1971/72 and Yala 1972. All NHYVs except IR varieties became available to cultivators only from Yala 1971. Thus the high percentage of NHYVs in Yala 1972 may suggest that the rate of the diffusion of NHYVs in Sri Lanka during this one year period was particularly high.

Table 2-1: Tenurial Status of Farmers, Size of Operational Paddy Holding and Yield per Acre

Size of paddy holding in acs.	No of farms (1)	Size of Paddy holdings under operation acres			Area sown under Maha Paddy per farm in acres			
		Owned or all-otted	Rented	Total	NHYVs %	OHYVs %	TRAD. %	TOTAL %
I. TENANT CULTIVATORS								
- 2.00	7	-	1.43	1.43	0.55	0.61	0.21	1.37
%					(40.2)	(44.5)	(15.3)	(100.0)
2.00-4.00	26	-	3.01	3.01	1.68	1.21	0.01	2.89
%					(58.1)	(41.9)	(-)	(100.0)
4.00-6.00	32	-	5.25	5.25	2.10	2.63	0.14	4.87
%					(43.1)	(54.0)	(2.9)	(100.0)
6.00-	12	-	9.23	9.23	2.83	3.13	1.65	8.61
%					(32.9)	(36.4)	(30.7)	(100.0)
Av.	77	-	4.77	4.77	2.35	2.36	0.39	5.10
%					(41.6)	(46.3)	(7.6)	(100.0)
II. OWNER CULTIVATORS								
- 2.00	12	1.35	-	1.35	0.21	1.06	-	1.27
%					(16.5)	(83.7)	-	(100.0)
2.00-6.00	13	3.04	-	3.04	1.46	0.88	0.35	2.69
%					(54.3)	(32.7)	(13.0)	(100.0)
4.00-6.00	7	5.71	-	5.71	2.07	2.71	-	4.78
%					(43.3)	(57.0)	(-)	(100.0)
Av.	32	2.99	-	2.9	1.20	1.44	0.15	2.79
%					(43.0)	(51.6)	(5.4)	(100.0)

Yield per ac. of Maha paddy in bu.	No of farms which sowed Yala Paddy (2)	% (2) is of (1)	Area sown under Yala paddy per farm in acres				Yield per pf Yala Paddy in bu.
			NHYVs %	OHYVs %	TRAD. %	TOTAL %	
41.32	6	85.7	0.54 (41.2)	0.58 (44.3)	0.19 (14.5)	1.31 (100.0)	30.92
43.95	19	73.1	1.34 (46.7)	0.82 (28.6)	0.71 (24.7)	2.87 (100.0)	19.95
34.97	21	65.6	3.30 (75.0)	0.94 (21.4)	0.16 (3.6)	4.40 (100.0)	16.67
29.62	11	91.4	2.41 (66.4)	1.22 (33.6)	- (-)	3.63 (100.0)	31.11
35.89	57	74.0	2.20 (64.0)	0.92 (26.7)	0.32 (9.3)	3.44 (100.0)	20.98
42.39	10	83.3	0.28 (24.8)	0.85 (75.2)	- (-)	1.13 (100.0)	25.13
47.78	11	84.6	2.14 (82.3)	0.39 (15.0)	0.7 (2.7)	2.60 (100.0)	48.52
32.70	6	85.7	3.08 (55.2)	2.50 (44.8)	- (-)	5.58 (100.0)	42.62
40.60	27	84.4	1.66 (61.0)	1.03 (37.9)	0.03 (1.1)	2.72 (100.0)	42.19

The ratio of the areas under three major groups of varieties among the four tenurial groups seems to be different depending on the size of holding in each group. The smaller farms below four acres in T, TO and OT groups had relatively bigger ratios of either OHYVs or traditional varieties (TVs) or both. Since a traditional variety usually has a stronger resistance to drought than any of NHYVs, these relatively high ratios of OHYVs and TVs on smaller farms in T, TO and OT groups is examined in the latter part of this study.

In Table 2-2 the relationship between the tenurial status of cultivators and size of farm economy^{1/} of each group is found.

Although there are many ways to indicate the size of farm economy the following two measures were used in this Table:

1. the size of holding in acres under operation; (AUO) and
2. the annual amount of paddy produced in bushels (AAPP)

The size of economy of Group O in terms of both AUO and AAPP, was smaller than that of Group T. But after the deduction of 25 per cent of crop shares, paid to the landlords from the AAPP of T, TO and OT groups, the size of economy of Group O in terms of the annual amount of disposable paddy (AADP) becomes the biggest among the groups, and at the same time the difference of AADP among other three tenurial groups, i.e. T, TO and OT, becomes very small.

Since the cultivator who belongs to T, TO and OT groups usually feel that their actual size of economy is decided on the basis of AADP instead of either AUO or AAPP, the difference between AAPP and AADP at each group is very important. For example, the size of holding of Group T is about 38 per cent larger than Group O, but the difference of AAPP among these two groups becomes only 11 per cent because of a lower yield per acre of Group T and after the deduction of land rent AADP of this group becomes smaller than Group O.

1/ In considering 'peasant economy' the term 'farm business' is less appropriate.

Table 2-2: Tenurial Status of Cultivators and
Size of Farm Economy

Tenurial status	No of farms	Av.size of paddy holdings in acres under operation (AUO)		Size of Farm Economy					
				Annual amt.of paddy produced in bu.per farm (AAPP)				Annual amt.of dispo- sable paddy after deduction of land rent (AADP)	
		Acres	Index	Maha	Yala	Total	In- dex	Bushels	Index
T	27	4.77	100.0	183.04	53.41	236.45	100.0	177.34	100.0
O	32	2.99	62.6	113.27	96.85	210.12	89.0	210.12	118.5
TO	18	3.85	80.7	160.96	58.70	219.66	93.1	170.41	96.1
OT	16	4.98	104.4	119.87	66.65	186.52	79.1	167.68	94.6

THE RELATIONSHIP BETWEEN WATER SUPPLY AND
PRODUCTIVITY OF LAND AMONG CULTIVATORS
WITH DIFFERENT TENURIAL STATUS.

Generally, a paddy cultivator continues his production under a specific combination of the two factors of tenurial status and water conditions on his paddy field. The presence of these two factors determines the resource use patterns and the efficiency of production at each individual farm. From this point of view, Table 2-1 in Section II must be modified combining the tenurial status of a cultivator with the irrigation scheme in which his paddy land is located.

In Table 3-1 all cultivators of T and O groups are classified into three sub-groups on the basis of irrigation schemes. The following are important findings from this table.

1. For both T and O farmers, the average size of holding among the three sub-groups is larger in the major irrigation scheme; it is twice as large as the rainfed.
2. The yield of Maha Paddy per acre in both T and O groups is the highest in the major schemes, less in the minor schemes, and lowest in the rainfed areas.
3. The yield of Yala Paddy per acre in different irrigation schemes has a similar performance to that of Maha paddy, but its yield difference among group T is not as large as in group O.
4. The following features exist among the size of holdings, yields per acre, and the size of economies in terms of AADP, between T and O groups which are located in the same irrigation scheme, whether major, minor, or rainfed.

	Size of holding in acres	Yield/acres		Size of Economy in AADP
		Maha	Yala	
Major Scheme	T > 0	T < 0	T < 0	T < 0
Minor Scheme	T > 0	T < 0	T < 0	T < 0
Rainfed Area	T > 0	T < 0	T < 0	T < 0

Since no big difference of the ratios of the areas under NHYVs were found in Table 3-1 among the three irrigation schemes of group T, the cultivators of this tenurial group were re-classified into the two sub-groups on the basis of a yield of Maha Paddy per acre (see Table 3-2).

In this Table the following two features are found in both the major and minor schemes.

1. The average size of holding in acres under operation (AUO) of the group of cultivators who have a higher yield, is smaller than that of the group of cultivators whose yield is lower.
2. The ratio of the area under NHYVs in a higher yield group is much bigger than that of a lower yield group.

If the characteristics described in the foregoing paragraphs are widely found in both major and minor irrigation schemes, water supply to each farm must be under different conditions either from field to field or from cultivator to cultivator depending on the distance from an irrigation channel or the topography of an area. Indeed water conditions in the group of owner cultivators during the flowering stage of 1971/72 Maha paddy in the Hambantota District were not only different even within the same irrigation scheme, but also varied in the different schemes (see Table 3-3). For example 50 per cent of the owner cultivators in the major schemes had their field well irrigated during this stage, while 33.3 per cent had fair conditions and the rest had poor conditions.

Table 3-1: Classification of Cultivators according to Tenurial Status and Irrigation Scheme, and related Productivity of Paddy Land.

Tenurial status of cultivator	Irrigation Scheme to which cultivator belongs	No of farms (1)	Operational holding per farm in acres	Area sown under Maha Paddy per farm in acres			
				NHYVs	OHYVs	TRAD.	TOTAL
T	Major	43	5.16	2.37	2.10	0.52	4.99
				(47.5)	(42.1)	(10.4)	(100.0)
-do-	Minor	22	4.59	1.68	2.11	0.16	3.95
				(42.5)	(53.4)	(4.1)	(100.0)
-do-	Rainfed	5	2.33	0.90	1.33	-	2.23
				(40.4)	(59.6)	(-)	(100.0)
O	Major	12	3.83	1.13	2.44	0.25	3.82
				(29.6)	(63.9)	(6.5)	(100.0)
-do-	Minor	15	2.06	0.80	1.06	-	1.86
				(47.0)	(57.0)	(-)	(100.0)
-do-	Rainfed	5	1.90	-	0.78	0.90	1.68
				(-)	(46.4)	(53.6)	(100.0)

Yield per acre of Maha Paddy in bu.	No of farms which grow Yala Paddy (2)	% (2) is of (1)	Average acre sown under Yala Paddy in acres	Yield per acre of of Yala Paddy in bushels	Annual amount of Paddy produced per farm in bushels	Annual amount of Paddy Pro- duced after deduction of land rent in bushels
41.80	31	72.1	4.22	24.50	283.12	212.34
32.42	14	63.6	2.09	23.19	158.89	119.17
17.96	4	80.0	2.35	6.17	53.45	40.09
53.67	12	100.0	3.90	50.26	401.03	401.03
41.51	9	60.0	1.88	26.92	100.58	100.58
19.82	4	80.0	1.66	18.83	65.36	65.36

Table 3-2: Classification of Tenant-Cultivators
According to Yield per Acre of Maha Paddy

Yield per acre of Maha Paddy in bushels	No of farms	Average Size of operational paddy holdings in ac.	Average area sown under Maha Paddy per farm in ac.			
			NHYVs	OHYVS	TRAD.	TOTAL
<u>Major Irrigation Scheme</u>						
-40.0	19	5.39	1.00	3.05	1.24	5.29
%			(18.9)	(57.7)	(23.4)	(100.0)
40.0-	24	4.98	3.46	1.35	-	4.81
%			(71.9)	(18.1)	(-)	(100.0)
Average	43	5.16	2.37	2.10	0.52	4.99
%			(47.5)	(42.1)	(10.4)	(100.0)
<u>Minor Irrigation Scheme</u>						
-40.0	7	4.70	1.11	2.63	0.23	3.97
%			(28.0)	(66.3)	(5.7)	(100.0)
40.0-	15	4.35	2.89	1.00	-	3.89
%			(74.3)	(25.7)	(-)	(100.0)
Average	22	4.59	1.68	2.11	0.16	3.95
%			(42.5)	(53.4)	(4.1)	(100.0)

Yield per acre of Maha Paddy in bushels	No of farms which grow Yala Paddy	Average area sown under Yala Paddy in acres	Yield per acre of Yala Paddy in bushels
22.15	13	4.38	20.40
58.61	18	4.10	27.66
41.80	31	4.22	24.50
21.44	7	3.02	19.54
56.52	6	3.65	27.03
32.42	13	2.09	23.19

Table 3-3: Difference of Water Supply among Owner
Cultivator - 1971/72 Maha

Irrigation Scheme	No of farms	Yield of Maha paddy per ac. in bu.	Water supply during flowering stage				No of farms which grew Yala Paddy	Yield of Yala Paddy per acre in bu.
			Good	Fair	Poor	Total		
Major Scheme	12	53.67	6	4	2	12	12	50.26
Minor Scheme	10	41.51	2	5	3	10	9	26.92
Rainfed Area	5	19.82	-	2	3	5	4	18.83

Thus, the difference of productivity of land among cultivators who have the same tenurial status in the same irrigation scheme has been mainly caused by irregularity of the condition of water supply. This is also true of the difference of productivity of land in T group.

IV.

THE DIFFERENCE IN RESOURCE USE PATTERNS AND INCOMES AMONG CULTIVATORS WITH DIFFERENT TENURIAL STATUS.

The Yala 1972 was one of the worst crop season in the Hambantota District for the last ten years. In spite of a general crop failure throughout the district, there was still a very wide difference in yields per acre of Yala Paddy between T and O groups even in the same irrigation scheme. According to Table 4-1 owner cultivators in all three sub-groups had a higher yield than that of tenant cultivators. The most interesting and important feature of the above difference could be found by a comparison of T and O groups located in the major irrigation schemes. The following are the findings of this aspect from Table 4-1.

1. The average yield of Yala Paddy per acre in group O was more than twice as big as group T corresponding to (1-i) and (1-ii) described below.
 - (1-i)) Per acre application of hired labour and fertilizer in group O was much bigger than that of group T. A very big difference was found especially in per acre fertilizer application.
 - (1-ii) The cash share of farm expenses in group O was much bigger than that of group T, but per acre total expenses of the latter was much bigger than that of the former group.
2. The above mentioned difference of the yield and related farm expenses caused a big difference in the family farm earnings between these two tenurial groups, i.e. family farm earnings per acre in group O were Rs. 315/- against - Rs.164/- in group T.

There are several possible reasons why the cultivators in group T usually have to bear more expenses in kind than those in group O. Among them the following might be considered the most important.

Table 4-1: Classification of Cultivators According to
Tenurial Status and Irrigation Scheme,
Yala 1972, Hambantota District.

Tenurial status and irrigation scheme	No of farms	Av.size of paddy holding in ac.	Av.Area ¹ sown under Yala Paddy in bu.	Av.Yield per acre of Yala Paddy in bu.	No of days of H.L.per acre of Yala paddy ^{1/}
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Tenant Cultivators:

Major scheme	31	4.77	4.18	27.74	19.2
Minor scheme	13	3.96	3.15	26.00	14.1
Rainfed	4	2.47	2.35	6.17	17.0
Av.of T.C.	48	4.00	3.74	24.10	18.0

Owner Cultivator:

Major scheme	10	4.00	3.70	52.97	25.6
Minor scheme	7	2.38	2.13	30.56	15.6
Rainfed	4	2.06	1.66	18.86	9.4
Av.of O.C.	21	3.09	2.80	43.21	21.2

Note: ^{1/} H.L. - Hired Labour

Note: ^{2/} Family farm earnings = The value of Yala Paddy Produced - Farm Expenses

Fertilizer applied per acre of Yala Paddy in Rs.	Farm Expenses per acre of Yala Paddy in Rupees			Family Farm earnings per acre of Yala paddy in Rupees <u>2/</u>
	In Cash	In Kind	Total	
34.42	230.28	322.42	552.70	- 164.34
13.83	248.04	133.14	381.18	- 17.18
11.23	188.84	19.48	207.32	- 120.94
24.23	232.16	139.80	371.96	- 34.56
53.00	392.16	34.72	426.88	314.70
32.30	219.02	23.28	247.30	180.54
10.69	160.11	24.78	184.89	79.15
41.64	304.44	31.92	336.36	268.58

Table 4-2: Tenurial Status of Cultivators, Composition of Household Members and Incomes from Other Crops and Outside Employment 1971 - 1972

Tenurial status	No of farms	Total house-hold members per farm	Household Members Over 14 Years Old				Total
			Members engaged only in their own farms	Members engaged in their own farm work as well as outside employment	Members engaged only in outside employment	Others ^{1/}	
T	77	7.7	3.2	0.8	0.2	0.2	4.4
O	32	6.3	2.9	0.7	0.2	0.3	4.1
TO	18	7.7	3.5	0.6	0.2	0.2	4.5
OT	16	7.4	3.0	0.7	0.4	0.2	4.3

Note: 1/ Include unemployed and students

Incomes per Farm in Rupees From:			
Other Crops than Paddy	Livestock	Outside Employment	Total
113.18	12.86	123.18	249.22
437.30	33.93	496.03	967.26
231.78	1.44	366.67	599.89
214.88	32.19	608.75	855.82

Table 4-3: Yield/ac. of Maha Paddy and Major Source of Power for Land Preparation, Hambantota District, 1972

Yield/ ac Maha Paddy in Bu.	No of farms	Number of farms which used 2W,4W and Buffaloes for land preparation					Average size of Paddy Holding
		Two wheel tractor	Four wheel tractor	Buffa- loes	Manual labour	Total	
-20.0 (%)	47	22 (46.8)	10 (21.3)	12 (25.5)	3 (6.4)	47 (100.0)	5.19
20.0- 40.0 (%)	53	21 (39.6)	16 (30.2)	10 (18.9)	6 (11.3)	53 (100.0)	4.36
40.0- 60.0 (%)	30	17.5 (14.5)	7.5 (25.0)	5 (16.7)	- (-)	30 (100.0)	4.78
60.0- (%)	23	14.5 (62.9)	6.5 (28.3)	1 (4.4)	1 (4.4)	23 (100.0)	3.78
Av. Tot al (%)	153	75 (49.0)	40 (26.1)	28 (18.1)	10 (6.5)	153 (100.0)	4.51

Table 4-4: Tenurial Status of Cultivators with Two/Four Wheel Tractors and Buffaloes, 1972 - Hambantota.

Tenurial status of cultivators	No of farms	No of farms which have			Total No of 2W, 4W and Buffaloes, which belong to each tenurial group		
		2W Trac- tors	4W Trac- tors	Buffaloes	2W	4W	Buffaloes
T	77	2.5	-	6	3.5	-	38
O	32	3	1	2	5	1	23
RO	18	2	-	1	2	-	24
OT	16	1	-	2	1	-	33
TOTAL	143	8.5	1	10	11.5	1	118

One reason is, needless to mention, due to the practice of crop share, and the other should be due to poor economic conditions of this group. As already examined, the yield of both Maha and Yala Paddy of this group is usually much lower than that of Group O, and their income from other crops and livestock as well as outside employment are the smallest among the four tenurial groups (see Table 4-2). Smaller incomes of group T from high-land crops and outside employment result mainly for their social status by virtue of the fact that their size of holdings under highland is smaller than other groups (see Table 4-2) and most of their outside jobs are non-professional.

If this is a general characteristic of group T in comparison to other tenurial groups, the economic status of this group among paddy cultivators is at the bottom of this scale of rural poverty, and if this status is accepted, it could be safely assumed that the household economy of most cultivators in this group is under the vicious circle. Many of them are defaulters of loans and credit, and most of them cannot receive any cultivation loans for the next crop season from a Co-operative or Rural Bank. Thus, when they want to hire labourers for field operations or get fertilizer and agro-chemicals, they cannot pay in cash at the required time. Hence payment for labourers and traders, from whom the necessary requirements are obtained, are in paddy with interests after harvest.

In addition we have also to mention that the present pattern of distribution of tractors and buffaloes among cultivators makes payment in kind more popular by a poor group. According to Table 4-3, ploughing operations of 75 percent of Hambantota Paddy cultivators are done by two-wheel or four-wheel tractors, 18 percent by buffaloes, and the rest by manmooties. But very few cultivators own tractors and buffaloes (see Table 4-4). This suggests that tractor owners are non-cultivators, i.e. traders and relatively bigger landlords, and buffaloes are owned by a small number of cultivators who are in a position to use land and water for grazing. For example, among 77 tenant cultivators in Table 4-4, only six have buffaloes, but the total number of buffaloes belonging to them is 38. The same feature of buffalo ownership is found among other tenurial groups. This pattern of buffalo distribution means that the majority of cultivators cannot keep or are not interested in keeping buffaloes, on the other hand at ploughing and threshing times they must hire tractors or at least buffaloes for payment in kind. This is especially true of the cultivators in Group T.

Therefore the difference in resource use patterns and earnings among cultivators with different tenurial status is a matter beyond their abilities and aptitudes. It is a social fact that cultivators are governed by their position in rural society.

CONCLUSION

The aim of this paper was to find the difference in productivity of land among Paddy cultivators in relation to their tenurial status and environment conditions, particularly irrigation.

It was found by analysis of the Hambantota District that there is a very big difference in yield per acre, farm expenses and related family farm earnings between T and O groups, even in the same irrigation scheme. In fact in the major irrigation schemes yields per acre of 1971/72 Maha and 1972 Yala paddy of group T were 12 and 24 bushels less than those of group O respectively (see Table 3-1). As far as Hambantota paddy cultivators are concerned, their yield of paddy per acre has been mainly determined by their tenurial status in each irrigation scheme, and it appears that there is little room for tenant cultivators to apply themselves for increasing the efficiency of production. Further, the fact that the holding size of this tenurial group is usually bigger and that the ratio of tenants to owner cultivators is 3.5 to 1.0 (see also Table 3-1), one could easily imagine the potential increased contribution to national output by this group in the major irrigation schemes under adequate rent regulation.

It is suggested that a "Rent Regulation Policy" combined with strong security of tenancy rights against evictions is necessary, both for increasing agricultural productivity and for bringing about social stability, as an immediate measure. The legislation is in the Paddy Lands Act and its Amendments; implementation is still not effective enough.

There could be two approaches to increase the agricultural productivity in the paddy sector where peasant farming is dominant.

Land is the basic resource of agricultural production. Therefore, its ownership pattern is the most crucial factor affecting existing land utilisation and national output. We tried to establish by the analysis of Hambantota Paddy cultivators, that the present tenurial arrangements act as the fundamental obstacles to an increase in production efficiency. Our analysis, limited though it is to one district, could usefully be applied to many dry zone districts except perhaps those which are dominated by colonisation schemes.

CASE STUDY: FRAGMENTATION OF PADDY LAND
IN A CLUSTER OF FIVE PURANA VILLAGES IN
ANURADHAPURA DISTRICT, SRI LANKA

1. INTRODUCTION

1. Definition of terms

Fragmentation refers to the break-up of land into small parcels; this study specifically refers to irrigated land cultivated with paddy.

Cluster refers to a group of villages closely linked to each other physically, socially and culturally. Usually the villages in a "cluster" are connected by close kinship ties and are inter-dependent economically.

The term *Purana* means old or traditional, and is often used to distinguish old traditional villages from new villages, particularly those formed under Settlement Schemes. The main components of a "purana" village are the village tank (*Wewa*), the residential highland (*Gangodella*), the stretch of paddy fields below the village tank (*Yaya*), and the chena land (*Hena*). The *chena* refers to non-irrigable highland encroached by the villagers, usually State Forests, which are cleared by burning and cultivated with grains, pulses, tobacco or vegetables. Each *purana village* has its own *chena territory* and *rights of cultivation* of specified chena land are respected by other villagers.

In recent years due to the rapid increase of population in the purana villages, there has been considerable pressure on chena land. This pressure may be gauged by the distance from the village of lands cultivated and the regularity of cultivation. (With less pressure the chena would be cultivated less frequently).

1. The villages in the cluster

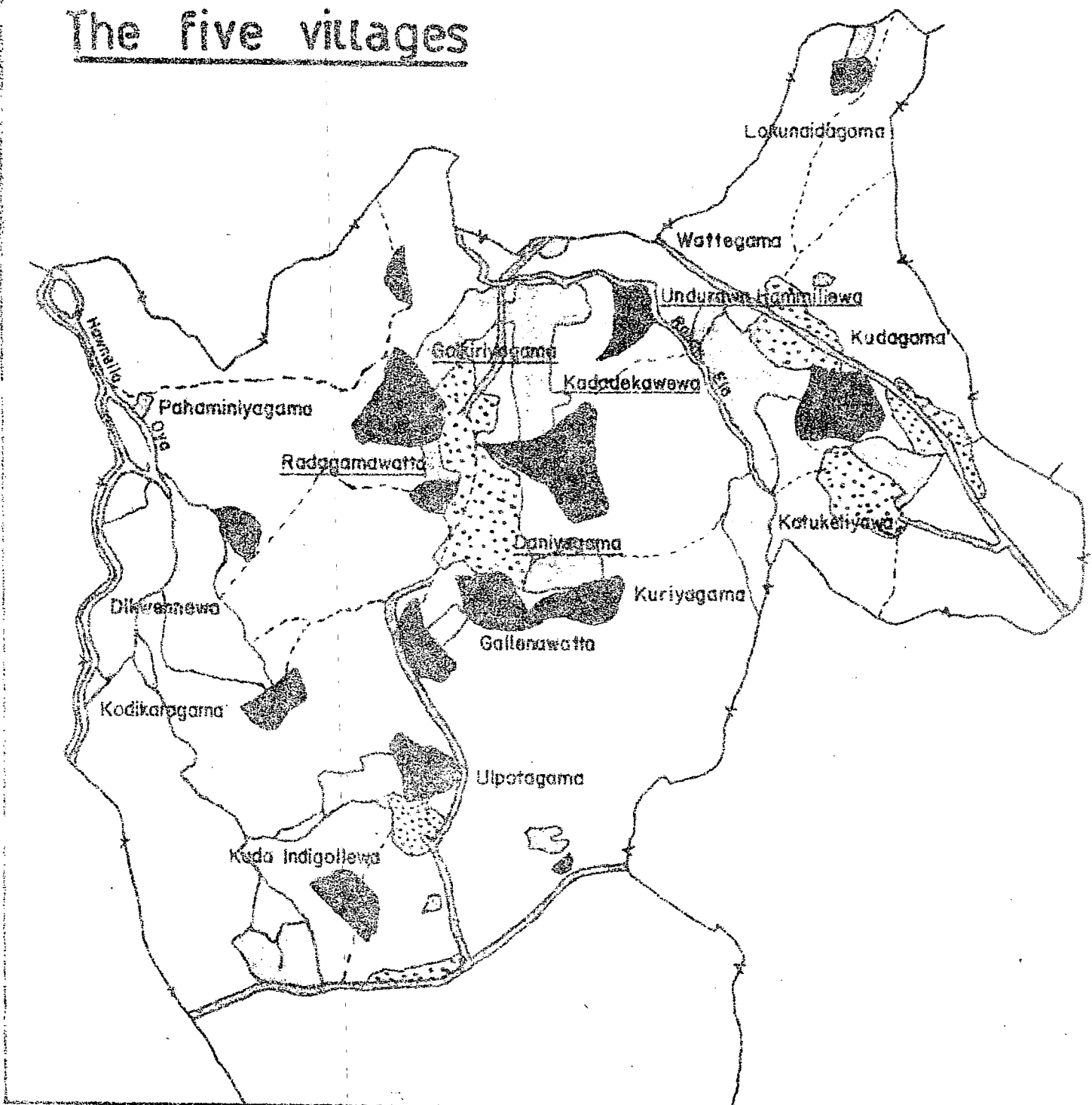
In the cluster referred to in this study there are five purana villages, viz:

- (a) Galkiriyagama
- (b) Unduruwa Halmillawewa
- (c) Kadadekawewa
- (d) Radagamawatta
- (e) Deniyagama

It should be noted that each village gets its name from the village tank. (Refer map indicating the location etc., of the five villages).

LOCATION MAP:

The five villages



Scale — Two inches To One Mile

Paddy	
Village Garden	
Tank	
Channel	
Road	
Path	
Korale Boundary	

1.2.1 *Galkiriyagama* village

There are two interpretations as to how *Galkiriyagama* got its name. One interpretation is that the first settler in the village originally came from the village of *Galkiriya* (in Kurunegala District), and the settlement he built came to be named *Galkiriyagama* after him. The other interpretation is that *Galkiriyagama* means the "village of the rocky expanse" (*Galkiriya* means "large flat rock").

1.2.2 *Unduruwa Halmillawewa*

The name *Halmillawewa* is a common one for a purana village. The writer is aware of more than a score of villages by this name. *Halmilla* is a popular hardwood tree and *Halmillawewa* literally means the tank with the "Halmilla" trees. The term *Unduruwa* is used as a prefix to *Halmillawewa* and gets its name from the administrative sub-division of Korale of Unduruwa, (or Unduruwa Korale), and is used to distinguish the village from the other villages of the same name. The village of *Unduruwa Halmillawewa* is situated next to the village of *Galkiriyagama*, as seen from the map.

1.2.3 *Kadadekawewa* village

The village of *Kadadekawewa* also gets its name from *Kadadekawewa* tank; the name *Kadadeka* means the "tank of the two breaches". When the tank was constructed originally the bund of the tank got breached in two places (*Kada* means breach or crack, and *Deka* means two). This village is a satellite village of *Galkiriyagama* and is situated in the southeastern fringe of *Galkiriyagama*.

1.2.4 *Radagamawatta* village

The village of *Radagamawatta* is a very small village adjacent to the village of *Kadadekawewa*. The name means the "village of the washermen" (or laundrymen). The washermen are considered an inferior caste and it was customary for most purana villages to have a few such families to wash clothes and to perform ceremonial functions on intimate ceremonial occasions such as, childbirth, puberty, marriage and death, during the Sinhala New Year festivities, and at religious ceremonies.

The small village tank able to irrigate only a few acres of paddy land is located in the village. Actually there are only four acres of paddy land in this village.

Several generations back, the washer caste families 'sold' locally the paddy and highland originally donated by the villagers of *Galkiriyagama* and migrated to the exclusive washer-caste village of *Meewewa*. The ceremonial obligations to the villagers of this cluster are still performed by the washermen who regularly visit the village from *Meewewa*.

2.5 *Daniyagama* village

The village of *Daniyagama* is on the southern fringe of the cluster. The village gets its name from *Danya* meaning grain. Legend has it that a granary was constructed in the village by a Minister named *Wanasinghe* of King Kirthi Sri Rajasinghe.^{1/} The Minister was entrusted by the King to construct a rock temple, close to the present village of *Andiyagala*. The King's Minister *Wanasinghe* built the rock temple (named *Wanasinghe Rajamaha Vihara*, after the Minister who constructed it). He set up a granary at the site of the village of *Daniyagama* to feed the host of craftsmen and labourers who were brought from Kandy for the construction.

2.6 The Cluster

The centre of the cluster is the village of *Galkiriyagama*; there is no doubt that the other villages in the cluster accommodated the overflow from the village of *Galkiriyagama*.

All five villages in the cluster are Sinhala Buddhists and are of the *Goigama* (cultivator) caste. There are close kinship ties between villages in the cluster and the most significant feature is that many villagers own land in several of the five villages in the cluster.

As the oldest and the central village of the cluster, the village of *Galkiriyagama* is the nucleus of social and economic life. The Senior Secondary School, the Cooperative Store, the Paddy Store, the Sub-Post Office, the Central Dispensary, the small shopping centre (two village boutiques and the barber saloon) are all in *Galkiriyagama*. Dry weather roads connect the villages of *Unduruwa*, *Halmillawewa*, *Kadadekawewa*, *Radagamawatta* and *Deniyagama* to *Galkiriyagama*.

3 The Land Tenure System in the "Cluster"

3.1 The Background of the Land Tenure System

The problem of fragmentation of land is closely linked to the traditional patterns of land tenure. According to the traditional land tenure of the *purana villages*, ancestral land is referred to as *pravani land* and ownership is governed by the traditional laws of inheritance where the land owned by both parents is passed down in equal shares or *pangus* to all children. Any child may forego his *pangu* rights by transferring of his own free will his share to another brother, sister or kinsman. Usually *pravani* land is not sold to outsiders by the *purana* villagers.

The ownership of land resulting from allocation of land by the State, by deed or grant, or by outright purchase, is referred to as *sinnakkara*. Prior to the Land Development Ordinance 1935 and subsequent amendments to the Ordinance in 1961 and 1969, allocation of land to peasants was governed by a series of "Land Orders". The Government allocated land to the *purana*

^{1/} King Kirthi Sri Rajasinghe reigned in the Kandy Kingdom from 1747 - 1782 AD.

villagers on grants under these Land Orders. Such allocation of land granted ownership rights to the allottees and was usually referred to as *sinnakkara* lands. As in the case of the *pravani* land, *sinnakkara* land could be passed down to successors.

After the Land Development Ordinance of 1935 and subsequent amendments in 1961 and 1969, State land close to the village was allocated to peasants for village expansion. These lands usually referred to as *Badu Idem* - rented land or *Andawa Idam* - Government land bestowed on the allottees the right of occupation of the land on "the will and pleasure of the Crown". In the case of those lands, the right of succession to the land is confined to one successor to be nominated by the allottee.

The traditional pattern of land tenure under the *pravani* and *sinnakkara* systems greatly favoured fragmentation. For example, if a peasant owned five acres of paddy land and two acres of highland and had five children, the paddy land and the highland would pass down at his death in five equal *pangus* (or shares) to his five children. Each child would then be entitled to one acre of paddy land and $\frac{3}{5}$ acre of highland. There would often be no physical partitioning of each *pangu* and either the land would be unofficially divided or each manages the land in turn, and all five share the produce. At the second generation the original *pangu* would be further sub-divided. In the third generation each *pangu* would be still smaller. A person may own several tiny parcels of land scattered in different parts of the village, thus making up a fragmented holding.

There are a group of villages in the Dry Zone of the same *Warige* (linage or clan) and usually marriages are contracted only from the village of the same *Warige* (linage) the usual form of dowry for a girl is her *pangu* of paddy and highland.

Cultural traditions connected with the institution of marriage have an impact on land tenure. Such a practice is *Awessa* or cross-cousin marriage is popular in the purana villages as the gross *pangu* of the girl does not go to outsiders. It appears that cross cousin marriage has an effect in some measure of consolidation.

1.4

The System of Thattumaru and Kattimaru^{1/}

The systems of *Thattumaru* & *Kattimaru* which operate in most parts of Sri Lanka permit owners to use land together in a way that reduces some adverse effects of land. These two terms

^{1/} For detailed study of these systems in Kalutara District (Western seacoast of Sri Lanka) see I.K. Weerawardene and I. Collonnege: *Thattumaru and Kattimaru Study*, Department of Agrarian Services (Paddy Lands Branch) 1971

Thattumar and *Kattimar* are sometimes used interchangeably and confused by many people as one. Even in the discussion the writer had with village leaders the terms do not appear to be clearly distinguished.

According to the President of the Galkiriyagama Cultivation Committee (a statutory body of elected farmers) the term *Thattu* refers to rotation of the same plot between several owners on an annual basis. For example if two persons own a plot of paddy land one person would cultivate the entire plot during one year and the next owner the following year. However, where there are many owners it is customary for one of them to cultivate the entire plot and to share the produce with the others and here the system of *Thattumar* does not strictly operate. It can therefore be surmised that *Thattumar* operates when there are only a few co-owners.

In the *Kattimar* system if several farmers jointly own several more or less equal plots each owner cultivates each plot in rotation. The President of the Cultivation Committee very succinctly summarized the two systems of land usage. According to him *Thattumar* refers to the rotation of persons in one plot and *Kattimar* the rotation of plots among several owners.

The concept and implementation of the *Thattumar* and the *Kattimar* systems differ in fact from region to region and there is much controversy on the meaning and practical application of the two systems. Whatever the terminology used, the systems appear to have succeeded in diminishing the fragmentation of paddy land and the operation of the paddy holding as an economic and viable unit.

A few instances of the operation of the *Thattumar* and *Kattimar* systems were observed in the cluster and are treated in a separate study.

1.5 The System of *Ande* Cultivation

The term *Ande Cultivator* means "share cropper" or tenant farmer. In almost all the villages in the cluster, cultivation of paddy land or tenant farmers is more the rule than the exception. In many instances the owner of paddy land in the cluster are either women or old men who are unable to cultivate the land. The cultivation is then entrusted to a close relative, who functions as an *Ande* cultivator. Another reason for the popularity of the *Ande* system is that one person invariably owns small plots of paddy land in some or all of the five villages and the owner concentrates on the cultivation of the most fertile parcels of paddy land in his own village. He entrusts the cultivation of his other parcels to *Ande* cultivators - often his relatives. Obligations of the owner cultivator as laid down in the Paddy Lands Act do not operate in the cluster - the arrangement is a very informal and unofficial one between the two relatives who are owner and tenant.

In the Paddy Cultivation Register maintained by the Cultivation Committee, it is the name of the owner who is registered as the cultivator. Usually the tenant gives one half of the produce to the owner after each harvest.^{1/}

1.6 Terminology used in Land measurement

Most farmers in the cluster are not familiar with the terminology used by officials in the measurement of Paddy land such as Acres, Roods and Perches, but talk in terms of *Serua*, *Laha* and *Thimba*. The tables of paddy land measurements used by farmers and officials respectively, follow:

Traditional system of measurement of paddy land		Official measurement of paddy land
6 serus	= 1 laha	40 perches = 1 rood
4 lahas	= 1 thimba	4 roods = 1 acre

The farmer is more conversant in discussing his ownership in terms of *lahas*, the traditional system of paddy land measurement. The writer had the opportunity to clarify the traditional system and to equate it with the official system as follows:

1 seru	=	2.6 perches
1 laha	=	16 "
2 lahas	=	32 "
3 lahas	=	48 "
4 lahas or 1 thimba	=	64 "
2 1/2 thimbhas or 10 lahas	=	160 " or 1 acre

In this study the writer converted the traditional paddy land measurements to the official system of perches, roods and acres.^{2/}

1.7 Cultivation Committees

The Cultivation Committee is a statutory farmers' organisation instituted after the Paddy Lands Act (1956). Each Cultivation Committee has jurisdiction over *wel yayas* (separate stretchers of paddy fields) of several villages. In this cluster there are

^{1/} This is a contravention of the Paddy Lands Act, which legislates for a maximum of one quarter share - the Act does not however provide for the many variations in contribution of landlord and tenant respectively, nor for the social consequences of changing family arrangements!

^{2/} The fact that Cultivation Committees maintain their Registers according to the official system is most helpful.

Two Cultivation Committees, viz: the Galkiriyagama Cultivation Committee (including villages of Radagamawatta and Daniyagama) and the Unduruwa Halmillawewa and Katukitiyaya Cultivation Committee (including the village of Kadadekawewa).

Each cultivation committee consists of twelve members elected by both owner-cultivators and tenant-farmers on an ~~acre~~ basis. The bigger the extent of paddy land the greater the representation in the Cultivation Committee. It is customary to elect the President and Secretary from different villages. It is the responsibility of the Secretary of the Cultivation Committee to maintain the Paddy Lands Register and to collect the "acre levy" (from which he gets a commission). The acre levy is usually Rs.6.00 per acre and the calculation is made in terms of fractions of an acre, e.g. the levy is Rs.3.00 per 1/2 acre and Rs.1.50 per 1/4 acre.

The Cultivation Committee have not had any authority with regard to highland ~~land~~ and no official records of highland cultivation are available with the Committee at present.

2. OBJECTIVE OF THE STUDY

The objective of the study was to gather data on the extent and intensity of fragmentation of paddy land in a typical cluster of purana villages in the dry zone.

3. METHODOLOGY OF STUDY

The technique used in this study was the depth interview method. Depth interviews were had with the President and members of the Galkiriyagama Cultivation Committee, the Secretary and members of the Unduruwa Halmillawewa, Katukeliyawa Cultivation Committee, the former *Vel Vidanees* (Irrigation Overseers) of Galkiriyagama, the *Grama Sevaka* (village extension worker), of No.51 *Tulane* (resident of Galkiriyagama) and the several village leaders.

To supplement the data from the depth interview official records such as the Paddy Lands Register and the Thattumaru and Kattimaru Registers of the two Cultivation Committees, were intensively studied. Records available with the Grama Savaka, particularly with regard to the population and ownership of highland, were used. The Study was undertaken in July 1973.

1/Under the new Agricultural Lands Bill to be presented in late 1973, it is expected that highlands will come together with paddy lands and that the powers of the Cultivation Committee will be increased.

4. THE SELECTION OF THE FIVE VILLAGES

Many field studies undertaken by the writer in the purana villages of the dry zone indicated that the purana village cannot be considered in isolation from other villages. Usually several purana villages are clustered together with close social, economic and kinship ties. The five villages selected for this study viz: Galkiriyagama, Unduruwa Halmillawewa, Kadadekawewa, Radagamawatta and Daniyagama form a natural cluster. In a study undertaken by the Mahaweli Development Board in 1971 two of the five villages in the cluster under study (Galkiriyagama and Kadadekawewa) were considered by the *Study Team* to be *typical purana villages*.

Of the five villages in the cluster the village of Radagamawatta is a small highland village - more a neighbourhood of Galkiriyagama than a separate village. In terms of the problem of fragmentation of paddy land the village of Radagamawatta is not typical as there are only four acres of paddy land in the village. It is included as an integral part of the "cluster", but it is not considered in the discussion of fragmentation.

5. POPULATION CHARACTERISTICS OF THE FIVE VILLAGES IN THE CLUSTER

The distribution of population of the five villages of the "cluster" is given in Table I.

Table 1. Population of the five villages of the cluster - 1972

Name of village	No. of families	Population	Average family size
(a) Galkiriyagama	54	274	5.0
(b) Unduruwa Halmillawewa	20	95	4.7
(c) Kadadekawewa	26	103	4.0
(d) Radagamawatta	33	144	4.4
(e) Daniyagama	29	137	4.7
Total	162	753	4.6

The average family size of the villages in the 'cluster' is similar to most other purana villages in this part of the country. The village of Galkiriyagama - with the largest population is the central village of the cluster.

6. HIGHLAND AND PADDY LAND IN THE CLUSTER

Table 2 indicates the extent of highland and paddy land in the village of the cluster.

Table 2. *Extent of paddy land and highland in the cluster*

Name of village	Paddy land (in acres)	Extent of* Highland (in acres)
Galkiriyagama ..	56	54
Unduruwa Halmillawewa ..	51	72
Kadadekawewa ..	49	23
Radagamawatta ..	4	32
Deniyagama ..	36	28
Total ..	196	209

* Includes *Badu Idam* or land allocated by the state for village expansion.

The highland in the cluster consists of two categories of land: traditional highlands, inherited from ancestral times (usually referred to as *sinnakkara* land) and highland allocated to peasants by the Government under the Village Expansion Scheme. These lands allocated under the Village Expansion Scheme is referred to as *Badu Idam* which literally means "rented out land". (This Study does not cover fragmentation of highland) ^{1/}

7. FRAGMENTATION OF PADDY LAND IN THE CLUSTER

7.1 Characteristics of fragmentation of Paddy Land

Out of the five villages in the cluster, fragmentation of paddy land is evident in four villages, viz: Galkiriyagama, Unduruwa Halmillawewa, Kadadekawewa and Daniyagama. (In the village of Radagamawatta there are only four acres of paddy land irrigated by a small tank, *wew kotawa*).

Table 3, indicates the extent of fragmentation of paddy land. To facilitate a clearer understanding of this problem, the writer uses intervals ranging from below 4 perches of paddy land to 39 perches thereafter larger fractions of an acre at convenient intervals. The average number of parcels per farmer and the average size of parcels are also included in this table. (In the compilation of these averages the village of Radagamawatta has not been taken into consideration)

^{1/} Refer Case Study *Small-holdings of The Coconut Triangle* (Study No.2 ARTI) for joint ownership in highland under coconut

Table 3. Fragmentation of Paddy Land in the Cluster of villages, 1973.

Serial No.	Name of village	No. of farmers in village	No. of acres of Paddy land	less than 1/8 acre				
				below 4 perches	4 - 7 perches	8 - 11 perches	12 - 15 perches	16 - 19 perches
1. Galkiriyagama		94	56	15	18	19	26	35
2. Unduruwa								
	Halmillawewa	89	51	-	-	-	-	27
3. Kadadekawewa		38	49	-	-	4	-	14
4. Daniyagama		59	36	1	-	-	1	8
Total		280	192	16	18	23	27	84

N.B.

The village of Radagamawatta with a total of only 4 acres of paddy land owned by 5 persons has not been included in the table.

20 - 23 perches	24 - 27 perches	28 - 31 perches	32 - 35 perches	36 - 39 perches	1/4 acre below 1/2 ac.	1/2 acre below 3/4 ac.	3/4 acre below 1 acre	1 - 2 acres	Over 2 acres	Total No. of parcels	Average No. of parcels per farmer	Size average parcels in acres
less than 1/4 acre												
10	37	-	29	-	59	15	2	5	1	271	2.8	0.2
-	3	-	56	-	31	28	8	6	-	159	1.7	0.3
1	4	-	29	4	36	32	6	4	-	134	3.5	0.4
2	9	-	38	1	44	15	1	2	-	122	2.0	0.3
13	53	-	152	5	170	90	17	17	1	686	2.4	0.27

The interesting features that emerge from Table 3 are:

- i. 168 parcels (out of the total 686 parcels) or 24.5% in the four villages (Galkiriyagama, Unduruwa Halmillawewa, Kadadekawewa and Daniyagama) are below 1/8 acre.
 - ii. 223 parcels (out of the total 686 parcels) or 32.2% are between 1/8 acre and 1/4 acre. In other words 56.7% of the parcels are below 1/4 acre in extent.
 - iii. 170 parcels (out of the total 686 parcels) or 25% are 1/4 acre and below 1/2 acre. This means that 81% of parcels are below 1/2 acre
 - iv. 90 parcels (out of the total 686 parcels) or 13.1% are 1/2 acre and below 3/4 acre
 - v. 17 parcels (out of the total 686 parcels) or 2.5% are 3/4 acre and below one acre.
- Only 18 parcels (out of the total 686 parcels) or 2.7% are one acre and above.
- There is only one parcel above 2 acres, this is in the Galkiriyagama field.
- vi. Of the 168 parcels below 1/8 acre (or 19 perches) 67.2% (113 parcels) are in the Galkiriyagama field; 16.1% (27 parcels) are in the Unduruwa Halmillawewa field; 10.7% (18 parcels) are in the Kadadekawewa field; and 6.0% (10 parcels) are in the Daniyagama field.
 - vii. The greatest fragmentation of paddy land is in the Galkiriyagama field. This is undoubtedly due to prestige of ownership in this ancestral field, and the owner of even the smallest parcel is reluctant to sell it.
 - viii. The ownership of parcels of paddy land ranges from one parcel to ten parcels. (This is in the Galkiriyagama field).

7.2

The Pattern of Fragmentation of Four Villages
of the Cluster

In Table 4, the distribution of parcels of paddy of four villages in the cluster is considered in respect of each village.

Table 4. Percentage distribution of Parcels of Paddy Land
by size in the Cluster

Size of parcels	Galkiriyagama		Unduruwa Halmillawewa		Kadadeka- wewa		Deniyagama	
	No. of parcels	%	No. of parcels	%	No. of parcels	%	No. of parcels	%
Below 1/8 ac.	113	41.7	27	17.0	18	13.4	10	8.2
1/8 below 1/4	76	28.0	59	37.1	38	28.4	50	41.0
1/4 " 1/2	59	21.8	31	19.5	36	26.8	44	36.1
1/2 " 3/4	15	5.5	28	17.6	32	23.9	15	12.3
3/4 " 1 ac.	2	0.8	8	5.0	6	4.5	1	0.8
1 - 2 acres	5	1.8	6	3.8	4	3.0	2	1.6
Over 2 acres	1	0.4	-	-	-	-	-	-
Total	271	100.0	159	100.0	134	100.0	122	100.0

7.2.1 Galkiriyagama field

In the Galkiriyagama field 113 parcels or 41.7% are below 1/8 acres. Almost 70% of the parcels are below 1/4 acre. 91.5% of the parcels are below 1/2 acre and only 8.5% of the parcels are over 1/2 acre.

7.2.2 Unduruwa Halmillawewa field

The Unduruwa Halmillawewa field is 51 acres in extent. Twenty seven parcels or 17.0% are below 1/8 acre. The smallest parcel of paddy land is 16 perches or 1/10 of an acre. More than 54% of the parcels are below 1/4 acre. 73.6 of the parcels are below 1/2 acre. The number of parcels owned per farmer ranges from one to six parcels.

7.2.3 Kadadekawewa field

In the Kadadekawewa field 13.4% of the parcels of paddy land are below 1/8 acre, 41.8% are below 1/4 acre and 68.6% below 1/2 acre.

The smallest parcel in Kadadekawewa field is 8 perches or 1/20th of an acre. The number of parcels owned per farmer ranges from one parcel to eleven parcels.

7.2.4 Daniyagama field

The Daniyagama field is only 36 acres in extent. Ten parcels or 8.2% are below 1/8 acre. However, nearly 50% of the parcels are below 1/4 acre and 85.3% of parcels below 1/2 acre. The smallest parcel is 12 perches or 0.075 acres. The number of parcels owned per farmer ranges from one parcel to eight parcels.

Thus, the institution of *Ande Cultivation* (tenant-farming) is a strong and vital component of society in the cluster of villages under study.

The fact that all farmers have close kinship ties and that most function both as owner-cultivator and ande-cultivator (tenant farmer), ensure a harmonious relationship though not always in accordance with the Paddy Lands Act.

.4

Ownership of Paddy Land by Residents and Outsiders in the Cluster

As indicated earlier farmers of all five villages own paddy land in several fields. Farmers who own paddy land in their own village field are classified "Resident farmers" and outside farmers who own land in the same field are classified "Outside farmers".

For details of ownership of paddy land by resident farmers and outside farmers, see Table 6.

Table 6. Ownership of Paddy Land by "Resident" Farmers and "Outside" Farmers in the cluster 1973

Name of Village	No. of Paddy farmers acre-age			Resident Farmers		Outside Farmers		
	total	No.	age	Acre- owned	% Acre-age owner-ship	No.	age owned	% Acre-age owner-ship
Galkiriya-)								
gama)	94	56	69	47	84.0	25	9	16.0
Unduruwa)								
Halmil-)	89	51	29	17	33.4	62	34	66.6
lawawa)								
Kadadekawewa	38	49	20	24	49.0	18	25	51.0
Radagamawatta	5	4	5	4	100.0	-	-	-
Daniyagama	59	36	32	25	69.5	27	11	30.5
Total	285	196	155	117	-	132	79	-

Table 6 indicates that the majority (84.0%) of the Galkiriyagama field is owned by residents of Galkiriyagama. In the village of Unduruwa Halmillawewa the position is reversed with 66.6% of the field owned by outsiders. One reason that is given by the Secretary of the Cultivation Committee is that Unduruwa Halmillawewa was originally an *olagama* of Galkiriyagama. (*olagama* is an uninhabited village where the paddy fields are cultivated by the village that repairs the village tank); and it is evident that most of the residents of Unduruwa Halmillawewa originally came from Galkiriyagama.

In the village of Kadadekawewa too more than 50% of the paddy land is owned by outsiders from Galkiriyagama and Daniyagama. It is significant that Kadadekawewa farmers do not own as much paddy land as Galkiriyagama and Daniyagama farmers. The Elders of Galkiriyagama and Daniyagama villages consider the people of Kadadekawewa as an inferior *Warige* (*Warige* means clan) - a lower strata of the *Goigama* (cultivator) caste. Marriage relationships^{1/} with the village of Kadadekawewa are not encouraged in Galkiriyagama and Daniyagama. The people of Kadadekawewa are comparatively poor in relation to the other four villages, and most of Kadadekawewa folk are engaged as *ande* cultivators in Daniyagama and Unduruwa Halmillawewa.

Of the five villages, Galkiriyagama and Daniyagama villages are closer together than the other three villages. As pointed out earlier the village of Radagamawatta is a highland village with only four acres of paddy land. The status of Radagamawatta as a *purana* village is lower, as the village has no paddy field. Most of the Radagamawatta villagers are the 'spill-over' from Daniyagama and Galkiriyagama. Several farmers of Radagamawatta have small parcels of paddy land in Unduruwa Halmillawewa, Daniyagama and Kadadekawewa. Those who have no paddy land are engaged in *ande* cultivation of paddy in the other villages.

8. THE LOCATION AND DISTRIBUTION OF PADDY LANDS IN FRAGMENTATION

As a prelude to the discussion on fragmentation of paddy land and its implications on productivity it is appropriate to discuss the importance of the location of parcels in the main plots of the field. Each stretch of paddy field, under a village tank is divided into plots usually referred to as *wela*, *kumbura*, *kotawa*, or *pangawa* - all these terms means, plot or paddy land in the main *Yaya* (stretch of paddy fields). Certain plots are preferred from the point of view of fertility, easy availability of water and protection from wild animals. Centre plots are much preferred to plots on the two sides of the *yaya* and those further away from the irrigation source. If a farmer has several parcels of paddy land scattered in different parts of the field, he will give priority to the cultivation of the parcels in the main fertile and easy irrigable part of the field. The cultivation of the parcels on the less fertile part of the field - usually the outskirts of the field with poor water supply, receives less attention.

^{1/} Where *caste* consciousness exists in Sri Lanka, the selection of marriage partners is one of the most reliable 'indicators' of *caste* or *class*.

With fragmentation of paddy land and the construction of 'bunds' to demarcate boundaries of each parcel the main field is criss-crossed with numerous bunds giving the appearance of a large jigsaw puzzle. This makes it difficult for tractor equipment to reach the different parts of the field and may be a constraint to the adoption of modernizing agricultural techniques,

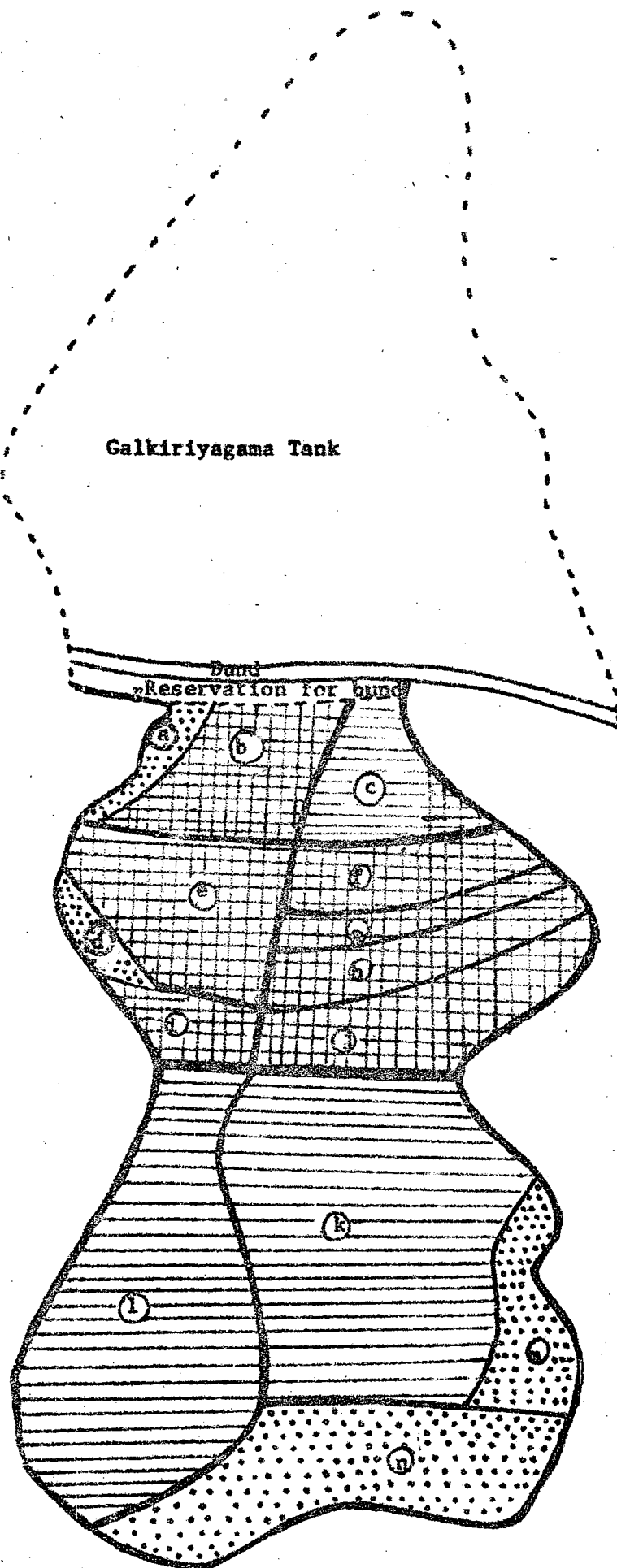
When a farmer owns several parcels of paddy land scattered in different fields, he invariably concentrates his effort and resources in the cultivation of the most fertile parcels. Parcels of paddy land which are less fertile or with a poorer supply of irrigation water are either cultivated late in the season given to *anda* cultivators (tenant farmers) or left fallow. Fragmentation of paddy land therefore has a direct bearing on the *wapasariya* (actual extent of paddy land cultivated).^{1/}

The writer discussed with leading farmers of Galkiriyagama village, the problem of fragmentation and the *wapasariya*. Almost all farmers interviewed indicated that several parcels of paddy land were given to (tenant farmers) or were not cultivated at all during the cultivation year 1972/73. These farmers indicated that they cultivated the most fertile parcels first, then the less fertile parcels, and last of all the least fertile.

From the point of view of the Galkiriyagama farmer the fertility of a parcel depends on the location, the availability of an abundant supply of irrigation water and threat of damage from stray cattle and birds. The central part of the field is therefore preferred and parcels owned in the 'centre' field will receive first priority in paddy cultivation. The parcels located on the fringes of the field get the lowest priority.

The sales value of a parcel of paddy land would therefore depend on the location. In all five villages studied, farmers have divided the main field into plots according to fertility and high yields. For example the Galkiriyagama field is divided into 14 plots. Each main plot is referred to by Sinhala terms such as, *velo* (field), *kotuwa* (square plot) and *panguwa* (share), and usually the name of each plot is divided from that of the owner, e.g. *Daniya panguwa* - Daniya's share, its location in the field e.g. *Madduma panguwa* - in-between-plot; by a distinguished land mark such as a tree e.g. *Dambagaha panguwa* - a plot of the Damba tree or according to the size of the plot e.g. *Maha Panguwa* - large plot. Figure 1 in the diagram of Galkiriyagama field showing the demarcation of the plots.

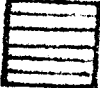
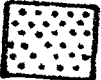
1/ *Asveddomized* land - paddy land which is irrigable and possible to cultivate with paddy. The extent cultivated depends on the number of parcels a farmer-owns and the distance between each parcel.



INDEX

- (a) Welikumbura
(Sandy plot)
- (b) Madduma Panguwa
(in-between plot)
- (c) Rakwana Panguwa
(Rakwana Plot)
- (d) Aswedduma
(new plot)
- (e) Daniyapanguwa
(Daniya's plot)
- (f) Karawgaha Panguwa
(Plot of the
Karawa tree)
- (g) Dambagaha Panguwa
(Plot of the
Damba tree)
- (h) Meda Panguwa
(Central plot)
- (i) Welkotuwa
(Square plot)
- (j) Maha Panguwa
(the large plot)
- (k) Pahalawela
(the lower field)
- (l) Indiakkarawa
(the plot of the
Indi palms)
- (m) Elhena
(highland plot)
- (n) Palugaskotuwa
(the plot of the
Palu tree)

Key

-  - strong preference
-  - fair preference
-  - poor preference

The preference of farmers in the cultivation of parcels in the 14 plots of the Galkiriyagama field is shown in Table 7.

Table 7. Galkiriyagama Field - Distribution of Plots

Name of Plot	Extent of plot in Acres, Roods and perches	Degree of Choice	No. of parcels
(a) Welikumbura (Sandy Plot)	3. 3.26	0	15
(b) Madduwa Panguwa (In-between plot)	5. 2.29	++	34
(c) Rakwana Panguwa (Rakwana plot)	4. 2. 6	+	12
(d) Aswedduma (new plot)	0. 2. 0	0	1
(e) Daniyapanguwa (Daniya's plot)	1. 0.34	++	8
(f) Karawgahapanguwa (Plot of the Karaw tree)	2. 2.29	++	13
(g) Dambagaha Panguwa (Plot of the Damba tree)	0. 2. 4	++	4
(h) Meda Panguwa (Central plot)	1. 0.37	++	14
(i) Welkotuwa (Square plot)	1. 3.10	++	7
(j) Maha Panguwa (the large plot)	5. 1.35	++	25
(k) Pahalawela (the lower field)	13. 0.20	+	95
(l) Indiakkarawa (The acre of Indi palms)	9. 1.16	+	37
(m) Elhena (highland plot)	1. 1. 7	0	3
(n) Palugaskotuwa (the plot of the Palu tree)	4. 2.27	0	3
Total	56. 0. 0		271

The classification of 'preference' is indicated according to the following scale:-

Strong preference = ++

Fair preference = +

Poor preference = 0

Table 7 indicates that according to the degree of choice, 105 parcels of 38.8% are given 'strong preference'; 144 parcels or 53.1% are given fair preference and 22 parcels or 8.1% are given poor preference by the Galkiriyagama farmers.

Another interesting feature that emerges from Table 7, is the acreage distribution according to preference, viz:

- (a) about 19 acres of paddy land in 105 parcels, or about 34% of the field, receives strong preference from farmers. The average number of parcels per acre is 5.5
- (b) About 27 acres of paddy land in 144 parcels or 48% of the field receives fair preference from farmers. The average number of parcels per acre is 5.3
- (c) About 10 acres of paddy land in 22 parcels or 18% of the field receives poor preference from farmers. The average number of parcels per acre is 2.2 parcels.

In the pattern of distribution of paddy land according to preference there is an indication that fragmentation of paddy land is most severe in that part of the field with strong preference from farmers. Fragmentation is least in that part of the field with poor preference.

The pattern of division of paddy land into plots according to fertility and availability of irrigation water, and priority of cultivation according to preference is a characteristic of the field in the villages of Unduruwa Halmillawewa, Kadadekawewa and Daniyagama.

9,

COMMENTARY

The Limitations of the Study

The main objective of the study was to ascertain the nature of fragmentation of paddy land in the five villages of the cluster. Location of parcels as a variable was considered only in one village in the cluster. Other variables such as size of parcels and productivity, Ande cultivation, significance of Thattumaru and Kattimaru system *defacto* consolidation due to cross-cousin marriage, etc., could not be studied intensively due to limitations of time.

The Study indicates the lines for an analytical research study of other variables in fragmentation.

CONCLUSIONS

In spite of the limitations of the study the following conclusions can be suggested:

- (i) there is great social value placed on ownership of paddy land. Ownership of paddy land gives prestige and recognition to the owner. The location of the parcels of paddy land in the field also gives the owner prestige and recognition. It is considered more prestigious to own even a small parcel of land in the central part of the field than one on the outer fringes.
- (ii) Fragmentation of paddy land tends to foster Ande cultivation. When a farmer owns several parcels of paddy land scattered in different fields, and when his resources does not permit him to cultivate all his parcels, he concentrates his efforts in the cultivation of the more fertile parcels and entrusts the cultivation of other parcels to tenant farmers.
- (iii) The Thattumaru and Kattimaruru systems rotating cultivation and land tends to reduce physical fragmentation. It should be noted that these two systems operate only with regard to paddy land and the efficient operation of the two systems in almost all purana villages is undoubtedly due to close kinship ties between the partners in the system. Incidentally the operation of the Thattumaru and Kattimaruru systems also tend to foster tenant farming.

While Thattumaru and Kattimaruru contribute in some measure to reduce the effects of physical fragmentation, they do not overcome certain constraints to productivity, particularly those accompanying modern farm practices. There is a natural reluctance to invest in fertilisers and other inputs which may confer longer term benefits to soil fertility and productivity than the relatively short term over which the cultivator is harvesting the produce. There is a tendency under Thattumaru and Kattimaruru to achieve only the maximum benefits that can be reaped from the minimum inputs. With the use of improved seed varieties, particularly those with high response to fertiliser treatment, accompanied by the use of weedcides and pesticides, the potential productivity of many of these lands is much higher than that normally achieved.

- (iv) The location of plots is also an important factor in productivity and has implications for agricultural extension as well as consolidated programmes.

Agricultural extension needs to recognise the difference between the "less favoured" plots and the "highly favoured" plots as the requirements for effectively achieving yield improvements differ in some respects from one group to the other.

- (v) In the light of findings in this Study the institution of Ande cultivation needs to be viewed in a different perspective. Ande Cultivators in the purana villages are not landless peasants in the real sense of the term. Often the Ande Cultivator also owns paddy land in neighbouring villages which may be entrusted to other tenant farmers, i.e. a form of "consolidation of operational holdings" is practised.

- (vi) Fragmentation of paddy lands is a major problem throughout the country and particularly acute in the purana villages, where cultivation of paddy is dependent on irrigation water. Fragmentation of paddy lands undoubtedly affects productivity as it becomes difficult and expensive to use modern methods of cultivation such as the tractor.

The boundaries of each small parcel of land are demarcated by thick high bunds which aggravate the problems of both tractor and buffalo cultivators.

- (vii) The writer discussed the problem of fragmentation of paddy land with many farmers of the five villages and all farmers indicated that consolidation of their holdings in one or two parcels would result in higher productivity.

As indicated by several respondents it should be possible to effect a scheme of voluntary consolidation of paddy land in the purana villages so that each farmer would own one or two large parcels rather than many small parcels scattered in different parts of the field. This would be simplified if combined with a strategy to increase production from the currently "low preference" plots.

- (viii) This study clearly indicates the value of studying problems connected with land tenure, settlement and related land development matters in a cluster of villages rather than in single isolated villages. The villages in this cluster are linked together by close kinship, social and cultural ties, and economic interdependence, and such a situation is obviously not peculiar to this case study.

- (ix) In villages when fragmentation of paddy land is a major problem one would expect tension and conflict. The Study in the cluster of five villages did not indicate such tension and conflicts due undoubtedly to close kinship ties among the villagers and the evolution of an indigenous attempt to resolve the major problems among themselves.
- (x) There were no big paddy land owners in the villages of the cluster: there was only one parcel of paddy land two acres in extent, and the biggest paddy land owner possessed only about five acres of paddy land distributed among several village fields.

CASE STUDY: THE HUSBANDRY OF 245 SMALL-HOLDINGS
(BELOW 10¹ACRES) IN THE COCONUT TRIANGLE OF
SRI LANKA, 1972

L. INTRODUCTION

- 1.1 Coconut occupy more than one million acres of agricultural land in Sri Lanka, being concentrated particularly in the well known 'Coconut Triangle' contained in the districts of Kurunegala, Puttalam and Colombo. Much of this area receives rainfall from both monsoons and is densely populated. Agricultural economists suggest that much of the coconut land is not fully utilised for production. Certain progressive estate managers have demonstrated that many of these coconut lands respond to high standards of management including associated selective intercropping and grass for livestock under the coconut.
- 1.2 As contrasted with tea, coconut is primarily grown on small holdings, approximately three-quarters of the acreage being in holdings of less than 50 acres.¹ It is known that about 20% of coconut lands are in holdings of above 100 acres and as these are held largely by individuals or private companies, it is expected that a substantial area of coconut land will be alienated under the provisions of the Land Ceiling Act.²
- 1.3 It is anticipated that at least part of this land will be allocated in the form of small-holdings and the following study was designed to look at a selection of existing small holdings in three categories, i.e. 1-2½ acres, 2½-5 acres, 5-10 acres to seek information on current management practices in such holdings and to note any significant difficulties appearing to be related to size. Preliminary observations indicate that general standards of management and land utilisation are relatively low and it is hoped to discover some of the reasons during the course of the study.

1/ Ceylon. Agricultural Section Survey, IBRD 1972

2/ Register of Department of Coconut Rehabilitation, May 1971.

II. METHODOLOGY

- 2.1 The country of Sri Lanka is administered in twenty two districts. The greatest concentration of coconut land is in the three districts, Kurunegala, Puttalam and Colombo and these have been chosen for the study. Each district is further sub-divided into Divisional Revenue Officer's Division (DRO). Using the Register of the Coconut Rehabilitation Department — a stratified random sample of four small-holdings out of every five hundred in the categories 1-2½, 2½-5 and 5-10 acres was selected.

Table I: Distribution of Small-Holdings in Divisional Revenue Office Division (Complete Schedules)

District	DRO's Division	1-2½ acres	2½-5 acres	5-10 acres
Kurunegala	Katugampola Hatpattu	12	16	12
	Dambadeni Hatpattu		4	
Puttalam	Pitigal Korale South	12	12	4
	Pitigal Korale North	4	3	4
Colombo	Hapitigama Korale	4	4	
	Alutkuru Korale South	12	8	
	Alutkuru Korale North			
	'A'	12	8	4
	Alutkuru Korale North			
	'B'	12	8	4
	Siyane Korale (Meda			
	Pattu)	12	12	4
	Siyane Korale (Adika-			
	ri Pattu	12	7	
	Siyane Korale East	8	8	4
	Hevangam Korale	12	4	
	Salpiti Korale	3		
	Total	115	94	36

- 2.2 After the elimination of inadequately completed schedules, (3) 245 cases remained for analysis. The distribution of these small-holdings is shown in Table I. (13 of the 34 DRO Divisions in the three Districts are included). It is appreciated that the sample is too small to draw general conclusions. The study is therefore presented as a Case Study with this limitation understood. It was undertaken in order to collect background information quickly with minimum resources. It is anticipated that the information will be useful in association with the Land Ceiling and Agricultural Productivity Laws and the study will identify priorities for further research in some depth when resources are available.

1/ See para 3.2.1 regarding bias of sample. Exact data is not available but from Census figures it is estimated that the Register contains approximately 35% of all Coconut small-holdings from 1-10 acres in these three districts. The use of this Register eliminates coconut lands owned solely for pleasure or prestige purposes but completely neglected in respect of husbandry. The management of holdings outside the Register may be assumed to be at a lower level than the sample.

2.3 The study attempts to summarise some of the features of coconut small-holdings in the coconut triangle and identifies problems for further investigation. Within the limitation of the sample, it indicates the need for urgent attention to this sector if the social and economic aims of the Land Ceiling and Agricultural Productivity Laws are to be achieved.

2.4 By means of a questionnaire data was gathered ^{1/} as arranged under the following headings:

- | | |
|--------------------------|---------------------------|
| 1. Cultivation Practices | 6. Credit |
| 2. Fertilisers | 7. Agricultural Extension |
| 3. Intercropping | 8. Employment and Income |
| 4. Animal Husbandry | 9. Ownership. |
| 5. Use of By-Products. | |

III. ANALYSIS

3.1 Cultivation Practices:

3.1.1 A number of cultivation practices are required of the growers if efficient coconut production is to be achieved.

Table II. Cultivation Practices of Small-Holdings.

Details	Total	1-24	24-5	5-10
Regular planting	23 (9%)	6 (5%)	14 (14%)	3 (8%)
Contour draining	65 (26%)	28 (24%)	28 (29%)	9 (25%)
Stone terracing	55 (22%)	23 (20%)	21 (22%)	11 (30%)
Husk mulching	59 (24%)	26 (22%)	24 (25%)	9 (25%)
Husk burying	51 (20%)	22 (19%)	21 (22%)	8 (22%)
Harrowing	29 (11%)	17 (14%)	10 (10%)	2 (5%)
Ploughing	29 (11%)	17 (14%)	10 (10%)	2 (5%)
Weeding	21 (8%)	16 (13%)	12 (12%)	3 (8%)
Fencing	13 (5%)	5 (4%)	7 (7%)	1 (2%)

3.1.2 Table II indicates that ~~most~~ small-holders do not carryout adequately the generally recommended practices for coconut cultivation. It will be noted that for such practices as harrowing, ploughing and weeding the percentage is highest in the smallest

^{1/} The questionnaire was prepared in may 1972, and the data was gathered during the following May-August, by a team of graduate investigators. A considerable amount of additional information was collected, but in certain cases, eg. on incomes, was rejected as being unreliable.

category 1-2½ acres. Stone terracing is practised mostly in the larger holding category of 5-10 acres. This is also true for organic manuring, accomplished by mulching with leaves or tying cattle round the palms, but only 44% of the total of small-holders engage in the first practice and 34% in the second. Both practices are commoner by almost 50% in the holdings of 5-10 acres compared with the 1-2½ acre holdings, with the intermediate size holdings falling between.

3.1.3 The spacing of palms in the initial planting, and subsequent uprooting of barren palms and filling of vacancies, affect yields. The optimum number of palms per acre varies according to such physical conditions as soil type and to management practices like intercropping. There is a tendency to exceed the number of palms per acre recommended by the Coconut Research Institute rather than to plant too few. This affects the light intensity beneath the mature palms and restricts the range of crops available for successful intercropping. Only about a quarter of small-holders intercrop. Various reasons are given for the latter, the principle restrictions being joint ownership and shortage of time.

3.1.4 Although the presence of weeds is widespread, control measures are not appreciably adopted more by any one group than another.

Table III: Weeds, Pests and Control Measures.

Details	Total	1-2½ acres	2½-5 acres	5-10 acres
Affected by Pests	154 (62%)	69 (60%)	59 (62%)	26 (72%)
Control Measures				
Adopted	75 (30%)	34 (29%)	28 (29%)	13 (36%)
Affected by weeds	204 (83%)	94 (81%)	78 (82%)	32 (88%)
Control Measures				
Adopted	195 (79%)	89 (77%)	76 (80%)	30 (83%)

3.1.5 The incidence of pests has been fairly widely observed; relatively little is done to control them. In view of the concentration of coconuts in these districts it is unlikely that the proportion affected by pests actually varies much from one size of holding to another. It is possible that small-holders in the larger holding

category are more aware of pest incidence than small-holders in the category 1-2½ acres and it may be noted that control measures are also more frequently adopted in the larger holding category. Reasons for non-adoption of pest control were varied: there was little knowledge of the basic science of pest and their control and the need for guidance was expressed. This is particularly relevant in the case of coconut where palms are commonly affected by pests or diseases to a minor degree (e.g. Leaf Blight) when the economic importance of such an attack may be slight. Ignorance or indifference may however lead to the neglect of significant pest or disease attack until control becomes increasingly difficult. In some cases there were financial constraints to adopting control measures and in others the unsatisfactory nature of the land tenure situation was given as an important consideration in disregarding the pest situation.

There is traditional knowledge of coconut cultivation, but its disciplines and science are matters for farmer education.

3.2 Fertiliser:

- 3.2.1 The Register of the Coconut Rehabilitation Department from which the study sample was selected was prepared originally for fertiliser permit purposes and there is no significance in the fact that most small-holders (89%) in the sample claimed to use fertilisers. It is necessary to record that allegations are sometimes made that fertiliser supplied under subsidy to small-holders has been taken and not used but resold (no comment on this point can be made as reliable data is impossible to collect).

-
- 1/ As in the case of districts of Sri Lanka where Leaf Miner (*Promecotheca Cumingii*) reached epidemic proportions in 1972.
- 2/ In 1972 permits issued to small-holdings under 20 acres total 15,744, covering 91613 acres and authorising 29921 tons of fertiliser of which 22762 tons were drawn. Letter: Senior Asst. Sec. Ministry of Plantation Industries, 1973.

- 3.2.2 On the question of cost of fertiliser to small-holders, the scheme for subsidised fertilizer is intended to make it available at a reasonable and uniform cost. A few small-holders reported paying higher prices than the subsidised rate and in some cases the unsubsidised price was reported. On the whole it appears that small-holders paid for the actual fertilizer as given in Table IV

Table IV: Range of Fertilizer Available to Small-Holder

Type of Fertilizer	Composition	Lbs fertili- ser per palm per annum	Controlled price (includ- ing 50% subsidy) CWT
CRI Compound 'A' (For laterite soils in the Wet Zone & sands)	N.10.3 %) P ₂ O ₅ 6.85%) K ₂ O 15 %)	10lbs	Rs.12.33
CRI Compound 'B' (For laterite soils of the Intermediate Zone)	N.10.3 %) P ₂ O ₅ 6.1 %) K ₂ O 16.6 %)	9 lbs	Rs.12.45
CRI Compound 'C' (For red,brown & alluvial loams and clays mainly Dry & Intermediate Zone)	N.10.3 %) P ₂ O ₅ 5.5%) K ₂ O 18 %)	8lbs	Rs.12.55

- 3.2.3 A well organised system of transportation for fertiliser should show only minor differences in cost; in this study variation was found to be substantial. For small-holders in the category 1-2½ acres, transport is from Rs. 0.50 to Rs. 9.00. In the category 2½-5 acres from Rs. 0.30 to Rs. 7.50 and in the category 5-10 acres from Rs. 0.50 to Rs. 3.00. It was only in one DRO's Division that a price of Rs. 0.30 was charged. (Alutkuru Korale North 'B'). Other than this exceptional case the minimum was Rs. 0.50. The smaller the holding group, the higher the amount paid; this indicates a transport problem for small-holders in the category 1-2½ acres as the actual cost price of fertiliser at the Central stores is controlled. Large farms may be charged the same transport cost for a full load of fertiliser as small farms for a half-load or less, thus increasing substantially the cost per cwt.

Table V: Distance from the Fertiliser
Source to the Small-holdings.

Details	1-2½ acres	2½-5 acres	5-10 acres
Less than 5 miles	20 (21%)	14 (20%)	4 (11%)
Between 5-40 miles	62 (67%)	40 (57%)	15 (44%)
More than 40 miles	10 (10%)	16 (22%)	14 (44%)
Total	92(100%)	70(100%)	34(100%)

3.2.4 Table V shows that the distance from the fertiliser source to the small-holding is in the majority of cases between 5 and 40 miles; only in a relatively small number of cases is the distance less than 5 miles. For a large number of holdings in the category 5-10 acres (44%) the distance is more than 40 miles.

3.2.5 The figures indicate that the smaller farmers rely on sources of supply closer to their land whilst the larger ones go much further for their fertiliser. This is borne out by Table VI which shows that the Central Stores, Colombo, is by far the most important source of fertiliser, especially for the category 5-10 acres (81%). It is noteworthy that for 'Central Stores, Colombo' the lowest percentage (60%) is recorded in the category 1-2½ and the highest (81%) in the category 5-10 acres.

Table VI: Source of Supply of Fertiliser
for Small-holder.

Details	1-2½ acres	2½-5 acres	5-10 acres
Central Stores Colombo	59 (60%)	48 (62%)	27 (81%)
Depot of the Main Stores	12 (12%)	9 (11%)	-
Cooperative Society	18 (18%)	13 (16%)	6 (18%)
Village Trader	4 (4%)	4 (5%)	-
In cooperation with a neighbour	2 (2%)	3 (3%)	-
Other sources	3 (3%)	-	-
Total	98(100%)	77(100%)	33(100%)

- 3.2.6 The reluctance of cultivators to obtain their requirements of fertiliser from the Cooperative Society - very often the nearest source - was due to many reasons: 'inability to get the fertiliser at the required time' was the most common. From the number of cultivators who gave 'convenience' as a reason for the choice of their supplier (in most cases the Central Stores, Colombo or its Depot), it appears that it is generally unsatisfactory to obtain fertiliser requirements through the co-operatives.

The variation in cost of fertiliser by the time the farmer takes delivery and the reluctance or inability of small-holders to obtain fertiliser from local cooperatives are factors worthy of future study.

3.3 Intercropping:

- 3.3.1 Intercropping, or the cultivation of additional crops (including forage grasses) between rows of palms, is a recommended practice to increase both productivity per acre and employment. About 40% of small-holders of the three size categories practice some kind of intercropping although in some cases this was observed to be little more than a few banana plants for family food consumption and local sales, which is not strictly intercropping.
- 3.3.2 The commonest crop is plantain (banana) and almost all the holdings which grew other crops under coconut utilised this crop to some extent: in most cases only part of the coconut was intercropped. 6% of the holdings grew pineapples and 5% passion fruit and virtually none of the farmers knew what income was, or could be, gained from these two crops (although the profitability and marketability of these two fruits has been widely reported in the Press). Few farmers had any accurate idea of the costs (including labour) of producing intercrops - the proportion in the intermediate size category 2½-5 acres being about as much as the other two categories combined.
- 3.3.3 It is generally agreed (by 60% of the small-holders evenly distributed) that sufficient water is available for intercropping. It is doubtful however that

actual water requirements, storage, lifting techniques and management throughout the year are known to farmers, as the relatively limited degree of intercropping puts such knowledge outside their experience.

3.3.4 Reasons given by small-holders for failing to practice intercropping:

- a) shortage of available labour when required.
- b) lack of interest in tenanted holdings.
- c) distance of lands from house.
- d) physical problems such as infertile soil, excessive shade, poor drainage, difficulties in maintenance and management, water shortage, close proximity to sea, animal damage due to lack of fencing, difficulty of obtaining plants, lack of know-how.

Again, in the matters of intercropping the need emerges for an effective extension services to small-holders of coconut lands.

3.4 Animal Husbandry:

3.4.1 Table VII indicates that with regard to buffaloes and cattle the lowest percentages (6 & 29) are in the category 1-2½ and the highest (16 & 58) in the category 5-10 acres. It reveals however that with regard to pigs and poultry the lowest percentages (2 & 13) are in the category 5-10 acres and the highest (7 & 16) in the category 1-2½ acres.

Table VII: Animal Husbandry Associated with Small-holdings in the Coconut Triangle, 1972

Details	Total	1-2½ acres	2½-5 acres	5-10 acres
Buffaloes	24 (9%)	7 (6%)	11 (11%)	6 (16%)
Cattle (excluding buffaloes)	98 (40%)	34 (29%)	43 (45%)	21 (58%)
Pigs	13 (5%)	9 (7%)	3 (3%)	1 (2%)
Poultry	38 (15%)	19 (14%)	14 (14%)	5 (13%)

3.4.2 Besides buffaloes, cattle, pigs and poultry, small-holders sometimes have goats. The object of collecting data on a holding basis to ascertain habitude in keeping various forms of livestock and as an indication of the amount of interest which might be anticipated for a policy to encourage animal husbandry in association with coconut. (It is not intended to ascertain the livestock population).

3.4.3 The reasons given for not keeping livestock are varied:

1. It is stated that plots are very small and therefore animals cannot be kept on any scale.
2. Sometimes a man is too old and has no one to look after the livestock as it is difficult to find labourers; also it is troublesome and there is no time.

A few of them said, that cattle might damage their plantation. Others stated that the climate was not suitable, that there was no good grass available, that the land was barren and the water supply insufficient or that there was difficulty in getting

There was also the question of ownership: one said that as the land was leased he was not interested. Another stated that it was temple land. Finally, there were people who said that they were not interested or their land is away from their house.

3.4.4 Small-holders feed livestock with grass, straw, poonac, poultry food and leaves. They do not grow grass for the following reasons:

- a) Labour - they have no one to grow the grass.
- b) Size of the plot is too small.
- c) Physical factors and management - the land cannot be spared for growing grass; there should be sufficient 'natural grass' available, dry weather and insufficient water supply. Other people gave as reasons: the land is barren, and the land is dry. Finally some people said that they did not have knowledge of growing grass.

- 3.4.5 Some of the small-holders are of the opinion that it is not necessary to manure the grass; they tell you; it is not the habit to manure; others say that manure is not available. (The low incidence of fencing noted in Table II may also be recalled here) as a major factor.
- 3.4.6 Income derived from the sale of livestock was given only in a few cases. It ranged last year in Kurunegala from Rs.200/- to Rs.300/- (2 cases), in Puttalam from Rs.150/- to Rs. 1,050/- (6 cases) and in Colombo from Rs. 60/- to Rs. 900/- (8 cases).
- 3.4.7 Hired labour to look after animal husbandry is an exceptional case. In Kurunegala 3 cases, in Puttalam 1, and in Colombo 9. (Livestock numbers on individual holdings are relatively small).
- 3.4.8 Finally, some information was sought about visits of extension officers to assist with animal husbandry. One small-holder claimed a visit of an extension officer in 1971 and in two cases the answer was "I cannot remember".

The general concensus was a complete lack of communication and advice on the subject of animal husbandry.

3.5 Use of By-Products:

- 3.5.1 A small minority of the small-holders in the study derived any income from the sale of coconut by-products. Of the relatively small number (45) more were in the intermediate holding groups of 2½-5 acres than in the other two categories combined. Numbers are too small to draw conclusions but coupled with the similar situation in intercropping, the question may be asked whether the holdings of the 2½-5 acre groups are more actively searching for additional income *from their land* than the larger or smaller category?
- 3.5.2 The records also show that a slightly bigger population of large small holdings sell their nuts with husks, i.e. one by-product goes off with the nuts, and this group also adopts most strongly the reason 'that they have no one to attend to the preparation of by-products and again 'not interested'.

- 3.5.3 The sale of husks and cadjan (palm roofing) together represent two-thirds of by-products sold. Next come the alcoholic beverage 'toddy' and isolated examples of charcoal, shell, copra, coir and coir string and honey.

Compared with Kerala in South India, home-industries associated with the coconut and its by-products are singularly undeveloped. There would appear to be scope for cooperative action in making and marketing facilities, as well as training, in this field.

3.6 Credit:

- 3.6.1 Only 38 small-holders (15% of the sample) admitted receiving advances on the sale of nuts. The highest percentage of small-holders receiving advances of the three size categories, is 22% in the 5-10 acre groups compared with 19% in the 2½-5 acre groups and 15% in the 1-2½ acre groups.

Table VIII: Sources of Advances Received by
Small-holders in the Coconut
Triangle, 1972

Details	1-2½ acres	2½-5 acres	5-10 acres
Multi-Purpose Cooperative Society	2	3	12
Mill	2	5	2
Estate	2	1	1
Private traders	97	81	19
Total	103	90	34

As seen in Table VIII most of the advances are made by private traders; there is usually a commitment for the small-holder to sell his nuts to the same dealer in return. It is noteworthy that 96% of the 1-2½ acre and 90% of the 2½-5 acre small-holders take loans from private traders but only 55% of the 5-10 acre holdings do the same. The latter group however take more loans from the Multi Purpose Cooperative Society (35%) than the other two, where the number of such loans is negligible (4% together). The reason for this is most probably the greater security for loan of the large holding groups. Only

three cases of mortgage were notified (all below 5 acres); this indicates a reluctance to mortgage land for loans or a lack of serious financial need.

- 3.6.2 The terms on which credit is given will certainly be more favourable from the cooperative society than from the private trader. As the latter is in a strong bargaining position when he buys the nuts, the borrower from this source is at a disadvantage in respect of both interest rate and market price.

Satisfactory Cooperative arrangements for credit and marketing, linked to the timely availability and delivery of the necessary inputs would assist small-holders, particularly those with under 5 acres.

3.7 Agricultural Extension:

References have been made in almost all sections of the study to the need for agricultural extension, both in respect of efficient coconut production and for the introduction of other crops and livestock. Table IX records the number of extension visits to coconut small-holders in the sample.

Table IX: Visits of Extension Officers to Small-holdings.

Details	Total	1-2½	2½-5	5-10
No visit from extension Officer at all	178 (72%)	79 (68%)	72 (76%)	27 (75%)
No visit in previous 3 years	222 (90%)	103 (89%)	87 (92%)	32 (88%)

The apparent neglect of the Coconut Small-holding Section of the agricultural community indicates the need for co-ordination between the extension agencies, which appear to fall between the attentions of the Department of Agriculture and the Coconut Research Institute.

Virtually 90% of these small-holders had not been visited in past three years and 72% did not recall a visit at any time.

3.8 Employment and Income:

It was hoped to obtain data on the employment situation and the income situation in the three categories of holdings. In the case of employment it is certain that the national situation of large scale unemployment and under-employment is also reflected in these coconut small-holding families. The data collected indicated that 45-46% of the males, 15-60 years of age (excluding school boys) had no employment at all - the figure in the 1-2½ acre category was 30%. There are a large number of small-holders who combine their role on the holdings with other forms of employment and it became evident during this study that a much more detailed survey the current one is required to ascertain accurately the employment situation. The same may be said for incomes; in respect of farm income the lack of accurate data on crop yields and production costs obtainable from most of the small-holdings in the sample indicates the necessity for record keeping comparable to that used for the Agrarian Research and Training Institute 'Cost of Production Study'.— This is beyond the scope of the present study.

3.9 Ownership:

3.9.1 Table X reveals that there is quite a lot of joint ownership in coconut lands. In the category 2½-5 acres, it is as high as 29%. Although the numbers and percentages give an impression of exactness it was not always crystal-clear. For example, an answer like this was not an exceptional case: "There is a land case proceeding... the number of owners cannot be stated". It is significant that the highest percentage sole owners (80%) is in the category 1-2½ acres and the lowest percentage (66%) in the category 5-10 acres.

1/ Cost of Production of Paddy, Yala 1972 (A study based on record keeping farmers in five selected districts)
K. Izumi; A.S. Ranatunga: Agrarian Research and Training Institute, 1973.

Table X: Ownership and Lease.

Details	Total	1-2½ acres	2½-5 acres	5-10 acres
Sole owners	183(74%)	92(80%)	67(71%)	24(66%)
Joint owners	58(23%)	23(20%)	27(29%)	8(22%)
Lessees	4(1%)	-	-	-

Table XI: Detail of Joint Ownership

	Number of Joint Owners per Holding								Total	Out of a sample
	2	3	4	5	6	8	13	16		
Kurunegala	4	1	2	2	1				10	44
Puttalam	5	1	2	1	2				11	39
Colombo *	15	7	2	5	1	2	1	1	34	162
Total	24	9	6	8	4	2	1	1	55	245

* There are 2 further cases in Colombo where the number of owners is unspecified.

- 3.9.2 More than twenty percent of holdings in all three categories are characterised by joint ownership. In some cases ownership is accompanied by leasing. In Kurunegala there is a case in which one acre of land is owned and another acre is Crown land; this case comes within the limits of the category 1-2½ acres. Also in Kurunegala seven acres is leased in for Rs. 500.00; the landlord is a cultivator and his residence is in another DRO's Division.

In Puttalam there is a case in which the land was leased out to the husband for a period of eighteen years. No payment in cash or kind was involved! Thirty palms are leased out for one year in one instance for Rs.210.00, in another instance forty palms are leased out for two years for toddy tapping for Rs. 600.00. A further ten acres is leased in for Rs.1,200.00 in one case, and Rs.1,000.00 in another. In still another instance the land is leased in for kind but the amount could not be ascertained. In Colombo there is a case where the land is leased out for Rs.300.00 per annum. In another instance it was stated: "sometimes the land is leased out".

3.9.3 Before the current survey the extent of the occurrence of joint ownership in coconut lands has seldom been highlighted although there are many references to the complex patterns of joint ownership in paddy lands. In the latter case there have been many suggestions that inefficiency is related to unsatisfactory conditions of land tenure (including joint ownership).

It is reasonable to suggest that the same may be true in coconut lands but not to the same extent as in paddy lands.

IV. COMMENTARY

To summarise briefly the findings on coconut small-holdings in the sample under the headings used in the analysis and to add observations made during the study of the area:

1. Cultivation Practices:

The general level of cultivation practices in all the categories of small-holdings sampled confirms that many recommended practices are adopted only by a limited number of cultivators. While it is true that all practices may not be applied at all times, the efficiency of the practice actually carried out could also not be assessed in this study for obvious practical reasons. The wide presence of weeds, pests and disease is supported by field observations, but in the case of pests a general investigation like the present one can do more than point to the need for farmer education in pest recognition and control techniques. Although the inherent knowledge of many small-holders on coconut cultivations gained from long experience is accepted, there appears to be a lack of motivation and discipline for optimum cultivations, associated also with a lack of extension services. It

may be concluded that if national needs for maximum productivity per acre are to be achieved, management and cultivation practices need considerable upgrading.

2. Fertilisers:

Due to the nature of the register from which the samples were selected, ^{1/} no valid comment can be made on the general use of fertiliser. The wide range in the prices paid by farmers for transport indicates an unsatisfactory distribution situation.

3. Intercropping:

Although about 40% of the total small-holders claim some degree of intercropping it is mostly confined to the growing of plantains for home and local consumption and on a limited scale, hardly justifying the title 'intercropping'. The involvement in growing of other crops and forage is small and there is enough evidence to indicate that much more intercropping should be done to increase the productivity of coconut lands. In this connection surplus labour numbers are available although the capability and willingness of labour to undertake such work is not known.

4. Animal Husbandry:

Livestock of one kind or another is fairly well distributed among small-holders although actual numbers on each holding were not collected and in many cases there are observed to be small. From the replies to toehr questions in this section a certain ignorance of the practical science of livestock feeding and management is apparent; the need for advice through extension is evident and was expressed.

5. Use of By-Products:

The marketing of by-products and associated home industries which are associated with coconut growing elsewhere are singularly undeveloped. In view of the unsatisfactory employment situation the opportunity here also to increase family incomes in this way should not be neglected. As previously mentioned, co-operative action for training in new skills and for marketing would assist.

1/ Explained in 3.2.1

6. Credit:

The majority of loans are still taken from private traders - particularly in the smallest category of holdings, little credit being taken from cooperatives. Larger holdings however take more loans from the Multi Purpose Cooperative Societies than the other two. The disadvantages of depending for credit on private traders are pointed out, and satisfactory cooperative arrangements for credit and marketing, linked to the timely availability and delivery of the necessary inputs would assist small-holders, particularly those with under 5 acres.

7. Agricultural Extension:

One of the principal factors emerging from this study is the lack of an effective extension service for coconut small-holdings. Other sections of this commentary express at a number of points the urgent need for farmer education resources for small-holders on coconut lands. The co-ordination of the various extension services to ensure the inclusion of the small-holders - in some ways the 'neediest' group - is obviously indicated.

8. Employment and Income:

Data on employment and incomes collected in this study agrees with others to confirm a high degree of unemployment and underemployment. In view of the critical nature of the employment situation and the growing disparities in farm incomes following the introduction of new varieties and new crops (some of which can be used to intercrop coconut), strenuous attempts should be made to gather research data at the micro-level.

9. Ownership:

The incidence of joint ownership, sometimes involving a group of persons, is recorded; in the case of coconut lands it is a relatively common occurrence. In a larger sample it would be interesting to explore the correlation between efficiency of holding management and ownership.

V. CONCLUSION:

In conclusion it may be said that if this study achieves a purpose it serves to highlight certain problems requiring speedy resolution, if estate lands are to be alienated as small-holdings under the Land Ceiling Law:

- a) Small-holdings on coconut lands display poor standards of husbandry; they can be improved by enlightened management, efficient cultivation practices, diversification, inter-cropping and livestock keeping.
- b) The present heavy reliance on private traders for credit, particularly on smaller holdings, indicates the need for ready access to credit from non-private sources on reasonable terms, to provide the required inputs for greater productivity.
- c) This in turn depends on a stronger institutional framework with cooperative action to obtain and distribute inputs, assist marketing and provide training.
- d) Farmer education is almost completely lacking in this sector and the productive use of coconut lands depends on a co-ordinated extension programme to assist with farm planning, scientific coconut culture, diversification and inter-cropping, as well as livestock keeping and improved use of by-products.
- e) Further research is indicated into the employment situation and the possibilities of crop and stock intensification and use of by-products, in providing more jobs and improving incomes.
- f) Further research is also indicated into the situation arising from joint-ownership of coconut lands and the resolution of associated problems.

CASE STUDY: THE SOCIO-ECONOMIC FACTORS
IN RURAL INDEBTEDNESS: TRACT 2: KAGAMA
KATTIYAWA SPECIAL PROJECT

1. INTRODUCTION

An attempt is made to study the problem of rural indebtedness in one tract of a major colonisation scheme - the Kagama Kattiyawa Special Project. The Colonisation Scheme is one of the oldest colonies in the North Central Province dating back to 1949. Tract 2 was settled in 1952, firstly started as a village expansion scheme and later amalgamated with the Colonisation Scheme.

1.1 Objectives:

The objectives of the study are as follows:-

- (i) To obtain information at depth on patterns of income and expenditure with particular reference to indebtedness of 90 colonists in Tract 2 of Kagama Kattiyawa Special Project in 1971.
- (ii) To gather information on socio-cultural factors connected with indebtedness and general attitude of peasants with regard to repayment of loans.

1.2 Methodology of the Study:

The study was undertaken in August 1971 using the questionnaire and the depth interview techniques. The questionnaire was administered to all 90 colonists. For the purpose of this study the encroachers living within the outskirts of Tract 2 were not included in this study. The colonists were interviewed by a three man team of Research Assistants of the Land Commissioners Department under the supervision of the author who also conducted in-depth interviews of 9 colonists selected at random.

1.3 Selection of Tract 2 Kagama Kattiyawa Special Project:

Tract 2 of the Kagama Kattiyawa Special Project was selected for study for several reasons. It is a close and compact community. The settlers were all from the Purana villages. It is a heterogeneous population yet retains many features of a traditional village community. Tract 2 of Kagama Kattiyawa Special Project is really a village expansion scheme and with regard to ownership of agricultural land is not very different from the traditional 'Purana Village' although it is included in the special project. Moreover official records indicated that as in other colonisation schemes a high percentage of peasants had not repaid their cultivation loans.

1.4 Location and Physical Aspects of Tract 2:

Tract 2 of Kagama Kattiyawa Special Project is located off the Kekirawa Anuradhapura trunk road near the small township of Eppawala, in the Divisional Revenue Officers Division of Nuwaragam Palatha South, Anuradhapura District, in North Central Province. Several Traditional Purana villages such as Mediyawa, Halmillewa, Hurigaswewa are located on the fringes of Tract 2.

Settlement of ninety peasants in Tract 2 was done in 1952. There are 225 acres of paddy land and 135 of highland in Tract 2. Each settler was allocated 2½ acres of irrigable paddy land and 1½ acres of highland. In addition, almost all colonist cultivate 1 - 3 acres of chena land (shifting cultivation) in neighbouring state forests and state reservations. Each colonist was also provided a small two roomed cottage free of charge by the Government. In addition to the 90 colonists there are over 50 encroachers usually the grown up children or close relatives of colonists, occupying state forests and reservations close to Tract 2.

This small township of Eppawal is about a mile from Tract 2. The main co-operative stores, the post office, the agricultural extension centre, the government dispensary, the Buddhist Temple, the Muslim Mosque and the shopping centre are located in this township. The purchase of items of food, textiles etc. and the sale of paddy, vegetables and other agricultural produce are done in Eppawala.

2. POPULATION AND CHARACTERISTICS OF COLONISTS:

In connection with the financial liabilities of the colonists and their families it is necessary to collect data which indicates possible economic and social obligations for expenditure. There are 90 Colonist families in Tract 2 with a total resident population of 551 persons. It should be noted that 201 married children of colonists, many of them living in separate homesteads in encroachments in state forests and reservations have not been included in the enumeration. Tract 2 has a young population: about 58% of the population is under 21 years of age. The active working age group from 21 years to 60 years comprises another 33.6% of the population. For details of population by age group please see Appendix I.

2.1 Status of Colonists 1971:

Of the ninety colonists originally settled in Tract 2 in 1952 only 55.7% of colonists are living there now. The others have either left the settlement or are deceased. Details of status of colonists in 1971 is given in the Table I

Table I: Status of Colonists

	No.	%
a) Original Allottee	50	55.7
b) Inherited from parents	11	12.2
c) Inherited from spouse	16	17.8
d) Inherited from brothers/sisters	1	1.1
e) Purchased from original colonist	9	10.0
f) On mortgages	-	-
g) Ande Cultivator	2	2.2
Total	90	100.0

In terms of the Land Development Ordinance of 1935 as amended by Acts. No. 60 of 1961 and No. 16 of 1969, which governs settlement of peasants in Colonisation Schemes, succession to the land is limited to one successor to be nominated by the colonist who received the grant of land. Table I indicates that children, spouse, brother and sister have succeeded to the allotment. It is interesting to note that 9 'new colonists' have unofficially purchased that allotment from the original colonist. (This is irregular practice in government sponsored colonisation schemes if not ratified by the authorities). Two of the original colonists are 'absentee' landlords and have handed over the cultivation of their allotment to 'Ande' cultivators (share croppers).

2.2 Age Composition of Colonists:

The age composition of the colonist land-holders at the time of survey is given in Table II.

Table II: Age Composition of Colonists 1971

Age Category	No.	%
a) under 21 years	1	1.1
b) 21 - 30 years	10	11.1
c) 31 - 40 "	13	14.4
d) 41 - 50 "	27	30.0
e) 51 - 60 "	20	22.2
f) 61 - 70 "	14	15.6
g) 71 - 80 "	5	5.6
h) 81 - 90 "	-	-
i) Over 90 years	-	-
Total	90	100.0

Over half the current colonists are below 50 years of age; under 30 years of age are those who inherited the allotment from the original colonist. The 5 colonists who are over 71 years of age are retired cultivators; cultivation is done by their grown up sons.

2.3 Religious Composition of Colonists:

The religious composition of colonist families is given in Table III.

Table III: Religious Composition of Colonist Families 1971

Religion	No of Families	%
a) Buddhist	87	96.7
b) Hindu	-	-
c) Muslim	2	2.2
d) Christian: Roman Catholic	1	1.1
e) Christian (Non R.C.)	-	-
f) Other	-	-
Total	90	100.0

It will be observed that Tract 2 is predominantly Buddhist. There are 2 Muslim families and one Roman Catholic family. Although there is no Buddhist Temple in the settlement, colonists have constructed a simple shrine under a Bo-tree. Most of the older folk observe Ata-sil (the eight precepts) on full moon Poya Day, in the neighbouring temples. Buddhist activities, particularly pilgrimages are very popular. Religious ceremonies during funerals are conducted by Buddhist priests from the neighbouring villages. The two Muslim families visit the Mosque at Eppawal for their religious observations.

2.4 Marital Status of Colonists:

The marital status of colonists is given in Table IV.

Table IV: Marital Status of Colonists

Marital Status	No	%
a) Marriage registered	77	85.6
b) Common Law marriage	12	13.3
c) Divorced/separated	-	-
d) Unmarried	1	1.1
Total	90	100.0

Under Column (a) whether the spouse was living or deceased was not taken into consideration. It is interesting to note that 13.3% of the couples are not legally registered as married but they have observed the common law marriage according to traditional ritual and ceremony.

As will be seen under the sections on Expenditure and Indebtedness getting married is an expensive affair!

2.5 Marriage of Children of Colonists:

201 children of colonists (83 sons and 118 daughters) have been married upto 1971. Details of marriage of children of Colonists is given in Table V.

Table V: Marriage of Children of Colonists
upto 1971

Category	Sons	Daughters	Total	%
a) Married in Tract 2	37	33	72	35.8
b) Married to/from neighbouring village/tract	30	37	67	33.3
c) Married to/from outside area/district	16	46	62	30.9
Total	83	116	201	100.0

It is seen that 69.1% of married children live in Tract 2 or in the adjoining villages and tracts. Most of these married children live in encroachments. Even the children who are married to or from the neighbouring villages and tracts share the paddy cultivation with their parents or work as Ande cultivators in the neighbouring villages.

As in most other parts of the North Central Province girls usually get married in their early teens and boys in their early twenties. It is customary for parents to provide the girl with a dowry in cash. The marriage ceremony is a major social occasion in the village with elaborate ceremony and ritual. Usually the marriage ceremony is a costly affair for parents who invariably get into debt on this account.

2.6 Educational Level of Colonists, Spouse & Children:

Table VI indicate the educational level of colonist and spouse.

Table VI: Educational Level of Colonist and Spouse

Standard Passed	Colonist		Spouse	
	No	%	No	%
a) Illiterate	32	35.6	51	56.7
b) Upto Std. V	43	47.8	25	27.8
c) Std. VI - VIII	11	12.2	9	10.0
d) Std. VIII to Std. IX	1	1.1	4	4.4
e) S.S.C/G.C.E. (O)	3	3.3	-	-
f) Higher GEA(A)/Degree			1	1.1
Total	90	100.0	90	100.0

In this study 'literacy' was defined as being able to read and understand a Sinhala Newspaper. The study indicate that 55.6% of colonists and 56.7% of colonist spouses are illiterate by this criterion and the school level of wives is much lower than for the colonists. This high rate of illiteracy has far reaching implications in agricultural extension and development.

2.7 Education of Children:

Table VII indicate the school attendance of children in the school age group.

Table VII: School Attendance:

Age Group	Total	Schooling No.	% of Total	Non Schooling	% of total
6 - 10	74	48		26	
11 - 15	119	54		65	
Total	193	102	52.8	91	

In this Study the school going age was taken as 6 - 15 years. The school admission is at 6 years and schooling is compulsory till 15 years. However, it is seen that 47.3% of children in the school-going are not attending school although there is a junior school in the settlement (200 school children and four

teachers). Most of the children not attending school help the colonists in agriculture. Although education is free in Sri Lanka, colonists consider schooling an expensive item as there are books and clothes to buy and there is a loss of potential earnings.

3. PATTERN OF ANNUAL INCOME

The most important items of income of the colonists is from paddy, highland produce, chena produce, daily wages, trade and business, rents of buffaloes and from traditional occupations; the average annual income is Rs. 2,361.00.

Table VIII: Sources of Annual Income - 1971

Item of Income	No of Colonists	Total income in Rs. (all Colonists)
a) Income from paddy	88	127,500.00
b) Income from Highland plot	57	14,355.00
c) Income from Chena	47	24,625.00
d) Income from daily wages	43	27,445.00
e) Income from trade/business	6	6,500.00
f) Income from rents of buffalo etc.	1	700.00
g) Income from traditional occupations	9	6,650.00
h) Not responding	2	-
Total	253	207,775.00

3.1 Income from Paddy:

The average colonist derives substantially more than half his annual income from paddy. In Tract 2 paddy cultivation is done in two seasons every year viz. the Yala season (April to August) and Maha season (September to March). In the Dry Zone of Sri Lanka the major season is the Maha Season. When there is adequate irrigation water from the North Eastern Monsoon rain the Yala season is comparatively dry and only a small percentage of the acreage in the dry zone is cultivated during this season. However, where adequate irrigation water is available as in major colonisation schemes, special projects and under major irrigation tanks it is possible to cultivate paddy during the Yala season. Where irrigation water is not

available farmers undertake what is popularly referred to as a 'Bethma' cultivation where farmers temporarily forego their ownership rights and cultivate a limited extent of paddy land from the little water that is available in the tank.

3.1.1 Paddy Yields:

In Tract 2 both Yala and Maha seasons are cultivated. The total paddy yields during the two seasons in 1971/72 are given in Table IX.

Table IX: Paddy Yields 1971/72

Season	Total Yield from 220 acres. (in bushels)	Average Yield per acre. (in bushels)
Yala	3985	18.1
Maha	4518	20.5
Total	<u>8503</u>	<u>38.6</u>

The average yield per acre is low taking into consideration the provision of inputs at subsidised government rates. Farmers ascribe the poor yield primarily to the alkalinity of the soil and low use of fertilizers. It is a fact that most farmers still use 'traditional' methods of agriculture.

3.2 Modern Agricultural Practices:

In this Study 'modern agricultural practices' mean the acceptance by colonists of four improved methods or techniques of agriculture viz:

- a) Use of tractor
- b) Use of improved seed
- c) Use of fertilizer
- d) Use of chemical insecticides

Table X indicate the use of these 'modern' agricultural practice:

Table X: Use of Modern Agricultural Practices

Practice/Technique	No of farmers (out of 90)	%
a) Use of Tractor	13	14.4
b) Use of Improved Seed	6	7.0
c) Use of Fertilizer	47	52.2
d) Use of Insecticides	72	80.0

Most farmers indicated that tractor charges are high. Tractors have to be hired from the owners in the neighbouring villages. Use of improved seed is practiced by only 7% and people are not at all convinced. Of the 52.2% of farmers who use fertilizers, it is doubtful whether correct amounts of fertilizer are used at the appropriate times. Use of chemical insecticides is the most widely used practice.

3.3 Income from Highland Plot:

Each colonist in Tract 2 was allotted 1½ acres of highland for his homestead. Almost all the highland plots are cultivated with permanent crops such as coconut, jak, breadfruit, yams and fruit trees, but not in a very systematic way. Income is primarily from the sale of coconuts.

3.4 Income from Chena Cultivation:

Cultivation of chenas (cleared and burnt jungle land where crops are cultivated under rainfed conditions with shifting cultivation), is a common feature in the agriculture of the Dry Zone Sri Lanka. Peasants both from colonisation schemes and traditional 'Purana Villages' in addition to paddy and highland cultivation also engage themselves in chena cultivation. Usually chena cultivation takes place in state forests and state reservations. Crops such as paddy, kurrakkan, maize, chillies, yams, vegetables are cultivated in the beginning of the Yala rainy season; the crops are rain fed and there is no possibility of irrigation.

In Tract 2 fifty-seven colonists cultivated chenas in 1971/72 and the total average of chena cultivated by 57 colonists was 87 acres i.e. about 1½ acres per colonist. During 1971/72 there was a bumper crop of chillies and many colonists made good profits. The average annual income from chenas was Rs. 524 per colonist.

3.5 Income from Daily Wages:

About 50% of colonists found employment as part-time daily paid farm labourers. In the interim period between the sowing and harvesting of paddy these colonists found employment as farm labourers in the neighbouring villages. The average daily wage was about Rs. 5/- per head. Income from daily wages constituted about 13% of the annual income of 43 colonists.

3.6 Income from Trade and Business:

Only 6 colonists are engaged in some trade or business. The

two Muslim colonists are fish sellers, the other own small village boutiques selling tea, sweetmeats and provisions. These boutiques keepers usually act as the middlemen and purchase agricultural produce on behalf of big businessmen. The boutique keepers are usually the unofficial money lenders. These trades bring in an average annual income of Rs. 1,083/-.

3.7 Income from Rents etc.

There is only one colonist who rents out buffaloes for ploughing. This man has a large herd of buffaloes and several bullock carts: he rents out the buffaloes for ploughing. Payment for the buffaloes is in paddy and is made during harvesting time. The annual income of this man from this source is Rs. 700.00.

3.8 Income from Traditional Occupations:

The 'traditional occupations' referred to in this paper mean occupations such as Kandyan dancing, drummers, native physicians (there is one snake-bite specialist in Tract 2), spirit exorcisers and craftsmen. Income is not regular, but these traditional occupations yield an income which averages Rs. 739/- annually.

3.9 General Remarks Regarding Income:

Most respondents were wary in providing accurate information regarding their income. They consider it quite 'unauspicious' to divulge correct information for fear of the "evil eye" and the "evil mouth". This applies particularly to information regarding paddy harvests. The measuring of paddy at the 'Kamata' (threshing floor) is done in secrecy and usually the information regarding the actual harvest does not go beyond the family. This factor makes it very difficult for an outsider to gain accurate information as regards income. Another reason for not divulging accurate information of the income is the doubt and suspicion of respondents that the information would be utilised for tax purposes.

Table VIII indicates that an average colonist might expect an annual income from agriculture and daily work of about Rs. 2,250/-.

4

PATTERN OF ANNUAL EXPENDITURE:

Table XI enumerates the main items of expenditure for 1971.

Table XI: Pattern of Expenditure for 1971

Items of Expenditure	Expenditure in Rupees	Number incurring expenditure	Average in Rupees
a) Agriculture	42,051.00	88	478.00
b) Food	98,625.00	88	1,121.00
c) Clothing	25,015.00	88	284.00
d) Repair/maintenance of house	5,800.00	9	644.00
e) Medical	13,515.00	73	184.00
f) Religions	6,260.00	49	128.00
g) Special pilgrimages	3,985.00	45	88.00
h) Weddings	4,920.00	6	820.00
i) Funerals	1,750.00	5	350.00
j) Other social	5,660.00	48	118.00
k) Education of children	4,260.00	40	106.00
l) Purchase of Capital goods	5,425.00	11	493.00
m) Miscellaneous	1,535.00	8	192.00

4.1 Common Expenditure:

All colonists spend money on agriculture, food and clothing; these items together amount to an average expenditure of Rs. 1,883/- per colonist.

4.1.1 Agriculture 1971/72:

The major items of expenditure for agriculture is for seed paddy, ploughing, employment of farm labour, fertilizer, chemicals, harvesting and transport.

4.1.2 Food:

There is no need for Colonists to purchase rice. (The rice from the paddy harvest was supplemented by the free rice ration). The other major items of expenditure on food is for fish, meat (occasionally), dry fish (often), Tea, sugar, curry-stuffs, spices, condiments and vegetables. Almost half the average annual expenditure of Rs. 1,121/- on food is for tea and sugar.

4.1.3 Clothing:

New clothes are bought particularly during the Sinhala New Year in April, every year.

4.2 Repair and Maintenance for Houses:

At the inception of the settlement in 1952 the Government provided a single two roomed cottage consisting of a semi open verandah, a bedroom and a kitchen. Since then 72% of colonists have effected some type of structural alterations. In almost all houses a separate kitchen was constructed utilizing the original kitchen as a bedroom. During the year 1971 colonists who altered or repaired his house spent an average of Rs. 644/- for this purpose.

4.3 Medical Expenses:

The most common illnesses are bowel diseases such as, dysentery, typhoid, diarrhoea and worm infestation and common communicable diseases. Almost all the people patronize Ayurvedic Physicians in preference to Western Medical Practitioners.

4.4 Religious Expenses:

It should be noted that religious expenses mean routine expenditure incurred for offerings to the Temple, donations and providing alms to Buddhist priests. Two thirds of the colonists contributed Rs. 128.00 under this heading.

4.5 Expenditure on Pilgrimages:

Expenses on pilgrimages has been treated as a separate item of expenditure, apart from religious expenses. During 1971, 50% of the colonists went on pilgrimage. The usual places visited are: Anuradhapura, Kandy, Dambulla, Polonnaruwa, Sri Pada and Kataragama. Several colonists participated in a 'watawandanawa' - around the island pilgrimage. The cost to colonists participating in pilgrimages averaged Rs. 88/-.

4.6 Expenses on Weddings:

Six wedding ceremonies took place in Tract 2 during the year under review. A wedding is really a very expensive occasion. In addition to the expenses for the ceremony and rituals all friends and relations are invited for a grand wedding reception referred to as an 'At-home'. When a daughter gets married it is customary to offer a dowry in cash. The average cost of a wedding in 1971 was Rs. 820.00.

4.7 Expenses on Funerals:

As in the case of the wedding the funeral ceremony is also an expensive affair. The major items of expenditure is for the religious rituals and ceremonies during and after the funeral, and for the reception of guests. The average cost was Rs. 350.00.

4.8 Other Social Expenses:

Under the category of 'other social expenses' are included wedding presents, donation to funeral houses, participation in community social happenings. Expenditure averaged Rs.118/- among participants declaring under this item.

4.9 Education of Children:

The major items of expenditure in this category is provision of school books and payment of facilities fees. The average expenditure among colonists sending children to school was Rs. 106.00.

4.10 Purchase of Capital Goods:

Capital goods include items such as sewing machines, radio sets, bicycles, wall clocks, almirahs, etc. Eleven colonists incurred an average expenditure of Rs. 493/- on purchase of capital goods.

5 PATTERN OF INDEBTEDNESS:

The pattern of indebtedness of peasants in Tract 2 is indicated in Table XII below. (This may include some debts incurred prior to 1971 and remaining unpaid).

Table XII: Pattern of Indebtedness - 1971

Purpose of Loan	No of Debts	Amount in Rupees	Average in Rupees	% of total Debt
a) Agriculture	66	19,523.00	296.00	41.4
b) Consumption	10	2,550.00	255.00	5.3
c) Release of Mortgage	2	300.00	150.00	.6
d) Marriage Ceremonies	21	10,125.00	482.00	21.3
e) Child Birth	3	190.00	63.00	.4
f) Funeral	20	3,380.00	169.00	7.2
g) Sickness	7	2,600.00	371.00	5.5
h) Trade/Business	-	-	-	-
i) House Repairs	4	2,100.00	525.00	4.4
j) Purchase of capital goods	15	4,392.00	292.00	9.2
k) Purchase of transport (other than bicycles)	-	-	-	-
l) Pilgrimages	15	1,985.00	132.00	3.4
m) Other	5	595.00	119.00	1.3
Total	168	47,740.00	2854.00	100.0

5.1 Agricultural Loans:

The survey indicated that in 1968/69, sixty-eight farmers obtained Rs. 20,123 as cultivation loans through the Multi Purpose Co-operative Store (located in Tract 1). Only 2 farmers repaid their loans in full (Rs.600/-). Up to end of 1971, sixty-six farmers with cultivation loans amounting to Rs. 19,523/- did not repay their loans (i.e. 97% non-repayment of cultivation loans).

The average amount of loan per farmer was Rs. 300.00. Usually about one-third of the loan was given in the form of fertilizer and agro-chemicals. It appears that the fertilizer and agro-chemicals provided in kind under this loan were resold by most farmers to the traders, and the money was used for consumption.

An attempt was made to inquire as to why it was not possible for the 66 farmers to repay their cultivation loans. The replies are tabulated in Table XIII below:

Table XIII: Reasons for Non-Repayment of Cultivation Loans

Reason	No of persons giving reasons	%
a) Crop failure	25	27.8
b) Poor yields	19	21.1
c) Had to pay other debts	16	17.8
d) Loan used for consumption	3	3.3
e) Fields given on 'Ande'	2	2.2
f) Other reasons	1	1.1
g) No response	24	26.7

Surveys undertaken in other villages of the Dry Zone indicate that the reasons given by most of the farmers were 'stock excuses'. An attempt was not made to further investigate the reasons. It is also significant that more than 25% of respondents did not give any reasons for non-repayment of the cultivation loans.

.2 Attitudes of Farmers to Government Loans:

A deeper probe into the question of non-repaymer of agricultural loans gave quite a different pattern. Nine farmers were interviewed in depth and several important reasons emerged. These reasons can be summarised as follows:-

- i) Most farmers considered the agricultural loan granted by the Co-operative as a 'dole' from Government.

- ii) Most people are aware that many loans are not repaid and that loans will be 'written off'; they would get fresh loans which would again ultimately be written off. A man who attempted to repay the loan will be considered foolish and a traitor.
- iii) Co-operative officials, whose job was to recover loans, did not carry out their duties efficiently. In several cases officials had openly discouraged repayment, either because it was too much trouble or to prevent one farmer 'out-smarting' the others.
- iv) It was insisted that repayment should be in cash. Most colonists were reluctant to pay ready cash for their loans. The sale of paddy was a cumbersome procedure anyway and peasants were reluctant to part with the hard earned cash. Many respondents indicated that repayment would be much improved if paddy was accepted in lieu of cash.
- v) The colonists do not feel a moral obligation to repay the loan. Several colonists indicated that they did not want the loan anyway, but it was accepted as all others were accepting the loan. There was a feeling that the production loans were given by a 'smart official' who wanted to make a name for himself.
- vi) The community leadership was not at all involved in the loan granting process and the system of guarantees sureties was very weak.

5.3 Loans for Consumption:

Loans for consumption were usually taken from Village Traders. The respondents indicated that repayment is usually after the paddy or chilli harvest. It should be noted that payment is prompt.

Footnote:

Agricultural Loans in 1972: There were 21 colonists in 1972 who were eligible for co-operative loans. Of these, 8 colonists had obtained agricultural loans from the Co-operative Society. It should be noted that details of these loans are not included in Table XII.

5.4 Loans for Marriage Ceremonies:

Twenty-one farmers obtained Rs. 10,125/- as loans to meet expenditure for wedding ceremonies of children and close relatives. The marriage ceremonies of children were usually held in Tract 2, and the marriage ceremonies of other relatives in their native villages in Kandy, Matale, Kurunegala and Anuradhapura districts. The major items of expenditure on marriage ceremonies were for the provision of dowry and the reception of guests.

The study attempts to tabulate expenditure on weddings during the last five years including 1971. The expenditure pattern is given in Table XIV below:

Table XIV: Patterns of Expenditure on Weddings During 1967 - 1971

Items of Expenditure	Number of Weddings	Amount Spent	Average Expenditure
a) Reception	49	Rs.19,125/-	390.3%
b) Dowry	49	" 13,350/-	272.4%
c) Other Expenses	49	" 425/-	8.6%
Total	147	" 32,900/-	671.3%

It should be noted vide Table XII that 21 weddings took place in 1971.

5.5 Loans for Childbirth:

Only three families obtained loans for childbirth. It is customary for the family to build-up savings for expenses in connection with childbirth. Usually births take place in the nearest Maternity Home.

5.6 Loans for Funerals:

As in the case of weddings the funeral of a member of the family or a close relative is an expensive affair. Most

people particularly in rural Sri Lanka feel that the funeral ceremony should be conducted on a grand scale, to preserve their prestige and standing in the village. The type of coffin used, the number of Buddhist Priests participating in the religious ceremony, the decorations at the grave, the use of public address equipment, the number of wreaths and more than anything else the number of persons attending the funeral ceremony indicate the status of the family.

It is due to these values and attitudes that farmers are virtually compelled to have a grand ceremony and get into debt. To extricate themselves from these debts farmers have to struggle for several years. Usually loans are obtained either from the village mudalali (trader) or from unofficial money lenders. Excessively high rates of interest are charged. Usually re-payment is made in paddy after each harvest; payment of loans is prompt.

5.7 Loans for Sickness:

Only seven farmers incurred debts for sickness. For most minor conditions patients seek treatment from Ayurvedic Physicians. In case of serious sickness patients are taken to Kekivawa or Anuradhapura Hospital. Medical care is provided by the State and the major items of expenditure are travel, drugs and food.

5.8 Loans for House Repairs:

Type Plan colonist cottages were provided for all colonists, however, structural alterations were effected in about 75% of these cottages over the years. During 1971 four farmers obtained loans for house repairs and for structural alterations.

5.9 Purchase of Capital Goods:

Fifteen farmers obtained loans for the purchase of capital goods in 1971. The term 'capital goods' in this study mean purchase of items of equipment which has a value attached to it and can be resold or mortgaged. The popular 'capital goods' in Tract 2 are bicycles, sewing machines, radio sets, wall clocks, wrist watches, petrolmax lamps, and bullock carts. The ownership of capital goods upto 1971 is indicated in Table XV.

Table XV : Ownership of Capital Goods

Item	No	Approx Value in Rupees	Indebted amount in Rupees
Motor Lorry	-	-	-
Motor Trailer	-	-	-
Motor Bicycle	-	-	-
Double Bullock Cart	5	4,000.00	-
Single " "	3	2,400.00	-
Bicycle	41	14,550.00	815.00
Sewing Machine	11	9,500.00	2,797.00
Radio	18	8,100.00	780.00
Wall Clock	6	3,000.00	-
Wrist Watch	8	1,600.00	-
Petrolmax lamps	11	700.00	-
Almirahs (cupboards)	2	750.00	-
Drawing Room Suite	1	300.00	-
Four Wheel Tractor	-	-	-
Two Wheel Tractor	-	-	-
Steel Plough	20	300.00	-
Water Pumps	-	-	-
Sprayer	-	-	-
Duster	-	-	-
Buffaloes	19	5,700.00	-
Cattle	36	7,200.00	-
Poultry	61	610.00	-
Total	242	58,710.00	4,392.00

It is noteworthy that 40% of the value of goods owned are directly connected with agricultural production and that the major single item was for bicycles to provide transport.

5.10 Loans for Pilgrimages:

Participation in pilgrimages to the important religious centres of the country is important in the 'merit making' process. People go on pilgrimages to fulfil vows, to obtain divine blessings for progress and prosperity.

It is interesting to note that more than 50% farmer families participated in pilgrimages, for the sacred shrines at Anuradhapura, Sri Pada, Kataragama, Dambulla, Polonnaruwa and Kandy. Of the fifteen farmers who obtained loans for pilgrimages, two farmer families participated in a 'wata wandanawa' (all Island pilgrimage).

6. SOURCE OF LOANS

Table XVI gives the source of loans for 1971.

Table XVI: Source of Loans 1971

Source	No of Loans	% of No of Loans	Amount of Loan in Rupees	% of total loans
a) Government	4	2.4	910.00	1.9
b) Rural Bank	1	.6	50.00	.1
c) Cooperative Society	66	39.3	19,523.00	40.9
d) Pawnbroker	4	2.4	1,050.00	2.3
e) Money Lender	36	21.4	12,035.00	25.6
f) Trader	39	23.2	9,087.00	19.0
g) Relatives	4	2.4	1,325.00	2.3
h) Neighbours, friends, etc.	14	8.3	3,760.00	7.9
Total	168	100.0	47,740.00	100.0

6.1 Loans from Government:

The Survey indicate that four farmers obtained loans from the Government; no indication was given regarding the purpose of these loans.

6.2 Loans from Rural Bank:

The Rural Bank operates under the Primary Multi/Purpose Co-operative Society. It is possible to obtain loans from the Rural Bank for development, repair and maintenance of houses etc. Loans obtained from the Rural Bank have to be guaranteed by two suretees. The procedure involved is tedious and cumbersome.

6.3 Loans from the Co-operative Society:

The loans obtained from the Co-operative Society for agricultural purposes are usually referred to as 'Cultivation Loans'. There is 97% non-repayment of the cultivation loans. This matter was dealt with earlier in Section 5.

6.4 Loans from the Pawn-Broker:

Usually a pawn-broker gives loans accepting as security items of jewellery or capital goods. To redeem these items of jewellery or capital goods the loan obtained has to be paid in full with interest. The interest rates are very high.

6.5 Loans from Money Lenders:

The money lenders are usually well-to-do farmers of the Tract or from the neighbouring villages. Loans are obtained by word of mouth. There are no rules, regulations or procedures involved. The creditor is bound by honour to repay the loan with interest promptly. Failure to repay is rare.

Non-repayment of loans obtained from money lenders is considered a most dishonourable and despicable act. It is a common belief that if payment is not made in this birth the creditor will be born as a menial servant or slave and have to repay the loan in the next birth. The concept of 'naya' (loan) and 'nayakaraya' (creditor) occupies an important place in the culture of rural communities.

6.6 Loans from Traders:

The village trader, usually referred to as the mudalali, is an important source of credit. Unlike the case of the village money lender the village trader has a greater hold on his creditors. Repayment of loans is usually in kind and is very prompt and regular. There have been several instances in Tract 2 where the entire harvest of paddy had to be given over to the trader in repayment of loans. Prompt repayment ensures further credit. In the absence of easy credit facilities, being in the 'good books' of the trader is very important.

6.7 Loans from Relatives:

Except from members of the immediate family, loans are usually not obtained from relatives as social status is involved. Relatives 'talk' about their creditors, and it is below one's dignity for people to 'talk' about loans. Payment is therefore very prompt.

7. ATTITUDES OF INDEBTEDNESS:

7.1 General Attitudes:

The attitudes of colonists to indebtedness is governed by their values in society. Almost all the respondents interviewed indicated that getting into debt was an undesirable thing and should be resorted to only as a last resort. Again all respondents felt that repayment of loans was a moral obligation. Several respondents said "we do not want to be nayakarayas. If we don't pay our debts now we will have to repay it in some form in our next birth." In this birth

itself we will not prosper if we do not pay our debts. It is a crime not to repay our debts". The concept of non-repayment as a sin influences peoples attitudes to indebtedness. This 'sin' of indebtedness can be placed on a scale, viz.

Scale of 'Sin'

- | | |
|---------|--|
| Greater | <ul style="list-style-type: none"> a) Loans for consumption b) Loans for pilgrimages c) Loans for sickness d) Loans for marriages |
| Lesser | <ul style="list-style-type: none"> e) Loans for agricultural development f) Loans for house construction g) Loans for purchase of capital goods h) All other loans |

According to this scale of sin loans taken for consumption get top priority. Most respondents felt that it is an 'unforgiveable sin' not to repay the debts incurred for food. In the case of debts incurred for pilgrimages the rationale is clear. A person goes on a pilgrimage to attain 'merit'. If a debt is incurred for a pilgrimage is not paid, the person does not get merit but commits a crime and the merit gained will automatically be transferred to the person who granted the loan.

In the case of funerals too, if debts are not repaid promptly then the sin has to be shared by those closest to the dead person and also by the dead person himself. Debts incurred for marriage ceremonies have also to be repaid promptly. There is a stigma attached to non-repayment of loans taken for marriage ceremonies. Often these loans for marriage ceremonies are contracted in secrecy, and non-repayment would create a scandal, much to the embarrassment of the newly-weds. In the lower half of the scale comes indebtedness for agricultural purposes, house construction, purchase of capital goods and all other loans. It appears that the moral obligation for repayment of loans for these purposes is less than in the first category.

Table XVI indicates the sources of loans and it is seen that except for cooperative society which provides 63% of the loans, the other major sources of credit are the private money lender, neighbours, friends and traders. It should be emphasized that loans taken from private sources are promptly paid and often with interest ranging from 100% to 300%. The prompt repayment of these loans is due to the following reasons:

- i) The creditor is often a member of their rural community with whom they have intimate social contact, and a participant in their intimate social happenings.
- ii) Payment is usually in kind, and is thus more convenient than paying cash. After the harvest the creditor is often 'unobstrusively' present at the threshing.
- iii) The creditor is often in a superior economic standing. He is usually a trader or a wealthier colonist. Non-repayment of loans would mean that all other avenues of help and assistance would be closed.
- iv) There is a social pressure on prompt repayment of loans. In a small community the force of this pressure is felt on all social occasions - often leading to the debtor being ostracized from community happenings.
- v) There is a concept of sin in non-repayment of loans; a debt has to be paid even in the next birth.

7.2 Attitudes to Government and Co-operative Loans:

It is paradoxical that the concept of moral obligation and sin which is attached to non-repayment of loans is less applicable in the case of loans taken from Government sources (including the co-operative). The primary reasons for this negative attitude towards government loans are principally:

- i) The co-operative or any other similar agency is a Government Institution. Almost all colonists conceive of the Government and its institutions as a generous 'patriach' with boundless wealth. A small loan taken from a Government institution is like a 'handful of water from the mighty ocean'. Its loss is not felt so that repayment should be avoided whenever possible.
- ii) There is no 'person' involved but a host of bureaucrats, distant to the people and alien to their culture. So there is no moral obligation to repay their loans.
- iii) Loans are taken by many members of the community. In non-repayment they all stand together. Those who repay the loans are really the marginal men

without strong community ties. Those who do not repay stand united together each one gaining strength and courage from the others.

8. CONCLUSIONS FROM THE STUDY:

- i) The Study revealed that the problem of rural indebtedness is a major economic, social and cultural problem.
- ii) Most farmers get into debt due to relatively extravagant and ostentatious expenditure on intimate social occasions such as weddings and funerals, and on pilgrimages.
- iii) There was 97% non-repayment of cultivation loans granted by the Co-operative Society.
- iv) Prompt repayment of personal loans is considered 'an honourable and gentlemanly act'. But this does not apply to government loans as people consider the government a benevolent patriarch.
- v) The peasants patronize mostly the village traders and unofficial village money lenders. There are no formalities and procedures as compared to the tedious and cumbersome procedure and the delay involved in obtaining government (including co-operative society) loans.
- vi) The concept of 'a scale of sin' in loan repayment is significant and should be taken into account in future official credit schemes.
- vii) Procedure presently adopted by official authorities in granting loans should be simplified and repayment made possible in kind, or easy conversion to cash.
- viii) Planning of credit facilities should be a joint endeavour of officials and peasants. Peasants should be actively involved in the process of credit giving and repayment of loans and should be educated to understand the government role in rural development.
- ix) Repayment of official loans should be made a joint responsibility of the community, and the community leadership should be actively involved in the repayment process.

THANNIMURRIPPU PARIPALANA SABAI

Case Study: The transfer of administration of an irrigated settlement scheme from government officials to a People's Organisation

Summary

1. This case study traces the administration of the Thannimurrippu Irrigation Scheme from the time of its inception up to the present, concentrating on attempts to transfer responsibility from Government Officers to People's Organisations.
2. The scheme was established in 1953, on the site of an ancient tank, Nagarajawewa. Six-hundred-and-fifty farmers were selected from nearby villages; each was given 3 acres of paddy land under the tank. Since the farmers were given little assistance for establishing themselves at Thannimurrippu, and since for most part they already had land and houses outside the scheme, very few of them moved to the scheme area, but cultivated their plots while living at their previous residence.
3. From 1953 to 1968 the scheme was administered by government officers under provisions of the Land Development Ordinance and Irrigation Ordinance. The cultivators were consulted in the formulation of the Cultivation Programme (dates for water issue, sowing, harvesting, etc., see Table 3), but they had no elected organisation which represented their interests. Seeing that the Government accepted responsibility for maintenance and administration of the scheme, the farmers came to expect work to be done for them which they could have done themselves. Since the Government departments were rarely able to satisfy these demands, the situation was unsatisfactory both for the Government and for the cultivators.
4. The Paddy Lands Act 1958 was not implemented at Thannimurrippu until 1968. In August of that year three Cultivation Committees were elected by the cultivators of the three tracts of the scheme. These committees were given partial responsibility for maintaining irrigation works and controlling water issues, but the exact division of responsibility between the Cultivation Committees and the Government Officers was unclear. For this and other reasons (lack

of confidence of the Government Officers in the Cultivation Committees, unwillingness of the cultivators to accept discipline from their elected fellows, etc), administration of the scheme continued to be unsatisfactory, and dependence of the cultivators on the Government for maintaining the irrigation system, setting minor disputes, etc., remained.

5. In October 1970, with the new Government's determination to increase people's participation in running their affairs, and with a new Government Agent in Vavuniya District interested in experimenting in this direction, the Thammimurippu Paripalana Sabai (T.P.S.) or Administration Board was established. This is a committee elected by all the cultivators: the three Cultivation Committees (CC's) and the ordinary cultivators are represented. The TPS has wider powers than the CCs' for maintaining and developing roads and irrigation channels, controlling water issues, etc., but it has no legal powers and no source of funds. It is intended to co-ordinate rather than supplant the existing CC's providing a channel of communication between them and the Government Officers. The officers were instructed to give all support to the TPS.
6. The TPS has held regular meetings since its inception, with good attendance both of membership of Government Officers. Generally the topics discussed have been constructive, and relevant to the needs of the cultivators.

Economically the TPS has had limited effect, mainly because it has little connection with the Co-operative Societies and other economic institutions. Through the patronage which it has enjoyed from Government Officers, it has achieved preferential treatment for the scheme - in development works, etc., which has helped the farmers to some extent.

Socially the TPS has on the whole represented the interests of the cultivators fairly, in the area over which it has authority; but its acceptance and effectiveness have been limited by the fact that it covers only the paddy land and not land outside the scheme, and also by the fact that the farmers do not live together as one community

Administratively, the TPS has taken some of the burden off the Government officers, in settling minor disputes, administering the Cultivation Programme, etc., but it has been hampered in this respect by its lack of legal powers, lack of a source of funds, and by limitations both on the authority delegated to it by the Government Officers, and on the acceptance which it has received from the cultivators.

In particular the TPS has encountered some resentment from the Cultivation Committees, which have sometimes seen it as an encroacher

on their rightful territory. Fortunately, the effect seems to have been to stimulate the Cultivation Committees to greater effort rather than the opposite. But clarification of the relationship is desirable.

7. An important question raised is the problem faced by an elected body in enforcing discipline on the farmers who elect it. The rules needed for effective administration of the Thammimurrippu scheme have been understood at all stages of the scheme's operation, but the CC's and the TPS have failed to implement them effectively. There is a need for precise definition and publication of the rules which should again be freely accepted at a public meeting. The punishments for infringement, the powers of the relevant authorities and the role of the Government officers in training the farmers should clearly be understood.
8. It is too early to reach final conclusions on the success or otherwise of the TPS experiment. Social change of the kind envisaged at Thammimurrippu is a gradual process. Despite obvious shortcomings it is believed that the TPS has made significant steps in the direction of increased self-government. For the future it is recommended that the TPS be given legal recognition, a source of funds, responsibility for all crops and not just for paddy, and a closer association with Co-operative Societies and marketing and lending institutions. It is suggested that the Cultivation Committee continue to operate under the umbrella of the TPS, that the cultivation rules and procedures for enforcement be more clearly laid down, and that intensive training of the People's Organisations be provided by the Government Officers.
9. It is noted that the proposals made for improvement of the TPS are very similar to those envisaged for the newly constructed Agricultural Productivity Committees. It is felt that the problems encountered by the T.P.S. may be similar to those that the APC's will face, and it is suggested that the T.P.S. experience be borne in mind in planning the establishment and operation of the APC's.

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CASE STUDY: THE TRANSFER OF ADMINISTRATION OF AN
IRRIGATED SETTLEMENT SCHEME FROM GOVERNMENT
OFFICIALS TO A PEOPLE'S ORGANISATION

THANNIMURRIPPU PARIPALANA SABAI

I. INTRODUCTION:

Thannimurrippu Tank is in Vavuniya District in the Northern Dry Zone of Sri Lanka (~~see Map 1~~). It lies on the site of an ancient tank, Nagarajawewa, which was restored and extended in 1953. It irrigates some 2,800 acres of paddy land, cultivated by about 800 families. When the irrigation scheme was started in 1953, control of land and water use was regulated by the Land Development Ordinance (1935) and the Irrigation Ordinance (1946, amended 1951). Under these Acts prime responsibility for land administration and irrigation management was vested in Government officers. Subsequently, under the Paddy Lands Act of 1958, a greater share of responsibility devolved on to elected committees of the cultivators, but still the officials retained the final word. In 1970 an attempt was made to reduce the involvement of the bureaucracy in the Thannimurrippu Scheme and 'to see whether left to themselves, the cultivators could manage their affairs more efficiently'(1). This was done through the establishment of a People's Committee, the Thannimurrippu Paripalana Sabai.

This case-study traces the administration of the Thannimurrippu Scheme through the different stages of its development, evaluates the effectiveness of the Sabai up to the present time, and suggests some guidelines for administration in the future.

II. OBJECTIVES AND LIMITATIONS OF THE STUDY:

The objectives of the study may be summarised as follows:-

- a) To describe the administration of the Thannimurrippu Irrigation Scheme from its inception up to the present time, focussing on the part played by Government institutions on the one hand and people's organisations on the other.

(1) See Administration Report of Thannimurrippu Paripalana Sabai October 1972.

- b) To evaluate the effectiveness of the Thannimurrippu Paripalana Sabai in increasing the technical and economic efficiency of the scheme, in removing part of the administrative burden from the Government, and in representing the interests of all the scheme members.
- c) From this experience to draw some general conclusion on the desirable combination of people's participation with Government supervision in administering irrigated settlement schemes.

It must be appreciated from the outset that the study suffers from several limitations:-

- a) The time available for the field investigation was limited.
- b) The records available for the period before 1970 are very limited.
- c) The Thannimurrippu Scheme is not typical of schemes in all other parts of Sri Lanka;

Nevertheless, bearing these limitations in mind, we believe that the case-study may be of value not only in itself, but also in throwing light on important policy issues relating to irrigation scheme administration.

III. METHODOLOGY:

A preliminary one-day visit was paid to Thannimurrippu in January 1973 to attend a meeting of the Sabai and to discuss the scheme with officials concerned. Following this, one week was spent in the area in May, in the course of which meetings were held with the Sabai, with one of the Cultivation Committees, with Cultivation Committee Chairman and Secretaries, with farmers, Government Officers, Co-operative Officials etc. A guided interview technique was used rather than a formal questionnaire. Files relating to the Scheme kept by the Sabai, Cultivation Committees, Co-operative Society, Land Commissioner's Department, Agrarian Services Department, Divisional Revenue Officer and Government Agent were examined.

IV. EARLY HISTORY OF THE THANNIMURRIPPU SCHEME:

4.1 Establishment of the Irrigation Scheme:

The first tank at Thannimurrippu was constructed by a Sinhalese King, probably in the 4th or 5th century A.D. With the decline of the Sinhalese Kingdoms in the 12th and 13th centuries the tank was abandoned and remained in that state until its reconstruction by the Irrigation Department in 1953.

The population of Mullaitivu Division in 1953 was living in villages mainly to the north of Thannimurrippu, cultivating chenas (1) and small plots of paddy land irrigated by other tanks such as Kannukeni and Palaikadduvenkulam. The population density was not heavy (only 36.4 persons per square mile (2)), but there was an acute shortage of land suitable for paddy-growing. When the Thannimurrippu tank was renovated and irrigated land became available, settlers were not brought in from other districts as happened in most Colonisation Schemes, but plots were allocated to applicants from surrounding villages. In view of this fact, the scheme was classed as a Village Expansion Scheme rather than a Colonisation Scheme, and less investment was made in infrastructure (roads, buildings, education and health facilities) than would otherwise have been the case. Furthermore, the farmers were given less Government assistance in developing their plots than was afforded farmers on comparable Colonisation Schemes at the same period. The Thannimurrippu allottees had to clear and cultivate their lands without Government assistance, as well as to construct their bunds and field distribution channels and build their houses (3); the Government took responsibility only

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- (1) Chena - forest land cleared for rainfed cultivation of millet, yams etc. The rainfall in Mullaitivu is generally too low and unreliable for cultivation of paddy without irrigation.
 - (2) Department of Census and Statistics. Population Census 1953.
 - (3) By comparison the scheme of Government assistance for farmers in Colonisation Schemes at the time included the following:-
 - a) Jungle clearing free of charge.
 - b) Free stumping of 2 acres paddy land. Rs.200/- subsidy for stumping additional acres.
 - c) Ridging of all paddy land.
 - d) Construction of irrigation channels and roads.
 - e) Subsidy of Rs.200/- for developing highland allotment.
 - f) Free seed paddy for first season & planting material for highland.
 - g) Monthly subsistence allowance of Rs.15/- till first harvest.
 - h) Free houses, latrines and wells.
 - i) Provision of Schools, hospitals, meeting halls.

Source: Administration Report of the Land Commissioner 1953.

for building the tank, main channel, branch channels, and major field channels. (1).

There were two significant results of this initial policy. First very few of the farmers moved to the plots that they were allocated on the scheme: Table I shows that even now only 12 out of 650 allottees live on or near their paddy plots, while the majority reside between five and fifteen miles from the scheme. Secondly, although the policy of the Land Commission was to select landless or land-poor settlers, the low level of assistance offered at Thannimurrippu made it difficult for such people to establish themselves. Thus most of the Thannimurrippu farmers are relatively better off than the average dry zone colonists, having additional land outside the scheme and sometimes other interests as well. Of 10 Thannimurrippu farmers randomly selected from the Thanniyattu Co-operative Society register (see Table 12), three have paddy lands outside the scheme in addition to the plots they were allocated. Table 2 illustrates the same point for 8 farmers who were personally interviewed, but since the majority of these are or have been office bearers in Cultivation Committees or in the Sabai, the sample is of course not random.

Table 1: Place of Residence of Thannimurrippu Farmers

Village (M.P.C.S)	Number of Farmers	Average distance of residence from paddy field (miles)
Kumulamunei	167	4
Chermalai	55	7
Thanniyattu	185	12
Mullaitivu	75	16
Muliyawalai	49	13
Neeravipiddy	98	14
Muliyawykai	9	21
Thannimurrippu	12	1
Total	650	

Extracted from Crop Registers of three Cultivation Committees (Thannimurrippu North, Central and South) for Maha 1972/73. Excludes 145 farmers with private (non LDO) lands served by Thannimurrippu Tank, none of whom are resident within the scheme boundaries.

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- (1) The cost to the Government of constructing the entire scheme was estimated at Rs.3,290,000/-. In addition the Irrigation Department undertook "to maintain the entire work, excluding field channels serving less than 100 acres and/or less than 3/8th of a mile length. In consideration of which the Proprietors on their part agree to pay an irrigation rate of Rs.05/- per acre per annum, subject to revision by Government" (Extract from Part I, Section 1 (General) Gazette No.13,162 of 8.6.62).

Table 2: Land-Holding and Capital

Farmer	Office	Paddy Holding	
		Thannimurrippu	Other
T. Nallathamby	President TFS Treasurer TCC	3 acres LDO	-
K. Sivalingam	Secretary TPS Treasurer TNCC	3 acres LDO	4 acres in Trincomalee (wife's dowry)
N. Ponnambalam	Member TPS President TNCC	3 acres LDO	-
S. Jesuratnam	Member TPS Secretary TNCC	3 acres LDO	-
S. Velauthan	Member TCCC Ex-member TPS	3 acres LDO	-
A. Mirasaibu	Irrigation Agent TSCC	3 acres LDO	-
P. Ramlam	-	3 acres LDO	-
K. Sellathamby	-	4 ac.private land (leased from owner)	8 ac.private land under Kannukery Tank.

Assets of Sample Thannimurrippu Allottees

Highland Holding		Livestock Owned	Other Assets
Thannimurrippu	Other		
1 acre not developed	3 ac. coconut 3 ac. irrigated chillies, plan- tains etc. at Poothanvayal	2 buffaloes	Tractor purchased 1963 for Rs.20,000/-
1 acre not developed	1 acre at Thanniyuttu	-	Brick House
1 acre LDO not developed	1½ ac. coconut etc. 5 ac. cadju	4 buffaloes 5 cattle	Tractor (part paid) Tea boutique at Kumulamunai.
1 acre LDO	1 ac. manioc etc at Marmoolai	-	-
-	3 ac. coconut mixed crop at Kannakery	-	Shop at Thannimurri- ppu. Had tractor sold in 1969.
-	1/4 ac. plot at Neeravipiddy	-	-
-	1 ac. at Neera- vipiddy	-	-
-	1 ac. at Thannimurrippu	15 cattle	Toddy tapping busi- ness concrete house semi-completed

4.2 Administration under Land Development and Irrigation Ordinances:

As soon as the Thannimurrippu irrigation network had been established and farmers had been allocated their holdings, Government officers were brought in to administer the scheme; these officers were additional to those already existing in the District Administration and were appointed under the Land Development Ordinance (LDO) and the Irrigation Ordinance. It will be useful to understand the provisions of these Ordinances, and the responsibilities they accorded to Government officers on the one hand and to farmers' organisations on the other.

4.2.1 Land Development Ordinance:

This Ordinance was established to regulate the allocation and use of Crown land. The land under Thannimurrippu Tank being previously uncultivated, was classed as Crown Land, and was therefore subject to the provisions of the Land Development Ordinance (1). When the irrigation system had been constructed the land was blocked out into 3 acre paddy lots which were then allocated to local applicants by the Government Agent, Vavuniya, in his capacity as Deputy Land Commissioner (2). These allocations were carried out at Land Kachcheris convened for the purpose at the Divisional headquarters (3). The allotments were given on LDO permits, later converted to grants, which provide secure and inheritable tenure subject to certain provisions regarding development of the land, nomination of a successor, and payment of annual dues (Regulations made under LDO Section 155-157). A Land Development Ordinance Supervisor (S/LDO), answerable to the District Land Officer and through him to the Land Commissioner, was posted to Kumulamunai and given responsibility for regularising permits and grants, collecting dues and settling land disputes between Thannimurrippu allottees (or advising on settlement where disputes were brought to Court).

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- (1) Other than 800 acres of private land previously used for rainfed cultivation which now receive water from the irrigation system.
 - (2) Allottees were also eligible for highland plots of 1-2 acres, but as the great majority did not wish to reside at Thannimurrippu and had sufficient highland elsewhere, few of these plots were taken up. See also Table 2.
 - (3) A Land Kachcheri is a meeting held for the purpose of alienating Crown Land (Land Development Ordinance 1935, Chapter III).

No organisation of the farmers was recognised for the purpose of land matters arising under the Land Development Ordinance: the Government Agent, S/LDO and other Officers contacted the farmers either directly or through the mediation of the G.A.'s appointees at village level, the Village Headman (V.H) and the Village Cultivation Officer (VCO). Similarly in cases where the allottees wanted to contact the Government officers they did this either individually or through the channel of the VH or VCO.

4.2.2 Irrigation Ordinance:

This Ordinance prescribes the use of irrigation water, maintenance and operation of irrigation structures, and the programme of cultivation to be followed in all irrigation schemes constructed by the Government. Rules made for each district, under Section 11 of the Ordinance, further define the division of responsibility for administration of the scheme between the Government officers and the cultivators. An extract of the rules for Vavuniya District, made by the majority of the proprietors and approved by the Governor in 1933, is shown at Appendix I. The Thannimurrippu cultivators became subject to these rules as soon as their scheme was confirmed. The major provisions of the Irrigation Ordinance and Rules, as they operated in the Thannimurrippu Scheme in its early years, may be summarised as follows:-

a) Maintenance of Tank and Major Channels:

The Irrigation Department took responsibility for this work, while the proprietors agreed to pay an irrigation rate, fixed initially at Rs.5/- per acre per year (footnote 1, p). The proprietors were also liable to contribute annual labour at the rate of 4 days per acre of paddy land held, on the publication of a notice issued by the Assistant Government Agent (Rule 5, Appendix III).

b) Maintenance of Field Channels and Fences:

The proprietors had to construct and maintain the field channels which passed through their holdings, as well as a proportion of the channels outside their holdings which carried water to them (Rule 17-18). Similarly the fences which were constructed round the fields during the cultivation season had to be put up and maintained by the proprietors, the work being divided in proportion to the size of each man's holding (Rule 46).

c) Fixing of Cultivation Programme:

A meeting of the majority of the cultivators, presided over by the Government Agent, decided at the beginning of each

season what extent of land should be sown, what date planting should begin and end, what variety or varieties of paddy should be used etc. (Rule 30). Table 3 illustrates the proceedings of a typical such Cultivation Meeting for the 1967/68 Maha season in the Thannimurrippu Scheme.

d) Control of Water Issues:

There were strict rules governing the issue of water from the tank, and its division between cultivators on a rotational basis (Rule 23-25). While the Irrigation Department was responsible (through its Irrigation Engineer and Technical Assistants) for control of water issue from the tank into the main and branch channels, distribution through the field channels and into the paddy lands was controlled by the Irrigation Headman or *Kama Vidane*.

Table 3: Proceedings of Cultivation Meeting
1967/68 Maha. Thannimurrippu Tank

DRO's Division: M.PP Name of Tank: Thannimurrippu
Name of Tract and its extent: Thannimurrippu -2364 Acres(Full Extent)

The above meeting was held at 3.00 p.m. on 14.8.67
at R.D.S. Hall Kumulamanai. The following were present:

G.A. Vavuniya (Presiding)	O/LDO Thannimurrippu
DRO Head Qts.Kachcheri Vavuniya	M.O. "
D.R.O. M.PP	T.A. "
I.E. Vavuniya	A.E.S. Kumulamanai
A.I. Head Qts.Vavuniya	G.S. '
A.II, Mullaitivu	V.C.O. Thannimurrippu
A.D.O. "	12. K.VV
D.O.A.S. "	

159 shareholders representing 477 acres out of 2,364 acres.

The following decisions were unanimously arrived at the meeting.

1. Tract to be cultivated ...Thannimurrippu
2. Extent to be cultivatedFull extent - 2,364 acres
3. Completion of channel clearing: 15.9.67
4. Completion of fencing 15.9.67
5. Completion of sowing 15.10.67
6. Date of completing erection watch huts 1.12.67
7. Variety of seed paddy H 4 - 4 months variety
8. First issue of water 1.11.67
9. Last issue of water 15.2.1968
10. Last date of reaping 1.3.1968
11. First date of threshing 2.3.1968;
12. Period during which cattle should be tethered) from 15.9.67 till
in pairs and kept at nights) 29.2.68

Other matters discussed:-

e) Powers of Irrigation Headman:

The Irrigation Headman or Kama Vidane was appointed by the Government Agent; however he was paid by the cultivators at the rate of a 1.5% commission on the crop raised. He was generally a farmer of standing in the area: often the accepted leader of the cultivators or *Vel Vidane* was chosen. His traditionally ascribed position became officially recognised under the Irrigation Ordinance. He was given power to withhold water from the field channels if farmers failed to clear and repair them; alternatively, he could hire labour to do the work and recover the cost from the farmers' harvest (Rule 22). Ultimately he could prosecute farmers in the Rural Courts (given the approval of the V.C.O.) in the event that they contravened either the programme agreed to by the majority of the proprietors, or the regulations imposed by the Irrigation Ordinance.

f) Powers of Government Officers and Cultivators:

The final authority in all irrigation matters was the G.A. or A.G.A. He could prescribe changes in the irrigation rates, the Cultivation Programme, the distribution of water. Resolutions passed by the proprietors could not take effect until they had been approved by the Government Agent. By contrast the cultivators, although consulted in the formulation of the Cultivation Programme, had no recognised representatives, and no disciplinary powers. The Irrigation Headman, who often had previously been the farmers' leader, by being taken into the Government service were in a sense removed from the ordinary people. It was therefore natural for the farmers to leave decision-making and responsibility to the Government officers, and to take action only as a last resort when they felt their vital interests were being jeopardised. (1)

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- (1) As illustration, following the Cultivation Meeting of which the proceedings are shown at Table 3; 92 cultivators wrote a petition to the Minister of Agriculture and Lands, requesting that, due to the lateness of the rains, "Your Honour be kind enough to grant us an extension of time for sowing up to 20.11.67, and issue water from the Tank for mudding". (A.G.A. Mullaitivu file D/FP/11, folio 41). It is surprising that a matter of this nature could not be sorted out at the local level.

4.2.3 A brief evaluation of the effectiveness of administration under the Irrigation Ordinance can be made:-

- a) The essential conditions for efficient land and water use were clearly specified in the Irrigation Ordinance and Rules. Activities which had to be done both individually and collectively were spelt out, together with penalties for non-performance.
- b) Final authority for implementing the Irrigation Ordinance and supervising administration of the scheme lay with the Government Agent. He generally attended the annual Cultivation Meetings, but was inevitably too remote to provide real supervision.
- c) At village level the authority for enforcing the rules was the Irrigation Headman, who was under the jurisdiction of the V.C.O. and G.A. He had the incentive to do the job efficiently, being paid a proportion of the crop harvested; and he had sufficient stature to command the farmers' respect, being often their traditionally accepted leader. But the very fact of taking him into the Government service, removed him to some extent from the farmers, and this together with the growing demand of the people for participation and self-determination made it increasingly difficult for him to enforce the necessary discipline (1).
- d) At farmer level there was no representative organisation, and this was the main gap in the organisation, which led to the call for change in the years following Independence.

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- (1) In many cases, the Irrigation Headman also became partisan in the use of the powers accorded to them. Although no cases of discrimination could be traced in our study of Thannimurippu, a commonly heard accusation is that the Irrigation Headman, being from the more prosperous class of paddy farmers, favoured their own class and ignored the interests of the small farmers or the landless.

4.3 Administration under Paddy Lands Act:

The most significant step in the reform of irrigation scheme administration in Sri Lanka came with the passing of the Paddy Lands Act in 1958. The chief objective of this legislation was to regulate the conditions under which tenant farmers held their paddy land, giving them security of tenure and controlled rents (1).

This aspect did not affect the Thannimurrippu farmers, since the great majority hold land on L.D.O. permits. The more important parts of the Act for our purpose relate to the establishment of Cultivation Committees as elected village-level organisations, and to the formation of the Agrarian Services Department as supervisor of the Cultivation Committees' activities (2).

The Cultivation Committees consist of twelve members elected by the cultivators, covering on average an area of around 300 acres of paddy land. The Committees have responsibility for developing and maintaining irrigation works, for controlling water issues and collecting the irrigation rates previously collected by the Irrigation Headmen, for promoting high standards of cultivation of paddy land, and for making representations to the Government concerning the grievances and problems of the farmers (3). They also have to maintain a Paddy Lands Register, collect rents, fix wages of agricultural labourers, etc. The Committee members are not paid for the performance of these duties: only the Irrigation Agents, who are appointed by the Cultivation Committees in place of the Irrigation Headmen, receive a small allowance, paid by the cultivators of the tracts which they serve. The Cultivation Committees themselves have two sources of income: an annual acreage levy which they can demand from all cultivators in the area under their jurisdiction, and a commission on contracts for the repair or construction of irrigation works, which the Committees are empowered to undertake on behalf of the Irrigation Department.

(1) Paddy Lands Act, 1958 Parts I and II.

(2) " " " " Parts III and IV

(3) " " " " Section 36.

This revenue can be used for improvements to the irrigation works, and for development projects of various sorts for the benefit of the cultivators. However, various studies made of the operation of the Paddy Lands Act show that the amount of money actually collected by most Cultivation Committees is small, and the amount of development work undertaken is correspondingly limited (1).

The Agrarian Services Department which was set up under the Paddy Lands Act (Part IV) appoints district and sometimes divisional level officers who supervise the election and operation of the Cultivation Committees. All reports, notices of decisions, proposed expenditures etc. must be sent to the Divisional Officer or Assistant Commissioner of Agrarian services (2) for approval. At Thannimurripu no Divisional officer has been appointed: the S/LDO acts as the link between the Cultivation Committee and the A.C.A.S.

4.3.1 Formation of Cultivation Committees at Thannimurripu:

Although the Paddy Lands Act became Law in 1958, election of Cultivation Committees at Thannimurripu did not take place until August 1968. Three committees were formed, for Thannimurripu North, Central and South. Table 4 gives some information regarding the committees and their elections.

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- (1) The average rate for collection of acreage levy by all Cultivation Committees over the period 1958-1959 to 1967-1968 was only 25% of the total amount due (Administration Report of the Commissioner for Agrarian Services, 1967-1968).

See also J.V. Fonseka, Report on the Survey of Cultivation Committees 1966, an extract of which is at Appendix II.

- (2) Assistant Commissioner of Agrarian Services is the title given to the District Officer of this department.

Table 4: Election of Thannimurri-
Cultivation Committees.

Name of Committee	Thannimurri- ppu South	Thannimurri- ppu North	Thannimurri- ppu Central
Area Served	Left Bank Branch Channel No. 1	Left Bank Branch Channel No.2	Left Bank Extens Area Channel
Number of Cultivators	395	218	104
Date of Election	11.8.68	12.8.68	13.8.68
Place of Election	Kumulamunai	Kumulamunai	Kumulamunai
Presiding Officer	S/LDO Thanni- murri-ppu	S/LDO	S/LDO
Number of quali- fied cultivators present	196	150	60
Number of Nominees	12	12	12
Number of Commi- ttee Members elected	12 (no vote)	12 (no vote)	12 (no vote)
Officers Elected	President Secretary Treasurer	President Secretary Treasurer	President Secretary Treasurer

Source: ACS Vanniya file Nos. VA/CC/115, VA/CC/116,
VA/CC/117

Table 5: Minutes of Thannimurrippy South

Date of Meeting	No of items on Agenda	I S S U E S		
		Election of Officers	Appointment and duties of irrigation agents	Expenses of Cultivation Committee
11. 8.68	5	5	-	-
29. 8.68	2	-	1	-
9. 9.68	8	-	4	2
3.10.68	4	-	1	-
8.10.68	5	-	-	2
30. 5.69	5	1	1	-
20. 8.69	9	2	2	4
TOTAL	38	8	9	8

Source: ACAS Vavuniya File VA/CC/16. N.B.

Cultivation Committee Sample Meetings 1968-1969

Attendance at Meetings	D I S C U S S E D		Communication with Government Officers
	Issue of water	Land Disputes	
-	-	-	-
1	-	-	-
-	2	-	-
-	-	1	2
-	2	1	-
-	3	-	-
1	-	-	-
2	7	2	2

Minutes of Meetings for 1970 are not available.

4.3.2 Operation of the Thannimurripu Cultivation Committees 1968-70:

A picture of the way the three Thannimurripu Cultivation Committees operated between the date of their formation in August 1968 and the establishment of the Paripalana Sabai in October 1970 can be gleaned from two sources: the Cultivation Committee files containing correspondence and minutes of meetings, and the memories of farmers and Government officers who worked in the area at the time.

Table 5 summarises the minutes of sample meetings of the Thannimurripu South Cultivation Committee during this period. The major items of discussion were the non-attendance of Committee members, the appointment and payment of Irrigation Agents, and the collection of acreage levies. The Cultivation Meetings were held as previously, and responsibility for enforcing the decisions reached was placed on the Cultivation Committees. In fact detailed default rates were decided on which had not been done before: Rs.5/- per fathom for fences not erected or in state of disrepair, Rs.25/- for erecting a watch-hut, Rs.7.50 per day for watchers employed by the Cultivation Committees, etc. (1). But it is clear both from the lack of evidence in the files of disciplinary measures, Court cases, etc. and from the opinions voiced by farmers whom we interviewed, that the Thannimurripu Cultivation Committees did very little to enforce these rules prior to 1970. Poor maintenance of field channels, inefficient use of water, and the delayed closing of the cultivation season noted on page 139 footnote, continued to be regular occurrences. It was only later on, after the Cultivation Committees had been in existence for a couple of years, that they began to perform constructive activities like settling boundary disputes, controlling water issues, performing contracts for the Irrigation Department, etc. (This will be outlined in the next section; see Table 8).

(1) A.G.A. Mullaitivu file D/FP/11.f84

4.3.3 Evaluation of Administration by the Cultivation Committees:

The inefficient administration of the Thannimurippu Scheme in the period 1968-1970 can be explained in several ways. First, it is clear that, as elsewhere in Sri Lanka, the Government Officers in general had little confidence in the ability of the Cultivation Committees to administer their affairs (1). Thus even a simple matter like the allocation of Rs.3.50 for 'Tea Money' during the committee meetings was not permitted without written application to and approval of the ACAS (2). Furthermore, the blurred line dividing the responsibilities of the cultivation committees from those of the Government Officers and the complex and time-consuming channels through which instruction between the two parties had to pass, only added to inefficiency and confusion. This is well illustrated in the sequence of letters described at Table 6, where it is seen that a request from a Cultivation Committee to the Irrigation Department took nearly two months to pass from desk to desk before any action was taken.

Table 6: Channel of Communication between Cultivators and Officials - an illustration.

Date of Letter	From Whom	To Whom	Subject
13.11.68	S/LDO Thannimurippu	DRO Mullaitivu	Complains on behalf of Central Cultivation Committee that main channels have not yet been weeded by Irrigation Department. Says water will take 10-12 days to reach fields. Requests urgent action
15.12.68	DRO Mullaitivu	GA Vavuniya	Passes on S/LDO's message. Requests urgent action.
16.12.68	GA Vavuniya	I.E.Vavuniya	Requests I.E. to take immediate action on S/LDO's request.
28.12.68	I.E.Vavuniya	Secretary Thannimurippu Central Cultivation Committee	Instructs Cultivation Committee to undertake the necessary repair work at rates agreed upon on joint inspection of 20.12.68
2.1.69	Secretary TNCC	I.E.Vavuniya	Informs I.E. that he has handed over his labourers to the Technical Asst. (Irrigation Dept.), "to get the work done to his satisfaction".

Source: AGA Mullaitivu file D/FP/11 Folios 108, 112, 113, 115, 123

(1) See J.V. Fonseka, Report on Survey of Cultivation Committees, para 12 (vii)

(2) File VA/CC/115 ACAS letter of 7.8.1969

Another factor is whether the cultivators had confidence in their Cultivation Committee, and were ready to accept its ruling. A commonly made criticism of Cultivation Committees is that they were dominated by landlords and middlemen, and did not represent the real interests of the cultivators(1). At Thannimurrippu we have no evidence that this was the case: as mentioned earlier there is little tenancy or landlordism in the area. However, from our discussion with farmers and officials it became clear that two other factors reduced the legitimacy of the Cultivation Committees. Firstly the members do not live on the scheme but are spread over a wide area, putting a physical limitation on the ease with which the Committees can communicate with their members. Secondly, although democratically elected, the Cultivation Committees were not spontaneous movements arising from the people's initiative, but were introduced by Government officials. This does not mean that they could not become accepted by the people later on, but it may partly explain their apparent inefficiency in the early years.

A final question which must be asked - and this is one to which we shall return later in our evaluation of the Paripalana Sabai - is to what extent it is possible for an elected body to discipline its electorate; or is an impartial external authority needed for this purpose? Many of the farmers we interviewed felt that the administration of their scheme prior to the introduction of the Paddy Lands Act had been more efficient. A common response was that given by a farmer from Neeravippiddy village. "Before with the Village Cultivation Officer and Irrigation Headman we only had to run behind two people to get things done. Now with the Cultivation Committee we have to run behind at least ten". And in a letter from one cultivator to the Assistant Government Agent (AGA): "I wish to suggest to you to hand over the issue and control of water to the trained personnel of the Department. This will ensure the most economical use of water and production also will rise" (2).

Nevertheless there were clear positive features in the administration of the Thannimurrippu Scheme under the Cultivation Committees. Farmers were more involved in decision-making than they had been before, and a start was made in the transfer of responsibility from officials to cultivators. Some disputes which previously had come to the Divisional or even the District level for arbitration, were now settled in the villages. But

(1) See for example, I.K. Weerawardena "A Review of the Paddy Lands Act, 1971"(Mimeo)

(2) A.G.A. Mullaitivu file D/FP/11 Folio 400.

the situation in 1970 undoubtedly left a great deal to be desired, particularly in the system of enforcement of the rules which had been collectively agreed upon. It is in this light that the establishment and operation of the Thannimurippu Paripalana Sabai must be viewed.

V. PROPOSAL FOR THE THANNIMURIPPUPARIPALANA SABAI:

In September 1970, the Government Agent wrote a letter to the Permanent Secretary of the Ministry of Irrigation, Power and Highways, in the following words:

"As you are aware one of the biggest problems affecting management, water distribution and cultivation in Colonisation Schemes is the inability of the colonists to look upon the scheme as belonging to them and their proneness to expect the Government to do everything for them. This attitude is to be seen in the refusal to clear and de-silt field channels, the destruction of pipe outlets in masonry structures for personal benefits, the frequency with which the cultivators resort to illicit tapping, etc., etc. When something goes wrong, cultivators always allege the failure of the Irrigation Department. They destroy the masonry structure and blame the technical staff. They also tap water illicitly and allege inefficiency of the Irrigation Department. They allow the field channels to get covered up with silt and blame faulty construction".

"I feel that the problem is getting worse daily. People expect the Government to do everything for them".(1)

As a remedy the Government Agent proposed to take the Thannimurippu Irrigation Scheme and experiment by handing over the management of the scheme to the cultivators themselves. His proposal was "to call upon the existing Cultivation Committees of the scheme to elect a Governing Body of about fifteen members", which would take responsibility for all water issues from the level of the tank down to the field channels, other than the tank bund, the main sluice outlets, the concrete structures on the distribution channels, and the de-silting of the main channel. These would continue to be the responsibility of the Irrigation Department as before (2).

(1) G.A. Vavuniya File No. LN/1/414, Folio 15

(2) Ibid

The Government Agent chose the Thannimurrippu Tank for the experiment because "it is a large tank.....its problems seemed almost unsolvable by officials and were a constant menace to the administration; and the cultivators are among the most sophisticated and vociferous in the District (1).

The proposal had been discussed with the cultivators and field staff in the area, who were said to be very enthusiastic. The Irrigation Department officials were also agreeable. The proposal was approved by the Ministry of Irrigation, and the Governing Body, called the Thannimurrippu Paripalana Sabai, was elected on 10 October, 1970. In the months before and shortly after the establishment of the Sabai, a great deal of thought was given by the officers to the problems the Sabai would be likely to encounter, the way it would operate, how its work would be co-ordinated with other agencies, and the training and support from Government departments that it would need. Information on this thinking has been collected from the files, and from interviews with various officers including the then Government Agent, Assistant Commissioner of Agrarian Services (ACAS), Irrigation Engineer, District Land Officer, Assistant Government Agent (AGA) etc. Members of the Sabai have also been consulted. It will be useful to outline this thinking prior to a description of how the project has actually worked in practice.

5.1 The Promoters of the Thannimurrippu Paripalana Sabai:

The first thing to note is that, although the Thannimurrippu Paripalana Sabai was an experiment in popular participation, the initiative for the project came not from the people but from the Government. The Government Agent was the prime instigator, along with his District and Divisional Officers. The Director of the Agrarian Research and Training Institute also gave invaluable guidance and encouragement in the early stages. The participants, although not content with the administration of their scheme prior to 1970, made no demands for the 'withdrawal of the bureaucracy': in fact as the Government Agent's letter showed, they tried to push more responsibility on to the bureaucrats rather than less. The sincerity with which the Government officers divested themselves of power, and the understanding and dedication of the Thannimurrippu Paripalana Sabai leaders in taking up the challenge offered to them, will form an important part of our analysis.

(1) Administration Report of the Thannimurrippu Paripalana Sabai. October 1972; page 2.

5.2 The Objectives of the Thannimurrippu Paripalana Sabai:

The functions which the Government Agent foresaw for the Thannimurrippu Paripalana Sabai have been touched on in earlier sections. They may be summarised as follows:-

5.2.1 Maintenance of Channels and Structures:

Earlier experience had shown that when this work was done by the Irrigation Department it was not only costly for the Government, but was also unsatisfactory for the cultivators through bureaucratic delays and inefficiencies. Even when responsibility had been shared between the Irrigation Department and the Cultivation Committees, delays had not been overcome, as illustrated in Table 6. The Government Agent's feeling was that by pushing more responsibility on to the cultivators through an institution which represented all of them, like the Thannimurrippu Paripalana Sabai, they would be forced to realise that it was to their own advantage to look after the channels and structures responsibly, since only they would suffer if the maintenance was not done. However, there was a realisation that a great deal of explanation and training would be needed to effect this change of attitude: a series of training and propaganda meetings were planned with this in mind.

5.2.2 Co-ordination of Farmers' Activities:

With 800 farmers depending on one tank for their supply of water, unco-ordinated action by individuals could affect the whole community. If a few farmers close to the tank did not clean their section of the distribution channels in time, they did not suffer, but farmers further down got less or no water. If a few farmers were late planting their crops, or chose slow-maturing varieties, the last date of water issue had to be extended and the other farmers could not harvest at the right time because their fields were still wet. Also water was wasted and less was available for the next season. The decisions to co-ordinate activities were always satisfactorily taken at the Cultivation Meetings: the problem lay in implementation of the decisions. The Village Cultivation Officers, Irrigation Headman, Cultivation Committees and Irrigation Agents had tried their hand at this job; the Thannimurrippu Paripalana Sabai was another way of tackling the same problem.

5.2.3 Settlement of Land and Water Disputes:

Previously even minor disputes between cultivators over field boundaries, cattle trespass, illicit tapping of water etc. had to be settled by the District Revenue Officer, District Land

Officer, Supervisor/Land Development Ordinance or other officers. It was hoped that the Thannimurrippu Paripalana Sabai would take part of this burden off the Government, settling disputes more quickly and fairly to the parties concerned.

5.2.4 Provision of Inputs:

Part of the problem facing the Thannimurrippu farmers had always been the difficulty of getting inputs on time - tractors, fertilisers, agro-chemicals etc. In many cases this was the cause of non-adherence to the Cultivation Programme, rather than wilful breaking of the rules. It was hoped that the Thannimurrippu Paripalana Sabai, by its communication with Government departments and its relationship with Co-operative Societies, would improve the efficiency of input supply.

5.2.5 Development Work:

It was hoped that the Thannimurrippu Paripalana Sabai, seeing the problems and potential of the scheme as a whole, would be able to bring more land into production, improve the irrigation system and roads, increase yields, improve social facilities, etc. This would be achieved through Shramadana (self-help) activities, and in co-operation with Government departments. It was envisaged that the work would be done more cheaply and more efficiently through harnessing the people's energies than was the case in Government sponsored Colonisation Schemes (1).

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- (1) In a letter to the Government Agent 27.1.71, the Director, Agrarian Research and Training Institute, compared the Thannimurrippu Paripalana Sabai to the Special Projects which were started by the Land Commissioner's Department with similar objectives but at very great cost. "In the Special Projects they are trying to intensify production by bureaucracy in the first place, with a District Land Officer or District Agricultural Extension Officer as Project Manager and a whole group of hand-picked staff from other Departments. Quite apart from the assumption that intensification can be achieved only through bureaucracy, this would also have new problems like - how does the bureaucracy exit after its work. At Thannimurrippu we seem to be aiming at intensification without bureaucratising.." (Government Agent's file LN/1/414. Folio 41).

5.3 Plan of Operation of the Thannimurrippu Paripalana Sabai:

The Thannimurrippu Paripalana Sabai was seen as a People's Organisation but it was not officially constituted under the People's Committees Act of 1971 (1). It had no legal powers and no regular source of income. It was supposed that it should act as an advisory and co-ordinating body, between the farmers and their Cultivation Committees on the one hand, and the Government Officers on the other hand. It was also delegated certain powers by the Government Agent, relating to decision on the Cultivation Programme, regulation of water issues, settlement of land and water disputes, advising on prosecution of encroachers, distributing contracts with the Irrigation Department, organising Shramadana work, and supervising and encouraging agricultural extension work within its area (2). The detailed manner in which it could perform these functions was not clarified in the early stages.

5.3.1 Relationship with other Village Level Organisations:

It was not intended that the Thannimurrippu Paripalana Sabai should supplant any existing organisations. It should "work hand-in-hand with the Cultivation Committees, Multipurpose Co-operative Societies, Rural Development Societies, etc. It is in no way a threat to these organisations. It is only another fraternal body for solving the problems of the Thannimurrippu farmers. The Thannimurrippu Paripalana Sabai should exercise the utmost care and tact to work in a spirit of co-operation with fraternal village level organisations" (3).

(1) The Government had committed itself to the establishment of Peoples' Committees on a territorial basis, with a view to transforming the Administration; making it more democratic and linking it closely with the people. (United Front Government Policy Declaration, August 1970).

(2) See Thannimurrippu Paripalana Sabai Constitution, Appendix 3.

(3) Extract from Notes for the Guidance of Thannimurrippu Farmers' para 5.8 prepared by former Director, Agrarian Research and Training Institute 18.12.70 (File LN/1/414, Folio 34).

5.3.2 Training and Supporting Services:

All Division level extension staff were instructed to attend the Thannimurrippu Paripalana Sabai meetings and to give priority to serving its needs. A system for collecting statistics and reporting on cultivation progress, water distribution and work done by the village level officers was instituted (1). A programme for training the full extension staff, Sabai members and farmers throughout the first year period was also decided upon (2).

5.4 The Constitution of the Thannimurrippu Paripalana Sabai:

The Constitution prepared for the Thannimurrippu Paripalana Sabai and accepted by the members is reproduced at Appendix 3. The main components are:

- a) Membership of fifteen, five from each of the three Cultivation Committee areas (Each Cultivation Committee elects three of its members to the Thannimurrippu; the cultivators elect a further two members from within their area but from outside the Cultivation Committee).
- b) President and Secretary elected by the Thannimurrippu Paripalana Sabai (in practice they have always been elected by the general body of farmers).
- c) Term of office is two years, but members may be removed if they miss three consecutive meetings.
- d) Government Agent may at his discretion dissolve the Sabai without giving reasons. He may also nominate any public servant to sit on the Committee in an advisory capacity without voting rights.
- e) Sabai shall advise the Government Agent in all matters affecting the interests of the scheme.
- f) Sabai shall have powers delegated to it by the Government Agent as listed in para 5.3

(1) Notes on Discussion with Thannimurrippu Field Staff, 15.12.70
(File LN/1/414 Folio 31)

(2) Ibid

5.5 Election of the Thannimurrippu Paripalana Sabai:

The first election of the Sabai was held on 4 August 1970 under the Chairmanship of the Government Agent. 150 cultivators were present. However, a petition was raised by 202 cultivators on 17 August 1970, complaining that notice of the meeting had been insufficient and that "200 Muslims and 100 minorities are at Thannimurrippu and not a single member from these two communities was elected" (1).

A re-election was held on 10 October 1970, after printed handbills had been distributed well in advance. 197 cultivators were present: 5 members were chosen from each Cultivation Committee, with the President chosen from the Central Cultivation Committee and the Secretary from the South Cultivation Committee. The Committee set to work immediately.

VI. ADMINISTRATION UNDER THE SABAI: 1970 - 1973:

The experience of administration of the Thannimurrippu Scheme over the last 2½ years has been studied, from records in the files, from attendance at two Sabai meetings; through interviews with Sabai members, Cultivation Committee members, farmers and Government officers; and from a visual inspection of the tank, irrigation channels, structures, roads and fields.

6.1 The Working of the Sabai:

Twenty-six Committee meetings were held during the first term of office of the Thannimurrippu Paripalana Sabai (October 1970 - September 1972) and a further twelve meetings have so far been held in the second term (October 1972 - June 1973). Table 7 summarises the discussions at those meetings for which minutes are available.

Several points can be noted from these records. In the first place, compared to the earlier meetings of the Cultivation Committees (4.3.2 and Table 5), the items discussed by the Thannimurrippu Paripalana Sabai and the decisions taken are more constructive. Thus there are regular discussions on how the irrigation facilities and roads in the scheme can be improved, both by advising the relevant Government Department and trying to pressurise them to fulfil their obligations, and also by organising Shramadana work by the cultivators which the Thannimurrippu Paripalana Sabai does successfully. It also makes proposals to the Government for restoration of tanks, improvements of roads, construction of schools and dispensaries etc. for which funds are not available.

(1) File VA/PL/CC. Folio 4.

Table 7: Items Discussed at Thannimurripp

Date of Meeting	No. of TPS members present	No. of Govt of-ficers present	No. of items on agenda	I t e m s			
				Land dis-putes & en-croach-ments	Supply of inputs (ferti-lizer, seed-paddy trac-tors), Re-lations with Coop)	Rela-tions with CC's (colleo-tion of acreage tax, Con-tracts etc)	Expan-sion improve-ment of irri-gation facili-ties
4. 8.70	15	NA	1	-	-	-	-
10.10.70	15	NA	1	-	-	-	-
25.10.70	14	12	8	1	-	1	2
30.11.70	14	8	6	1	-	-	1
7.1.71	7	12	9	1	1	1	1
27.3.71	10	13	7	1	-	1	-
23. 6.71	10	10	15	2	2	2	2
18.11.71	13	10	4	-	-	1	1
2. 3.72	8	7	10	1	-	2	2
17. 8.72	12	12	4	1	-	-	-
22.11.72	NA	3	4	1	-	1	1
11.12.72	8	NA	5	1	-	1	1
2.1. 73	10	1	14	2	4	1	2
13. 1.73	11	6	15	4	4	-	-
21. 1.73	11	12	7	1	2	-	-
20. 3.73	8	NA	7	7	-	-	-
7. 4.73	9	2	3	1	-	1	-
8. 5.73	10	11	9	2	1	1	-
Total	10.7 Avg.	8.7 Avg.	7.8 Avg.	27	14	13	13

Sabai Meetings 1970/73

D i s c u s s e d								
Main- ten- ance of chan- nels and roads	Rele- tions with Govt. of- ficers	Culti- vation pro- gram (sow- ing dates, acreage, varieties etc.)	Issue of water and water dis- putes	Legal powers of Sabai	Train- ing & exten- sion	Shra- ma- dana work	Social ser- vices etc	Eleo- tion of officers
-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	1
2	-	-	-	1	-	1	-	-
-	1	-	1	-	1	1	-	-
1	1	1	-	-	1	1	-	-
-	1	1	1	1	-	1	-	-
1	-	2	1	2	-	-	1	-
-	-	1	1	1	-	-	-	-
3	1	1	-	-	-	-	-	-
-	1	-	-	-	1	-	-	1
-	-	-	-	-	1	-	-	-
-	-	-	1	-	-	-	1	-
1	2	1	-	1	1	-	1	-
1	1	1	1	-	-	-	1	-
1	1	-	-	-	1	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	1	-	-	1	-	-
1	1	2	-	1	-	-	-	-
11	10	10	7	7	6	5	4	3

Contracts for improvements and repairs to irrigation structures continue to be performed by the Cultivation Committees, but the Government Departments often go through the Thannimurriippu Paripalana Sabai in seeing that the work is done. Thus, the Executive Engineer, Mullaitivu, in a letter to the Thannimurriippu Central Cultivation Committee demanding early completion of a contract for repairs to channels, sends a copy to the Secretary, Thannimurriippu Paripalana Sabai requesting the Board, "kindly to use its good offices to get the work completed before expiry of the extended date of agreement, as otherwise the money allocated for the work is liable to be withdrawn....". (1)

It is significant how many Government officers attend the Thannimurriippu Paripalana Sabai meetings - often their number is greater than that of the Committee members, as seen in Table 7. This degree of official patronage has undoubtedly increased the effectiveness of the Committee.

The Thannimurriippu Paripalana Sabai has frequent discussions on ways of improving the supply of inputs such as tractors and fertilisers: it gives expression to the cultivator's needs, but seems powerless to satisfy them as it has been unable to regulate such limiting factors as Co-operative Societies, Government tractor units, private owners etc.

Another regular topic of debate is implementation of the Cultivation Programme. The programme is agreed by a meeting of the majority of the proprietors, but requests to the Government Agent for permission to extend the last date of water issue are often made by the Thannimurriippu Paripalana Sabai. Following such a request for the 1970/71 Maha season made at a Thannimurriippu Paripalana Sabai meeting on 27th March, 1971, the "Government Agent pointed out that farmers should learn to abide by their own decisions. He stated that the majority cannot suffer from the laziness and selfishness of those few who have done a later sowing". Mr. Mylvaganam, a member of the Sabai said that about 1200 acres will suffer for the sake of 200 acres if the extension is given"(2). The outcome was not clear in this particular instance, but it is evident that the Sabai has not been successful, if indeed it has been interested, in making the cultivators keep to the rules. (3)

(1) File LN/1/414, Folio 102 letter dated 10.8.72

(2) Minutes of Thannimurriippu Paripalana Meeting 27.3.1971.
File LN/1/414, Folio 73.

(3) In Maha season 1972/73, for example, the cultivators fixed the last date of water issue for 15th March; but the Thannimurriippu Paripalana Sabai insisted on an extension, first to 10 April, then to 15 April and finally to 4 May, although strongly advised against this by the technical authorities. (see 'over').

Minor land disputes between individual cultivators, or cases of encroachment on Crown Land, are often brought to the Sabai for arbitration. Many of these cases are satisfactorily settled, but despite the establishment of a five man Conciliation Board on 2.1.73, (1), such settlements are made 'out of Court', since the Sabai has no legal entity, nor is there any legal way of enforcing its decisions on the parties concerned.

The lack of such legal powers forms another favourite topic at Sabai meetings: frequent requests have been made to the Government Agent to authorise the Sabai to file cases, and to establish a Rural Court at Kannukerny, so that such cases can be quickly heard. (2) But up to now no action has been taken on the matter.

6.1.1 Opinions on the Sabai:

This reading of the minutes of meetings gives a picture of the Sabai as a responsible organisation grappling with the problems of administration of an irrigation scheme, and despite its informal character (lack of legal power, lack of finance, lack of office, etc.) it seems to be making a certain amount of headway. Our attendance at two committee meetings and our discussion with Thannimurrippu Paripalana Sabai members, cultivators and officials in part confirmed this view, but at the same time a number of contradictions and conflicts became apparent, both within the Sabai itself and between the Sabai and the institutions with which it works.

For example at the meeting we attended on 8.5.73 (3) a letter from 23 cultivators was submitted, requesting the Sabai to see that the period of issue of water was extended. It emerged that the farmers had already contacted the Supervisor /Land Development Ordinance on this matter, and he had conferred with higher officials who wanted a letter from the President of the Sabai before agreeing to the request. This letter being given on the written recommendation of the Supervisor/Land Development Ordinance, the issue of water had already been extended.

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- (1) Minutes of Thannimurrippu Paripalana Sabai Meeting 2.1.1973 AGA File D/FP/22, Folio 10.
 - (2) The Cultivation Committees, of course, already have powers to file cases; but as we have noted, these powers are not regularly used.
 - (3) Ten Committee Members were present at this meeting, and 11 officials; namely the Government Agent, District Agricultural Extension Officer, Technical Assistant (Irrigation Department), Supervisor/Land Development Ordinance, Overseer/Land Development Ordinance, two Agricultural Instructors, two Rural Development Officer, Co-operative Inspectors and the Grama Sevaka).

A general discussion followed in which diverse opinions were voiced. One member stated that when Government Officers alone managed the scheme, the results were better than at present, and that after the people's organisations like the Cultivation Committees and the Thannimurrippu Paripalana Sabai were constituted, the management of the scheme had become inefficient, and consequently in the Yala season fields were now not cultivated.

Another member argued that management of the scheme was better at present than when it was under the exclusive control of the Government Officers, but a third said the Thannimurrippu Paripalana Sabai was not well managed. He accused the President of being a benevolent dictator, and expressed his intention to resign. He said that in advising the officials to extend the issue of water the President had acted arbitrarily without consulting the members of the Sabai. Some members, however, supported the action of the President: they said that sometimes quick decisions have to be taken by the President in the interests of farmers, and in such cases prior approval of the Sabai cannot be obtained".....

We continued this debate in interviews with various individuals, and elicited the following views:-

A member of the Thannimurrippu Central Cultivation Committee said that the Thannimurrippu Paripalana Sabai was a useless organisation; it stops the Government officers from coming to the Cultivation Committee meetings as they only listen to the Thannimurrippu Paripalana Sabai. A Village Council Chairman also said that the Thannimurrippu Paripalana Sabai has no function: "it lets the Cultivation Committee off its work, but doesn't have the power to do the job itself".

The Moslem minority representing a large proportion of the Thannimurrippu South Cultivation Committee, also appear to be generally opposed to the Sabai. One member of the South Cultivation Committee, who is also a member of the Sabai, complained that since the Thannimurrippu Paripalana Sabai President and Secretary are from the other two Cultivation Committee areas, the Moslems are discriminated against. An Irrigation Agent from the same Cultivation Committee area made similar allegations of favouritism. It seems that the objection raised at the first Thannimurrippu Paripalana Sabai election in August 1970, (para 5.5.) has not yet been forgotten.

However, the Chairman of another of the Cultivation Committees, also a Thannimurrippu Paripalana Sabai member, said that the Sabai helps the Cultivation Committees by giving them access to top officials. "Previously we farmers had access only to the Village Cultivation Officer, and he didn't dare talk to the Government Agent or Irrigation Engineer. Now with the Thannimurrippu Paripalana Sabai these top officers come to our Sabai meetings, and our President can ask for anything".

Most of the Sabai members took the same view, although one said that the fact that the Thannimurrippu Paripalana Sabai has to work through the Cultivation Committees only causes delay. "If we could settle cases and take decisions directly, problems would be solved more quickly."

There was complete agreement, however, that the effectiveness of the Sabai is limited by its lack of legal powers.

"If we catch a man breaking open a sluice, we need to be able to take quick action: call in the police, or fine him on the spot. Even if we took the man to Court, it wouldn't help: the case might take a year to come up, and then he would be fined only ten rupees. How can you work like that."

Most of the ordinary farmers we spoke to showed little interest in the Sabai. It makes few demands on them: it does not collect money, has little real power, and has not made a radical change in their lives. There is general agreement that what power the Sabai has, comes largely from the support given it by Government officials. One farmer said: "people have to accept the Sabai because there's nowhere else to go. Officials won't take decisions without consulting the Sabai."

It is ~~un~~natural that this state of affairs is regarded as a mixed blessing by some Government officials. One village level officer said, "The Sabai is useful for matters affecting the whole scheme: the only thing is, it makes trouble for the officers. We have to deal with encroachers and land transfers, but the Sabai tries to interfere. This may be all right, but they're not much educated, and if they make a bad decision, my bosses blame me and I get the headache".....

6.1.2 In conclusion a general consensus of opinion seems to be that:

- a) the Sabai helps the Cultivation Committees by giving them a line of communication to Government officers
- b) it helps the Government officers by giving them a single channel for reaching the three Cultivation Committees.
- c) It has not caused a dramatic change in the farmers' lives, but it represents their interests reasonably fairly. Some jealousies have been generated in the Cultivation Committees, which feel they have been downgraded, and among the Moslem farmers who feel they are discriminated against
- d) the effectiveness of the Sabai is greatly limited by the lack of legal authority and the lack of finances.

TABLE 8. MINUTES OF SAMPLE THANNIMURRIPPU SOUTH CULTIVATION

Date of meeting	No. of items on Agenda	I T E M S		
		Expenses of Committee	Appointment and payment of Irrigation Agents	Enforcement of Cultivation Programme
16. 7.71	14	2	1	-
27.11.71	12	3	2	3
12. 2.73	14	4	2	3
13. 3.73	10	1	2	3
5. 4.73	13	5	2	-
Totals	63	15	9	9

Source: ACAS Vavuniya File VA/CC/116. N.B. Minutes of meeting for 1972 are not available

COMMITTEE MEETING, 1971-1973

D I S C U S S E D

Maintenance of Irrigation works	Collection of acreage T a x	Land and Water disputes	Paddy Land Regis- ter.	Election of Officers	Miscel- laneous
3	3	2	1	-	2
1	-	1	1	-	1
1	1	1	1	-	1
2	-	1	-	-	1
1	1	1	1	2	-
8	5	6	4	2	5

6.2 The Working of the Cultivation Committees under the Sabai:

One of the intentions of the promoters of the Sabai was that it should co-ordinate and improve the efficiency of the Thannimurrippu Cultivation Committees. Table 8 summarises the minutes of the South Cultivation Committee meetings since the establishment of the Sabai. Comparison of this record with the discussions of the same committee prior to 1970 (Table 5) shows a marked improvement in the more recent period. This may of course be simply due to the Cultivation Committee gaining in experience with time, but there is some evidence from our discussions with Cultivation Committee members that the imposition of the Thannimurrippu Paripalana Sabai, viewed as it is by some as "an encroachment into the territory rightly occupied by the Cultivation Committees" may have galvanised these same committees into more effective action.

If this is so then the Thannimurrippu Paripalana Sabai has achieved one of its objectives by means other than intended. However, we cannot be too congratulatory about the activities of the Cultivation Committees, for as we shall see shortly, their practical impact in economic and technical terms still leaves much to be desired.

6.3 The Part Played by Government Officers:

We have noted that large numbers of Government officers attend Sabai meetings, and that Government decisions relating to the scheme are generally discussed with the Sabai. One might perhaps expect to have found a degree of reluctance on the part of officers to have confidence in the Sabai and to transfer responsibility to it, in view of the added burden to a conscientious public servant which such a sharing of power would undoubtedly bring in the early stages. One expression of such a fear was noted in para 6.1.1. But we have in general been impressed by the commitment and patience displayed by the officers in their attempts to make the experiment a success, and by the co-operation and support which they have given to the Sabai: (1)

(1) Contrawise, in a letter to the Government Agent written on 20.10.71 the Thannimurrippu Paripalana Sabai complained that "Our Board is being encouraged only by the District Revenue Officers. Other officers are not extending their co-operation. As we have to discuss some important matters with other officers in your presence, please give us a suitable date and attend a meeting" (File LN/1/414, Folio 85).

However, this seems to have been an isolated instance over a particular matter, and not a general expression of discontent.

In certain respects, however, we are not sure that the officers have taken as much advantage of the presence of the Thannimurrippu Paripalana Sabai as they might have done. Thus, one of the early intentions was that regular training in irrigation and scheme management should be provided to the Sabai and the cultivators. But apart from three 'propaganda meetings' arranged by the District Revenue Officer in January 1971, to explain the aims of the Thannimurrippu Paripalana Sabai to the members (1), and four Farmers' Training Classes arranged by the Extension Department between 1970 and 1972 (2), little seems to have been done in this direction. Indeed none of the farmers we interviewed admitted having attended a training course, or mentioned training as one of the things associated with the Sabai.

Similarly, in extension work, the Kushikarmika Viaptha Sevaka stationed at Thannimurrippu confessed that he could rarely meet the cultivators since they do not live on their plots. For this of course it is difficult to blame him, but as we shall see in the next section, the results of intensified technical advice at Thannimurrippu cannot yet be seen.

Nevertheless, the Sabai does provide a means whereby the Government officers can communicate quickly with all the cultivators. The Thannimurrippu Paripalana Sabai Meetings also provide a forum where officers of all the different departments come together in relation to a particular development problem. This experience of inter-disciplinary planning and implementation is certainly useful for the officers, as well as beneficial for the cultivators.

6.4 The Tangible Achievements:

There is often a tendency in a study of rural institutions and their effect on development, to overlook the fact that what counts in the long run is increased production from the land, increased employment, increased social satisfaction, etc. and not the conduct of meetings or the framing of constitutions, which are only a means to an end. We must therefore conclude our description of the Thannimurrippu scheme in the latest phase of its administration with an outline of the visible signs of physical and economic progress since the Sabai was formed.

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- (1) Letter from District Revenue Officer to Director, ARTI dated 24.1.71. (AGA's File D/FP/13, Folio 98)
 - (2) Letter from DAEO to AGA on impact of the Thannimurrippu Paripalana Sabai on extension programme: 4.9.72 (GA's file LN/1/414 folio 106).

6.4.1 Agricultural Production:

Table 9 presents figures extracted from the Administration Report of the Thannimurrippu Paripalana Sabai, October 1972. The progressive increase in yields of paddy per acre (other than in Yala 1971, when the rain failed), is attractive but by no means dramatic (1). The progressive decline in acreage cultivated in Yala season indicates a deterioration rather than an improvement in water use and administration. The small increase in area cultivated in Maha season between 1969/1970 and 1971/72 is partly due to more land being provided with irrigation facilities by the Irrigation Department. The fall in acreage cultivated in Maha 1972/73 was largely due to shortage of tractors as well as to poor maintenance of channels by the cultivators.

Table 9: Thannimurrippu Paddy Production 1969-1973

Season	Extent Sown acres	Average yield bushels/acre	Total Pro- duction bushels
Maha 1969/70	2,110	31.55	66,465
Maha 1970/71	2,289	31.51	71,668
Maha 1971/72	2,303	35.68	82,171
Maha 1972/73	2,245	n.a.	n.a.
Yala 1970	833	39.14	32,604
Yala 1971	534	35.68	28,126
Yala 1972	435	n.a	n.a

*Source: Thannimurrippu Paripalana Sabai Administration
Report 1972 and information from A.I. Mullaivivu*

6.4.2 Adoption of Innovations:

Table 10 shows a gradual replacement of the H4 variety of paddy with the higher yielding BG varieties. In Yala season the traditional varieties Murugan and Pachchai Perumal hold sway, though there has been some acceptance of BG 34/8 since last year.

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- (1) While the highest yield claimed by any of the farmers whom we interviewed is 75 bushels per acre, the District Agricultural Extension Officer considers that an average yield of 60 bushels per acre, and a maximum yield in small plots of 100 bushels, can be obtained. He plans to put in 5 demonstration plots of one acre in different parts of the scheme next season (His letter to Deputy Director, Extension 30.1.73. File LN/1/414, Folio 146).

On fertiliser and agro-chemical consumption, records of the amounts used are not available, but Table 11 shows that the value taken on credit from one of the Co-operative Societies serving Thannimurrippu farmers fell from Rs. 33,000.00 in 1971/72 to Rs. 21,000.00 in 1972/73. This may of course be due to a tightening of credit availability due to non-repayment of loans; on the other hand ploughing loans rose from Rs.8,820.00 to Rs.16,590.00 over the same period.

In general it cannot be said that any marked acceleration in adoption of technical innovations has taken place among Thannimurrippu farmers since the Thannimurrippu Paripalana Sabai was established.

Table 10: Varieties of Paddy Planted at Thannimurrippu

Season	Total acreage cultivated	Acreage planted to different varieties				
		BG-11-11	BG34/8	H-4	Local varieties Morungan, PP	Other HYV
Maha 1970/71	1,916	2	-	1,834	75	8
Maha 1971/72	1,886	43	-	1,677	162	4
Maha 1972/73	1,723	76	328	1,245	65	9
Yala 1971	360	-	-	-	360	-
Yala 1972	314	-	45	-	269	-

Source: A.I.Mullaitivu. Acreages refer to Thannimurrippu Central and South Cultivation Committee areas only.

Table 11: Loans for Agricultural Inputs; Thanniyattu Multi-Purpose Co-operative Society.

Item	Maha 1971/72	Maha 1972/1973
Ploughing	Rs. 8,820.00	Rs. 16,590.00
Seed Paddy	" 4,704.00	" 8,295.00
Fertiliser	" 26,188.27	" 17,910.60
Agro-chemicals	" 6,770.05	" 3,122.50
Total	" 46,482.02	" 45,918.10

Source: Thanniyattu Multi-Purpose Co-operative Ltd., (Manager) (Breakdown of recoveries not available)

6.4.3 Loans and Repayments:

Another pointer to efficient administration and productivity is the record of loans taken and repayments made by farmers. The Thannimurrippu Paripalana Sabai was intended to co-ordinate and improve the operation of the Co-operative Societies, and this in turn would be reflected in a more productive use of credit.

Tables 12 and 13 give relevant information on this subject. Comparison of the two tables shows that Thannimurrippu farmers have over the last two seasons, taken on average bigger loans and repaid a higher proportion of their debts (disappointing as this proportion is) than cultivators in the division as a whole. However, since information is available only for one season of the period before the Thannimurrippu Paripalana Sabai was formed, and since many factors are involved in Credit and repayments other than the administrative system (e.g. weather, price structure, etc.), we cannot conclusively say that the generally poor performance is the result of the existence or otherwise of the Thannimurrippu Paripalana Sabai.

Table 12: Loan Repayment Record of Randomly Selected Thannimurrippu Farmers (Thanniyuttu Multi-Purpose Co-operative Society).

Member- ship	Paddy Holding		Maha 1970/71		Maha 1971/72		Maha 1972/73	
	Thannimu- rrippu	other	Loan Rs.	Repayment Rs.	Loan Rs.	Repayment Rs.	Loan Rs.	Repayment Rs.
7	3 acres	4 acres	872.67	222.50	244.58	244.58	250.65	
13	3	-	-	-	628.25	-	-	
21	3	10	1146.85	1146.85	-	-	1621.25	
31.	3	2	-	-	-	-	997.30	
41	3	-	166.35	166.35	-	-	58.95	
52	3	-			367.43	-	-	
61	3	-	672.40	672.40	-	-	-	
75	3	-	208.28	-	-	-	-	
85	3	-	153.40	153.40	78.60	78.60	-	
91	3	-	102.20	102.20	204.00	-	-	
Aver- age	3	1.6	332.21	244.38	142.28	32.32	380.26	

Source: Thanniyuttu Multi-Purpose Co-operative Society Register (every 10th farmer taken: substituted if he has no land at Thannimurrippu by next farmer in register who has such land).

Table 13: Consolidated Loans and Repayments of Four
Co-operative Societies Serving Thannimurrippu
Farmers

Society	Total No of Members	No of Members having paddy land at Thanni- murrippu	Maha 1970/71		Recover- ies as % of Loan	Maha 1971/72		Recover ies as % of Loans
			Total Loans	Total Re- coveries		Total Loans	Total Recover- ies	
Kumula- manai MPCS	318	167	34,725.82	23,487.03	67.6	60,444.10	23,844.47	34.4
Thanni- yuttu MPCS	412	185	48,180.57	19,848.97	41.2	56,489.80	6,131.40	10.8
Alampil Chemmalai MPCS	165	55	9,491.60	4,606.09	48.5	4,687.30	912.40	19.5
Neeravi- pidy MPCS	194	98	6,400.78	25.42	0.003	9,554.15	1,335.00	14.2
Average per Socie- ty	280	126	24,696.69	11,991.88	29.8	32,793.83	8,060.02	21.0
Average per Member	-	-	88.20	42.83	48.6	117.12	28.78	24.6

Source: General Manager, Maritime Pattu Multi-Purpose
Co-operative Society Ltd. Mullaitive.

6.4.4 Development Work:

An impressive list of improvements made to the Thannimurrippu irrigation system and roads since the establishment of the Thannimurrippu Paripalana Sabai is presented in the Administration Report. The main items are summarised in Table 14. It must be noted that most of the developmental work on the scheme was carried out by the Executive Engineer, Mullaitivu, who informed us that in view of the importance attached to the experiment, higher priority has been given to work at Thannimurrippu since the formation of the Thannimurrippu Paripalana Sabai than was the case before. Some work has also been done by the Thannimurrippu Central Cultivation Committee, on contract to the Executive Engineer, but the Thannimurrippu Paripalana Sabai's role was small. A certain amount of work has been done voluntarily by the farmers, through Shramadana organised by the Thannimurrippu Paripalana Sabai: this has probably been of greater significance in strengthening the unity of the scheme members than in developing the capital assets of the scheme.

Table 14: Development Work at Thannimurrippu 1970-1972

Agency	Items of work done	Value of work done
Executive Engineer Mullaitivu	a)Improvements to irrigation facilities (supply to new paddy plots, repairs to bund, construction of anicuts, etc)	Rs. 70,168.81
	b)Recondition 5 1/4 miles gravel road	Rs. 45,000.00
	c)Maintenance of head works, main and branch channels access road	Rs. 38,500.00
Territorial Civil Engineering Orga- nisation	Improvement to irrigation facilities and roads (construction of new channels, flood damage repairs, construction of well, construction of roads)	Rs. 41,260.10
Thannimurrippu Central Culti- vation Committee (contract to Irri- gation Dept)	a)Construction of 3 wells	Rs. 3,450.00
	b)Gravelling branch channel road	Rs. 14,784.00
	c)Repairs to irrigation drainage channel	Rs. 6,157.00
	d)New channel to paddy plots	Rs. 10,370.00
Thannimurrippu Cultivation Committee (Shramadana work)	Improvements to roads on feeder channels (total length 100 chains width 10 feet, height 2 feet, earthworks 1,750 cubes)	Rs. 19,250.00 plus 1,050 man-days

Source: *Thannimurrippu Paripalana Sabai Administration Report, 1972*

6.4.5 Settlement of Disputes:

The Thannimurrippu Paripalana Sabai has played a useful role in settling minor disputes over land boundaries, encroachments etc. which previously had to be dealt with by Government officers. It has also brought pressure on the Land Department to hasten alienation or transfer of lands. This is illustrated in Table 15.

Table 15: Land Alienation and Dispute Settlement
by Thannimurrippu Paripalana Sabai.

Item of Work	Number of Cases	Outcome
Requests for transfer of allotments and Nomination of successors	67	forwarded to Land Officer and finalised.
Issue of new permits	113	- do -
Boundary disputes	30	- do -
Encroachments	109	Forwarded to Land Officer, 98 regularised balance ejected.
Minor disputes settled by arbitration	250	184 cases settled by Thannimurrippu Paripalana Sabai 19 cases rejected 47 pending inquiries.

Source: Thannimurrippu Paripalana Sabai Administration Report 1972

6.4.6 Maintenance of Roads and Channels:

Perhaps the most visible sign of the effectiveness or otherwise of the Sabai in administering the Thannimurrippu Scheme is the state of repair of the irrigation channels and roads for which responsibility was handed over to the cultivators in 1970. From our inspection of the field channels and roads inside the scheme in January 1973, and again in May, we cannot say we were very impressed: indeed it was sometimes difficult to see the channels as they were overgrown with weed and filled with silt. The roads too are impassable for much of the rainy season.

This is inevitably a subjective evaluation to which limited significance may be attached. It would also be very difficult to apportion blame between the cultivators and the Irrigation Department.

However, it is clear that the problems of satisfactory maintenance of roads and channels have not yet been overcome.

VII. EVALUATION OF THE EXPERIMENT

7.1 Economic Evaluation:

There has been a slight improvement in the paddy production record since the Thannimurrippu Paripalana Sabai was formed (Table 9), but the major economic obstacles facing the farmers remain. The reasons why the Thannimurrippu Paripalana Sabai has been relatively ineffective in overcoming these difficulties seem to be as follows:-

7.1.1 Credit and Input Supply:

These are the responsibility of the Co-operative Societies, with which the Sabai has developed little connection. Part of the reason is that Thannimurrippu farmers, living not on their scheme but in a number of neighbouring villages, are served by four different Co-operative Societies, which also serve farmers cultivating under other tanks. If the Thannimurrippu farmers all lived together, the problem would be much easier to solve; alternatively one Co-operative Society for the whole scheme, represented on closely associated with the Thannimurrippu Paripalana Sabai would facilitate efficient credit and input supply.

7.1.2 Tractor Supply:

Thannimurrippu farmers have become dependent on tractor cultivation and most have sold or neglected their buffaloes. With the shortage of foreign exchange and spare parts, tractors have now become very scarce, but the Thannimurrippu Paripalana Sabai has been unable to influence the supply situation. A request was made to the Government Agent to establish a Government Tractor Unit on the scheme in 1971, but this met with no success. Establishment of a tractor pool by the Thannimurrippu Sabai itself would be very useful to the farmers but does not appear yet to have been considered. Encouragement of buffalo breeding by the Thannimurrippu Paripalana Sabai should also be investigated.

7.1.3 Adoption of Innovations:

Little improvement has been made in adoption of new paddy varieties, application of fertiliser etc. (Table 10 and 11). This cannot be blamed on the Thannimurrippu Paripalana Sabai since it has been operating only for a short while, and extension and training are long term undertakings which can in any case only be provided by the Agricultural Department. The Department might in the future use the channel of the Thannimurrippu Paripalana Sabai for more intensive farmer education, establishment of demonstration plots (as they have proposed, 6.4.1 footnote) etc.

7.1.4 Co-ordination of Farmers Activities

Late planting by some farmers in the Maha season, leading to extension of the last date of water issue and consequent harvesting difficulties and shortage of water for Yala season, is a perennial problem. Partly it is due to economic factors outlined (shortage of tractors, difficulty in obtaining credit) but in large part of it is due to the inability of the Thannimurrippu Paripalana Sabai to enforce the rules which the farmers agreed earlier at their Cultivation Meeting. Another obstacle to co-ordination is the fact that the Thannimurrippu Paripalana Sabai, like the Cultivation Committees, covers only the farmer's paddy holdings and not their highland plots, the requirements of which may often compete for the farmer's attention at critical periods. Suggestions on how these problems may be overcome will be more appropriately discussed in the section on Administrative Evaluation.

7.1.5 Marketing of Paddy

Paddy is surrendered to the Paddy Marketing Board store at Mullaitivu through the Co-operative Societies. Despite the distances involved in delivery and the usual marketing difficulties, the farmers do not have major complaints in this respect. However, the fact of the Thannimurrippu Paripalana Sabai's non-involvement in the marketing process greatly reduces its strength for apart from foregoing the opportunity of improving marketing efficiency for its members, a levy on marketed produce is the only realistic way the Sabai can collect funds for development purposes. The Thannimurrippu Paripalana Sabai could help the farmers in marketing their paddy by establishing a collective centre at Thannimurrippu and providing, through one of the Co-operative Societies, an efficient transportation service to the Paddy Marketing Board store at Mullaitivu.

7.1.6 Development Activities

We have seen that annual maintenance of the minor roads and irrigation channels which are the responsibility of the cultivators leaves much to be desired. The reason for this, and possible ways of overcoming the problem will be discussed along with co-ordination of farmer's activities under Administrative Evaluation. On improvements and extensions to the irrigation facilities, the Thannimurrippu Paripalana Sabai has performed a useful function in two ways: first by organising Shramadana work and secondly by bringing pressure to bear on the Territorial Civil Engineering Organisation for priority in performance of capital work. Thus the work on the left Bank of the Main Channel which had been dormant for some time, is expected to be completed by the end of 1973. This achievement may in part be attributed to the Thannimurrippu Paripalana Sabai through the ready access and patronage which it enjoys from the Government Officers.

7.2 Social Evaluation:

We have to consider whether the Thannimurrippu Paripalana Sabai represents fairly the interests of all the farmers in the scheme, and whether it has contributed to the establishment of a socially viable community.

7.2.1 Minority Groups:

One criterion for evaluation is whether any minority group feel themselves discriminated against. The grievance expressed by the Moslems over the first Thannimurrippu Paripalana Sabai election was noted (5.5) and this feeling of under-representation to some extent remains (6.1.1). However the discrimination appeared to us to be more imagined than real, and not to be a major cause for concern. It is unlikely that any other people's organisation would better represent the interests of all the component groups.

7.2.2 Class Formation:

A common criticism of the Cultivation Committees is that they are dominated by landlords and middlemen, and do not represent the interests of the small peasants. The Thannimurrippu cannot be criticised on this count: although the committee members are generally somewhat better off than the ordinary farmers, this is inevitable with a voluntary body, if only in view of the need for Committee members to spend time and money on getting to meetings. But the difference is not extreme since the Thannimurrippu community as a whole is a fairly homogeneous one (see 4.1).

7.2.3 Self Interest:

Some allegations were made that the Thannimurrippu Paripalana Sabai members use their position to their own or their friends' advantage, but we found no evidence to this effect. In part it is because the Thannimurrippu Paripalana Sabai has no funds and little power to wield, yet but in general the members appeared to be conscientious and above suspicion.

7.2.4 Dictatorial Tendencies:

The President of the Thannimurrippu Paripalana Sabai has been accused of being a dictator (6.1.1). Even the Government Agent wrote that, in view of the members' tendency to drift into apathy, "the President has tended to emerge as an authoritation but benevolent dictator"(1) We feel this to be a little unfair:

(1) Thannimurrippu Paripalana Sabai Administration Report: p.3

there is no doubt that whatever success the Thannimurrippu Paripalana Sabai has had owes much to the dedication and personality of the President, who controls meetings and directs (Thannimurrippu Paripalana) Sabai affairs in a highly competent manner. But at the same time, we were impressed by the President's willingness and ability to spread responsibility among the other Thannimurrippu Paripalana Sabai members, rather than to concentrate power in his own hands.

In general we feel the Thannimurrippu Paripalana Sabai to be a socially acceptable institution. It contributes to solving the members' disputes (6.4.5) and represents all sections of the community fairly. But it is greatly hampered by the fact that it has no legal authority and by the fact that its members do not live together but are scattered over a wide area. So long as this situation remains, it is difficult to see how the Thannimurrippu Paripalana Sabai can act as an agent for genuine self-government.

7.3 Administrative Evaluation:

Finally we must consider to what extent the Thannimurrippu Paripalana Sabai has relieved the Government officers of responsibility for administering the Thannimurrippu scheme and what effect this transfer has had on the efficiency of administration.

7.3.1 Withdrawal of the Bureaucracy:

We noted in para 6.3 that the Government officers who were previously responsible for the Thannimurrippu scheme, responded positively to the Government Agent's call to transfer responsibility to the Thannimurrippu Paripalana Sabai. The withdrawal has been by no means complete, however, for two reasons:-

- a) At the same time as being instructed to withdraw from the scheme, the Government officers were told to attend the Thannimurrippu Paripalana Sabai meetings and give it their full support. This they have done most effectively.
- b) The Thannimurrippu Paripalana Sabai has been unable to replace the officers completely, since it has no legal powers e.g. to eject encroachers, fine illicit water tappers, etc. Such cases still have to come to the level of the officers for decision.

Nevertheless important steps have been taken in the direction of removing the bureaucracy, and such involvement of the Government as remains is in general of a more constructive character than was the case before the Thannimurrippu Paripalana Sabai experiment began.

7.3.2 Administration by the People:

We have seen that maintenance of roads and irrigation channels, and adherence to the Cultivation Programme which are the main administrative functions given specifically to the Thannimurrippu Paripalana Sabai - have not been efficiently performed under the Thannimurrippu Paripalana Sabai, although somewhat more so than under the Cultivation Committees which preceded it. The main reasons for this state of affairs seem to be as follows:-

- a) The Thannimurrippu Paripalana Sabai at the moment falls between two stools. It does not have the legal powers or the source of funds which it needs to be effective as an official body. Neither does it cover the interests of the farmers outside the Thannimurrippu scheme, which would make it sufficiently important for the farmers' acceptance.
- b) Relations between the Thannimurrippu Paripalana Sabai and the Cultivation Committees have not been clarified. This has led to a tendency for the Cultivation Committees to resent the intrusion of the Thannimurrippu Paripalana Sabai. The effect appears to have galvanised the Cultivation Committees into action: but it would be better if the Cultivation Committees viewed the Thannimurrippu Paripalana Sabai in the role proposed - not as a competing or replacing institutions but as an umbrella organisation co-ordinating the work of the Cultivation Committees and assisting them in their relations with the Government departments.
- c) The Thannimurrippu Paripalana Sabai has the same difficulty as the Cultivation Committees (para 4.3.3), in enforcing discipline on farmers who are relatives or neighbours of the Committee members. Being slightly more remote from the farmers than are the Cultivation Committees, the problem for the Thannimurrippu Paripalana Sabai is not quite so acute but still remains. Ultimately the obstacle can only be overcome by depersonalising the process of rule enforcement. The rules and punishment must be clearly specified and understood by the cultivators. Those who enforce the rules must be seen as fulfilling the requirements of their office, rather than as individuals disciplining other individuals. Perhaps a paid rule enforcement officer can be employed by the Thannimurrippu Paripalana Sabai. Only in this way, it seems, can strict discipline and adherence to rules be maintained without any sacrifice of democratic principles.

Despite these shortcomings, we believe the Thannimurrippu Paripalana Sabai to be a positive step forward in the direction of self-reliance and self-government. Just as the Cultivation Committees allowed increased people's participation in scheme administration compared to the earlier situation, so the Thannimurrippu Paripalana Sabai marks another step forward over the period of administration by the Cultivation Committees alone.

VIII CONCLUSION:

One might be forgiven for concluding from the preceding evaluation that the Thannimurrippu Paripalana Sabai has achieved very little, and the experiment cannot be called a success.

We believe this conclusion would be wrong. In the first place the Thannimurrippu Paripalana Sabai has been operating too short a time for a final judgement to be made. Social change by means such as those followed here is a gradual process, in which any step in the right direction can be considered an achievement.

Secondly, the Thannimurrippu scheme is an exceptional case in that the cultivators are not resident on the scheme but live scattered over a wide area - nor will they consider moving their residence to the scheme, because of lack of communication, schools etc. In view of this, the fact that any achievements at all has been made is cause for congratulation.

However, there are several shortcomings in the operation of the Thannimurrippu Paripalana Sabai. We believe its effectiveness would be greatly increased by:

- a) giving it responsibility for all crops and not just paddy
- b) giving it legal powers as requested by the members
- c) giving it a source of funds to be used for development purposes
- d) associating it more closely with the Co-operative Societies for purpose of credit, input supply and marketing.
- e) clarifying its relationship with the Cultivation Committee whose activities it must co-ordinate

- f) specifying the punishments for the rules which it has to enforce
- g) using it more frequently as a medium for farmer education.

These functions are very similar to those visualised for the newly constituted Agricultural Productivity Committees (Agricultural Productivity Act 1972). Our recommendation in practical terms is that the Thannimurippu Paripalana Sabai should be converted into the Agricultural Productivity Committee for the Thannimurippu/Kumulamunai area. We believe also that the experience of the Thannimurippu Paripalana Sabai as outlined in this study illustrates some of the problems which the Agricultural Productivity Committees will encounter.

APPENDIX I: EXTRACT FROM IRRIGATION RULES
FOR MULLAITIVU DISTRICT - THE IRRIGATION
ORDINANCE NO.45 OF 1917

Rules under section 11 of the Irrigation Ordinance No. 45 of 1917 made by the prescribed majority of the proprietors within the irrigation district of Maritime pattus, Vavuniya South, and Vavuniya North in Mullaitivu District in Northern Province, at meeting duly held on December 6, 12 and 14 1932 respectively, and approved by the Governor by virtue of the powers vested in him by section 19 of the said Ordinance and by Article 93 of the Ceylon (State Council) Order in Council, 1931.

D.S. . Senanayake
Minister for Agriculture & Lands

Ministry of Agriculture and Lands,
Colombo, February 13, 1933

1. The term "irrigation work" in the following rules shall include all Crown tanks and Crown springs the water of which is utilised for irrigation.
2. Subject to the terms of any scheme framed and sanctioned under Chapter VI. of the Ordinance, each of the proprietors of the lands irrigated by an irrigation work shall be entitled to a share of the water proportion to his holding.
4. (1) The Kama Vidane appointed for the area under any tank shall be entitled to a commission of 1½ per cent of the crop raised by each proprietor of lands in that area, and this commission shall be paid at the threshing-floor before any paddy is removed.
5. For the purpose of the restoration and maintenance of the irrigation work or of such parts of it as are not under the immediate care and management of the Director of Irrigation, every proprietor of paddy land under irrigation work shall, in respect of the land owned by him, be liable to contribute annual labour at the rate of two days labour for each of the first five units of land owned by him and at the rate of one day's labour for each additional unit, the unit being defined as the extent of land on which one bushel of paddy is ordinarily sown, and any fraction of a unit reckoned as a unit for the purposes of this rule.
9. In addition to the ordinary annual labour as above provided for, whenever the Assistant Government Agent shall consider it necessary to call out labour to perform an urgent work of repair or of prevention of impending damage, uncommutated labour either in person or by substitute shall at once be furnished by every proprietor and continued daily until the completion of the work.

10. In any case of default under rule 5 or rule 9 the equivalent money value of the work in default shall be recovered from the defaulter in addition to any fine that may be imposed on him under section 29 and 31 of the Ordinance and shall be disposed of in the same manner as the commutation money.
11. When the bund, bund reservation and spills of the tank or any dam or anicut have been marked out and assigned proportionately to their holdings, among the proprietors, each proprietor shall keep the portion assigned to him free from jungle, brushwood and overgrowth of every description, and from white ants' nests, and shall carry out the necessary work twice a year in the months of February and September.
16. (1) Water from an irrigation work shall not be allowed to flow from field to field but channels shall be constructed through the fields in such way as to enable each proprietor to lead water direct from the work to his share or field.
18. The construction and repair of each channel shall be carried out by the proprietors benefited by the channel, each of whom shall be responsible for the portion of the channel passing through his field, and in addition, to such portion of the channel outside the fields or passing through the fields not benefited, as may be allotted to each by the Kama Vidane in proportion to his holding under that channel:
22. (1) All channels shall be properly cleared and repaired before water is issued through them and shall be so maintained throughout the cultivation.
23. (2) In the event of any default in this respect the Kama Vidane may refuse to issue water or may himself cause the work to be done and recover the cost under section 29(2) of the Ordinance.
23. The distribution of water from the work through the fields shall be under the control of the Kama Vidane, and no person shall issue, distribute, cut off, divert, or use the water in any manner except under the direction of, or with the consent of, the Kama Vidane.
25. (1) Each proprietor shall be allowed to take water by turns, at such intervals and for such number of hours as may be determined by the Kama Vidane in consultation with the proprietors.
(2) If any proprietor fails to utilise the water during his turn he shall forfeit that turn.

30. Before the commencement of each season it shall be decided by a majority of proprietors, as defined in the Ordinance, at a meeting to be held for the purpose and presided over by the Chief Headman or Udaiyar, what lands under the work are to be cultivated and by what date cultivation should be completed.
32. The arrangements for cultivating each of the several tracts under the work shall be determined at a special meeting to be held for that purpose; and such meeting shall decide also upon the kind of paddy to be sown and the dates by which ploughing, sowing, and all cultivation duties are to be completed, provided that it shall not have the power to postpone the date fixed for completion of cultivation by the general meeting held under Rule 30.
36. (1) If after the Kalapokama rains have ceased it appears that there is insufficient water for the whole area cultivated in accordance with the decision of the meeting the proprietors shall, at a meeting duly convened by the Udaiyark decide what lands are to be abandoned; and the proprietors of the abandoned lands shall thereupon be given a share in the crop off the rest of the land in proportion to the portion abandoned, and they shall continue to be liable for their share of the cultivation duties for that season.
42. All the proprietors shall continue to perform the cultivation duties until all the paddy in the field has been reaped, provided that the decisions as to dates arrived at the meeting have not been infringed by those whose crop is late.
43. If a proprietor sows a kind of paddy which takes longer to mature than the kind which it was decided at the meeting to sow, or if he has sown later than the time fixed at the meeting, the other cultivators shall not be bound to perform the cultivation duties for a longer period than 14 days after their crop is reaped.
49. (1) The Kama Vidane shall arrange for the erection of watch huts according to custom.
51. Each proprietor shall have a share in one of the threshing floors in accordance with custom.
52. The threshing floor shall be kept fenced and watched until all the stacks have been threshed; and each proprietor shall be responsible for his share of these duties.
55. No paddy shall be removed from the field until the share due to the Kama Vidane under Rule 4 has been paid to him, or three days notice of such removal has been given to the Kama Vidane.
58. (1) All buffaloes shall be driven to a reasonable distance from the field during the cultivation season, and shall have wooden bells attached to their necks, and all known fence breakers or dangerous animals shall be yoked with others.

**APPENDIX 2: "REPORT ON THE SURVEY OF CULTIVATION
COMMITTEES" BY J.V. FONSEKA, COMMISSIONER OF
AGRARIAN SERVICES DATED 12TH JUNE, 1966.**

1. A survey was undertaken by the Commissioner of Agrarian Services during the period March to May 1966, of 1018 Cultivation Committees out of a total of 3550 Committees that existed then in Sri Lanka. Some of the data revealed by this survey and considered to be useful to the reader of the present report are stated here in summary form, along with relevant quotations.

2. **Table 1: Size and Extent of Jurisdiction of Cultivation Committees Covered by the Survey.**

Extent of Jurisdiction (acres)	Percentage of Committees
Upto 100	1
100 - 200	23
200 - 350	46
Over 350	30
Total	100

*Source: Report on the Survey of Cultivation
Committees*

3. The potential average annual income of a Cultivation Committee is Rs. 2,000/- with acreage tax at Rs. 6/- per acre. The only statutory source of income available to a Cultivation Committee was the acreage levy payable by cultivators at Rs. 6/- per acre in respect of every cultivation season. The prescribed number of elected members of a Cultivation Committee was 12. With the 1964 amendment of the Paddy Lands Act, all elected members of a Cultivation Committee must be actual cultivators. This amendment also restricted the right of voting at the election of a Cultivation Committee, to the actual cultivators.

Table 2: Collection of Acreage Levy by Cultivation Committees

Amount Collected Rs.	Percentage of Committees		
	1963	1964	1965
Over 2000	1	5	4
1000 - 2000	8	14	13
500 - 1000	12	18	18
Below 500	23	29	36
No collection	56	34	29
Total	100	100	100

Source: Report on the Survey of Cultivation Committees.

Table 3: Total Collections of Acreage Levy made by all Cultivation Committees in Sri Lanka.

Financial Year	Total Collection (Rs)
1962/63	832,441.00
1963/64	1,137,848.00
1964/65	2,089,075.00

Source: Report on the Survey of Cultivation Committees.

Irrigation Services Performed by Cultivation Committees:

8(i). As irrigation plays a key role in paddy cultivation, one measure by which the usefulness of Cultivation Committees may be judged is the degree of attention they devote to the improvement and the development of irrigation facilities within their respective areas. Moreover, as a result of the transfer of the powers and duties which were hitherto vested in Irrigation Headmen to Cultivation Committees, these institutions have now acquired a statutory responsibility to attend to the management functions of paddy cultivation, including control and regulation of water and maintenance of irrigation structures and channels. Since the enactment of the Paddy Lands Act, Cultivation Committees have more or less been accepted as the sole channel through which proposals for improvement of irrigation facilities are received by the department. Contracts for minor irrigation works are also entrusted to Cultivation Committees, in the first place, on departmental estimates and private contractors are resorted to only in instances where Cultivation Committees are either unable or unwilling to undertake these works. In addition, these Committees have been encouraged to undertake self-help schemes designed to improve irrigation and drainage facilities in their respective areas on payment of a Government contribution of half the cost of such works. The survey attempted to ascertain what percentage of Cultivation Committees has, in fact, utilised these opportunities to improve irrigation facilities in their areas and how far they had succeeded in discharging these responsibilities as Irrigation Headmen.

8(ii) The survey disclosed that the response of Cultivation Committees to self-help schemes has not been over enthusiastic. The number of Committees which had undertaken such schemes was only 8% in 1963, 9% in 1964 and 13% in 1965. The Government contribution in respect of about 62% of these works was below Rs. 500/-. About 33% of these works had entailed a Government contribution of between Rs. 500/- and Rs. 1,000/- per work, while the number of works where the Government contribution exceeded Rs. 1,000/- was not more than 5% during the three years - 1963 to 1965.

8(iii) The position with regard to irrigation contracts undertaken by Cultivation Committees was somewhat better. During 1963, 16% of the Committees surveyed had undertaken such contracts from the department. Approximately 60% of these contracts were in respect of works costing less than Rs.3,000/- while 24% were above Rs.5,000/- the balance 16% was between Rs.3,000/- and Rs.5,000/-.

In 1964, the number of Committees which undertook irrigation contracts rose to 25%, the value of the works undertaken being more or less of the same magnitude as in 1963.

In 1965, 30% of the Committees surveyed had undertaken such contracts. 52% of these contracts were in respect of works costing less than Rs. 3,000/-; 27% was over Rs. 5,000/- and 21% between Rs. 3,000/- and Rs. 5,000/- per work.

8(iv). One of the important functions of Irrigation Headmen had been to ensure that annual maintenance work on irrigation bunds and channels were performed by cultivators regularly in order to keep them in proper working order and free of silt etc. For this purpose Irrigation Headmen maintained what were known as "Pangu" lists or Maintenance Registers. These practices had fallen into disuse in several districts even prior to the introduction of the Paddy Lands Act and were observed, even irregularly, only in districts where cultivation depended heavily on irrigation works. The survey indicated that Maintenance Registers were kept by only 20% of the Cultivation Committees surveyed. Maintenance work of some sort was however done by the cultivators in 60% of the Committee areas, while in the balance 40%, the investigation showed that cultivators did no maintenance work. 18% of the Committees surveyed had themselves done some maintenance work while 13% had filed action against the cultivators for non-performance of this duty. It must be mentioned in this connection that while Cultivation Committees are expected under the Paddy Lands Act to ensure the performance of annual maintenance work, the enforcement of this provision is possible only under the Irrigation Ordinance which has not yet been amended to empower Cultivation Committees to do so.

8(v). Besides ensuring the performance of annual maintenance work, Cultivation Committees have also, in their role as Irrigation Headmen, to see that certain common operations and regulatory functions are performed at the appropriate times to ensure a successful paddy crop. These functions include fencing the perimeter of paddy tracts, erection of watch huts, opening and closing of sluices and channels and regulation and distribution of water. The survey indicated that 59% of Cultivation Committees had ensured the fencing of paddy tracts, 41% had seen to the erection of watch huts and 59% had attended to the duty

of regulating water issues and opening and closure of channels and sluices. Considering the fact that over a large part of the thickly populated wet and mid zones, fencing and watching are not considered essential operations and cultivation is dependant on rainfall rather than on storage reservoirs and channels, it would appear that Cultivation Committees have performed these regulatory functions fairly.

8(vi). Cattle damage to paddy fields were reported in 31% of the Cultivation Committee areas surveyed. Court action to control this menace was however taken by only 3% of the Committees surveyed. Cattle damage is a very serious problem in certain districts, but the apparent lethargy of Cultivation Committees in this regard is due principally to the fact that the provisions of the Animals' Act regarding cattle trespass and damage are far from satisfactory, if not altogether impracticable.

**APPENDIX 3: CONSTITUTION OF THE THANNIMURRIPPU
PARIPALANA SABAI**

1. The Thannimurrippu Paripalana Sabai shall be a People's Committee elected by the people to administer the affairs of the Thannimurrippu irrigation project.
2. This Committee shall have the following powers delegated to it by the Government Agent:-
 - (a) to decide on the cultivation programme for Maha and Yala every year;
 - (b) to regulate, extend or restrict water issues from the Thannimurrippu tank;
 - (c) to settle all disputes arising among the cultivators relating to water issues, illicit tappings and encroachments;
 - (d) to authorise on behalf of the Government Agent the prosecution and eviction of encroachers;
 - (e) to undertake and distribute amongst Cultivation Committees within its area contracts with the Irrigation Department;
 - (f) to organise Shramadana work on roads and channels under the tank; and
 - (g) to supervise and encourage all agricultural extension work within its area.
3. The Sabai shall consist of 15 members elected for two years from among the three Cultivation Committees and the three cultivation areas under the tank. Each Cultivation Committee shall elect three members from among themselves. The cultivators within each cultivation area shall also elect two members from within their area but from outside the Cultivation Committees. The President and Secretary shall be elected by this Committee of fifteen. They shall not be both from the same channel areas.
4. The quorum for the election of the Sabai shall be one third of the total number of cultivators for each cultivation committee area.
5. The Sabai shall meet at least once a month and the quorum shall be five. During cultivation seasons it shall meet twice a month.
6. If a member of the Sabai resigns his membership by a letter addressed to the Sabai or a vacancy is caused by the death of a member, that vacancy may be filled by the Committee, appointing a member for that area in which the vacancy occurred.
7. If a committee member does not attend three consecutive meetings of the Sabai without leave of the Sabai first obtained, he shall be deemed to have vacated his post from the Sabai.

8. The Sabai shall advise the Government Agent in all major matters coming within the responsibilities of the Government Agent, and affecting the interests of the Thannimurrippu Irrigation Scheme.
9. The Government Agent nominate any Public Servant to sit on the Committee in an advisory capacity and without voting rights.
10. The Government Agent/^{may}shall convene every two years, or in the event of a dissolution, whichever is earlier, a meeting of all the cultivators, for the purpose of re-electing the Sabai.
11. The Government Agent may at his discretion dissolve the Sabai without giving reasons.

GLOSSARY OF LOCAL TERMS

<i>Awessa</i>	- Marriage between cousins
<i>Ande Cultivator</i>	- Share-cropper
<i>Assweddumised</i>	- Land which is irrigable and possible for paddy cultivation
<i>Boutique</i>	- A small shop
<i>Badu Idam</i>	- Rented out lands; lands allocated under village expansion scheme
<i>Bund</i>	- A mud wall dividing lands into separate plots
<i>Cultivation Committee</i>	- Elected committees at village level representing owners and tenants; cultivator and charged with mainly rent regulation and paddy land recording functions under the Paddy Lands Act.
<i>Cadjan</i>	- Roofing material of plaited dry palm leaves
<i>Chena</i>	- Shifting cultivation of forest and scrub lands
<i>Dry Zone</i>	- The area of the country (about 2/3rd) receiving rain annually from the North East Monsoon only.
<i>Gangodalla</i>	- Land above paddy lands where the cultivators' houses are situated
<i>Grama Sevaka</i>	- Village leader
<i>Goigama</i>	- Cultivator caste
<i>Government Agent (GA)</i>	- Chief Administrator of the district based at the Kachcheri
<i>Hena</i>	- See Chena
<i>Kattimaru</i>	- System involving rotation of land plots among several co-owners on an annual basis
<i>Kurrakkan</i>	- Type of millet
<i>Kamata</i>	- Threshing floor
<i>Kachcheri</i>	- Local Government Office of the district
<i>Kamavidane</i>	- Irrigation Headman
<i>KVS-Krushikarmika</i> <i>Viaptha Sevaka</i>	- Village level extension workers
<i>Laha</i>	- Traditional measurement of paddy land equals 16 perches (1/10th of an acres)