GROUP PRODUCTION

A Case Study of an Experiment Conducted in Beminiwatte in the Kegalle District of Sri Lanka

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FOREWORD

Though group activity in the agricultural sector is not new to Sri Lanka, group production as a form of farm organisation was not tried out in any systematic manner in the country earlier. The concept of group production was applied to the Sri Lanka situation on an experimental basis in the ARTI Field Laboratory at Beminiwatte in the Kegalle District. The problems encountered as well as the results achieved are set out in this document with a view to facilitating a full discussion on a subject that has received some publicity and attention from those engaged in development efforts in this country.

In our view, the concept of group production has great relevance today in view of the far reaching agrarian changes that have taken place in the country consequent to land reform and other related policy measures. However, its applicability on a wider basis to cover the different agrarian situations has not received careful examination. In order to examine the relevance of this concept further, the ARTI has actively sponsored and supported other Institutions in the agrarian sector to embark on a number of experiments in selected districts of the country. While this document is expected to serve as a guide to those interested in these experiments, it is by no means intended to give a comprehensive picture of the wide range of issues connected with group production. A realistic evaluation is only possible if this concept is tested for a longer period under diverse agro-ecological conditions in the different areas of the country.

The ARTI hopes to benefit by further experiments and bring out a more detailed report in due course. Meanwhile, the Institute looks forward to receiving a feedback on the relevance and usefulness of this concept to the Sri Lanka situation from all those interested in agricultural development.

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INTRODUCTION

The agrarian structure in Sri Lanka as in most developing Asian countries is dominated by a large peasant sector. The level of economic and social development of the country is therefore largely determined by the performance of this sector. Attempts made over the years, to improve its performance either by means of technological solutions or by institutional reorganisation, in many instances, have not produced the desired results. An effective production organisation more acceptable to the clientele was not provided by either of these approaches. It has now become relevant to give serious consideration to the adoption of certain intermediate forms of production organisation capable of immediately increasing production by combining both technological and institutional improvements. Several countries, both socialist and non-socialist, have adopted the group approach as a method of efficient farm organisation.

The main objective of this paper is to describe a group production experiment initiated by the Agrarian Research and Training Institute at its field laboratory in Beminiwatte in the Kegalle district of Sri Lanka. The experiment was intended to test the applicability of group production in this country. Chapter one of the study outlines the problems of the small farm sector and examines the impact of recent land reforms. The concept of group production and its advantages are set out in chapter two, while the next chapter describes the group production experiment. The fourth chapter examines the prospects for group production in the small farm sector and suggests how it could be extended to other parts of the country. Guidelines for the organisation of production groups with the collaboration of village-level institutions are indicated in Annex II.

Chapter 1

PROBLEMS OF THE SMALL FARM SECTOR

The agrarian structure of Sri Lanka has undergone far reaching changes in the last few years. The first attempt at agrarian reform was through the Paddy Lands Act of 1958 but a period of relative inactivity ensued till 1972 when fundamental structural and institutional changes were introduced. These involved :

(1) A ceiling on the private ownership of land (1972)[1] and the nationalisation of foreign and local company estates (1975);[2]

(2) The redistribution of lands vested with the State; and

(3) Changes in the institutions responsible for the planning and development of agriculture at grass-roots level.[3]

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1 Land Reform Law No. 1 of 1972.

2 Land Reform (Amendment) Law No. 39 of 1975.

3 The creation of Agricultural Productivity Committees at Village Council level under the Agricultural Productivity Law No. 2 of 1972 and the reorganisation of Cultivation Committees under the Agricultural Lands Law of 1973.

1.1 The Agrarian Situation in Sri Lanka

The small farm sector still presents a complicated tenurial structure. Landlessness, a serious problem for many decades, is more pronounced in the over crowded wet zone areas.[1] Increasing fragmentation of the land owned has also brought about various forms of joint ownership which hinder improvements to the land and discourage the adoption of improved management practices.[2]

Increasing landlessness has also brought about a high degree of tenancy among paddy farmers (40% of the paddy cultivators are tenants) resulting in the payment of high rents (50% crop share), insecurity and even semi-feudal relationships.[3] In spite of the fact that the Paddy Lands Act was operative since 1958 tenancy still continues to be a disincentive to increased production. Nearly 40% of the farmers in the peasant sector operate on extents of half to one acre while almost 50% have holdings of less than 1 acre.[4] The peasant sector is subjected to a number of disabilities arising from limited size of holdings, tenurial conditions or both.[5]

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1 About 44% of the agricultural operators had only home gardens. (Census of Agriculture of Sri Lanka, Preliminary release, 1973).

2 22% of highland small holdings in the Colombo district (Class II Coconut Lands in the Colombo District, Preliminary Report, ARTI, 1975), and 21% of the highland in Beminiwatte, Kegalle district (Socio-Economic Survey of the Beminiwatte Agricultural Productivity Area, ARTI, 1975) were jointly owned. In the wet zone areas 20-30% of the paddy lands were under joint ownership.

3 Socio-Economic Survey of Beminiwatte, op cit.

4 Census of Agriculture, 1973 op cit.

5 For example,
Operation of paddy land in Beminiwatte in the Kegalle district -

(a) Operators working on holdings of less than ½ acre - 38%
(b) Those working as joint operators, tenants and part-tenants - 65%
(c) Operators subjected to both types of disabilities - 80%

Data from Socio-Economic Survey of Beminiwatte, op cit.

Many studies in this country have clearly indicated that micro-holdings as they operate under the existing framework are not conducive to higher productivity. This has been shown for both paddy and highland cultivation.[1] Low productivity perpetuates under-utilisation of labour and low incomes.[2] Many rural families are thus compelled to supplement their income from non-agricultural sources.[3] The measures adopted over the last few decades to improve the efficiency of the small farmer sector such as credit facilities, input subsidies (especially for fertiliser), guaranteed prices, improved extension services etc., have all been introduced within the existing structural framework. Although as a result productivity has been enhanced to some extent, basic structural deficiencies have given rise to situations that have prevented the bulk of the peasant population from getting the fullest benefit from village-level institutions like Cooperatives, Cultivation Committees and so on. Little effort has been made to adjust the existing production organisation in such a way that it would intensify and systematise the adoption of improved methods.[4] So far no efforts have been made to promote greater cooperation among farmers on the basis of sound economic production programmes.

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1 The yield of paddy per acre in 1974 was still 47.7 bu/ac in Maha and 41.7 bu/ac in Yala. This is only about 1/3 of the potential. (See Agrarian Situation Relating to Paddy Cultivation, Comparative Study, ARTI; 1975, Class II Coconut Lands, Preliminary Report, op cit., and Socio-Economic Survey of Beminiwatte, op cit).

2 24.5% of the labour force in the rural sector is unemployed (Consumer Finance Survey - 1973). It is generally believed that under-employment is more responsible for under-utilisation of labour in rural areas. In some villages 25-40% of the work force had less than 24 hours of work per week (Class II Coconut Lands, op cit).

3 42-62% of the small holders in the Central and South-West districts obtained their income from non-agricultural sources and 66-70% had some source of other income. (Census of Agriculture, 1962).

4 Except special paddy extension projects in a few major colonisation schemes of the dry zone.

1.2 Impact of Recent Land Reforms[1]

About one million acres, some 20% of the cultivated land in the island came to be vested in the Government with the implementation of the Land Reform Law No. 1 of 1972 and the Land Reform (Amendment) Law No. 39 of 1975. These lands have been allocated as follows :

i. for homesteads and/or for agricultural purposes;
ii. for cooperative settlements;
iii. the larger productive estates to be managed by State agencies.[2]

The programmes of redistribution are still in progress. Assuming that a considerable proportion of the vested land is retained as large viable units for reasons of maintaining productivity or brought under cooperative forms of management, the land available for distribution among the landless as well as those with limited land holdings would be insufficient to solve the land problem in the rural areas particularly in the wet zone.

A number of problems in the peasant sector, as for instance the following, would still continue to hinder productivity :

1. micro-operators work under various disabilities;
2. a large tenant population, though enjoying greater security under the Agricultural Lands Law, yet continue to work under conditions that do not offer much incentives;
3. problems of joint ownership; and

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1 For a discussion on the Sri Lanka Land Reform Programme (1972) see (Wilbert Gooneratne, "Land Tenure Problems and Land Reforms in Sri Lanka", Institute of Developing Economies, Tokyo, 1975 and "Recent Land Reforms and Implications for Village Agriculture", "Village in Transition", Ministry of Information, Colombo, 1976 and also G.H. Peiris, "The Current Land Reforms and Peasant Agriculture in Sri Lanka", South Asia, Vol. 5, 1976).

2 State Plantations Corporation, Janawasama (Janatha Estate Development Board) etc.

4. fragmentation of land - unless there is an appreciable reduction in population growth and/or shift of population from agriculture, land given out in individual holdings may eventually bring about the same problems that the Land Reform programme was intended to solve.[1]

Land Reform is no panacea for all the ills of a rural society nor is a single land reform programme by itself capable of solving all the problems of land and employment. The entire agrarian sector needs to be reorganised as a concomitant to the land reform programme. The cooperativisation of agriculture in this country, though perhaps a long-term solution to the problems of the small farm sector, faces a number of difficulties - financial, administrative, political and sociological.

The Janawasa[2] settlement programme initiated on land reform lands, is an endeavour to evolve a cooperative farm organisation that will create more employment, increase production and prevent the emergence of traditional tenurial problems. Where land is given

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1 Prior to Land Reforms, the landless peasants in the over-crowded wet zone areas were settled in village expansion schemes. The holdings allotted under such schemes varied from 1/4-1 acre. The settlers were rarely organised under any production programme and provided with the necessary conditions for developing the land. Generally lands distributed under village expansion schemes were also the unproductive lands. This was especially true in the plantation sector (refer George L. Beckford, "Persistant Poverty", Oxford University Press, 1972 for a similar experience in other countries). Further, in the newly created colonisation schemes in the dry zone problems like hidden fragmentation and tenancy have also increased over the years (Agrarian Situation Survey - Polonnaruwa District, ARTI, 1975).

2 Land Reform Cooperative Settlements.

on an individual basis[1] to the landless and those operating very small holdings, serious thought must be given to providing the necessary organisational framework that will enable the beneficiaries to profit from the new situation.

The new institutional framework created under the Agricultural Productivity Law and the Agricultural Lands Law is intended to serve the peasant sector more effectively. The Cultivation Committees at the village-level and the Agricultural Productivity Committees at the Village Council level consisting of representatives of the farming community themselves are expected to plan and develop agriculture within their respective areas of authority assisted by Government officials. However, due to several problems such institutions are able to render the farmer what is at best a limited service.[2]

The development of the small farm sector in Sri Lanka has been approached in several ways. Foremost among these have been the attempts encouraging new technology particularly by strengthening the institutional support services. However, large numbers of small farmers have not been able to benefit from such programmes. In the dry zone many individual holdings have been created in land settlement schemes. This process will continue in the future as well. Lands are also being redistributed in individual holdings under the current Land Reform programme. The small farm sector as a result, is getting enlarged. Neither the Land Reforms nor the tenancy reforms have offered adequate solutions to the problems of production improvement in the small farm sector.

New production organisations such as cooperative farms have been attempted, mainly outside this sector, on lands vested with the State. Whether this type of farm organisation could be adopted as a solution to overcome the problems of the small farm sector is doubtful as the peasants are reluctant to give up their rights to individual use of land. Even the cooperative societies organised to help the farming population, as in most countries in the region, have not been very successful in promoting agricultural development within the small farm sector. The Agricultural Productivity Committees and the Cultivation Committees themselves may be saddled with the problems of having to deal with thousands of individual farmers.

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1 Already over 20% of the lands vested with the Land Reform Commission are distributed in individual holdings of less than 2 acres in extent.

2 For a discussion on the working of the above institutions, see, (Asmar, S. and Kumarakulatungam, R.V., A Study of Seven Selected Agricultural Productivity Committees and Cultivation Committees, ARTI, 1975).

Today there is an ever increasing need to organise the small farm sector to achieve both increased food production and higher incomes. Group production seems to offer a suitable option capable of realising the above objectives not only within a short period but also without causing major dislocations in the land relationships of the peasant sector.

Chapter 2

GROUP PRODUCTION - CONCEPT AND ADVANTAGES

Group activity in agriculture has always existed in Sri Lanka in several forms. The relicts of such group activity are found even today in the form of *'kaiya'*[1] and *'attan'*[2] systems. Certain forms of group action among the farmers were necessary in lowland paddy cultivation particularly because of the need for proper water control and for carrying out effectively certain operations such as transplanting, harvesting and threshing where labour requirements are high. In the dry zone purana villages,[3] in particular, the *'bethma'*[4] system of cultivation also called for some group activity and responsibility, especially as a means of making the

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1 *Kaiya* - refers to a team of farmers performing a certain operation (say harvesting) to a fellow-farmer. Services of farmers for a kaiya may be obtained on attan or on the payment of a wage, the latter being a recent development. When wages are not involved the owners provide the kaiya farmers with meals.

2 *Attan* - refers to reciprocal exchange of labour among farmers. See (Newton Gunasinghe, Social Change and the Disintegration of a Traditional System of Exchange Labour in Kandyan Sri Lanka, Economic Review - People's Bank Publication, January 1976).

3 The traditional settlements based on small village tanks.

4 *Bethma* - refers to an arrangement whereby share holders in a paddy tract agree to cultivate a portion of it, in relation to the availability of water in the tank. See (E.R. Leach, Pul Eliya - A Village in Ceylon. Cambridge University Press, 1961).

best use of limited water supply in the small village tanks. Provision also existed under the Irrigation Ordinance for the farmers to perform operations such as ploughing, sowing, harvesting, fencing and the maintenance of irrigation works in accordance with an agreed calendar of work. These were decided by the cultivators at a kanna (season) meeting held before the commencement of each cultivation season.[1] The decisions were enforced by the Irrigation Headman (Vel Vidane) who was really a village-level bureaucrat responsible to the Divisional Revenue Officer. The system only provided for a monitoring organisation at the tract level.[2] There was really no group activity among the farmers. These provisions were essentially administrative regulations. The Paddy Lands Act of 1958 made similar provisions which too were mere administrative regulations. Under this Act the functions of the Irrigation Headman were transferred to a Cultivation Committee[3] of elected "farmer representatives". The holding of the kanna meeting and enforcing its decisions as stipulated in the Irrigation Ordinance were done by this Committee. It is generally believed that the latter system was less efficient than the former in implementing even the decisions of the kanna meeting. Many Cultivation Committees did not hold kanna meetings regularly.[4]

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1 For details refer Sections 11 and 12, Part III of the Irrigation Ordinance Amended Act No. 48 of 1968.

2 For details on the working of the Vel Vidane system, see (J.C. Harris, "Problems of Water Management in Relation to Social Organisation in Hambantota District", Project on Agrarian Change in Rice Growing Areas of Tamil Nadu and Sri Lanka. Seminar, Cambridge, December 1974).

3 The Cultivation Committees were entrusted with the full responsibility for planning and developing the entire paddy area coming under their area of authority.

4 For details on the performance of Cultivation Committees, see (Survey of Cultivation Committees, Department of Agrarian Services, Colombo, 1964).

Sporadic attempts have also been made by enthusiastic Government officials and by institutions like the Cultivation Committees to encourage greater cooperation among farmers. However, these attempts generally ended in failure due to the inability of the officers in enlisting active participation of the farmers.[1] Due to many shortcomings, the Cultivation Committees too failed to evolve a system of effective farmer cooperation.

The pilot group production programme introduced at Beminiwatte was intended to remove some of the main constraints to increased production in the small farm sector. It attempted to secure greater farmer participation in organising and implementing a common production programme on scientific lines, facilitate the timely supply of credit and other inputs and organise the servicing institutions and extension services to work more closely with the farmers.

Group production[2] as considered here is a form of farm organisation involving individual farm operators. It is essentially an arrangement where the ownership of land remains with the farmer while the production of a crop or rearing of animals is done by farmers as a group according to an agreed calendar of operations.

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1 (Special paddy extension project, Anuradhapura district, issued by the Ministry of Agriculture and Lands, Colombo, September 1976). The project involved a production programme incorporating a production plan, a calendar of activities and a supplies programme.

2 Referred to as Cooperative Promotion of Agricultural Production by Schiller, (Otto Schiller, "Cooperation and Integration in Agricultural Production" - Asian Publishing House, 1969). Galeski refers to the system as Corporate Farm. (Boguslaw Galeski, "Prospects for Collective Farming", Land Tenure Centre Publication, No. 95, Wisconsin, 1973). Different countries have adopted different nomenclature for this type of farming : Japan - *Farmer Group Corporation*; Tanzania - *Block Farming*; Italy - *Divided Cooperative Farms*; France - *Agriculture de Groupe* - Schiller, ibid and (Margaret Digby "Cooperatives and Land Use", FAO, 1957).

Consider a situation where a number of farmers working a single paddy tract do the preparation of their individual fields at different times, use different kinds of seeds, adopt different planting methods, apply fertiliser in varying quantities and so on. Such a situation would lead to a waste of irrigation water and might result in frequent disease and pest outbreaks. The yields may show a large variation from one holding to another and result in a lower average yield over the entire tract. If on the other hand, all the farmers decide to synchronize cultivation operations and adopt a uniform management system, the problems mentioned above would be eliminated to a great extent and would result in the saving of certain resources, reduction of costs and lead to a uniform higher overall productivity. From the point of view of production, the farmers constituting the group could get their inputs at the same time[1] and use them as recommended according to an agreed schedule of operations. Such a system enables the farmers to obtain a better service from the Extension Officers and the relevant institutions.

The group production method could in many ways be advantageous to the traditional peasant sector operating on the basis of small individual holdings.

(1) It helps to bring about uniform standards of management as the farmers adhere to a common calendar of operations. This has several advantages :

   (a) reduces inequalities due to differences in technical knowledge, economic status etc., among a group of farmers;
   (b) group purchase and transport of materials and inputs reduces costs and results in a considerable saving of time to the individual farmer;
   (c) brings about an efficient system of water management; and
   (d) leads to uniform higher productivity among all farmers.

On the whole it enables to realise the advantages of large scale operation in a situation of small individual holdings.

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1 Many small farmers are unable to individually obtain critical inputs in time or obtain them at all.

(2) It promotes greater cooperative activity among individual farmers and also helps to bring about a closer and more meaningful relationship between the servicing organisations such as the Agricultural Productivity Committees, Cooperative Societies and the farmers. The group becomes a corporate personality and functions as a single person in dealing with several institutions in obtaining credit and other inputs. It also makes provision of extension advice more effective as dealing with groups than with individuals is much easier and more practicable to extension agents.

(3) It enables a group of farmers to commonly use or own such farm machinery and equipment and storage and warehouse facilities which in a small holding situation is beyond the capacity of the individual farmer.

In addition to the direct benefits mentioned above the group production approach offers certain general advantages as well :

(a) It does not involve a large capital outlay, which is a major consideration in countries like Sri Lanka, as group production aims at large scale and efficient adoption of known technology.

(b) It can be introduced without any change in the present agrarian structure and could even be a forerunner to advanced forms of farm organisations like cooperative farms if desired.

(c) The adoption of improved labour intensive cultural practices by the groups helps to reduce significantly the under-utilisation of labour commonly seen in rural areas.

(d) It facilitates the implementation of central agricultural policies with reference to national needs.[1]

It must be stated quite clearly that group production in no way involves the collective ownership of land. It differs from collective farms where the members collectively own and work the land and divide the produce and/or share the profits according to the work each has contributed. It is different from cooperative farms where resources are pooled by the farmers to realise the benefits of large scale operations and for greater

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1 For example, if the Government decides to expand the cultivation of pulses, say soya beans, organisation of farmer groups in specific regions will facilitate training and extension, input supplies and marketing and processing.

efficiency in the use of other facilities. In the latter case proceeds are shared according to contributions made in terms of resources and labour. It is also unlike the situation on State farms where the land is State-owned and the workers are wage earners.

A considerable extent of the total land vested with the Land Reform Commission is being now redistributed among the landless in individual holdings of varying sizes. The recipients are generally the poor peasants who have neither adequate resources nor sufficient scientific know-how and managerial ability to develop the land.[1] At a time of land reform, the State is hardly in a position to inject large amounts of capital to the newly created small holder sector nor are the available administrative and technical resources adequate to serve the thousands of new operators. Land redistribution programmes under such circumstances have nearly always brought adverse results in many countries.[2]

The group approach helps the land reform beneficiaries to embark on an immediate production programme and to organise themselves against vested interests likely to encroach on their land.

In group production the social background of the farmers, level of technology, availability of labour, capital, equipment etc., will determine whether certain farm operations are to be done individually or as a group. But in all cases the individual is responsible for his farm and he takes the entire harvest from his field. However, in advanced forms of group production an increasing degree of responsibility and the sharing of costs and benefits may emerge. The group may even own certain equipment like tractors and facilities such as storage houses. It is important to note that the group production arrangement is not a rigid method and has to be adapted to suit different conditions.[3]

Depending on the circumstances in a particular country, production efficiency could be achieved by enlarging the scale of operations. In a situation of individual small owners, one way of enlarging the scale of operations without disturbing the existing ownership pattern is through group production.

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1 In tea and rubber, in particular, a high degree of managerial ability is a pre-requisite.

2 For experiences in Latin America, see (E.H.Jacoby - Man and Land, The Fundamental Issue in Development, 1971).

3 Otto Schiller - op cit, p. 67.

In countries where group production has been practised, farm productivity has shown significant improvements while saving on infra-structural investment. The extension services, credit institutions and machinery centres etc.,have functioned more efficiently when dealing with groups rather than with individuals. There have also been perceptible improvements in agricultural practices. Group production in many countries is accepted not as a matter of political ideology but as a means of achieving the best possible economic and social results in a given agrarian situation. The group production arrangement could be introduced along with a programme of land redistribution as it would help to involve the recipients in a definite production programme while offering them some form of institutional arrangement to protect their interests.

Chapter 3

GROUP PRODUCTION EXPERIMENTS IN SRI LANKA

3.1 Paddy Group Production

The first group production experiment was conducted in Maha 1975/76 at the Agrarian Research and Training Institute's Field Laboratory at Beminiwatte.

The objectives of this experiment were to study how farmers could be organised and activated to work in groups, how rural institutions could be made to serve the small farmer effectively and to explore the ways by which farmers and rural institutions could be brought together to work on a common production programme. This experiment was also intended to demonstrate to the farmers of the area and to members of rural institutions the advantages of group production.

The Beminiwatte Agricultural Productivity Committee area where the experiment was conducted is situated in the Kegalle district of Sri Lanka. This area has several characteristics typical of the wet zone mid country. Agriculture is the main economic activity with 79% of the farmers engaged in paddy cultivation. Population pressure on land is acute. The availability of land per head of population is only 0.27 acres. Paddy cultivation is practised mainly under rainfed conditions. In certain areas supplementary irrigation facilities are available. About 51% of the operators work as tenants (40% full-tenants and 11% part-tenants) and a further 13% are joint owners of land.

The paddy yields at Beminiwatte area are low compared to the district average. The average yield for Maha 1973/74 and Yala 1974 had been 34.6 and 28.6 bu/ac respectively against the district average of 54.3 and 39.2 bu/ac. Although most farmers adopt improved cultural practices such as transplanting (84%), use of new high yielding varieties (98%) and application of fertiliser (79%) the absence of uniformly high standards of management results in low average yields.[1]

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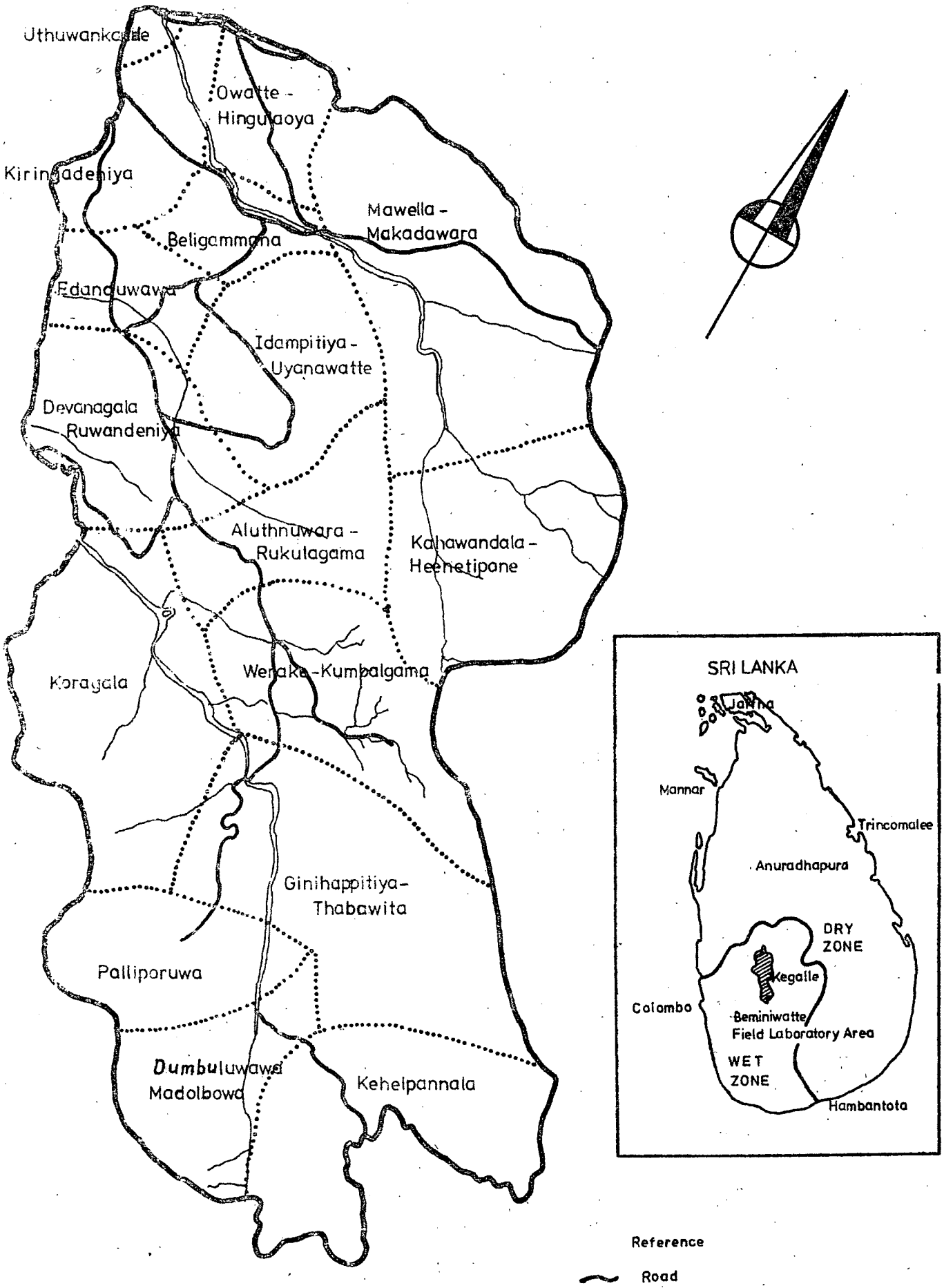
1 For details of the Socio-Economic Situation of Beminiwatte Area, see (Socio-Economic Survey of the Beminiwatte ... op cit).

BEMINIWATTE FIELD LABORATORY AREA



3.1.1 Stage I of the Experiment

The tract selected[1] was 16.2 acres in extent operated by 18 farmers whose individual holdings ranged from 0.5 to 1.25 acres. This tract once privately owned was vested in the Land Reform Commission in 1972. The entire land was worked by share tenants who had now become tenants of the Beminiwatte Agricultural Productivity Committee which manages the land on behalf of the Land Reform Commission.

The average reported yield from this tract was 32.5 bu/ac in Maha 1974/75 and 14 bu/ac in Yala 1975. The farmers operated the land on an individual basis with very little coordination in their farming operations. Some did adopt better cultural practices but not systematically. Sowing and transplanting were done at different times. Different aged varieties of paddy were grown which had varying times of maturity and different degrees of resistance to pests and diseases. All these coupled with inefficient water management led to low yields.

The group production experiment was carried out in the following manner. The Agrarian Research and Training Institute provided the necessary training, advisory and supervisory support. The Beminiwatte Agricultural Productivity Committee was made responsible for the implementation of the project. While being responsible for the provision of credit and other inputs to farmers it was expected to coordinate the activities of institutions and the farmer group. The Cultivation Committee was to be in charge of the distribution of inputs, recovery of credit from the farmers and supervising the activities of the group at field level. The Extension Officer of the Department of Agriculture was to provide technical advice and assist the Agricultural Productivity Committee and the Cultivation Committee in the implementation of the project.

The group for its part entered into an agreement with the Agricultural Productivity Committee undertaking to perform all agricultural operations according to an agreed calendar and to repay the credit in kind provided to the group with 10% interest per annum after the harvest.[2]

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1 The selected tract is Molligoda in the Mawela-Makadawara Cultivation Committee area.

2 See Annex III for copy of Agreement Form.

Implementation

As this project was the first of its kind the Agrarian Research and Training Institute assisted the Agricultural Productivity Committee in the programme. Initially the farmers had many reservations about group production likening it to collective or cooperative farming. It was therefore necessary to keep in constant touch with the farmers to disabuse their minds of any preconceived notions.

All farm activities were done in accordance with an agreed programme which was carefully supervised as the farmers themselves did not appear capable of undertaking these activities on their own. It was only after the entire tract emerged as a uniform stand did the farmers accept the advantages of the system. Thereafter there was great enthusiasm shown as higher yields seemed assured.

Results

From a yield of 32 bu/ac in Maha 1974/75 the yield increased to 65 bu/ac in Maha 1975/76.[1] The variation in yield among group members was small and ranged from 59-72 bu/ac.

The experiment also demonstrated the advantages of group production to farmers, extension workers and servicing institutions. Farmers as a group were able to obtain their inputs in time, reduce transport costs, have access to sprayers, weeders and other equipment and also to adopt improved farm techniques. The extension workers were able to communicate with farmers more effectively as a group than individually. The Agricultural Productivity Committee and Cultivation Committee found it more convenient to deal with a group as a corporate person rather than with the farmers individually. Group responsibility for the repayment of credit made recoveries easier.

The group production experiment was well received as evidenced by the number of requests made by other farmers that they too be assisted to organise themselves into groups. What impressed most farmers was the ability to get their farm requirements more easily and also the uniformly high yields which the group arrangement made possible.

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1 The average gross value of paddy retained by the farmers amounted to Rs 1,324. After deducting the value of inputs it amounted to Rs 1,104.

3.1.2 Stage II of the Experiment

The second stage of the experiment was to organise production groups under typical village conditions. This time it was expected that the farmers, the Agricultural Productivity Committee, the Cultivation Committees and the extension staff would display greater initiative in organising and servicing a group production programme, while striving to demonstrate the efficacy of the programme over a bigger area on a larger scale.

For a start one group was to be organised in each Cultivation Committee area and in all there were to be 15 groups covering about 300 acres and involving 300 farmers. The tracts though differed greatly fell into two broad categories. First, those with an assured supply of water and where yields were high because the farmers adopted good cultural practices. In this case the difficulties farmers had were those of getting credit and other inputs in time as well as the problems of water management since there was no uniform cultivation programme. The second category consisted of tracts where cultivation had not been done in an organised manner and where yields were consequently low.

Unlike in the case of Molligoda which was very carefully supervised a different approach was adopted for the new groups. It was felt that if the scheme was to be replicated under normal village conditions village-level organisations as well as the farmers would have to be encouraged to take a leading role. Accordingly, at the institutional level the Agrarian Research and Training Institute provided training and advice to Cultivation Committees and group members while the Agricultural Productivity Committee supplied all inputs and credit and functioned as the coordinator between the Cultivation Committees, extension officers and the farmers. The Cultivation Committees were immediately responsible for the organisation of the groups including the selection of the tracts, the supply of inputs and the recovery of credit. The programme was constantly supervised by the extension staff with the Krushikarma Vyapthi Sevaka[1] directly responsible for a certain number of groups. At the operational level the groups were expected to keep in close touch with the Agricultural Productivity Committee, the respective Cultivation Committees and the extension officers for the provision of inputs, credit and other services as well as for ensuring that a common calendar of operations was observed.

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1 Village-level extension officer.

Implementation

Some groups were arranged in association with the Cultivation Committees while others were organised by the farmers themselves establishing a direct link with the Agricultural Productivity Committee. All groups were registered with the Agricultural Productivity Committee.

Agreements were signed between the Agricultural Productivity Committee and the farmers or between farmers and the Cultivation Committee and between the Cultivation Committee and the Agricultural Productivity Committee. Extension officers trained farmers on the preparation of nurseries, fertiliser application, transplanting, weed control, etc.

Each group notified the Agricultural Productivity Committee of its input requirements after drawing up a calendar of operations with the help of the extension officer. A copy of the calendar of operations detailing dates for the supply of inputs[1] was sent to the Agricultural Productivity Committee which made arrangements to stock the quantities required. The Agricultural Productivity Committee delivered these inputs to the Cultivation Committee or directly to the farmers in accordance with the agreement. The Agricultural Productivity Committee while maintaining records of inputs supplied to each farmer convened monthly review meetings of the Cultivation Committees and extension officers. Each extension worker was required to furnish a report on the work of each group at these meetings.

Results of the Yala Programme

Yala 1976 was a bad season for paddy throughout the Kegalle district. The failure of the normal South-West monsoonal rains left large extents of paddy lands uncultivated.[2] The bad weather con-

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1 The extension worker, the Cultivation Committee and every farmer had a copy of the calendar of operations.

2 The monthly rainfall in Beminiwatte for Yala 1976 :

	April		May		June		July		August		September	
	Inch-es	No of rainy days	Inch-es	No of rainy days	Inch-es	No of rainy days	Inch-es	No of rainy days	Inch-es	No of rainy days	Inch-es	No of rainy days
Average rainfall in the area*	10.08	19	9.49	13	10.59	19	8.45	16	7.65	12	6.44	14
Yala 1976	9.31	13	0.49	03	3.83	04	8.45	14	7.25	15	0.34	03

*Average figures worked out from mean monthly rainfall figures for the year 1931-1964.

Source : Department of Meteorology Records for Aranayake Recording Station, the station closest to the Beminiwatte Agricultural Productivity Committee area.

ditions particularly in the early months of Yala seriously affected the programme. Of the 15 tracts, 6 were entirely dependent on rainfall, four to a limited extent could be irrigated by streamlets, while five tracts had an assured supply of water.

Most of the groups commenced their Yala cultivation in mid-April. Of the six rainfed tracts, two (Edanduawe and Palliporuwa) could not proceed beyond the nursery stage as the cultivation programme was started late. Three tracts (Mawela, Kekirigoda and Wettewe) were transplanted in time but were badly affected by the drought in the early stages itself. The Mederigama tract recovered with the late rains but the yields were greatly affected.[1]

The four tracts which depend on streams for irrigation too were affected as the streams ran dry. One tract (Habunkaduwa) however, managed to raise a greatly reduced crop (see Table 1). The farmers in another tract (Werake-Kumbalgama) were able to harvest a reasonably good crop as they commenced their Yala season far ahead of the others.[2] The other two tracts were affected due to the adverse weather conditions, one in the nursery stage and the other after transplanting.

Of the five tracts which had an assured supply of water, one tract (Molligoda) experienced a complete crop failure at the early stages. This tract formed part of a larger tract which had two paddy production groups; one (Heenatipone) at the upper end and the other (Molligoda) at the lower end. These two belonged to two different Cultivation Committees but depended on the same irrigation channel for their water supply. An agreement was reached between the two Cultivation Committees to share the water on a rotational basis. However, the Heenatipone group tapped water continuously which resulted in a complete crop failure in the Molligoda tract.[3]

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1 See Table 1

2 The farmers in this tract commenced their Yala cultivation in late February when there was adequate water in the streamlet. Towards the latter stages of the crop, this streamlet too dried up, but the crop survived as the peak water requirement stage had by this time been passed.

3 The Agricultural Productivity Committee was unable to resolve this problem which was aggravated by the former landlord of the Molligoda tract cultivating a 6 acre stretch in between the two tracts supporting the Heenatipone group.

The other four groups which had an assured water supply (Kehelpannala, Kahawandala, Heenatipone and Dumbuluwawe) managed to carry their crop to the harvesting stage. Kehelpannala disbanded their group as the Agricultural Productivity Committee was not in a position to supply the required quantities of fertiliser.[1] At the end of the Yala season only four production groups had fully implemented their original programme of work.

In spite of these setbacks the performance of the groups was better than that of the neighbouring tracts which were individually operated. The Table below indicates the comparative reported yields of group farmers where a crop was harvested and those of an equal number of randomly selected individual farmers in neighbouring tracts. Both sets of farmers worked under more or less similar conditions.

Table 1 Comparison of Yield per Acre of Group Farmers and Individual Farmers in the Neighbouring Tracts at Beminiwatte

	Group farmers Bushel/Acre	Individual farmers Bushel/Acre
Werake/Kumbalgama	60	16.13
Kahawandala	63	49.00
Heenatipone	80	16.00
Dumbuluwawe	56	12.08
Kehelpannala	65.72	43.27
Habunkaduwa*	27.84	Not available
Mederigama*	15.00	Not available

*Although precise yield data for individual farmers in these two villages were not available it is known that the yields of individuals were lower than that of the group farmers.

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1 Initially the Agricultural Productivity Committee had supplied the group farmers with inputs valued at over Rs 44,000. As a very poor crop was expected with the failure of the rains, the APC was asked to discontinue further credit as recoveries would be difficult. However, in Maha 1976/77, this group organised and implemented the programme on their own without the involvement of officials.

The higher yields obtained by the group farmers were due to the farmers in the group transplanting in rows, the use of recommended quantities of fertiliser at the correct times, the timely adoption of routine measures for plant protection and other improved cultural practices. The advanced planning of cultivation operations by the farmers as a group and the timely availability of credit also enabled them to obtain good results.

A greater degree of cooperation among farmers in the group production tracts than in the individually operated tracts was evident in that the entire tract was regarded by the group as one large complex rather than as a number of individually operated holdings. When water became scarce the group farmers prepared a calendar for sharing water among themselves, thus minimising disagreements which usually arise in water management.[1] Another feature evident in the Yala programme was that the variations in yields per acre among group farmers were small. From the institutional point of view, the group production programme facilitated the timely supply of inputs, particularly fertilisers. The provision of credit was also made easier. The supervision of credit by the Cultivation Committees ensured that the farmers made good use of the loans granted. The good returns obtained by the group farmers and the interest taken by the Cultivation Committees and the Agricultural Productivity Committee made the recovery of credit easier. Recovery was 100% in three of the five tracts where good harvests were obtained.

The second experiment also demonstrated that the group approach helps to give the farmers a greater degree of strength and solidarity. Organised group action, on several occasions, exerted pressure on the institutions and the extension staff. The extension officers were obliged to visit group production tracts regularly. The Cultivation Committees were required to assume responsibilities for the implementation of certain aspects of the programme which served to activate the members and bring them closer to the farmers. Group production gave the Agricultural Productivity Committee a definite production programme by directly involving farmers, Cultivation Committees and extension officers.

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1 The Heenatipone case referred to earlier was the only exception.

The second stage of the experiment however gave rise to several important problems as indicated below :

1. The present system of supplying inputs to groups by the Agricultural Productivity Committee may present problems in the future when a large number of groups operate. Inadequate funds, lack of transport and storage facilities, etc., may prevent them from supplying farmer groups with inputs on credit. So far, the Multi-purpose Cooperative Societies[1] were not directly involved in providing the required facilities. The Agricultural Productivity Committee on its own initiative stored fertilisers and chemicals required by the groups well in advance. However, if all fifteen groups had functioned, it is unlikely that the Beminiwatte Agricultural Productivity Committee would have been able to meet the entire input requirements of all the groups as it did not have the necessary funds and other facilities.

2. A successful group production programme revolves round the timely provision of inputs to all the farmers. This requires an efficient credit programme. The high rate of default among farmers had made many of them ineligible for credit.[2] If normal credit procedures are to be adopted this would preclude many farmers of a tract from joining the groups. If the Agricultural Productivity Committee continues to finance defaulters other credit agencies may resent it. This calls for a fresh look at the entire question of small farmer credit. A system of group credit with group responsibility may perhaps be an answer to this problem.

3. The organisation of extension also poses some questions if large scale introduction of group production programmes is to be undertaken :

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1 This institution possesses adequate transport and storage facilities for handling the supply of agricultural inputs. Credit, subsidised fertiliser, agro-chemicals etc., are also channelled through this organisation.

2 See for instance - Survey of Defaulters in Repayment of New Agricultural Loans, Central Bank of Ceylon, 1972; and The Agrarian Situation Relating to Paddy Cultivation in Five Selected Districts of Sri Lanka - District Reports - ARTI - 1972-75.

a. preparation of a programme for each extension worker;

b. the degree of responsibility of extension workers to the Agricultural Productivity Committee/Cultivation Committee;

c. the reorientation of extension services at village-level to undertake large scale group production programmes.

4. The only incentives provided to group farmers at present are the timely supply of inputs and credit, equipment and extension services. Popularisation of the idea of group production may require greater economic incentives in the form of subsidies on credit and inputs, on equipment and machinery etc.,[1] as well as priority for extension resources. At present the Agricultural Productivity Committee/ Cultivation Committee is not always in a position to offer such incentives. Even the funds available with these institutions cannot be utilised for such purposes under the existing regulations.

The magnitude of these problems has been further emphasised by the production groups operating during Maha 1976/77 in Beminiwatte and in three other districts.[2] The latter groups were organised on the initiative of the district staff of the Rural Institutions and Productivity Laws Division of the Ministry of Agriculture and Lands assisted by the Department of Agriculture.

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1 See Annex IA and IB

2 Production groups in operation during Maha 1976/77 -

	No. of groups	No. of acres	No. of farmers
Beminiwatte APC area	10	208	200
Kandy district	7	115	116
Anuradhapura district	3	173	63
Vavuniya district	1	15	5

3.2 Group Production on Highlands[1]

Group production on highlands was organised in December 1975 at Didula in the Beminiwatte Agricultural Productivity Committee area. This project had the same basic objectives of the Molligoda experiment and was also intended to study the organisation of group production among highland small holders with particular reference to those who were recipients of lands redistributed under the land reform programme. The project involves twenty farmers who had received allotments of 1 acre each from a badly neglected tea estate. The terrain of the land is steep. Except for a few perennial plants much of the land was overgrown with weeds.

Unlike the Molligoda farmers the new settlers were a more heterogeneous group. They came from different villages and belonged to different religions and castes. Most of them had no regular employment and had very little experience in agriculture. They could not make a living from the land they received as they lacked capital for investment on implements, soil conservation, planting material and the development of the land. Extension services were also not available to them.

The group production programme involves the cultivation of banana initially and minor export crops such as coffee and pepper in the long run. The institution directly involved in the project was the Sri Lanka Cooperative Marketing Federation (MARKFED). It agreed to provide credit to the farmers for the purchase of implements (mammoties), planting material and other inputs such as fertiliser and agro-chemicals. The credit was interest free and was channelled through the local Multi-purpose Cooperative Society (MPCS).

A tripartite agreement between the farmers, Agricultural Productivity Committee and the MARKFED was signed. MARKFED agreed to provide inputs and buy the produce for which a forward price was offered. The farmers agreed to sell the produce exclusively to MARKFED through the Multi-purpose Cooperative Society and to repay the credit after harvest. The Agricultural Productivity Committee whose role in the project was that of an intermediary, guaranteed the repayment of credit and sale of produce to MARKFED.

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1 The experiments on highland and poultry group production have still not been evaluated in detail. A report on these experiments will be issued in the course of this year.

The project was implemented in January 1976. The farmers were supplied with a mammoty each on credit. Soil conservation measures were adopted by farmers as instructed by the Extension Officers. Four thousand banana suckers of the varieties 'Ambun' and 'Ambul' supplied to the farmers were planted as instructed by the Extension Officers. The progress at the initial stage was satisfactory. There was much enthusiasm among the farmers. However, due to the prolonged dry weather following planting, 30-40% of the suckers perished. Fresh planting material was later supplied by MARKFED free of charge to fill the vacancies.

The most significant feature of the project is that it has for the first time brought a marketing organisation (MARKFED) to collaborate closely with private producers by providing production inputs and an assured marketing outlet.

By the beginning of 1977 the crop had reached harvesting stage. The farmers have now organised themselves more systematically with a Committee of office bearers to look after the interests of the group.[1]

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1 A Vigilant Committee has also been formed in order to protect the crop from thefts.

3.3 Group Poultry Production

Land hunger is a major problem in Beminiwatte as in other areas of the wet zone in Sri Lanka. Many holdings are too small either to generate a reasonable income or to offer gainful employment to the owners. The strategy in such a situation should be to develop suitable small scale enterprises that would bring a reasonable return to the operators. Poultry keeping is one such venture. If properly managed it will ensure a reasonable income to these families.

A pilot project was started with two groups from among the farmers who owned small extents of highland. They were not entirely new to the business being operators of backyard poultry runs whose production was mostly limited to the supply of eggs for home consumption. Naturally, management was weak and haphazard. However, as these farmers had a fair knowledge and sufficient experience in poultry keeping, the potential for the development of a well organised poultry industry was high.

The groups were organised in the two villages, Kongammuwa and Dumbuluwawe with 12 and 15 farmers in each group respectively, The first group consisted mostly of unemployed youths, while the latter consisted of older farmers. The project envisaged that initially each member should have 100 birds. The total initial cost up to the time of laying was estimated at Rs 3,230.

The Bank of Ceylon provided credit to the value of 75% of the total estimated cost of the purchase of chicks, tiles, wire-netting, feed and drugs up to the time of lay. The farmers had to bear the balance 25% of the cost of construction of the poultry shed.

The Agricultural Productivity Committee of Beminiwatte acted as the coordinating agency and supplied the farmers with wire-netting, tiles and the feed, the cost of which was debited against the group loan account at the Bank of Ceylon. The Agricultural Instructor at Beminiwatte assisted by the Veterinary Assistant supervised the projects and rendered necessary technical assistance. A tripartite agreement which stipulated the obligations of the institutions and the farmers was signed by the Agricultural Productivity Committee, the Bank of Ceylon and the group.

Initially the group attended several training programmes and demonstrations in poultry management. In September 1976 the sheds were completed and each farmer was provided with 100 day-old chicks. The farmers encountered several technical problems in the early stages, which were successfully overcome by the intensive supervision of the Veterinary Surgeon (Kegalle).

The progress of the two groups has been satisfactory. However, the shortage of poultry feed in the area led to some difficulties. But the Agricultural Productivity Committee successfully arranged for the two groups to be supplied with feed and other requirements.

The two groups differed considerably due to their background. The Kongammuwa group functioned more efficiently as it was more homogeneous both economically and socially. The members themselves belonged to the same age group, This group was well organised and had a Committee to attend to the needs of the members. On several occasions it acted as a pressure group, particularly when the Agricultural Productivity Committee delayed the supply of poultry feed.

One of the major problems now faced by the group is the lack of an organised marketing outlet for eggs. Although there is a demand for eggs in the area, the lack of a suitable institutional marketing arrangement may prevent the farmers from getting a fair price for their produce. The Agricultural Productivity Committee on its part is unable to handle marketing of eggs as it does not have the required facilities for transport, storage etc., and also an effective distribution outlet. The cooperative was also not prepared to undertake this function.

The implementation of a group credit scheme was a significant feature in this exercise. Unlike in paddy cultivation where credit requirements of farmers usually vary, the organisation of group credit was much easier in poultry production as the investment needs of the members were kept at the same level through a uniform programme of work. Each farmer was given an equal amount of credit under a system of guarantee inter se where each member guaranteed the credit of all other members.

The project had a tremendous impact in the area and many requests have been made to organise similar projects among other farmers. However, some of the difficulties likely to present in the large scale expansion of group production as discussed earlier may act as obstacles in poultry production as well.

Chapter 4

PROSPECTS OF GROUP PRODUCTION IN SRI LANKA

4.1 Possible Forms of Group Production

Agriculture in Sri Lanka shows considerable diversity. Paddy is cultivated by a large number of individual peasant farmers. Export crops like tea and rubber are also cultivated by smallholders to some extent while coconut cultivation is largely a smallholder activity. In addition, several other minor export crops[1] are also cultivated by small operators. Already there is an ambitious programme initiated by the Government to intensify the cultivation of minor export crops. Animal husbandry is still a weak link in the agricultural sector of this country although steps are being now taken to intensify this activity.[2] These sectors offer varying potentials for the introduction of group production.

Paddy Cultivation

The group approach could help paddy farmers in both the dry zone and wet zone of Sri Lanka. The advantages of introducing this arrangement in the dry zone[3] are :

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1 Coffee, cocoa, pepper, cardamom, cloves etc.

2 Sri Lanka - International Development Association Dairy Development Project.

3 Successful paddy cultivation in the dry zone is dependent on the availability of irrigation water even during the main rainy season - Maha. In the Yala season paddy cultivation is almost impossible without supplementary irrigation.

(1) Controlled use of water - An agreed calendar of operations will help to make the best use of the available water resources both under major irrigation schemes[1] as well as in areas served by small tanks;

(2) A programmed use of farm machinery - Tractors and other farm implements are necessary in the dry zone particularly because of the large sized holdings and the tight cultivation schedule. Institutions like the Agricultural Productivity Committee could help to allocate the available machinery and equipment more efficiently under a system of group production;

(3) Better deployment of labour, particularly during peak seasons.

In the wet zone too group activity could help in the more efficient distribution of water particularly where it is obtained from anicuts. It could also contribute towards a greater absorption of labour. In the wet zone under-utilisation of labour is a common feature.[2]

A number of factors favour the group production arrangement in the paddy sector. Paddy is the only crop grown by all the farmers on asweddumised lands.[3] Improved cultural practices could be more easily adopted if they are assured of timely supply of inputs. Again, since the cultivators in a tract depend on a common source of water supply, water management could be greatly improved. The group system could also help to bring about greater cooperation among the farmers strengthening the

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1 In the State-sponsored colonisation schemes under major irrigation projects established at a very high cost, returns to investment had been poor due mainly to low levels of rice technology and inefficient water control. Organised action by farmers to improve production efficiency has been a rare phenomenon.

2 See Chapter 2

3 In certain upcountry areas, however, paddy is rotated with vegetables, potatoes etc.

traditional "attan" system. In the case of paddy, the problems of marketing are less serious than in the case of highland crops. Although the Irrigation Ordinance, the Agricultural Lands Law and the Agricultural Productivity Law require all cultivators in a tract to perform certain functions collectively,[1] in practice this is not observed.[2]

Highland Cultivation

Highland cultivation on small holdings falls into three broad categories :

(1) highlands where mixed cropping is practised, the Kandyan forest gardens for example;

(2) highlands in which perennial crops like tea, rubber and coconut are grown mainly as mono-crops; this sector is getting enlarged due to the redistribution of Land Reform lands in small holdings;

(3) highland cultivation with annual crops observed in the vegetable growing areas of the mid and upcountry and also in the chena[3] lands. Chena cultivation is steadily moving towards a more stabilised form of cultivation in many areas.[4] Here there is an increasing need to systematize the land use and cropping patterns.

In all these cases many technical and institutional factors such as poor technical know-how and credit and marketing problems impede increased productivity.

In the case of highland crops too, group production would be beneficial in several ways. Apart from bringing about a better organisation of inputs, extension services and marketing, group production would help to rationalise the cultivation of highland crops and bring about a certain degree of regional specialisation depending on the comparative advantages in different areas.

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1 Kanna meeting for example - Section 3 (3) of Agricultural Productivity Law.

2 Problems likely to be encountered in the organisation of paddy group production are outlined in Section 4.2 of this Chapter.

3 Shifting cultivation. Each year, large extents of lands in the dry zone are cultivated under this system.

4 The ARTI is currently carrying out a study on Rainfed Highland Farming in the Dry Zone.

Livestock

The Government has recently launched a large scale dairy development programme.[1] Organised group activity will be relevant to this programme as well. Depending on the comparative advantages of a particular area, a certain degree of regional specialisation could be achieved by concentrating on a particular livestock enterprise. In the dry zone areas many farmers are engaged in rearing cattle. However, it is not done in an organised manner. Often cattle are not milked regularly due to lack of marketing facilities. This is yet another area where the group approach could be used successfully in organising the small farm sector.

The organisation of group production both in highland crops and livestock is more difficult than in paddy. However, experiments could perhaps be first tried out on lands distributed under the Land Reform programme. Such experiments could provide valuable experience for the further extension of the concept.

4.2 Problems of Introducing Group Production

In the previous section several areas where group production could be introduced were outlined. This section aims at drawing the attention of the reader to certain problems likely to arise in the large scale expansion of group production. They are taken up at three levels.

Problems at the Farmer Level

Successful introduction of group production requires certain conditions to be present at the farmer level. The greater the homogeneity of the farming population both economically and socially, the greater would be the chances for its success.

Certain characteristics of the peasant sector seem to render somewhat difficult the organisation and efficient operation of production groups. When farming is practised for subsistence

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1 Sri Lanka - International Development Association Dairy Development Project - restricted to the mid-country wet zone and coconut triangle receiving over 75 inches of rainfall per annum.

and/or on a part-time basis, as found in parts of the wet zone, it may present several problems in the organisation of groups. As the basic purpose of organised group action is to get the farmers to systematically adopt a package of improved practices, the purely subsistence farmer not aiming at a surplus may be less inclined to actively participate in group production. The same is true of the part-time farmer whose major interest may not be necessarily farming. In a situation where such part-time farmers are numerically important, organising them for group production may be a difficult task. In such cases suitable working arrangements have to be made to organise and service the groups.

Another major difficulty in organising group production is the problem of credit.[1] Unless serious adjustments in the credit policy are made, large scale expansion of the idea would not be possible.

Another problem at the farmer level is the tenurial complications as found, for example, in the paddy sector of the wet zone. Tenancy, joint ownership and excessively fragmented holdings could complicate the organisation of production groups.[2] Tenants without security and freedom for decision-making may find effective participation in group production difficult. Forming cohesive groups may present problems when joint ownership is involved and cultivation is done on a rotation basis where the actual operator changes every season or year. Further, in paddy cultivation, the operation of a large number of parcels in different tracts or areas may also complicate the organisation of production groups.[3] These are of course problems to which no other acceptable solutions are available at present. However, it should be pointed out that group production in the absence of any other alternate form of organisation seems at least to be a suitable arrangement for increasing production.

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1 Refer page 25 above.

2 The prevalence of these problems at village-level on a large scale is rare except in certain areas of the wet zone.

3 The "old field" in the purana village is a classic example where such problems are rampant.

As shown by the experience at Beminiwatte, caste differences, inequalities in land ownership etc., do not appear to be serious problems in the organisation of groups, although homogeneous conditions would greatly facilitate the formation of groups. In this respect the dry zone, especially the major colonisation schemes, seem to offer a greater potential for group production. Here, the holdings are larger, paddy land distribution is rather uniform and cultivation under controlled irrigation demands a certain degree of cooperation among the cultivators. The sociological problems in the colonisation schemes to which reference has often been made,[1] may not be a serious obstacle for organising production groups once the advantages are realised.

Problems at the Institutional Level

If group production is to succeed, the institutions at village-level which could sponsor, organise and help farmers to continue group action should be genuinely interested in agricultural development and the well being of the farming population. The present institutional set up at the village-level seems to be inadequate and ill-prepared for a large scale introduction and expansion of group production.

The specific roles and functions of the two main institutional arms, namely, the Cooperative and the Agricultural Productivity Committee-cum-Cultivation Committee are still to be clearly spelt out.

These institutions are responsible for catering to the needs of the farming population at the village-level. The Agricultural Productivity Committee is now vested with the full responsibility for planning and developing agriculture at the village council level with the Cultivation Committees acting as its agents at village-level. Whether the Agricultural Productivity Committees and the Cultivation Committees as they are organised and function at present, could successfully undertake group production on a large scale is rather doubtful, especially as it involves continuous heavy responsibilities in the organisation and coordination of services and supplies to groups.[2]

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1 (B.H. Farmer - Pioneer Peasant Colonisation in Ceylon, Oxford University Press, 1957).

2 The appointed members of these Committees work in an honorary capacity. Generally it has been found that in most Agricultural Productivity Committees and Cultivation Committees only one or two members are active. Also, the Agricultural Productivity Committees do not possess adequate funds, storage and transport facilities etc., and have not been able to get the fullest cooperation of other village-level officers (Agricultural Instructors, Krushikarma Vyapthi Sevakas etc.,) and other institutions (Cooperatives and Rural Development Societies).

The village Cooperatives which are called upon to perform an increasingly important role of providing consumer services have not been able to get themselves actively involved in agricultural development. They however perform certain vital functions as providing inputs and marketing services, especially in major paddy producing areas (credit, fertiliser, agro-chemicals and purchase of paddy under Guaranteed Price Scheme).

With the establishment of the Agricultural Productivity Committees it was expected that the two main institutional arms would closely collaborate to serve the peasant sector. Experience so far has shown that this is far from being realised.[1]

The pilot group production projects have clearly demonstrated the need for a single organisation at village-level to be responsible for planning and implementing agricultural development at the village-level. Such an institution should be responsible for the supply of credit, inputs, marketing facilities and the coordination of technical advisory services and so on. Such a reorientation of the village-level institutional framework is a pre-requisite for the large scale introduction of group production.

Problems of Cooperation Between Institutions and the Extension Services

As group production is an exercise aimed at increasing production, a close relationship between village-level extension officers and rural institutions is essential in order to help the institutions and the farmers to organise and implement group production programmes. At present the extension services operate under the arm of the Department of Agriculture. They are expected to work in close collaboration with the Cultivation Committees and Agricultural Productivity Committees. However, the experience at Beminiwatte and elsewhere has shown that this collaboration is not easily achieved. The relationship needs to be clarified and established on a sounder and permanent footing. The ideal situation would of course be when the institution responsible for agricultural development has its own extension workers or at least extension workers operating under its authority and direction.

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1 It must be noted that the two institutions come under two different Ministries.

4.3 Requirements for Expanding Group Production

Organisation

Group production will succeed only if the initiative comes from the farmers themselves along with the active support and co-operation of village-level institutions. The role of the Agricultural Productivity Committee is crucial.[1] The Agricultural Productivity Committee should be responsible for the provision of inputs, for technical advice through the extension staff and for coordinating all other arrangements. The Cultivation Committee in association with the Agricultural Productivity Committee should directly service the groups. Ideally, group production should be started in areas where both the Agricultural Productivity Committee and the Cultivation Committee function efficiently. However, a large scale introduction of the concept would not be possible unless the institutional framework at village-level is suitably reorganised.

The group production concept is still in an experimental stage. If the idea is to be extended the Rural Institutions and Productivity Laws Division of the Ministry of Agriculture and Lands and the Department of Agriculture should together work out a programme in collaboration with other relevant institutions. It could then be undertaken on an expanded scale in several areas of the country.

Training

The introduction of group production on a large scale needs competent persons to train members of village-level institutions as well as the technical officers working in collaboration with them. In the first instance the district level officers of the Rural Institutions and Productivity Laws Division of the Ministry of Agriculture and Lands and the Department of Agriculture should have a clear understanding of the group production concept and its working. In the next stage these officers will train the divisional level staff and members of Agricultural Productivity Committees, who in turn will train the village-level workers.[2]

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1 The role of farmers and each of the institutions is given in detail in the Guidelines (Annex II)

2 There is a need to prepare more comprehensive and easily understood documentation on the subject than what is given in the Annexes.

The Role of the State

If the group production programme is to be introduced on a larger scale, Government recognition and assistance[1] are essential. Initially, a certain amount of recognition could be given to the groups by the Agricultural Productivity Committees and the Cultivation Committees.[2] At a later stage, the groups should be given certain additional advantages in the form of subsidies, lower interest rates, facilities for the purchase of machinery, equipment and so on.[3] Ideally the groups should enjoy a definite legal status where their rights, privileges and the duties as well as the functions of the officers serving them are clearly defined.[4]

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1 In countries where group production has become popular, the Government has rendered assistance to groups in the form of economic incentives such as subsidies on credit and inputs, facilities for purchase of machinery etc. In such countries production groups are also legally recognised. See Annex I.

2 Necessary instructions in this regard could be issued (to the Agricultural Productivity Committees) by the Rural Institutions and Productivity Laws Division of the Ministry of Agriculture and Lands.

3 In such a case, precautions should be taken to ensure that bigger farmers do not get the advantage of such concessions at the expense of the small farmers. If not, the resources contributed by the State will go to assist those already advantageously placed.

4 The Agricultural Productivity Law has the legal and administrative framework necessary for planning and developing agriculture at the village council level. The Agricultural Productivity Committees set up under this Law are responsible for undertaking such developmental tasks. If this situation is clearly recognised, the ideal would be to incorporate provisions for the establishment of production groups in the Law itself. (The readers are advised to refer to the Amendment to the Japanese Agricultural Cooperative Law in this connection).

ANNEX I

GROUP PRODUCTION IN POLAND AND JAPAN

A. Poland

The agrarian structure in Poland consists of several forms of farm organisations such as cooperative farms, state farms and private farms. Private farms cover an area of 80% of the total farm land. The average size of these privately owned farms is around 4.8 hectares. About 33% of the private farms are less than 2 hectares in extent. The presence of a large number of individual small farms was an obstacle to increasing productivity.

One of the solutions adopted in the 1950's was the formation of cooperative farms. This, however, was not successful for a number of reasons. Capital and farm implements were inadequate to undertake such large scale farming. Furthermore the co-operative concept was not fully understood by the farmers as it was too big a 'jump' from private ownership. Therefore, group production was adopted as an intermediate step. Following this innovation, agricultural productivity increased considerably encouraging many farmers to adopt this method.

Group farming in Poland covers production of crops as well as livestock. Generally a group consists of three to ten farmers. As an incentive these groups are given assistance in the form of farm equipment, credit, fertiliser etc., on concessionary terms.

Registered farmers enjoy definite legal status which entitles them to certain privileges and binds them to certain obligations to the institutions. The Agricultural Circles,[1] the Banks and the Cooperatives, while accepting the legality of the group, offer them such services and facilities as credit, fertiliser, machinery and guaranteed prices for their produce. On the other hand the group is obliged to sell its produce to the Cooperatives. This facilitates the recovery of loans.

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1 Agricultural Circles are village-level farmer institutions organised and financed by private farmers. The members elect a Council which is the supreme body of the Circle. The functions of the Agricultural Circle is to provide its members machinery and other services. On an average each Circle covers about 5,000 hectares incorporating a few villages and has a membership of about 1000 farmers.

The amount of credit that has to be repaid depends on the farming activity of the group. For crops, it may be 80% of the amount taken and for animal husbandry about 60%. The groups are given time to repay the loan and the first instalment is payable about three years from the date of borrowing. The contracts between the groups and the institutions are effective usually for about five years.

The popularity of group production is also due to the recent changes that have taken place in the Polish economy. Rapid industrialisation created labour shortages in the rural areas. Part-time farming too was on the increase. Group farming enabled the farmers to overcome these twin problems as well.

B. Japan[1]

The post-war Land Reform in Japan mainly brought about a change in the titles to land and the pattern that emerged was one of individual owners. In 1970, out of the 5,576,000 farm households only 6% had holdings above 2 hectares, except in Hokkaido. The rest had between 0.5 and 1.5-2 hectares.

A few years after the completion of the land redistribution programme it was clearly felt that the small owner farmer system under the paternalism of the State was increasingly becoming an obstacle to the future progress of agriculture.

The rapid growth of the Japanese industry in the 1950's brought about an acute labour shortage in agriculture which added to the cost of farm operations. In 1961, a programme of fostering viable family farms and encouraging cooperative farm operations was introduced under the Agricultural Basic Law.

The Agricultural Cooperative Society Law was amended to allow for the formation of group farming corporations.

The farmer group corporations in Japan are voluntary organisations encouraged and supported by the Government. They enjoy a definite legal status as they are registered with the Agricultural Cooperatives. In order to expand the movement, production groups are given a Government subsidy of almost 50% of the costs of machinery, costs of construction of warehouses, processing facilities and land improvement works (irrigation, drainage, consolidation of holdings etc). In 1970 there were almost 24,000 farmer group corporations covering the cultivation of rice, vegetables and fruits, cocoon production and animal husbandry.

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1 The authors are grateful to Dr T. Tenma who served as FAO Advisor in the Institute during the period (1975/76) for his advice in writing this section.

In paddy cultivation a little less than 10% of the total area was worked by farmer group corporations. Most of the farmer groups have a membership of between 10-50, though in some the membership may go upto as much as 100.

Farmer groups in Japan are organised for the promotion of a number of activities :

i. Organisation of cooperative work - livestock rearing, cultivation of crops, preparation of common nurseries, group spraying etc.;

ii. The cooperative use of certain facilities like (a) use of machinery under common ownership; and (b) common use of warehousing and processing facilities.

Group farming is increasingly becoming popular in Japan as it helps to enlarge the size of operations under a system of small individual holdings. This method also helps to solve the problem of labour shortages by the division of labour among group members in specialised jobs. Thus it helps to bring about a reduction in the cost of farm operations.[1]

The Japanese experience is relevant to Sri Lanka as agriculture in Japan is predominantly organised under a system of small holdings.

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1 The group farming movement in Japan has however come to face certain problems as an increasing number of agricultural households are attracted to non-agricultural off-farm work.

ANNEX II

GUIDELINES FOR FARMERS AND VILLAGE-LEVEL INSTITUTIONS[1] - GROUP PADDY PRODUCTION

The idea of group production has received wide acceptance in many countries and is of special significance to countries like Sri Lanka where the majority of the farmers are operators of small holdings. This system was tried out on a paddy tract at Molligoda in the Beminiwatte Agricultural Productivity Committee area during Maha 1975/76. It made a significant impact on the farmers of the area. During the Yala season (1976) several more groups were organised.

1. What is group production?

This is a system where a few farmers decide to perform all or some of their cultivation practices together rather than individually. For example, consider the farmers in your tract. Under the present system, they establish their nurseries on different dates and transplant at different times. Some plant long aged varieties while others plant short-aged varieties. Some farmers may adopt routine pest and disease control measures but this is not of any use if others do not practise it as the fields of the other farmers will be reinfected. Under group production the farmers agree to perform all cultural practices together under a common programme. They plant the same variety, use fertiliser at the correct time and in recommended quantities, adopt routine pest and disease control measures and so on.

2. Do you have to pool your land among group members?

No. Only the production process is done as a group while the rights of ownership to land is unaltered. Each farmer works his own plot and is responsible for his own land.

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1 Prepared for the Yala 1976 and 1976/77 Maha programmes

3. Do you have to share the produce among the other members of the group?

No. Only the production work is done in a group and each farmer harvests his field and takes the produce for himself. But he may have the advantage of marketing together if it is so organised by the group.

4. Does this system offer you any distinct advantages?

Yes.

(a) You can obtain your requirements of inputs (fertiliser, chemicals etc.,) at the correct time and in quantities recommended by the extension officers.

(b) Group transport of inputs reduces costs.

(c) Equipment like sprayers and weeders will be made easily available to you.

(d) It helps you to adopt certain improved cultural practices which you cannot adopt as an individual (regular application of recommended quantities of fertiliser, chemicals etc.).

(e) It facilitates common water management. This will not only reduce water wastage but will also minimise disputes among farmers.

(f) You can benefit from better extension services.

5. How does it increase production?

It helps you to adopt a package of improved practices that directly contribute to higher yields, at the most appropriate times and under efficient technical guidance. As every farmer adopts the same improved practices, those who lagged behind earlier are brought to a higher level of production.

6. Does this system help the extension worker to serve you better?

Yes.

(a) Group work enables the extension worker to make more personal contacts with you than if he has to deal with you individually.

(b) It is easier for him to offer his services to a group of farmers with common interests than to individual farmers with different interests.

(c) When problems are discussed in a group issues are better clarified.

7. How does this system help your servicing institutions such as the Agricultural Productivity Committee and the Cultivation Committee?

These institutions will find it easier and time sparing to deal with groups of farmers than dealing with each of you individually. The particular institution can consider your group as a corporate person.

8. What are the concrete benefits you will get from institutions?

   (a) Agricultural Productivity Committee/Cultivation Committee will be responsible for organising and providing you credit and inputs such as fertiliser, agro-chemicals etc., in recommended quantities in time. Credit will be repaid by you after harvest in kind or in cash. Agricultural Productivity Committee/Cultivation Committee will also supply you with equipment like sprayers, weeders and so on where possible.

   (b) The extension officer will help you to prepare a cultivation calendar and will offer you guidance as to how the different operations should be done. He will give you group training on such aspects as transplanting, fertiliser application, etc., if needed. He will constantly visit the yaya (tract) to discuss your problems.

9. What should you do to organise a production group?

   (a) Discuss the concept with your neighbouring farmers. If possible have a discussion with a few farmers from a production group in your area. When a farmer colleague of yours tells you of the advantages of this system, you will be convinced of the advantages than when an outsider explains it to you. Then contact the extension officer and seek his assistance.

   (b) If you could get all the farmers of your tract to cooperate with you it is very good. If, however, one or two farmers are not prepared do not force them. You can be sure they will cooperate with you after sometime.

   (c) Once you have the cooperation of a group of farmers, you could in association with the extension officer contact the Agricultural Productivity Committee or the Cultivation Committee in your village to discuss and agree on the expected collaboration.

(d) It will be a good thing if you can appoint a Committee within your group (about 3 or 4 persons). Each Committee member could be given a special function. The success of the group will depend mostly on your commitment and initiative. For instance, one Committee member to be in charge of obtaining inputs in time, another to keep a check on pest and disease outbreaks and inform the extension worker, another to be in charge of water management and getting the critical operations done in time as agreed. You can either have the same persons to the Committee each season or appoint new persons. The latter of course is better, so that each member will have the opportunity of serving the group.

(e) You have all to gain and nothing to lose by working in groups. It will greatly facilitate your operations, save your time, reduce costs and increase your yields.

More than anything else, it will bring greater cooperation and solidarity among our farmers.

10. How can the institutions help you to organise a production group?

(a) Once agreement is reached with the Cultivation Committee or Agricultural Productivity Committee the following should be fully discussed among all consenting parties, namely the group (members), extension officer and the Agricultural Productivity Committee/Cultivation Committee -

i. objectives and advantages of group production;

ii. role of the group and institutions;

iii. questions pertaining to the supply of credit and inputs, quantities, time and place of repayment, interest rates etc.

(b) Agricultural Productivity Committee/Cultivation Committee will make arrangements with other institutions (Bank, Cooperatives etc.,) to organise the credit and inputs required by the farmers, if necessary.

(c) When Agricultural Productivity Committee/ Cultivation Committee has finalised arrangements for credit and inputs, a second meeting will be held with groups to prepare the calendar of operations. (Copy of calendar of work is annexed). At this stage an agreement is signed between the farmers and the institutions directly involved (agreement form is annexed). Once work is started, the farmers' committee will look after the implementation of the programme. They should take full responsibility for the group and keep direct contacts with extension officers, Cultivation Committee/Agricultural Productivity Committee and other institutions involved.

11. What are the conditions under which paddy group production could give best results?

(a) Where water supply is assured, i.e. where risk of crop failure is minimal.

(b) Where tenurial problems are minimum.

(c) Where institutions, especially the Cultivation Committee and the Agricultural Productivity Committee are efficient.

ANNEX III

AGREEMENT BETWEEN GROUP MEMBERS AND AGRICULTURAL PRODUCTIVITY COMMITTEES/CULTIVATION COMMITTEES (FOR PADDY CULTIVATION)

Agreement between Mr ..... (farmer on ..... paddy tract and member of ..... voluntary paddy production group) on the one hand and the ..... Agricultural Productivity Committee/Cultivation Committee on the other hand.

1. I, ... Chairman of the Agricultural Productivity Committee/Cultivation Committee of ..... agree on behalf of this Committee :

   (a) To supply the above farmer fertiliser and agro-chemicals in amounts recommended by the Agriculture Department for his land in the ..... tract. These inputs will be delivered on the date recommended by the Agricultural Extension Officer and agreed by the members of the Production Group and the Agricultural Productivity Committee/Cultivation Committee.

   (b) To make the required machinery and equipment available to the group as and when necessary.

   (c) To ensure that the necessary technical advice is made available to the farmer through the Agricultural Extension Officers.

2. I, farmer on the ..... paddy tract and member of the paddy production group agree :

   (a) To apply the full quantity of the inputs supplied by the Agricultural Productivity Committee/ Cultivation Committee to my paddy land in the above tract and at the time recommended by the Agricultural Extension Officer as agreed by the members of the production group and the Agricultural Productivity Committee/Cultivation Committee.

   (b) To repay the full value of the inputs supplied by the Agricultural Productivity Committee/Cultivation Committee/Bank of Ceylon plus interest at the rate of ..... per annum to the Agricultural Productivity Committee/Cultivation Committee/Bank of Ceylon after the paddy harvest.

(c) Not to obtain a separate cultivation loan for paddy fields in the above tract.

(d) To pay acreage levy and crop insurance premium in respect of the paddy land cultivated in the above tract.

(e) To become a member of the above paddy production group and to abide by all the rules and regulations formulated by this group.

(f) In the event of my rights as a member of this paddy production group being transferred to someone else (which shall only be done with the approval of the Agricultural Productivity Committee/Cultivation Committee and the members of the group) my successor will accept all the obligations listed above.

.....
Name and Signature of Group Member

.....
Name and Signature of
APC/CC Chairman

Date .....

ANNEX IV

RULES AND REGULATIONS FOR MEMBERS OF PADDY PRODUCTION GROUPS

Rules agreed to by the members of the ..... Voluntary Paddy Production Group of ..... Cultivation Committee area.

1. The members of the above Paddy Production Group agree to abide by the following rules relating to the seasonal cropping calendar :

   (a) Joint clearing of irrigation channels on specified dates to standards required by the Cultivation Committee.

   (b) Cultivation of one paddy variety by all members.

   (c) Preparation of nurseries on specified dates, including application of fertiliser at specified rates on the advice of the Extension Officers.

   (d) Transplanting/row seeding/broadcasting within the specified period according to the advice of the Extension Officers.

   (e) Application of basal fertiliser and top dressing at specified rates on a specified day according to the advice of the Extension Officers.

   (f) Satisfactory control of weeds on specified dates by chemical or manual means as advised by the Extension Officers.

   (g) Rotational issue of irrigation water during times of scarcity as agreed between the members of the Production Group and the Cultivation Committee.

   (h) Proper and timely control of pests and diseases as advised by the Extension Officers.

   (i) Notification to the Agricultural Productivity Committee/Cultivation Committee two weeks in advance of the date and time of harvesting and threshing.

2. In the event of any problems arising in regard to these rules or the cropping calendar the member shall inform the Agricultural Productivity Committee/Cultivation Committee in good time.

3. Any cultivator who fails to abide by these rules shall be subjected to such disciplinary measures as agreed by all members of the Production Group. Failing this, the cultivator shall be subjected to provisions of the Agricultural Productivity Law (Sections 6, 7, 8 and 9. See Annex VI).

4. Other farmers in the tract may join the Production Group subject to approval of the Group and the Agricultural Productivity Committee/Cultivation Committee.

5. These rules may be modified as and when required and agreed by the members of the Production Group and the Agricultural Productivity Committee/ Cultivation Committee.

.....
Name and Signature of Member
of the Paddy Production Group

Date .....

ANNEX V

CULTIVATION CALENDAR FOR PADDY

Voluntary Paddy Production Group of ..... tract in the ..... Cultivation Committee area.

1.	Seed variety to be cultivated	.....
2.	Clearing of channels	from ..... to .....
3.	Land preparation for nursery (apply fertiliser for nursery)	..... from ..... to
4.	Seed paddy preparation	date .....
5.	Nursery laying and commencement of land preparation	from ..... to .....
6.	Fertiliser application for nursery	date .....
7.	Spraying the nursery	date .....
8.	Application of V-2 at second ploughing	date .....
9.	Transplanting (where not applicable row seeding or broadcasting)	from ..... to .....
10.	Application of urea and weeding	date .....
11.	Spraying fields	date .....
12.	Second urea application	date .....
13.	Application of TDM and weeding	date .....
14.	Routine pest and disease control as and when required	.....

ANNEX VI

RELEVANT PROVISIONS UNDER THE AGRICULTURAL PRODUCTIVITY LAW NO. 2 OF 1972

PART I

FARMING AND MANAGEMENT OF AGRICULTURAL LAND

2. (1) It shall be the duty of every owner or occupier of any agricultural land to farm such land with such crops or breeds of livestock as are best suited for the land, having regard to the extent and the situation and the natural resources of the land, and to manage it in accordance with the rules of good management as are hereinafter provided by this Law or any regulations made thereunder, with a view to improving the productivity and maintaining efficient standards of production both as to quantity and quality of the produce.

(2) Where the owner is not in occupation of such agricultural land and the occupier is in possession by virtue of a formal or informal agreement with the owner, it shall be the duty of the owner, unless there is an express provision to the contrary in any agreement, to provide the capital works and equipment necessary to enable the occupier to farm such land and maintain an efficient standard of production.

(3) Subject to the provisions of subsection (2), in determining whether the occupier in possession of an agricultural land is farming and managing the land in accordance with the rules of good management, regard shall be had to the extent to which the owner provides improvements and maintains the capital works and equipment necessary for efficient production.

(4) The responsibilities under the rules of good management of an owner of any agricultural land in occupation by another person shall not, in relation to the maintenance of capital works and fixed equipment, include an obligation to do anything which that other person is under an obligation to do by virtue of any agreement.

3. (1) Without prejudice to the generality of the provisions of Section 2, the owner or occupier of any agricultural land shall,-

(a) carry out all such duties and obligations in respect of his agricultural land; and

(b) fulfil all such obligations in respect of maintaining the productivity of the agricultural land of the area, tract or group of holdings within which his land is located,

as are specified in this Law or under any regulations made thereunder.

(2) The owner or occupier of any agricultural land shall, in addition to such other duties as the Minister may in his discretion specify, ensure that -

(a) only recommended varieties and strains of crops and breeds of livestock are used;

(b) the manner in which the agricultural land is being cropped is such as to maintain that land clean and in a good state of cultivation and fertility and in good condition including proper drainage;

(c) irrigation water is efficiently managed;

(d) the land is properly maintained in order to ensure the maximum conservation of soil and water;

(e) the fertility of the soil is improved and maintained by the application of fertilisers or manure in adequate quantities;

(f) according to the type of agricultural operation undertaken, an efficient standard of management is maintained in the cultivation of crops or the keeping of livestock;

(g) the necessary steps are taken to secure and maintain crops and livestock free from disease and from infestation by insects and other pests;

(h) the necessary steps are taken for the protection and preservation of growing crops and crops harvested or in the course of being harvested;

(i) the necessary steps are taken to minimize losses in both quantity and quality of produce in the processing for the market; and

(j) the maintenance and repair work is carried out wherever necessary.

(3) The owner or occupier of any agricultural land shall take the necessary steps to ensure that all his duties and obligations arising from the need for common management of land over a given area, tract or group of agricultural holdings are properly discharged. Such duties may involve any one or all of the following :-

(a) the proper timing of agricultural operations;

(b) the efficient management of irrigation water;

(c) joint measures for conservation of soil;

(d) water conservation and drainage;

(e) protection against pests and diseases;

(f) any other collective responsibilities which may be prescribed by regulations under this Law for efficient land use and the improvement of agricultural productivity; and

(g) ensure that the prescribed period between the harvesting of any agricultural produce and the marketing thereof, is adhered to.

4. An owner or occupier who fails to fulfil the obligations placed on him by sections 2 and 3 of this Part shall be guilty of an offence under this Law.

6. (1) Where the Minister is satisfied that any agricultural land is not being farmed or that the owner or occupier of any agricultural land does not fulfil his responsibilities to manage the land in accordance with the provisions of section 2 or of section 3 or of any regulations made under this Law, the Minister may, after giving the owner or occupier of such agricultural land an opportunity of making representations to him or his authorized representative, by Order (hereinafter referred to as a "Supervision Order") place the owner under the Minister's supervision so far as relates to the management of the land, or the occupier under the Minister's supervision so far as relates to the farming of the land, as the case may be.

7. (1) Where after a Supervision Order has been in force for a period of twelve months, the Minister is satisfied on the report of any authorised person under subsection (3) of section 6 that no satisfactory improvement has been shown notwithstanding any direction given under the subsection, the Minister may make an Order of Dispossession.

8. Upon an Order of Dispossession being made and served, the person on whom the Order is served shall within the period specified in the Order vacate such land referred to in the Order.

9. Where any person on whom an Order of Dispossession has been served, fails to vacate the land within the period specified in such Order, a person authorised by the Minister in that behalf shall, on application made to the Magistrate's Court having jurisdiction over the place where the land is situated, be entitled to an order of the Court directing the Fiscal to forthwith evict the person in occupation of such land.