THE ROLE OF FINANCE

IN

AGRICULTURAL DEVELOPMENT IN BURMA :

(WITH REFERENCE TO PADDY FARMING

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WITH REFERENCE TO PADDY FARMING

by

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Presented in

Partial Fulfilment of the Requirements for the

Degree of

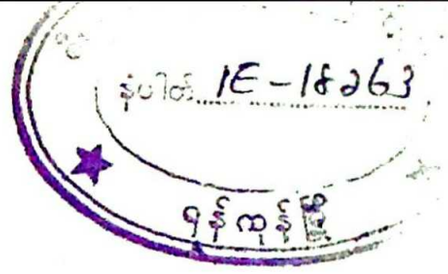
Master of Commerce

in the Department of Commerce

Institute of Economics

Rangoon, Burma

January, 1980



Acceptance

Accepted by the Board of Examiners, Department of Commerce, Institute of Economics, Rangoon, in partial fulfilment of the requirements of Master of Commerce

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June 24, 1986

CONTENTS

CONTENTS (Contd:)

CONTENTS (Contd.)

Acknowledgement

There are so many persons to be acknowledged that I cannot list all of them. First of all, I owe deep gratitude to Sayar Paw, the Professor of Commerce Department, Institute of Economics, who allowed me to attend the Master of Commerce classes and to write this thesis. Then I have to admit that without the advice and close supervision of Dr. Mya Than of Research Department, this thesis would be impossible.

Ahba U Thar Han, the Chairman of the Village People's Council at Myaut-Chaw-gone village tract provided me fatherly advice and help during my field works. I should also mention the villagers without whose sincere co-operation through out the field research, the results of this thesis would be meaningless.

Sayar U Myo Min of the University Computer Centre, U Htun Lynn of the Statistics Department and U Lay Kyi of the Research Department helped me to computerize the data.

Ko Naing Oo, Ko Ye Myint Nee, Ko Hla Baw Thu, Ko Tin Hlaing, Ma Hla Kay Thi, and Ma Nwe Mar Win, helped me in clerical works, and Daw Mya Kyin of the Economic Library took pains in typing my scrawling.

I have to thank all my Sayars, Sayamas and colleagues at the Institute of Economics, who lovingly and sincerely have encouraged me through out my struggling years.

This acknowledgement is nothing to them whom I owe debt of gratitude. The debts of the agriculturists in Burma were ~~often~~ written-off by the Government. Why don't my benefactors write-off my debt of gratitude to them!

Preface

The thesis topic is an off-spring of the comment made by U Maung Maung Hla, former Research Officer of the Union Bank of Burma, at the Research Congress in 1974 when we read a research paper on the differential development of some villages in Lower Burma. At that time, we could not present the role of finance in Agricultural development.

This topic of agricultural credit or finance is too hot to handle : the private money-lending is banned by the Government, the Agricultural Banks' Loans are tied to partial compulsory sales to the Government, and no one, of course, is willing to admit one's indebtness and express the source of credit. Nevertheless, it is an interesting topic to a student of finance.

The author, relying on his experiences of village survey, tried to grasp some ideas of the role of finance in agricultural development. He visited every sampled farmer at least twice before he asked any question concerning with the subject matter and tried to have good rapport. He believes that the farmers stated the true amount of credit taken, although they might not indicate the real source of credit. They often answered, "If one has gold, one can get credit".

He has to admit that no differentiation can really be made between the amount taken from pawnshops and private money-lenders. Except this the data obtained are quite reliable for this study.

Introduction

Agriculture is the largest industry in the developing countries, and as such, occupies a special position with respect to economic development. Typically, it accounts for 40 to 60 percent of the national output and employs 50 to 80 percent of the labour force. Agricultural products also make up 70 to 90 percent of exports. Immense numbers of farmers in developing countries need credit for subsistence during certain seasonal periods; and almost all farmers need credit when they start adopting new methods for which supplies and tools are required. No dependable estimates of the demand for agricultural credit in the developing countries of Asia have been made, but it seems generally accepted that the existing overall supply is far short of the demand.[1]

Many of the experiences which have discredited agricultural investment have been due to a belief

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1 Arthur Paul : "Credit's Role in Improving Agriculture", Asia Foundation Program Bulletin, No. 36 (September 1965), Reprinted in Getting Agriculture Moving, Volume I, Edited by Raymond E. Borton, New York, 1966, P.412.

that credit can be treated as a separate compartment and will somehow have its own virtue. Very seldom is any evaluation made of the effectivenss of credit on productivity and output.[1]

The thesis focuses on the effectiveness of credit on the development of agriculture : the acceptance of new techniques (innovations) and productivity within the framework of some related socio-economic factors. The present study, though largely based on the survey in a single village in Lower Burma, is written with the aim of suggesting the outlines of some of the more prominent socio-economic factors in agricultural development.

The first chapter provides the framework of agricultural credit and the second chapter deals with the approaches to the agricultural credit problems. The historical sketch of the agricultural credit in Burma is provided in the third chapter. An empirical study is presented in the fourth and fifth chapters which deal with the socio-economic conditions of the village under study, and the important links between

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1 Arthur Gaitskell : "Agricultural Credit" in Getting Agriculture Moving, op.cit., P. 417.

agricultural credit and technology and output, considering some related socio-economic factors.

This village, Myant-chaw-gone, was selected for field research for two main reasons. First, the farmers of the village specialize in paddy growing. Second, the villagers are familiar with the author as a saya of the Institute of Economics due to the excursion made by the final year students of finance major together with the author. After the initial tentative selection of this village, a visit was made there by the author and the purpose of coming to the area was explained to a number of people in the village and the author was eventually accepted by the Chairman of the Village Peoples' Council to stay at his house. The villagers of Myant-chaw-gone were cooperative and friendly throughout the period of field research. They were eager to help once they were convinced of a genuine interest in their problems of agriculture.

The methods employed in the study were those of structured and unstructured interviewing and observation. On the basis of tested questionaire, helped by the supervisor himself and about 80 students, a questionaire was reconstructed with the view to test the

following hypotheses.

I. Agricultural finance or credit is related to the acceptance of new techniques which in turn is associated with productivity.

II. There can be multi-relationships with the above variables and other socio-economic factors as follows :

(a) Productive Forces

(i) Number of economically active persons.

(ii) Hiring agricultural labourers.

(iii) Having draft power.

(iv) Size of farms.

(b) Economic status

(i) Income per acre from other sources.

(ii) Income per head.

(iii) Housing condition.

(c) Level of the farmer's education

(d) Communication

(i) Communication with townships.

(ii) Discussion with the village manager. (Extension workers)

(iii) Listening to Radio.

(iv) Reading Newspaper.

(e) Cost and expenditure

(i) Cost per acre.

(ii) Cost of hired labour.

(iii) Cost of owned labour.

(iv) Expenditure per head.

(f) Growing planned variety of paddy.

(g) Size of family.

(h) Age of the farmers.

The degree of acceptance of new techniques, which can be defined as the indicator of development, is measured by the following factors :

(1) Cost of fertilizers applied,

(2) Cost of straight line transplanting (i.e., the amount of money given to the transplanters),

(3) Cost of improved seeds,

(4) Cost of using tractors,

(5) Cost of applying pesticides, and

(6) Cost of using water pumps.

Out of 56 farmers 30 (more than 50 percent of the farmers) were randomly selected and interviewed. Suitable statistical methods were applied to test the above hypotheses. Estimates of the credit needs at the national level and some advices are offered in the concluding chapter.

Chapter One

The General Framework of Agricultural Credit

I. Economic Development and the Role of Agricultural Credit.

In developing countries, such as ours, the economy of which is mainly based on agriculture, the term agricultural development is almost synonymous with economic development. By economic development will be meant a continuing social process leading to a progressive increase in average output per head among the people in a society. It is social because it requires, or results in, changes in beliefs, attitudes, relationships, institutions and organizations not usually thought of as economic, or at least not entirely so.[1] In any case economic development implies important changes, not only in the relative quantities of labor, capital and natural resources, in their efficiency, and in the ratios of output to input of these factors, but also in economic structure and in economic relations.

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1 Dr. Horace Belshaw, Agricultural Credit in Economically Underdeveloped Countries, FAO, Rome, Italy, 1959. P.v.

It is convenient to classify the determinants of economic development into quantitative and qualitative changes. The main types of quantitative changes are increases in the amounts of capital and of natural resources in use, and in the amounts of labor actually engaged in production. Qualitative changes are those which increase the efficiency of given amounts of labor and capital in producing output. In the actual processes of economic development different kinds of changes are so interwoven that it is not possible to separate them completely.

Therefore agricultural credit should not be considered in isolation but as part of an integrated process of economic development and social betterment applied in such a way that rural populations share in the results. Efficient systems of agricultural credit are necessary if agriculture is to make its contribution to national improvement. But credit will run to waste, or its contribution will be limited, unless it is supported within the rural sector by other measures, as well as by the growth of other sectors of the economy. We have to attach great importance to institutional reform with special emphasis on land tenure, taxation, agricultural extension and marketing.

In developing countries particularly, governments have to play a large part in development programs. This demand that adequate attention be given to the role of agricultural credit in overall national plans and programs, and suitable administrative arrangements be made to ensure such attention.

The major determinate of economic growth are an increase in the rate of capital formation, increase in the effective supply of labor and qualitative improvements in the use of capital and labor. A major problem is to promote an initial breakthrough, so that there is more income to provide capital to start the process going. By capital we mean real things-such as roads, or drainage and irrigation systems, or fertilizers - which help production. To direct national production to making these things requires more financial savings, including taxation directed to capital formation. An agricultural credit system must be designed to help by increasing money savings among rural people, and then using them effectively. But it may also assist by encouraging the direct use of labor for capital formation on farms or rural communities.

When population increases, the supply of labor will increase, but usually more slowly than population growth. The net effect may be to make it more difficult to increase output per head, even though total output grows. Our major concern, however, is with the fuller use of labor at present unemployed or under-employed. If industrialization takes place, labor may be more fully utilized because it can be kept more continuously at work and less subject to a seasonal rhythm. But, in addition, direct attention to the problem in rural areas is needed, by such means as extending the crop season, improving techniques so that labor is more continuously engaged and produces a larger output, developing local industries, or using labor otherwise idle or nearly so for farm improvements and local works such as roads, drainage, irrigation, and go-downs or other structures. Agricultural credit has an important role to play in providing the finance necessary for these changes that will result in an improvement in output and income, or in assets.

A mere increase in the quantity of credit is not likely, overall, to this result. It is usually a necessary, but not a sufficient condition. Accordingly, considerable stress is to be placed on the

quantitative aspects and qualitative effects. Quality improvements or innovations cover a very wide range, but are conveniently classified into changes of attitude, improvements in and extension of knowledge and technology, and improvements in institutions and in social and economic organization.

Special attention is to be given to the establishment of institutional credit including the development of co-operatives, as being itself an innovation or qualitative improvement of primary importance. This is usually prerequisite if credit is to be more adequate and cheaper. But equally, credit must be so designed as to give a strong positive inducement to improvements in farm techniques, institution and organizations, and to changes in attitudes. Its significance in relation to farm operations is clear enough in so far as it provides the necessary finance for improved cultural practices. It can also provide the finance for institutional changes such as tenurial reform and improvements in organization; for example, in marketing or processing.

Changes in attitudes are relevant, in respect of willingness, as well as the capacity to make financial savings or use them for lending or direct investment on

the farm, and also of the willingness to engage in new lines of production, the unfamiliarity of which creates a large element of risk.

The terms of loans, the conditions of repayment, the nature of the security required, and the extent to which risks can be reduced or provided against, are all relevant to this situation. But it is not likely to be remedied if credit is regarded as an isolated operation. The question of risk and security, as well as providing an adequate proportionate return to the farmer require attention to the integration of credit with marketing. The awakening of technical consciousness and the readiness and ability to apply new techniques demand, the close linking of credit with agricultural extension, and suitable provision for supervision. These are all powerful reasons for stressing the importance of qualitative aspects.

The finance and personnel appropriately assigned to credit and supporting services, such as education, agricultural and home economics extension, health, marketing, etc. must be related to questions of balance for the economy as a whole. These, inter alia, refer to the balance between savings and consumption,

agriculture and industry, domestic and export production, public and private investment; and to the requirements for social overhead and services - roads, buildings and public utilities of various sorts such as communications and power.

Given the answer to such questions of balance, decisions must also be made as to other investment criteria so that the increments of capital will produce the best contribution to the national output. While there are differences of opinion, the most common view is that major consideration should be given to those types of investment which economize in the resource which is scarce and provide the maximum yield to it. Since capital is usually relatively scarce and labor abundant this principle supports those types of investment in which the ratio of additional output to additional capital is large. Normally these are investments of low capital intensity, using a low ratio of capital to labor.

It will be clear of course, that the rule is not of universal application. Many necessary public works are by their nature capital intensive, and the technical superiority of capital intensive methods is sometimes so great that it would be absurd to use labor intensive methods.

II. Conditions Affecting the Demand for Agricultural Credit.

In most of the developing countries, farm holdings are small and scattered, the method of production is primitive, and income is also small and uncertain. Large part of production is for subsistence, so that cash income is even smaller. The consequent low capacity to save means that farmers can seldom provide the means to finance improvements themselves, and must borrow to do so. On small areas of land there is little scope for mechanization and production is labor-intensive.

Both the national requirements for economic development, and the ability of farmers to repay loans, necessitate special attention to encouraging the demand for credit to grow cash crops. The labor-intensive nature of the farm operations, and the phenomena of unemployment and underemployment, and low technical competence are important factors in determining the specific purposes for which credit should be demanded. Credit is the vehicle for improved techniques which must be within the technical competence of the farmer and therefore simple, which normally have a high ratio of output

to capital and which in the early stages would more fully utilize the labor force rather than dispense with the need for it. Emphasis on labor-saving investments will become more appropriate, however, as employment opportunities emerge outside of farming, or if it is possible to extend the scale of farm operations by bringing in new land.

Low and uncertain income increases the risks if new practices fail. The familiar characteristic of farming and the importance attached to perpetuation of the family affect the balance in motivation, on the one hand, between security and conservation of the farm as a foundation for the economic future of the family and, on the other, the taking of risks to earn more current income. These must be recognized as obstacles to be overcome in inducing changes in the character of the demand for credit; and allowed for in the conditions under which credit is given, and by the integration of credit with extension and marketing, and provision for effective supervision.

The high proportion of expenses which goes for food, combined with the seasonal rhythm and low cash incomes, cause the demand for short-term credit

for working expenses to assume especial importance. It is impossible, in practice, to distinguish between credit for production and ~~much of the~~ credit needed for consumption.

The use of land as a basis for security is beset with difficulties, and the farmer may be reluctant to pledge it. Other forms of security, especially in crops, must be sought. Moreover, insistence on tangible security prejudices the small farmer by comparison with the farmer with a large holding. The primary criterion in satisfying the demand should be repayment capacity rather than credit worthiness in the sense of adequate tangible form assets.

In addition to farm operations, credit is needed to provide fixed capital and working expenses for marketing and processing, for small local industry and for village works of many kinds. In such works a small volume of credit may encourage the direct use of a great deal of local labor in capital formation.

In the promotion of changes in attitudes leading to changes in the character of demand for credit, the government must play a leading role, through establishing credit institutions and agricultural ex

extension systems, promotion of marketing organizations and in other ways. The promotion of local leadership and the development of more effective local organizations, cooperatives or village development councils, are important aspects of this problem.

III. Characteristics of Supply

The failure of agricultural credit arises from the characteristics of supply as well as demand. The conversion of static into dynamic credit[1] requires an increase in amount available, reductions in the cost of credit, and adjustment of credit terms to suit the convenience and repayment capacity of the farmer; and, in addition, assistance in applying new techniques and improving farm management.

Increasing the supply requires attention to the source of funds for agriculture. Income per head and the proportion of income and total amount saved are

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1 Static credit means that, after paying interest and repaying debt, the assets of the farmer, and his capacity to produce and maintain levels of consumption for himself and family remain unchanged. This normally implies that the credit (i.e. debt) cycle must be repeated to maintain his position. Conditions of supply tend to contribute to the same result.

usually lower in agriculture then in the rest of the economy. Moreover, much rural saving is to provide against misfortune and for ceremonial expenditure. Any increase in rural savings necessitate prior increase in production and income out of which to save with the corollary, in most cases, of some diversion of finance from other sectors to agriculture to promote the initial increase in production. Much of the income from agricultural production goes to landlords, merchants and moneylenders who invest a large proportion of their savings outside of agriculture and do not use them to increase agricultural production. It is probable that there is usually a net drain of private savings from agriculture.

Land reform, cheaper credit and improvements in supply and marketing would increase the share going to the farmer and so increase his capacity to save. But the willingness to make additional savings may not be increased, and the income may be spent on consumption rather than directed to more production. Special efforts must be made to encourage more rural savings, combine them into larger aggregates and, and used them more effectively. Under the best of conditions the units of

saving of farmers will be so very small and scattered that they contribute little to productive power; but if aggregated in financial institutions by way of deposits or other types of financial investment, a sizable volume of credit becomes possible even in poor countries, which can be directed to further agriculture programs. It is highly probable, however, that improved credit, marketing, agriculture extension and other measures must be antecedent to any significant increase in rural savings. This implies the transfer of funds into agriculture not only for grants and loans, but also for government services.

In recent years, institutions have been established in many underdeveloped countries to provide credit for agriculture, and in some countries direct loans are given by government departments. But private sources of credit still predominate. Commercial banks play a very small role and usually confine their operations to larger farmers in more commercialized areas. The bulk of the credit comes from private money-lenders, merchants and landlords under extremely burdensome conditions. The cost of loan is very high whether as interest or by way of indirect charges. A large portion

of credit is advanced for nonproductive purposes. Because of risk and expenses of management, unavoidable costs of private credit are likely to be high in any case but, in addition, the farmer may be tied to the lender, whose monopoly position encourages many undesirable practices and leads to much exploitation. These conditions all contribute to the static nature of agricultural credit, and necessitate for their removal the growth of credit institutions.

IV. The Duel Objectives of Agricultural Credit Programs.

The two principal objectives of agricultural credit programs are usually considered to be (1) an increase in agricultural production, and (2) an increase in social equity resulting from improvements in the farmers' incomes.[1] Such income gains may be regarded as the avenue to greater equality in national consumption levels and a more just distribution of economic opportunities. A number of other potential benefits to farmers from credit program activities could be cited: improved

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1 Gordon Donald, Credit for Small Farmers in Developing Countries, Westview Press, U.S.A., 1976, P.18.

nutrition, release of farmers from dependence on extortionate money-lenders, a stronger position in the markets, increased self-respect and hope for the future, improved social status and political influence, modernization of outlook, access to wider educational and occupational opportunities for the farmers' children, etc. For the most part economic progress is necessary, though not sufficient by itself, for the achievement of these other developmental aims. As between production and equity objectives there are, of course, certain areas of conflict, both of these goals, however, are considered important.

Credit programs should not be expected by themselves to reshape the society into new and more productive or equitable forms; but they can assit agricultural production, and they can help lower-income producers. They cannot do these things quickly, or with assured results.

In idealized form, the scenario for an agricultural credit program goes as follows : the government or central bank loans money to an agricultural bank which in turn relends the funds either directly or through cooperatives to farmers. The farmers use the funds to purchase productive inputs such as fertilizer, seeds, pesticides, etc., which are combined with family labor to produce more output. The additional output is sold and

the proceeds are sufficient to repay the loan and leave the farmer better off. The payments received by the agricultural bank are sufficient to regenerate lending capacity, to cover administrative costs and to pay the interest on the government loan. Such a program consumes no resources; the money committed simply constitutes a revelving fund. The loans are repaid and the interest charges are sufficient to cover costs and any defaults.

Yet, in practice, experience belies the model. There may be no increases in agricultural production following the credit program in many cases. And, because of a high rate of default, the funds pledged by governments to agricultural credit do not regenerate themselves, nor does the interest received cover costs. Somewhere between model and reality something often goes wrong.

For the success of a credit program more than money is needed. For a credit program to be successful in increasing output, there must be a new technology, markets that can supply additional inputs and absorb additional output, institutions willing to lend small farmers on terms the farmers consider

attractive, and farmers willing to borrow, to invest and to repay loans. If these stringent conditions hold, a credit program for farmers will lead to an increase in the value of output, which is the principal benefit to a national economy. Whether the credit program is then justified depends first, on whether such benefits will exceed its costs, and second, on whether the costs of alternative programs for producing comparable results do not indicate that such results could be obtained at lower cost by other means.

Chapter Two

Approaches to the Agricultural Credit Problems

When we approach the agricultural credit problem, we are first concerned with the general requirements for a sound system of credit from the point of view of the supply of funds, giving main attention to methods of increasing the supply of credit through rural savings and promoting the smoother flow of additional funds into agriculture. Then we would proceed to consider the conditions determining the effective use of such funds as are provided. Lastly we have to review the aspects of related organisations and institutions through which credit is channelled to the rural people.

I. Increasing the Supply of Funds

The supply of funds can be increased by
(a) promoting and encouraging rural savings and
(b) transferring the funds from public and private sources into agricultures, in different ways and for different purposes.

(a) Promoting Rural Saving

In promoting rural saving, the main need is to make further saving possible by increasing rural

incomes. But we have to note that more money will not necessarily be saved simply because incomes are increased. For this to occur there are three related requirements: education and propaganda, the provision of suitable incentives, and also the provision of facilities which conform to the needs and convenience of rural people.

The educational aspect is both negative and positive. Negatively, education and propaganda may be directed to drawing attention to the serious disadvantages of excessive ceremonial expenditure, and changing the social sanctions which now demand such expenditure. Positive educational measures to bring home the advantages of thrift must be related to specific objectives likely to appeal to the peasant. A generalized appeal, "taking in the absent", is not likely to succeed. The receipt of interest is some incentive but ability to get something wanted through savings is likely to be a bigger incentive. Although the main purpose is to increase savings for production, the people require funds for other purposes also, and it is better to inculcate habits of thrift to get these, to go into debt for the purpose. In part, the problem is to substitute money saving in an institution instead of hoarding.

The practical procedures for promoting rural savings include provision for deposits in co-operative societies, post office savings banks and other conveniently located agencies, the use of chit funds.,[1] contributions to the share capital and reserves of co-operative societies, the adoption of revolving fund[2] capital procedures, and the issue of government securities and securities of credit and other institutions in a variety of types and denominations. The repayment of loans by individuals or co-operative societies is an important form of saving. Marketing levies may be designed to promote private or public capital formation.

(b) Transfer of Funds into Agriculture.

Public funds may be diverted into agriculture by the use of tax revenue to provide services; or

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1 The essence of the chit fund is the formation of a group who agree to subscribe to the fund by instalments over a period of time, after which the fund is made available to a member by lot or auction, the former at a fixed interest, the later at a rate determined by the amount of successful bid.

2 The basic principles are, contribution by members to the fund out of surplus, or in proportion to business done; and, repayment to them of their contributions by retirement of the capital they have contributed after a numbers of years, in chronological order.

of taxes and public borrowing to make grants-in-aid contribute to the capital of credit institutions or make advances to such institutions and make direct loans to farmers through government departments. A number of countries have established special funds for these and other purposes.

Private funds may be made available through investment in public loans, the proceeds of which are used to assist in agriculture, investment in the debentures and share capital of public and private credit, marketing or other institutions, deposits in financial institutions, the purchase of credit instruments such as warehouse receipts, and direct loans such as are given by merchants and money lenders.

The flow of private funds is partly a question of the yield, partly of the power which they give to earn other income (for example, in trade) and partly of the risk, and the ease with which investments can be converted into cash. A satisfactory rate of return may conflict with the necessity for keeping costs down to the farmer, and will require special attention to the organization and administration of financial institutions so that they operate as cheaply as is practicable.

Reduction of risk to the lender is depending on sound lending practices by the credit institutions, geographical spread and diversification of assets, provision of sufficient liquidity and the building up of reserves. In developing countries, where exist no money market and stock exchange, government has to exercise greater responsibility in providing finance, promoting the sale of securities, making available various types of security, establishing mechanisms for discounting, purchase and sales, providing guarantees and arranging insurance.

II. Conditions of Loans

In order to have the effective use of funds available we have to consider certain conditions involving such elements as types of loan, interest rates and cost of credit, and convenience to the borrower. These conditions usually differ according to different countries and various types of credit organization.

(a) Types of loans

Types of loans may be classified according to credit need, or terms of credit, or types of security.

When we classify the types of loans by need, there are (1) Settlement and Development credit,

(ii) Production and equipment credit and (iii) Marketing Credit. Settlement Credit is intended to encourage the farmers to purchase additional holdings and to make extension, whereas development credit is to finance the farmers for constructing dams and drainage system, clearing forest and hedging, etc. Production and equipment credit is concerned with short term expenditure for buying farm implements and cattle, and with current expenses for buying fertilizers and seeds, paying hired labourers, etc. Marketing credit is meant for the expenses that occur during transporting and storing the produce, and awaiting for the buyers. Such classification by need has weakness, for example, buying harrow and plough can be included in development credit as well as in production and equipment credit.

The most useful way of classifying the types of loans is based on terms of credit. There are short-term credit for working expenses, medium-term credit for cattle, farm implements, ~~farm implements~~, farm improvements and the like, and long-term credit for land purchase and larger improvements. Generally, medium-term credit ranges from 6 months to 3 years whereas long-term credit ranges from 3 years to 30 years. It is necessary to

have balance between these types of credit; and also between these and credit for processing and marketing. There may be little advantage in providing more credit for fixed capital if there is not enough short-term credit for working expenses to marry with it. There may be a ceiling on the effectiveness of productive credit unless marketing is improved and this also will normally require more credit.

By types of security, there are farm-mortgage credit, chattel and collateral credit, and personal credit. When substantial amount of credit for long-term credit is needed, farm is usually mortgaged. If the mobile property such as cattle and farm implement are mortgaged it is chattel credit and when bonds and other securities are pledged it is collateral credit. In the case of personal credit promisory notes are used.

In addition to the above classification, loans may sometimes be classified as individual loans and group loans. In the case of the latter, loans are granted on a collective basis to co-operatives or to whole village or village tract as groups, and repayments are made a collective responsibility.

(b) Interest Rates and Cost of Credit

Rates of interest vafy according to the types of loans, types of lending organizations and different

conditions in different countries. By economic theory interest rate should cover the cost of capital and related expenses. It is concerned with benefit-cost accounting.

The increase in the value of agricultural production is not sufficient to call a credit program a success. Credit programs are costly: and in a succesful program the value of the benefits must exceeds the costs. Among the costs are administrative costs, supervisory costs, alternative opportunity costs, on the funds invested, default and other social costs. The benefits are mainly the increases in production attribulable to the program.[1]

The interest rates depends on market relations in the informal markets of capital. The supply elasticity of response to shifts in demand in the informal markets depends on the mobility of funds, on lender capabilities or desires to expand clientele, and on the ability of new lenders to enter the market. The extremely wide range of informal commercial interest rates could be explained in large part by a

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1 Gordon Donald, op.cit., p.32.

prevalence of low supply elasticities. Low elasticities of demand would also contribute to this result, given a wide range of probable demand levels relative to existing supply levels and a low mobility of funds and lenders. U Tun Wai states that the urgent and inelastic demand of borrowers and the absence of alternative sources of credit are the principal factors that enable moneylenders to exact very high rates of interest.[1]

There is a concept of "pure" rate of interest which would emerge if competition among borrowers and lenders were very active and if there were no costs of management. In fact, of course, such a "pure" rate of interest never exists. The conception does, however, raise the practical necessity of increasing the supply by removing the inpediments to private investment through appropriate institutions, credit instruments, and suitable conditions of borrowing from the public, so that lending to agriculture can be as remunerative and attractive as to other sectors without raising the rate to agricultural borrowers.

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1 U Tun Wai, "Interest Rates Outside the Organized Money Markets of Underdeveloped Countries", IMF Staff papers, July 1968, P.113, quoted by Gordon Donald, op.cit., P.92.

Thus, we have to consider the cost of credit which involves such elements as (i) pure rate of interest (ii) costs of marketing, (iii) expenses related to credit, (iv) risk and uncertainty, and (v) monopoly element.

(i) "Pure" Rate of Interest

Cost of credit is directly related to the rate of interest formed by the demand and supply of the lending capital.

(ii) Costs of Marketing

Cost of marketing credit is the cost of managing the operations of borrowing and lending. This is a complex operation covering the expense of acquiring and administering funds, and other miscellaneous expenses, the assessment of needs and security of borrowers, the legal costs of drawing up documents, dispensing the credit and collecting interest and installments, and supervising the use of funds by the borrower.

(iii) Expensesses Related to Credit

There are certain special services or forms of assistance involving costs which are related more or less closely to the provision of credit. The most important of these are agricultural extension services, some

forms of supervision, special provision for distressed groups or areas, and provision certain tyoes of risks.

(iv) Risk and Uncertainty.

Risk may be regarded as the probability of losses resulting from incomplete control over the processes with which the farmer is concerned. Risk enters into the cost of credit by the extent to which risk to the borrower is translated into risk to the lender. The lender endeavors to compensate for his expectation of the probability of losses by charging higher rates of loans. Since it is the lender's judgment on the degree of risk which will affect the conditions under which he lends, these will be affected by the extent to which he can gain knowledge of the factors affecting risk, and the time, trouble, and expense involved in obtaining it. By the extent to which lack of knowledge leads to uncertainty, the lender is likely to protect himself by a further allowance in the charges he makes, or in the margin required in the security taken. Cost of uncertainty is therefore equal to the difference between the estimated cost of risk and the amount of loss that can occur.

Risks depend on the frequency of changes and their rate of acceleration, difficulty to predict future

events, actions taken to avoid or reduce risk and uncertainty, and inability to estimate productive resources.

Risk may be looked upon from production point of view and lender's point of view. From production point of view, we have to consider inherent risks : risks due to natural causes, technical risks, commercial risks and financial risks.

Natural causes of loss include those due to pests and disease and to the perishability of products as well as weather. Technical risks arise, inter alia, from the failure of farming methods, storage and processing, and from imperfections in transport. Commercial risks relate particularly to price fluctuations which tend to be increased because the long gestation period, dependence on the weather, and other conditions cause supply to be intractable so that it is not sensitively adjusted to changes in demand. Financial risks have their origin in the way in which financial transactions are arranged, and in the inadequacy of financial means available to the borrower to meet money commitments as they arise.

From lenders' point of view we have to consider human factors, nature of security, availability

of information, and opportunity to spend the loans fruitfully. Human factors involve borrower's honesty and recommendations by others. The sounder security and the more reliable information will lessen the risk, whereas the less opportunities to spend the money lended, the greater will be the risk.

(v) Monopoly Element

The necessity to rely on private, noninstitutional finance is a major cause of very high interest charges and other costs among peasant borrowers. This is indicative of the great importance of the monopoly element in the provision of credit, arising from the urgency of the needs of borrowers, their ignorance and lack of economic sophistication vis-a-vis the landlord, merchant and money-lender, the knowledge and understanding which the lender possesses of rural society and the mentality of the borrower, the convenience and flexibility of the conditions under which loans are obtained, and the fact that credit is tied in with other services such as marketing and providing supplies. Monopoly powers of private creditors will not be easily destroyed and an approach on several fronts is needed, for example, regulations, land reform, education in economic matters as

part of an agricultural extension system, etc.

(c) Convenience to the Borrower

We use convenience in the strict sense, that the conditions of the loan are accommodated to the needs and economic and social circumstances of the borrower. This of course, must be within the limits determined by repayment capacity. Concerning with this problem we have to consider provision of adequate loans for the variety of purposes, adjusting the period of loans to the receipt of income, choosing the forms of security to be used, procedures for granting loans and repayment.

The conditions of loan mentioned so far should be handled with the objective to use the funds available effectively.

III. Aspects of Organization

In considering the organization of agricultural credit we are concerned with two aspects : the structure and the methods of operation. There are so many facets to these that we cannot be comprehensive or go into detail, but must consider only certain matters which are of general importance.

(a) Role of Government:

Governments, either directly or indirectly, must normally play a leading part in establishing a

suitable, over-all climate for agricultural investment, encouraging and establishing suitable credit agencies, providing finance, supervising financial institutions, promoting and undertaking investigations, developing services such as agricultural extension, marketing, education and training, and in other ways. They may provide finance by means of direct loans to borrowers by government departments, the creation of special funds to assist special categories of producers or for exceptional hazards, direct investment in the share capital or debentures of credit institutions, loans to credit institutions and use of credit institutions for government transactions.

The government must enact laws governing the operations of financial institutions and make provision for their enforcement. Normally, in developing countries, it must exercise a positive responsibility in supervising and guiding credit institutions and in providing technical help.

(b) Commercial Banks :

Commercial banks play a subordinate part in the direct provision of agricultural credit to farmers. They are not well suited to meeting the needs of small peasant farmers. They may, however, be of great

assistance by contributing to the capital of credit institutions and investing in their securities, granting loans to co-operative societies, providing remittance facilities and economizing in the use of cash. They are often an important source of finance to private merchants and money lenders. Such general functions often make it desirable to encourage the extension of branch banking.

(c) Merchants, Moneylenders and Indigeneous Bankers.

Indigeneous bankers do not usually lend directly to peasants to any great extent, but lend to merchants and moneylenders. Merchants and moneylenders, the main sources of credit to peasants in most underdeveloped countries, possess certain advantages for the peasant, but these are overweighted by their disadvantages.

Regulations are necessary to control their operations, but these are seldom enforceable or effective unless reinforced by the strong competition of well-designed credit institutions.

(d) Co-operative Organizations.

While, in a number of underdeveloped countries, co-operative societies have made a valuable contribution to production and welfare, there have been

many failures and the relative contribution to economic growth (in operation to national income) has been small. Both social and economic conditions create serious obstacles.

Nevertheless, ideally, the co-operative society is a method of organization possessing important advantages, both social and economic over most other forms, especially because it provides a systematic way of promoting self-help and mutual help. These advantages are such that, rather than react to the disappointments and difficulties by defeatism, means should be sought to overcome the obstacles, and to establish a co-operative structure providing strong foundations in rural communities for sound credit, marketing and processing systems.

The difficulties arising from social and economic conditions and relationships suggest that in some circumstances quasi-co-operative forms of organization may properly be used as a transactional approach.

For success, government must exercise a great deal of responsibility until a co-operative system is well established. In addition to promulgating a suitable co-operative law and regulations, a government has a positive part to play in such matters as promotion,

supervision and audit, co-operative education, training, and the provision of technical advice and finance.

Generally, the co-operative approach is more suitable for short-term and intermediate credit than for long-term credit.

The encouragement of thrift should be a primary objective of co-operation, by deposit with societies, the building up of reserves and the contributions to share capital. The establishment of central banks by primary credit societies extends the mutual help, facilitates the transfer of funds among the societies, increase the capacity to draw on financial resources from outside agriculture, and provides a channel for government grants and loans through the co-operative hierarchy to individual members.

Traditionally, primary credit societies have been modeled on the Raiffeisen type of organization, with unlimited liability and small membership. Majority expert opinion probably still supports this view; but a body of opinion is emerging which favors larger societies in the interest of economy of operation, with the corollary of limited liability. Large societies with limited liability are supported because of the

limited success of small societies with unlimited liability.

A co-operative credit system should provide its finance from its own funds, drawing on the banking system for temporary accommodation. The sound growth of a system which is effective in converting static into dynamic credit will require the provision of capital by agricultural banks, commercial banks, or governments.

It is necessary to emphasise the importance of integrating credit, marketing, and supply. The aim, where practicable, should be to approach this through co-operative societies.

(e) Supervised Credit.

Supervised credit is a term to describe a system developed most fully in some Latin American countries. Such a system aims at improving both production and family living by co-ordinating credit provision with extension services, and placing special emphasis on supervision of loans. The system involves the prior preparation of farm production and home improvement plans and budgets. Supervised credit is not an alternative to co-operative societies, but aims to encourage the establishment of societies both for credit

and for ancillary services such as marketing.

While all types of farmers in an area may be covered, the primary purpose of supervised credit is to assist poor farmers who are potentially credit worthy to become credit worthy in fact. It is not a method of dispensing "soft" credit. Normally the process is to apply a concentrated approach in an area. As the program proceeds and farm efficiency and home conditions improve, the operations can become less intense until requirements can be met by institutional credit co-ordinated with ordinary extension services. The program then can be transferred to another area.

(f) Functions of Central Banks.

During the 1920s and early 1920s, a large number of central banks were established. They largely followed the tradition of the established central banks in developed countries, with the quantitative control of money and credit, and stability of exchanges as the dominent themes. This was an unduly restricted view of the function of central banks and, in any case, in the absence of a developed money market, it was often impossible to exercise these functions effectively.

Quantitative regulation, with the control of inflation as an important arrangement, remains a matter

of considerable importance; but the maintenance of full employment and the promotion of economic growth have become increasingly regarded as proper functions to exercise, with greater emphasis on qualitative, as well as quantitative controls. In this conception the role of central banks as agencies for the implementation of government policy becomes clearer.

In addition to doing all in its power to strengthen existing institutions, a reserve bank should be constantly on the watch to fill gaps in abanking or other financial requirements. Its role, therefore, is one of active leadership in financial and related matters. But there is the very real danger that the temptation to create credit, with inflationary consequences, may increase. When gaps can be filled by other agencies, a reserve bank may well transfer its responsibility to them.

In respect of agricultural credit, a reserve bank has an important part to play by helping to establish, strengthen and promote the extension of commercial banking facilities and agricultural credit institutions, improve and cheapen remittances, improve credit instruments, supervise and inspect financial institutions and

provide technical help in banking principles and procedures.

A reserve bank may provide finance for agriculture by direct investment in credit institutions on in various funds, holding their bonds and debentures in its investment portfolio, and by loans of various kinds, including the discounting of credit instruments. The extent to which finance should be made available must be considered in relation to the control of money supply. Long-term lending out of a reserve bank's own funds should be strictly limited, but it may act as an agency for the disbursement of funds made available by the government by means other than credit creation.

Important complementary activities include advice to the government on financial matters, collection and interpretation of economic data, the conducting of special investigations, and the drawing of attention to requirements such as warehousing on land reforms, which have an important bearing on the efficacy of financial operations. It may be of substantial help in training schemes for officers of credit institutions and co-operatives.

The exercise of positive functions in relation to economic development does not remove the responsibility

to curb inflationary tendencies but, on the other hand, may increase the temptation for a government to pursue inflationary policies, because its reserve bank provides a convenient agency for deficit finance.

Chapter Three

Historical Sketch of Agricultural Credit in Burma.

I. Under British Rule

As Cheng Siok-Hwa points out, in her book on the Rice Industry of Burma, that Burma's economy had partly already been changed from subsistence economy to commercial economy when the Suez Canal, which joins the Maditaranian Sea and Black Sea, was opened in the year 1869[1]. She quoted from the British Burma Gazetteer, compiled by H.R. Spearman in the year 1880, that as early as 1840, the rice exports from Akyab were 74,500 tons valued at Rs.1,257,000 and in 1855, the figure rose to 162,000 tons valued at Rs.3,051,000. The remarkably rapid development of Burma's rice industry began after the Irrawaddy - Sittang delta plains came under British rule in 1852.[2] Although it cannot be denied that the direct and indirect effects of the opening of the Suez Canal in 1869 played an important

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1 Cheng Siok-Hwa, The Rice Industry of Burma (1852-1940), Singapore, 1968, P.5.

2 ("Revolutionary technical improvements in steam navigation of 1870-1880 drastically reduced freight rates for steamers", - Myint, Maung. Agriculture in Burmese Economic Development, University of California, Berkeley, Ph.D. Thesis, 1966, P.43).

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role in the growth and composition of the rice trade, the effects of the operation of the canal on Burma's rice industry were not immediately significant. The change came around in 1880, when steamer transportation to Europe replaced the sailing ships. This period coincided with the time when the Chettyars from India migrated into Burma.[1] Therefore it can be assumed that most of the Burmese farmers were free from indebtedness and agricultural credit was insignificant before the year 1880. (Some authorities assume that Chettyars had started their money-lending business since 1852. It is generally assumed that 1870 is the year when Chettyars took roots in Burma.)[2] It is clear that with the emergence of commercial farming, farmers needed agricultural credit in order to expand their land for cultivation, to buy cattle, farm equipments, and to meet current operating expenses such as buying feed and seed, and paying hired labourers. In addition they needed money for religious and social

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1 ``မြန်မာ့စီး ပွား ရေး အ ခြေပြု၊ ရန်ကုန်၊ ၁၉၆၀ခု၊ စာ ၇၄။

2 ``မြန်မာ့လယ်ယာ မြေသမိုင်း''အတွဲ ၁၊ မြန်မာဆိုရှယ်လစ်လမ်း စဉ် ပါတီ၊ ပါတီစည်း ဝုံး ရေး ဗဟို ကော်မီတီ ဌာန ချုပ်၊ ရန်ကုန်၊ ၁၉၇၀ခု၊ စာ ၂၀၉။

customs.

The demand for agricultural credit in Burma came from all classes of agriculturists - the hired labourers, the tenant-cultivator, the owner-cultivator and the landlord. The hired labouror seldom had anything at the beginning of the cultivating season and he had to borrow from the employer small sums of money every now and then to be set against the paddy wages due to him at harvest.

The tenant-cultivator often ~~often~~ began the season as empty-handed as the labourer. But he had more things to look after, for, in addition to providing for his family, he had to feed and house his hired labourers and he had to obtain cattle, carts, implements and seed. The tenant mainly looked to his landlord for loans.

The owner-cultivator had similar items to provide for except that he had no worry about rent and that he had to pay the capitation tax and the land revenue. His lenders were the professional moneylender, the pawnbroker, the shop-keeper, the trader and others.

It was the common practice for landlords to lend to their tenants. Most of the landlords were moneylenders as well. But not all the money lent by the land-

lords was their own. Much was borrowed from Chettyars on the security of land, houses or jewellery. These loans were usually obtained at the interest rates of 1.25 to 1.75 per cent per month, and lent to the tenant at interest rates of 1.75 to 2.5 per cent per month.

Types of Loans: loans may be classified according to : (a) the form of the loan and the mode of repayment; and (b) the period of the loan. The five main types of loan classified in the former manner were as shown in the following table.

Table (I)

The Forms of the Loan and the Mode of Repayment

Types of Loan	Form of the Loan	Mode of Repayment	
		Principle	Interest
(a) Ngwedo	Cash	Cash	Cash
(b) Sabado	Produce	Produce	Produce
(c) Sabade	Produce	Produce	Cash
(d) Sabanyun	Cash	Cash	Produce
(e) Sabape (Pindaung)	Goods/ Cash	Produce	Produce

Ngwedo loans were the most common. Chettyars dealt only with this type and all large loans were ngwedo loans. The interest rate was determined, subject to the effects of supply and demand or agreements among lenders as to minimum rates, by the size of the loan, the time of year, the kind of security offered, the reliability, reputation and general position of the borrower, the urgency of the borrower's need, the cost of the money to the lender and the skill of the borrower and lender in bargaining. Small loans were charged higher rates of interest than large loans and rates were higher in the busy season than in the slack season. The Banking Enquiry Report gave the usual rates of interest for loans from Chettyars of Rs.100 to Rs.500 as 1.25 to 2.0 per-cent. per month. Smaller loans might be charged 2 to 2.5 per-cent per month. Non-Chettyar money lenders charged about 0.25 to 0.5 per cent higher than the corresponding Chettyar rates. Variations from these, however, were very wide.[1]

Sabado, sabade and Sabanyun loans were not common in Lower Burma. They were found only in certain areas. Sabape loans were used everywhere. Because of

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1 "Report of the Burma Provincial Banking Enquiry Committee, 1929-30, Vol. I, Rangoon,1930, Pp.78,79,234 and 244.

Their very high interest rates they were taken by people whose credit-worthiness was so low that they could not get loans on other terms such rates of interest for payment in kind are estimated to be as high as 300 per cent. These loans were mostly used for small requirements of food and seed and to provide money to lend to labourers.

Loans may be classified according to the period of time before repayment as shown in Table(2).

It was estimated by the Banking Enquiry Committee in 1929-30 that the total amount of crop loans required annually in Burma was about 200 million rupees. Of this about 160 million were used in Lower Burma and the rest in Upper Burma. Two-thirds of all crop loans in Lower Burma and about one-sixth in Upper Burma were provided directly or indirectly by Chettyars. Rough distribution in time of the 200 million rupees required yearly was as follows : about 30% taken in April to June, 50% in July to September and 20% more before harvest. Binns made another crude estimate for the post Depression years, and his calculation showed the total requirement to be roughly Rs.100 million when the paddy price was Rs.100 per 100 baskets.

Table (2)

Classification of Loans According to the Period of Time and their Purposes

Types of Loans	Period	Purposes
(a) Long-term	more than 5 years	Purchase of land, the financing of the more costly improvements, the acquisitions of expensive equipment and the repayment of large debt.
(b) Intermediate-term	2 to 5 years	Purchase of cattle or carts, house-building and the liquidation of smaller debts.
(c) Short-term (Crop loans)	7 to 9 months	Current cultivation expenses for agricultural operations and the living expenses of the cultivator and his family.

Among private moneylenders in Burma there was no clear distinction between loans according to the period of repayment. Loans were usually allowed to run so long as interest payments were not too irregular and the security remained adequate. Only the government, some co-operative credit societies and Dawson's Bank attempted a time classification.

The usual forms of security were land, houses, gold, jewellery, cattle, carts or the standing crops. For large loans, the usual form of security was a land mortgage. For crop loans the most usual form of security, if security was given at all, was a pledge of gold. Cattle, carts and standing crops were used as security on a small scale.

Borrowers of loans which were not accured by a mortgage had to executive an'on demand' document, that is, a promissory note payable on demand. For crop loans there was an understanding that the demand would not be made till harvest. But if at harvest the borrower failed to pay at least the interest on the loan, either payments were postponed till the next harvest or the borrower might be forced to make a fresh 'on demand' or a mortgage made for the principle and interest together,

or court action might be taken to recover the loan.

Causes of Indebtedness :

Indebtedness consisted of long-term loans intermediate loans and (state) crop loans. The important-causes of indebtedness described in the Report of the Burma Provincial Banking Enquiry Committee were grouped by Cheng Siok-Hwa as under:*

A. Factors, over which the cultivator had no control.
   (i) Change to a money economy
   (ii) Development of the land
   (iii) Vicissitudes
   (iv) Rise in paddy prices
   (v) Difficulty of saving.

B. Loans used for unproductive purposes.
   (i) Religious and social customs
   (ii) The Burmese character

C. Mismanagement of loans
   (i) Abuse of credit
   (ii) speculative ventures

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* Cheng Siok-Hwa, op.cit., Pp.177-185.
မြန်မာလယ်ယာ စြေးမှိုင်း ၊ ဆွဲ-ဘန် စေ့ပြုပြီး ၊ စာ ၂၄၅၊ ၂၄၆။

D. Conditions under which loans were made

(i) Attitude of lenders

(ii) High rate of interest

Change to money economy : When subsistence economy gave way to one based on money, the whole way of life of the Burmese was changed. Paddy was sold and the money used to buy the things the cultivator could no longer supply himself or which were more convenient them home-made articles or which appealed to the Burmese strong love for novelty. Due to the rapid change from a subsistence to a money economy, the people scarcely had time to learn how to use either earned on borrowed money to the best advantage.

Development of the land : The rapid conversion of jungles and swamps into paddy fields could not have taken place without the investment of a large amount of capital. The pioneers found they had to resort to money-lenders in order to buy seed, implements, carts and cattle, to pay for general living expenses for the family, to feed and advance loans to hired labourers and to pay taxes.

Vicissitudes : There were the risks of drought, flood, pests, illness, low prices, cattle diseases, and many other misfortunes, which could ruin him.

Rise in paddy prices : There was a fairly constant rise in paddy prices throughout the whole period except during the first World War and the early 1930's. Land value rose corresponding. Since the prices of most commodities were geared to the price of paddy, this meant that the rise in paddy prices did not lead to a rise in real income. Cultivators come to expect a steady increase in paddy prices all the time and this attitude tended to discourage thrift and to encourage extravagent expenditure.

Difficulty of saving : Cultivators rarely put aside money to meet emergencies. Saving banks were few and found only in big towns. There was the risk of loss through theft, fire, flood, etc. There was the temptation to use it uneconomically, Relatives, neighbours and friends would press for loans. Big contributions would be expected for religious ceremonies, village festivals and other social activities.

Religious and social customs : Marriages, funerals, Shinbyu (entry of boys into the monastic novitiate) and earborings for girls all led to the spending of considerable sums of money. Substantial contributions were made towards the upkeep of priests monastries, pagodas, shrines,

etc., and for the pwe or open-air theatrical performances.

Character of the cultivator. The bourgeois ideal of economy as a rule of life pursued with a view to financial security makes little appeal to the Burmese agriculturists. His essential requirements are simple but he is always at any moment to expand the range of his expenditure to the limits of his credit. There is an old saying that "Even an elephant would be bought if it is an credit "The posession of money is to him an opportunity to be used in a manner dictated more by the chances of the moment than by conscious choice.

Abuse of credit. The result of the rapid increase in the amount of money handled by and within the reach of paddy cultivators was extravagent spending and abuse of credit. The temptation to spend beyond one's means and improve one's standard of living was great and this was especially so after a with a good harvest and good paddy prices.

Speculative venture : With the steady increase in paddy prices especially during the period 1900 to 1908 many owners of paddy holdings borrowed money to buy a second

hold, mortgaging both the old and the new holdings, in or order to produce more paddy. But should any financial crisis occur, as in 1907, money lenders would call in their loans. Many borrowers then lost all their land or sold off the new holding and still had a mortgage on the old holding.

From about 1910 many agriculturists indulged in the practice of storing paddy through rains in the expectation of a rise in prices. In 1917 when the imposition of war control led to a fall in the price from Rs.115 in February to Rs.85 in October, many suffers heavy losses and had to part with their land to pay their debts.

Attitudes of lenders : Money lenders in most cases were not interested in whether the cultivator could repay or not, so long as the security was good. No attempt was made to encourage improved methods of farming by borrowers and to see to it that loans were used for productive purposes. No distinction was made between cultivation expenses, long-term loans, fixed capital and emergency needs. The system of taking repayments of loans by instalments at each harvest was practically unknown so that borrowers were not given any help in building up an improved position.

Moneylenders, mainly **chettyars** ,were known to persuade cultivators to borrow. This encouraged the cultivators to secure credit for in excess of the amount which they could profitably employ.

High rates of interest : The rates of interest charged were much higher than comparable rates in most part of India. The most usual **rates** were 1.25 to 1.75 per cent. per month for loans on the best type of security, i.e., land or gold, with higher rates in other cases. Rates on unsecured on sabape loans were 5 to 10 per cent. or more per month. Chettyars, a small group of people with close racial, social, religious and other ties, could make agreements easily to fix minimum rates. If a cultivator was not able to repay promptly, the compounding of large amounts of interest, also bearing interest at a high rate, made a default happen easily.

Whatever the cause may be the agriculturists had financial difficulties when there were crop failures on decreases in production. Then they had to pay compound interest which often was higher than the principal itself. At the end of the nineteenth century, 20 years after the opening of Suez Canal, nearly 20% of the land had already been occupied by non-agriculturists and many owner-cultivators became tenant cultivators who had to borrow more money at higher rates since he had no land to be mortgaged.

At the fall of 1930, the great world-wide depression had effected Burmese farmers. The demand of the chief customers - India, Ceylon and China - decreased and consequently the prices of rice drastically fell. Although the average price of rice was Rs. 202 per 100 baskets in 1926, it was Rs.133 at the fall of 1930. It continued to fall down to Rs.50 in the year 1933. Most of the cultivators could not pay their debts and many of them had to give up their land to the landlords and capitalists.

The Banking Enquiry Committee reported that in the year 1929-30, the total debt of the agriculturists was approximately between 500 million and 600 million rupees. It was also reported that 86% of the cultivators was in debt. The detail conditions can be studied in the following table.

Table (III)

Conditions of Caltivators, Indebtedness in 1929 - 30*

Types	Percentage
1. Cultivators free from debt, having cattle and rice stock for consumption in the coming year.	14
2. Cultivators who could repay their debts by cash in hand and sales of paddy.	25
3. Cultivators whose debt was less than half the value of land owned.	26
4. Cultivators whose debt was more than half the value but less than the value of land owned.	22
5. Cultivators whose debt was greater than the value of all the properties owned.	13
	100

* မြန်မာ့စီး ပွား ရေး အခြေပြု ဖေဖော်ဝါရီ ၊ ၁၀ ရက်။

U Tin Gyi classified the causes of indebtedness, in his Report of the Second Revision Settlement of the Ma-U-Bin District of Lower Burma, as follows :

1.	Purchase of land and settlement of mortgage	19 per cent
2.	Repair of land	2 " "
3.	Purchase of cattle	10 " "
4.	Investment in land	4 " "
5.	Investment in other trades	3 " "
6.	Donations and ceremonies	1 " "
7.	Crop failure	19 " "
8.	Illness, law suits and other misfortunes	2 " "
9.	Paying compound interest for unsettled loans	2 " "
10.	Unidentified causes	38 " "
		100

Such causes and heavy indebtedness led to loss of land by agriculturists and land tenure problems.

Table (4)

Distribution of Annual Average Acreage of Agricultural Land by Type of Owners in Burma, from 1901 to 1939.

Period	Area owned by agriculturist		Area owned by non-agriculturist		Total Agricultural Land	
	Acre	%	Acre	%		%
1901-1905	10,073	86.1	1,626	13.9	11,699	100
1905-1910	12,150	84.6	2,208	15.4	14,358	100
1910-1915	14,346	85.2	2,497	14.8	16,843	100
1915-1920	14,654	84.1	2,776	15.9	17,430	100
1920-1925	14,611	81.7	3,265	18.3	17,875	100
1925-1930	14,786	80.0	3,708	20.0	18,494	100
1930-1935	13,494	71.6	5,361	28.4	18,855	100
1935-1940	12,875	66.6	6,464	33.4	19,399	100

Sources : Annual Reports on the Land Revenue Administration of Burma.

Sources of Loans

There were four sources :(1) Private money-lenders (ii) Government (iii) co-operative societies and (iv) Banks.

(i) Private money-lenders: Private money-lenders were the most important source of loans for cultivators. In the early year of the British rule they were the only source. In Lower Burma about two-thirds of the loans were provided by chettyars, while much of the rest were lent by Burmese, Chinese and Non-Chettyar Indians. Chettyars were less important in Upper Burma however and most loans were there made by Burmese.

The chettyars : The opening of Chettyar businesses in Burma followed the establishment of British rule. It was estimated by the Banking Enquiry Committee in 1929-30 that the total amount of capital lent by Chettyars amounted to about 75 million rupees. About two-thirds of this went to agriculture. In certain Lower Burma districts, Chettyars provided more than 99 per cent of all direct crop loans. The proprietors of Chettyar firms (more than 1,600 in number) normally resided in Chettinad in India and paid visists every now and then to their firms in Burma. These businesses were run by agents who were engaged on a three year contract. Usually, two agent took turns in running the business.

Chettyars normally lent only to people who could offer good security. Long-term loans were not provided for. Chettyars provided directly and indirectly more than two-thirds of all crop loans in most of the districts in Lower Burma. From about 1930 the Chettyars greatly restricted their money-lending activities. The amount of money lent shrank drastically from about 500 million rupees to about 100 million rupees. The Chettyars, like moneylenders all over the world, had been both praised and condemmed. Some claimed that without Chettyars' capital Burma's rice-producing capacity could not have developed at such a rapid pace. Others that the price paid by Burma was too high. In fact, while Chettyar rates ranged between 9 to 15 per cent on loans when land served security, the rate charged by government through co-operatives was also 15 per cent.*

Burmese lenders. All over Burma there were numerous indigenous moneylenders, most of whom were Burmans. Burmese who lent on a small scale were usually cultivators while lenders on a considerable scale were generally landowners as well. Everywhere loans were given by landlords to their tenants and were regarded as part

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* Myint, Maung, Agriculture in Burmese Economic Development, University of California, Bakeley, Ph.D. Thesis, 1966, Pp.176-177.

of the land-letting business. There were also professional Burmese money-lenders. But few operated on a scale comparable to that of Chettyars. Burmese lenders were sometimes accused of deliberately causing a borrower to over-reach himself in order to get possession of his land.

Non-Chettyar Indians and Chinese moneylenders.

Indian moneylenders were of all kinds and came from various parts of India. In the Irrawaddy and Pegu Divisions, and a few Upper Burma districts, Chinese provided a great deal of credit, partly by straight loans but chiefly by selling on credit. Many of the village shop-keepers were chinese as were nearly all pawnshop owners in the country.

(ii) Government Loans.

The Government of Burma supplied loans direct to agriculturists under the Land Improvement Loans Act of 1883 and the Agriculturists' Loan Act of 1884. Long-term (20 to 35 years) Loans could be obtained under the former act for works which improved the land, defined as adding to the letting value of the land, such as the construction of wells, irrigation or drainage channels,

etc., and these loans were repayable by instalments. But these credit facilities were little used. The maximum amount of loans advanced under this act was only Rs.246,000 in the year 1923-24. In other years the amounts were not more than Rs.60,000.
There was a long time-gap between application for and award of loans caused by enquiries into the security offered and whether the proposed improvement would be both feasible and remunerative. Moreover, since such works usually benefited many individuals it was extremely difficult to organize the repayment of loans by a large number of joint borrowers.

The Agriculturists' Loans Act 1884, enabled the government to lend to owners and occupiers of arable land, for the relief of distress, for the purchase of seed or cattle or any other purpose not specified in the Land Improvement Loans Act but connected with agricultural objects. Though the loans under this Act were much more significant than Loans under the first Act, it was found that they proved popular only in tracts where the market value of land was low and where loans from the usual moneylenders were difficult to obtain. The maximum amount of loans under the

Agriculturists' Loans Act of 1884 was Rs.45,92,000 in the year 1931-32. In other years the amounts were not more than Rs.2,5000.00 except the year 1920-21. Table (5).

The rate of interest was comparatively very low, being 10 per cent.[1] per annum for long-term loans and slightly higher of other loans. However, there was much red tape and delay, requiring frequent attendances at the township office. Then there was the need to persuade the village headman to recommened the loans and to bribe various persons to see that the papers were dealt with. Binns states in his Agricultural Economy in Burma; "Money tended to stick to the hands of Township Officers, clerks and village headmen on its way from the treasury to the borrower". The supply of money was never enough for all applicants, which meant that there was uncertainty both about getting the loan and its amount. Also, the loan could not be taken by instalments as required, so that there was not as much saving in interest as the difference in the rates would suggest. Another

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1 Up to 1926, the rate of interest was 6.25 per cent.
မြန်မာ့လယ်ယာ စြေးနှုန်း၊ ပထဝီ၊ ဧဝင်ပြုံး၊ ၈၁ ၂၆။

Table (5)

Amount of Loans Advanced Under the Land Improvement Loans Act 1884, from 1904-05 to 1938-39

Year	Amounts of Loans (in thousands of rupees)
1904-05	2
1905-06	4
1910-11	11
1915-16	5
1916-17	15
1917-18	13
1918-19	7
1919-20	4
1920-21	38
1921-22	26
1922-23	60
1923-24	246
1924-25	21
1930-31	6
1931-32	13
1932-33	2
1933-34	2
1934-35	1
1935-36	5
1936-37	-
1937-38	2
1938-39	2

Sources : E.G. Pattle, "Some Factors Affecting the Economics Position of Agriculturists", Agriculture in Burma, Rangoon, 1927, Pp.111,117 and Report of the Committee on Land and Agriculture, Part III, 79. Quoted by Cheng Siok-Hwa, op.cit., p.190.

Table (6)

Amount of Loans advanced Under the Agriculturists' Loan Act of 1884, from 1900-1901 to 1936-1937.

Year	Amount of Loans (In thousands of Rupees)
1900/1901	111
1905/1906	676
1910/1911	918
1915/1916	1299
1916/1917	1255
1917/1918	924
1918/1919	1283
1919/1920	1191
1920/1921	3161
1921/1922	1877
1922/1923	1521
1923/1924	2206
1924/1925	2422
1930/1931	955
1931/1932	4592
1932/1933	1594
1933/1934	854
1934/1935	394
1935/1936	360
1936/1937	480

Sources : The same as table (5).

disadvantage was that there was a definite date for repayment and, finally, moneylenders lent larger amounts in proportion to the value of the security given.

(iii) Co-operative Credit

The co-operative movement in Burma was not a spontaneous growth from among the people but was government-inspired and government-led. In 1904, the Co-operative Societies Act was passed and the Government of Burma appointed a Registrar (Mr. H. Fielding Hall) to supervise and direct the co-operative movement generally and set up a Department of Co-operative Societies to help him. The first co-operative banks were formed on the principles of Schultz-Delitsch's City-bank. Then these credit societies were reformed on the principle of Mr. Raffeisen's village bank. Lastly, Co-operative credit societies in Burma were formed along the line of Luzatti's principles.

It was at first intended that the capital of the societies should consist of the share capital and deposits from members and from government loans (the amount of which would equal the share capital and deposits). But the amounts collected, double by

government contribution, were not sufficient to meet the needs of the societies and deposits were sought from private individuals, mostly government servants. This led to form[illegible] Central Co-operative banks. The first one was established in Pakokku district in 1908. It was based on 45 co-operative societies. In 1910 Upper Burma Central Union Co-operative Bank was established in Mandalay. It was renamed the Burma Provincial Co-operative Bank Limited, in 1920. The Bank collected funds to finance the primary credit societies. Such central banks were formed in Pegu, Prome, Henzada, Tharrawaddy, Moulmein, Yamethin and Mandalay districts.

As the movement grew the central banks had to deal with numerous and widely credit societies with which they had no close contact and of whose affairs little was known. Therefore societies were grouped into unions whose functions were to get access to the credit and gurantee the borrowings of the affiliated societies. Each union composed of at least three societies. Besides, pioneer co-operatives which granted their members the free and virgin land were also established in the year 1914-15. Each co-operative village consisted of 25 to 50 members and each member get 25 to 40 acres free from

land revenue in the first three years. Long-term, intermediate term and short-term loans were advanced to the members. The government advanced loans to the societies at an interest rate of $6\frac{1}{4}$ per cent and the societies took 15 per cent from the members.

Due to many reasons co-operative societies were in difficulties round about 1930 and many were insolvent and liquidated. But from December 1935 onwards, reconstruction of old societies began. This second phase of the movement was definitely more promising. Cooperation was no longer confined to provision of credit. Steps were taken towards organized co-operative marketing of agricultural produce. Members' dues were collected in kind, thus facilitating repayment, and members' crops sold in bulk so that cultivators obtained better prices for their produce. Crop loans given by the Co-operative Department were fully recovered every years. It was estimated in 1925 the total number of members (95, 405) of unlimited agricultural credit societies was less then 5 per cent of the total number of persons eligible for membership. But there is no doubt that if the movement had been better organized right from the start the numbers involved and the role that could have been played by

co-operative credit in solving the more pressing problems of agricultural finance would certainly have been much larger. Unfortunately the war cut short the movement before it had time to establish itself firmly.

(iv) Bank Loans:

Dawson's Bank was the only European-owned joint-bank which dealt with direct loans to agriculturists. It was established in 1905 and had its headquarters in Pyapon and branches in other parts of the delta. It advanced about 2.5 million rupees annually in loans on mortgage security to the more substantial class of land-owners.

Imperial Bank of India made contact with two central banks in order to grant Rs. 1 lakh of agricultural loan. Moreover, Imperial Bank and other banks also lent Chettyars. Chettierad Bank had 35 branches through which agricultural loans were granted. In addition there were also partnership banks established by private investors. They borrowed from other institutions at low rates and lent the agriculturists at higher rates. The interest rates of the banks varied from 6.25 to 12 per cent. per annum.

v. Estimates of loans required.

During the twenties the Chettyars had some Rs.300 million out in long-term agricultural loans and Rs.200 million in seasonal loans almost all to the cultivators of Lower Burma.[1] Their interest rates ranged between 15 and 36% a year. A further Rs.50-100 million was lent annually by Indian, Chinese and Burmese moneylenders and traders in poorly secured seasonal and monthly loans (Sabape or pindaung) to peasants and farm labourers at interest rates equivalent to a range of 13 to 30 per cent a month. This total level of private farmer credit of Rs.450-600 million in the late twenties was roughly equal to the harvest value of all crops, which was estimated at Rs.570 million in 1929, and to the value of exports of farm products, which was Rs.425 million in that year.[2]

The state lent during the twenties an average of Rs. 1.7 million a year, while agricultural Co-operative societies lent a maximum of Rs. 20 million in

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1 J.S. Furnivall, An Introduction to the Political Economy of Burma, p.16 quoting estimates of the Banking Enquiry Committee 1929-30.

2 U Aye Hlaing, Economic Paper No. 14 and 21, University of Rangoon, November, 1958, p.16, quoting estimates of Professor R.M. Sundrum.

1925, the two sources thus supplying together under 4 per cent of farm credit demand.[3]

II. Under Japanese Rule

The conditions of agriculture was in distress due to the effects of the Second World War. There were political instability, insecurity, absence of moneylenders, shortages of cattle and labourers, damages of irrigation systems, high cost of cultivation, etc. All these resulted in drastic fall of agriculture production. But the prices of rice was very low whereas the prices of other commodities were inflated.

At that time the chettyars had gone back to India and the Burmese moneylenders and landlords were unwilling to lend money. Therefore the agriculturists, especially the tenant-farmers, were greatly in need of money. Although the Ministry of Agriculture had arranged to grant Rs. 5 million of agriculture loans in order to cultivate 9.3 million acres, the plan could not be implemented effectively.

In August 1942, a bureau for co-operatives and State Colonies (formerly pioneer-cooperatives) was formed by few government servants. In the year 1942-43 more than one thousand co-operative societies were

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3 H.V. Richter, "State Agricultural Credit in Postwar Burma", The Malayan Economic Review, Vol. XII, No.1, April 1968. p.105.

reviewed and reorganized. At the end of the years 1943, there were 1222 agricultural credit societies through which the Burmese Government under the Japanese rule lent Rs.53,201 to the cultivators.[1]

III. Independent Period (1948-1962)

When Burma gained her independence, Chettyars went back home. Land holdings became small due to the Land Nationalization and Redistribution in 1953-54. Consequently, there were no long-term loans. The Parliamentary Government lent agricultural loans in various ways in order to produce more paddy. The paddy cultivators obtained 80 per cent of total loans granted by the government. There were three types of loans : (i) Co-operative loans (ii) General Administratives loans and (iii) State Agricultural Bank loans.

(i) Co-operative loans.

The amount of money alloted by the parliament was supervised by the Commissioner of Co-operatives and it was lent to the co-operative societies through the officials of co-operatives department. When State's Agricultural Bank was established in 1953, these loans

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1 J.R. Andrus, 'Burmese Economic Life, 1948, Pp.29,93.

were supervised by the bank.

Co-operative credit societies were important for the finance of agriculture. In the year 1945, there were 1,599 agricultural cooperative credit societies and they lent Rs. 6 lakh to the agriculturists. According to the two year plan in 1947. Co-operative societies were encouraged, and there were 2000 agricultural co-operative credit societies at the time when independence was gained and it was projected to lend more than 340 million rupees.

Since the money lent by the co-operative department was that allowed by the Government, the Agricultural Bank (the State's agent) had to issue it to the co-operatives. Township co-operatives' officials gave the loans to the members through the village credit societies. Although there may be two or more villages in a village-tract, only one credit society is allowed to be formed. The bank took an interest rate of 6$\frac{1}{4}$ per cent and the credit society took 12 per cent from the borrowers. If the loans were not repaid fully by a village credit society, no new loans was made to that one. However, if there were natural catastrophes, the loans could be repaid by instalments.

Table (7)

The Amounts of loans lent by the Co-operatives and Amounts Repaid.*

(in million kyats)

Sr.No.	Year	Amount Lent	Amount repaid
1	1949-50	1.7	1.6
2	1950-51	4.0	3.7
3	1951-52	8.8	8.0
4	1952-53	13.9	12.7
5	1953-54	14.0	11.8
6	1954-55	11.9	10.8
7	1955-56	11.3	10.0
8	1956-57	11.0	8.2
9	1957-58	0.6	0.5

* မြန်မာနိုင်ငံစီး ပွား ရေး စစ်တမ်း ၊ ရန်ကုန်မြို့ဟိုပုံနှိပ်တိုက်။

Since 1953 it had been experimented by the State Agricultural Bank to lend the money through the village banks and it was found more satisfactory. Therefore, from 1957-58 onwards the agricultural loans were not issued through the co-operative credit societies and up to now the Bank issues the loans through the village banks.

(ii) General Administrative Loans.

These were the loans granted by the general administrative body. The amount of money alloted by the Parliament was supervised by the Commissioner of Finance and lent the cultivators who were not the members of co-operative societies, through township and sub-divisional officers. After the establishment of the State Agricultural Bank, these loans were supervised by the Bank.

Before 1950 the system of loan disbursement was not different from that of the pre-war period. The borrowers had to apply for the loans through the village headmen and township officers. Generally 5% of the amount of loans awarded was to be bribed to the headman, clerks and officers among whom it was shared proportionately.

There were two types of loans. The first one was the long-term loan under the Land Improvement Act and the second was short-term loan under the Agriculturists' Loan Act, both of which were issued according to the Agriculturists' Loans Manual of 1944. Up to 1953 both of these loans were supervised by the Financial Commissioner. When the State Agricultural Bank was established in 1953, the short-term loans were handed over to the Bank. No loan was awarded to those tenant-farmers who had no cattle.

In the year 1950, the government introduced a new system of loan disbursement. By this system, the fund alloted by the Parliament was distributed to the District Land Committees according to the order of the State Land Committee. The district and township Land committees alloted the fund to the village land committees from which the village agriculturists had to draw the loans. The rate of interest was 6 $\frac{1}{4}$ per cent. The whole village-tract had to take the responsibility of repayment.

In 1952, there ocurred Pyidawtha (Welfare) Committees and there was a little change in the system of loan disbursement. The amount of loans needed was

to be applied by the village tenure committee through the proper channels-township, district and divisional pyidawtha committees to the State Agricultural Bank. The Bank then took the approval of the State Land Committee and traced back down to the village. It was the responsibility of the village Land Committee to disburse the loans. Then such responsibilites were taken by the village credit committees formed under the State Agricultural Act. The members of these committees were no other than the members of the political party in power. There still were the problems of bribery and corruptions.

(iii) State Agricultural Bank.

The Bank was set up in June 1953 with a share capital of Ks.50 million and its branches were also opened in Mandalay, Pegu, Insein and Hanthawaddy districts.

The objectives of the Bank are as follows:

(a) To lend the cultivators for the cost of cultivation in time through simple channels.

(b) To base the lending business of agricultural loans at village level and make the cultivators have the sense of responsibility, and educate them to have the knowledge of financial management.

(c) To encourage self-reliance attitude and habit of saving.

(d) By using the habit of saving and co-operative system, it is intended to strengthen the financial position of the village.

(e) To encourage the establishment of co-operatives for the welfare and better standard of living of the cultivators.

To fulfill the above objectives, the bank set up the following departments.

(1) Seasonal loan department
(2) Short-term loan department
(3) Co-operative loan department
(4) Long-term loan department and
(5) Government agent department.

(1) Seasonal Loan Department: This department was concerned with the loans for cultivation expenses and living expenses of the farmers. These loans were disbursed at the beginning of rainy season and to be repaid at the harvest time. Such loans could be given for the

following purposes.

(a) To buy seeds.

(b) To buy paddy for (wunza) food.

(c) To pay the agricultural labourers for replanting, harvesting, etc.,

(d) To keep up with the local standard of living.

(e) To be used for other seasonal matters concerned with agriculture.

The borrowers had to give 12 per cent interest to the village bank from which the State Agricultural back charged 6 per cent interest, and the rest was for the village bank's fund. Thus it was intended to build up the capital of the village banks.

(2) Short-term Loan Department. Short-term loans were intended for buying cattle and agricultural equipments. The term varied from 3 to 5 years. In 1954-55 the Bank started to give such loans. However, the amount of such loans was rather insignificant.

(3) Co-operative Loan Department. This department supervised the loans given by the cooperative society as stated before.

(4) Long-term Loan Department. Long-term loans were to be advanced for construction of wells, irrigation or drainage channels, clearing jungles, etc. The term

could be extended up to 15 years. However, such loans had never been advanced since the time when the Bank came into operation, in order to avoid the Bank's capital being sunk for a long period.

(5) Government Agent Department: The Bank acted as the agent of government in these areas where the Agricultural Bank Act did not operate. The amount of fund alloted by the Parliament was to be issued to the cultivators by the Bank through the district officers, co-operatives, village credit committees and land tenure committees.

Since 1953 village banks had been formed in certain villages which had no insurgents' disturbances and had repaid loans regularly in the past. In addition to these banks, those co-operatives composed of at least 75 per cent of the cultivators were given agricultural loans by the Bank. Those farmers whose crops failed to large extent were allowed to postpone the repayment a[illegible] another one year. Those village banks and co-operatives which had loans in arrears were not to be given new [illegible] loans. However, some villages which had natural dis-turbances such as adverse weather were exempted from this rule and allowed to postpone the repayment. The amount

of new loans was considered according to the amount of repayment. By 1958, financing through the co-operatives was stopped, after which State Agricultural Bank channelled its funds only through the village banks.

Initially the Agricultural Bank started with 4 branches and 50 village banks. By 1959/60 it had expanded into 25 districts with 1870 village banks.[1] Although increase in the number of village banks might seem impressive, and loans issued by the Agricultural Bank likewise steadily increased from Ks. 5 million in 1953/54 to K.43 million in 1959/60, there was no appreciable increase in the total agricultural loans provided by the government over this period. Except for 1959/60, when it increase to over Ks.70 million, the totals amount of loans for the most part stood at between Ks. 43 million and the Ks.55 million (Table (8)). What had taken place therefore represented a re-channeling of loans through the Agricultural Bank rather than an expansion of volume.[2] This re-channeling was undoubtedly desirable as the Bank was a more suitable institution to issue loans, and arrears had

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1 The number of village banks reached 2,090 by 1960/61.

2 Maung Myint, op.cit. P.180.

Table (8)

Government Loans to Agriculturists

(Ks. in million)

Year	Total		Direct (Adm:)		Agri: Credit Societies		Agr: Bank[1]	
	Loans	Returns	Loans	Returns	Loans	Returns	Loans	Returns
1952/53	55.0	39.5	40.4	26.2	13.9	12.7	----	----
1953/54	54.3	38.9	34.0	21.0	14.0	11.8	5.3	5.2
1954/55	52.1	39.7	26.9	17.1	11.9	10.8	12.5	11.1
1955/56	42.7	35.8	16.1	11.6	11.3	10.0	15.0	13.7
1956/57	48.3	39.4	18.1	12.2	11.0	8.2	18.9	18.7
1957/58	46.0	40.7	22.7	17.9	0.6	0.5	22.5	22.1
1958/59	56.5	50.3	27.0	21.2	....	....	29.0	28.6
1959/60	73.1	61.7	29.8	19.1	....	....	42.8	42.3

Source : Agricultural Abstracts of Burma : 1962-63, Table 20, p.37.

1 Detail classification, see Appendix

consequently been reduced.[1]

Many of the loans made by the Bank and by other government agencies were granted on a collective basis to co-operatives or to whole villages as groups, and repayments were made a collective responsibility. This system proved to be failure[2] and was dropped in 1959, while the bank ceased to lend through cooperatives in 1958.

4. Causes of failure to repay loans in arrears.

Causes of failure to repay loans in arrears may be classified as follows :

(a) Poverty of the agriculturists.

(b) Natural hazards uncontrollable by the cultivators.

(c) Lack of proper supervision by the department concerned.

(d) Carelessness and ignorance of the borrowers.

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1 The repayment was 81% for the period 1952/53 to 1959/60, Maung Myint, op.cit. p.180, foot note. Some authorities believed that about 75 percent of the loans advanced annually were recovered.

2 U Aye Hlaing, op.cit., P.8.

(e) Disturbances by the insurgent troops.

(f) Loans in arrears had been written-off.

(g) Government loans only formed a small proportion of the needs of agriculture.

Among these causes poverty of the agriculturists was the most critical problem. As the economic conditions of the agriculturists were unfavourable, they could not repay the loans after harvest even though they were willing to do so. As is known, the nature of agriculture involves a lot of risk and uncertainty. The fortune of the cultivators mainly depends on weather.[1] Besides there are dangers of pest, insects, cattle diseases, etc. When such factors cause crop failure, there is no hope for the cultivators to be able to pay aback the loans.

Collections of co-operative loans and bank loans were in better condition than that of administrative (direct) loans (Table 8). The officers concerned from the administrative departments had a little

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1 By 1959/60, out of 17 million acres of cultivated land, there were only 720,000 acres of irrigated land and 97700 acres of land that can be saved from flood by dems.

မြန်မာ့လယ်ယာ စီမံခန့်ခွဲရေး ၊ အတွဲ ၂၊ စာမျက်နှာ ၊ ၀၁၄။

contact with the borrowers and due to the lack of proper supervision there were misappropriations by the village committees.

On the other hand, the cultivators themselves were careless and ignorant. They were ready to sign any papers without knowing what was written in, and they would not bother to ask for receipts when they paid back the loans.

Disturbance by the different insurgent troops was one of the important causes of the farmers' inability to pay back the loans. Since 1948 there had been insurrection all over the country, especially in the states. There was no security for the farmers to work well on their farms. Such condition engendered decrease in output of farm produce. The insurgent troops usually seduced the farmers not to pay back the government loans.[1]

Moreover, the sizes of land-holdings of big tenants-farmers were reduced after land distribution in 1953/54 so that they could not pay back the loans taken before.[2]

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1 Large insurgent bands were broken up by 1952-53.

2 The 50 acre legal maximum applies to rice and sugarcane lands. For "Ya" land, the maximum is prescribed at 25 acres, and for "Kaing" land 10 acres. The average sizes of land holdings were between 8 and 12 acres.

In the year 1951, 75 million kyats of debt had been written-off by the government. This occasion made the farmers think that the government would take such action again. Therefore they thought that it was not necessary to pay back the loans.

Lastly, government finance only formed a small proportion of the needs of agriculture, so that peasants were not unduly concerned with a possible suspension of these loans due to arrears on their part.

Professor U Aye Hlaing, working on 1953 census data which showed that cultivation costs for paddy ranged between Ks. 21 - 31 per acre and for other crops between Ks. 23 - 171, estimated that, for the 16.2 million acres of land then under cultivation, a volume of Ks.350 million in loans from all sources should be adequate to meet current expenses of cultivators in Burma proper.[1] It was estimated that in 1953 and 1954, under Ks.250 million was borrowed by the farmers from private lenders.[2]

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1 U Aye Hlaing, op.cit., p. 5 and Appendix, Table III (Walinsky's estimates of Ks. 300 to 400 million for the 1950s' merely represents adjustment of Binns' figures for the/fold increase in prices. p.29)
3 to 4

2 Ibid. Pp. 16 and 21.

The interest rate of the private moneylenders was 36 per cent with security, and it was between 50 and 75 per cent without security. The interest rate for "sababe" varied from 150 to 200 per cents. These free market rates were higher than in prewar days due to the shortage and and high risk of farm credit. (Postwar Legislation fixed the legal maximum annual interest rate at 18 per cent). According to a survey in Pegu district in 1960, 86 per cent of the cultivators was still in debt. On the average each household annually borrowed about Ks.660 for the cost of cultivation, i.e., Ks.61 per acre.[1]

Hence, the question of agricultural credit has remained largely unsolved in Independent Burma. The gap left by the disappearance of the chettyar from the rural sector has not been filled and government loans for the 1950's which were only for short term purposes, accounted for a meagre 16 to 18 per cent of estimated need.[2]

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1 မြန်မာ့စီး ပွား ရေး အခြေပြု၊ ဖေဖော်ပြပြီး ၊ စာဂရု၊ ပြည် ထောင် စု အစိုး ရ စိုက် ပျိုး ရေး ဌာန ``ပဲခူး ခရိုင် တောင်သူလယ်သမား များ၏ လက်ရှိ စီး ပွား ရေး အခြေအနေအကဲဖြတ်ခြင်း နှင့် ၎င်း တို့ ရင်ဆိုင် ရသော ပြဿနာများ အကြောင်း `` စာအုပ်မှ ကောက်နုတ်ချက်။

2 Maung Myint, op.cit., p.81.

H.Richter from Australian National University comments that "

" --- agriculture is relatively neglected in the state investment programme in spite of its dominating role in the country's economy, while government policy is hardly designed to encourage capital formation by the small holders themselves. Economic incentives for the more market-oriented farmers to increase output has been largely ignored. The low state buying prices for paddy has not been increased significantly since 1948, and other produce prices have remained legally (although not actually) controlled. No subsidies have been granted for commercial inputs, such as fertilizers and insecticides, which the present slender farm profit margins have rendered high risk investment.[1] "

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1 H.V Richter, op.cit., Pp. 101,102.

IV. Independent Period (1962-1978)

The Revolutionary Council took over the state power in 1962 and emphasized the welfare of the peasants. Many changes and improvements were made in the field of agricultural credit. The interest rate taken by the Bank was reduced, volume and types of loans were increased and lending system was changed from time to time in order to lessen the prevailing weaknesses and improve the credit system.

In the monsoon of 1962, the rate of loan per acre of paddy was increased from Ks. 8 to Ks. 12. By 1963 the amount was increased to Ks.25. The rate of loan for other crops were also increased. From April 1st. 1963, the rate of interest was reduced to 9 per cent out of which the Bank takes only 3 per cent and the rest is added to the share capital of the village bank.[1]

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1 To be a member of the village bank, each farmers has to subscribe Ks. 5 for 5 shares valued at K.1 each. In addition to interest, the village banks collect 1 per cent from each borrower as a saving deposit. The funds of village banks are deposited in three deposit accounts, (i) share capital deposits, (ii) a profits deposit account, and (iii) a savings deposit account. The Bank pays out small amounts annually to each village bank to meet contingency expenses and for writing up accounts. The (contd. ...)

The Farmers' Rights Protection Law was promulgated on 25 March 1963. By this law, the cultivators has legal immunity against seizure of their land under suit. It also protects their persons against arrest for debt and all their working property, such as cattle, tools, and produce, from seizure or attachment by private persons against debt settlement, save under inheritance suits. In the same year the domestic and foreign trade of paddy was nationalized.

During this year, the Revolutionary Council introduced two types of loan new to the state credit system : harvest loans and funds to finance credit purchases by agricultural labourers. Ks.100 million was allotted in a complex but well-meant attempt to assist the country's two million landless. Under the scheme farm labourers were permitted to purchase foodstuffs on credit up to the value of Ks.200 per family during the season. The loan was to be taken only in kind, in instalments of Ks.20 per month, and had to be underwritten by the borrower's employer. The program proved a failure,

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... (contd.)

total amount to the credit of these accounts was nearly Ks. 96 million by the year 1972 (Appendix D).

mainly because of the strict conditions attached, and only Ks.300,000 was taken up that year. There has since been no mention of its continuance.[1]

On 2nd. November 1964 the government began a programme of advance purchase of paddy, in effect a state-run pindaung scheme. Ks.117 million was alloted for this purpose by the State Agriculture Bank, sufficient to purchase some ten percent of the country's rice harvest at official prices. Under this programme, cultivators were allowed to sell forward from one to five baskets of paddy per acre, subject to a maximum of one hundred baskets, at the full price for early delivery for that grade of rice.[2] The quantities thus sold forward were deducted from deliveries made to official purchase depots of the State Agricultural Marketing Board, and this seems to have greatly hindered the already cubersome procedure and to have encouraged cultivators to sell on the black market. The advance purchase programme was therefore dropped in November 1967 and the government reverted to the harvest loan system, under which the loan rate per acre was raised to Ks. 10 per acre. In the year 1972-73 advance purchase programme was again carried out

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1 H.V. Richter, op.cit., P.112.

2 Forward, 15 October 1964 and 1 November 1964 quoted by Richer, P.113.

through cooperatives and it was handed over to the Trade Corporation I in the following year.

On 10 October 1973, the Ministry of Trade made an announcement concerning with paddy procurement, by notification number 48. This announcement contained four main points. First of all, the purchase prices for paddy were increased, by groups and grades of paddy. Secondly, compulsory quotas to be sold to the government were prescribed according to the size of holding and rate of yield. The third point was concerned with the list of townships responsible for compulsory sales and the fourth point allowed the farmers to manage the surplus freely as they liked. Dr. Mya Than from Research Department, Economic Institute, made a comment that it would benefit only to those farmers who worked on more than 8 acre (per yoke) of farm and it could not be beneficial to the small farmers.[1]

Since November 1973, the paddy procurement programme has been launched throughout the country. A committee of local officials from State Land and Rural

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1 ဒေါက်တာမြသန်း ၊ စပါး ဝယ်ယူ ရေး ချမှု ကျေးရွာ ချက်အမှတ် ၄၀ အ ပေါ်သုံး သဝဏ်စာတမ်း ၊ သုတေသန ဌာန၊ စီး ပွား ရေး တက္ကသိုလ်၊ ၁၉၇၃ ခုနှစ်။

Development, Agricultural Corporation, etc., around planting time, visit villages and fields and review with village leaders each farmer's cultivation plans yield prospects. On their first visit, they agree on tentative paddy quotas with each farmer. Again before the harvest, they visit the areas and agree on farm quotas for the season. Based on assessed acreage and yield, the farm quota is determined by published schedule. The schedule is progressive, taking an increasing proportion of the harvest. The " Compulsory quota system " (Partial Compulsory Delivery System) forms a system of progressive taxation. Unfortunately in actual practice the procurement system does not often operate in this manner. In practice, the compulsory quotas are not observed by farmers. Some paddy is delivered by each farmer by agreement with the local authorities but the amount that is delivered is much smaller than prescribed and may even vary so that the progressive taxation element is eliminated. In 1978-79, some farmers had to sell "surplus" in addition to the quota in order to meet the planned targets of their respective townships. This discouraged those farmers who worked hard and had surplus after fulfilling their quotas.

The advance purchase of crops sold to the government under the quota system is a partial substitute

for seasonal credit. Advance payment for paddy procurement was increased from K.35 to K.50 per acre in 1975-76 and has since been increased to K.70 per acre. The amount of the advance is deducted from the sale of the quota paddy to Agriculture and Farm Produce Trade Corporation (T.C. I). Since 1978, the Bank[1] has resumed the responsibility of lending operations.

During this period the form of organization and the lending system by the Bank were changed from time to time in order to be compatible with the changing conditions. By April 1963, the Chairman and Secretary of the village land committees were assigned to the Bank Committee composed of five members. Under the supervision of district and township security and administrative committees, loans were disbursed directly to the farmers at their villages, by the loan teams.

The loam teams were supposed to encourage the purchase of farm inputs by having quality seed, fertilizers, and tools, ready for sale when dispensing credit. They were also as part of their social role,

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1 In 1970, the State Agricultural Bank formed in 1953, was incorporated into the People's Bank and then was taken over by the Union of Burma Bank. The State Agricultural Bank became the Agricultural Finance Division of the Union of Burma Bank. In 1976, the Union of Burma Bank was reorganized and the Agricultural Finance Division was renamed, "Myanma Agricultural Bank."

supposed to have food stuffs, textiles, household utensils and so on for sale at low prices. Supplies had thus for been too short for either policy to be effective.

The amount of loans advanced annually was more than K.300 million during the period 1962-63 to 1964-65. By 1965-66, the amount of loans advanced was reduced drastically due to the substantial amount of default. The reasons for such default were not much different from those mentioned before. However, we have to note that the increase in the volumes of credit offerred, the promulgation of the Farmers' Rights Protection Law, and the impression of the early Peasants' Seminars might also have some negative effect on the repayment of loans. Although protection against actions by the government for the recovery of debts was specifically excluded under the Farmers' Rights Protection Act, no legal actions had been taken seriously until 1973.

As shown in the table (9), the amount unpaid was more than 50 per cent in every year. With the view to remedy this situation, a new lending system was introduced in 1965. Before 1965 loans were advanced to individual cultivators and the responsibility to repay

Table (9)

Amount of Loans Advanced and Amount of Loans in Arrears, from 1961-62 to 1965-66*

(In Mil. Kyats)

Sr.No.	Particulars	1961-62	1962-63	1963-64	1964-65	1965-66
1	Opening balance	91.4	153.7	353.4	417.0	414.4
2	Loans advanced during the year	152.2	358.4	357.5	324.3	128.3
3	Total loans advanced	243.6	512.1	710.9	741.3	542.7
4	Amount due during the year	113.9	194.2	447.7	542.1	444.4
5	Amount paid during the year	89.9	158.7	243.9	326.9	213.0
6	Balance of amount unpaid	153.7	353.4	417.0	414.4	358.7
7	Percentage of amount unpaid.	63.1	69.0	58.7	55.9	6275

the amount due was to be taken individually. In the winter of 1965 the new system was implemented. It was known as

* 1966-67 Report to the People , p. 15

"Wain-Gyi-Gyoke" system, the system of requiring collective security for loans. In order to implement the system, debts were classified as "old debt" and "new debt", Old debt meant the amount of loans in arrears before the fiscal year 1964-65, and new debt meant 1964 winter loans and 1965 monsoon and winter loans which were in arrears. Old debts could be paid by 5 instalments in 5 years. According to the new system a village-tract could borrow only under the folwing conditions.

(i) A village-tract must have paid at least 75% of the combined amount of the first instalment for the old debt and the new debt.

(ii) In a village-tract which had crop failure, it must be not less than 75 per cent of the total amount when the amount unpaid due to crop failure was added to the amount paid for both old and new debts.

(iii) If the provisions in (i) and (ii) were fulfilled, the village-tract had to take the responsibility to pay the balance of debts by two instalments in two years.

(iv) In addition the village-tract was responsible for the repayment of the following loans and debts -

- the new loans that would be advanced in 1966 monsoon.

- the amount of the first instalment of the balance of debts expressed in (iii.).
- the second instalment of the "old debt".

There were also conditions specified for individual farmers.* The weakness of this system was that those farmers without any debt could not obtain loans since there were others in the same village-tract, who did not pay the amount due. Therefore, in 1967 the "Wain-Gyi-Gyoke" system by village-tract was dissolved and the "Wain-Gyi-Gyoke" system by village was practised. (Sometimes called as "Wain-Gale-Gyoke".)

According to the proposals of the peasant's representatives at the 1968 Peasants' Seminar, the new rules for giving credit were issued by the government. New banks were formed with those farmers who could fulfil the individual conditions and money were lent to them under the new "Wain-Gyi-Gyoke" system.

In February 1969 ammendments for the rules and regulations of the State Agricultural Bank were made and new village banks were formed. Those village-tracts which had five or under five villages in each

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* မြန်မာ့လယ်ယာမြေမိုင်း ၊ အတွဲ ၂ - ၊ ဇယားပြုစု: ၊ စာ၂၉၊ ၂၉၀ကြည့်ပါ။

had to form the village bank committee composed of five members; at least one representative from each village must be included in the committee. In those village-tracts which had more than five villages in each, the number of the village bank committee's members depended on the number of the villages composed, since there must be one representative for each village. These new village banks could operate better than the old ones in which some members of influential villages had more voices and practised bias for those whom they represented.

When monsoon loans were given in 1970, the 'Wain-gyi-gyoke' system was run not on the basis of village but on the basis of solvent members of the bank in each village. Formerly 15 per cent of the bank's profit was allowed to the members of the bank committee as collection fee, only when the village could pay back all the loans. From 1970 on-wards one per cent of the amount collected was allowed to the executive committee.

In 1971, 'Wain-gyi-gyoke' system based on the whole village was resumed and monsoon loans, harvest loans and winter loans were given.

It has already been noted that often the nationalization of rice trade in 1963, the government had to make advance buying of paddy through the State

Agricultural Marketing Board. Although the government had increased the purchase prices for paddy from time to time as shown in the table (10), the black market prices were always far ahead of the official prices (appendix H), and black marketing of paddy trade became popular, and administrative actions had to be taken strictly.

Before 1964-65 and during 1972-73, there were no price discrimination for different grades and quality of paddy. Such discriminations as first class, second class and third class grades were specified, and special high quality, first class high quality and second class high quality were classified as well in each group of paddy, during the periods 1965-66 to 1971-72 and 1974-75 to 1978-79.

From 1964 winter to end of September 1977 the total amount of loans advanced and due was nearly 1330 million Kyats and the amount repaid was 1180 million kyats, the balance unpaid being more than 150 million kyats. As the amount paid was nearly 90 per cent it might be said that the improvement in collection system was satisfactory. (Appendix G)

Although the amount of loans advanced for per acre of paddy and paddy prices have been increased,

Table (10)

Purchase Prices of Paddy by Groups, from 1961-62 to 1974-75 *

Group	Per 100 baskets (Kyats) 1961-62	1962-63	1966-67	1967-68	1972-73	1973-74	1974-75	1977-78
Nematka (Ordinary)	320	330	360	378	448	634	955	955
Ngasein (")	300	310	340	358	425	600	900	900
Ngakywe (")	375	385	415	433	514	726	1090	1090
Kyauk-Hnyin (")	290	300	330	348	413	584	875	900
Medon (")	315	325	355	373	442	625	940	940

* တော်လှန်ရေး ကောင်စီ၏ တောင်သူလယ်သမား ရေး ရာ ဆောင်ရွက်ချက်များ ၊ မြန်မာဆိုရှယ်လစ်လမ်း စဉ်ပါတီ ၊ ဗဟို ကော်မတီ ဌာန ချုပ် ၊ ပုံနှိပ် ရေး နှင့် စာအုပ်ထုတ် ဝေ ရေး ကော်ပို ရေး ရှင်း ၊ ၁၉၇၇ခု ၊ စာ ၁၇၄ နှင့် ပြည်သူ့လွှတ် တော်သို့အစီရင်ခံစာ (၁၉၇၇-၇၈) စာ ၂၆၂ ကြည့်ပါရန်။

general price level for consumers' goods also has increased round about threefold in the open market. And the black markets for paddy still exit.

In addition to loans from village banks, there are other sources of agricultutal credit : the Agricultural Corporation, the Industrial Development Corporation, the Agricultural Mechanization Department in the ministry of Agriculture, the small Loans Division of the Union of Burma Bank, and the private money-lenders.

The Agricultural Corporation supplied farm inputs on both credit and cash basis for certain planned crops. The value of input sales for credit is given below. Defaults had been heavy. The percentage recovery had been only 30 percent in the years 1970-71 and 1971-72.

The Industrial Development Corporation made short-term loans for growing sugar cane. The Agricultural Mechanization Department ran 88 tractor hire stations throughout the country, and undertook ploughing and harrowing of fields for cultivation of special crops on a

Table (11)

Value of Inputs Supplied on Credit

(Million Kyats)

Year	Fertilizers	Seeds	Insecti-cides	Total	Annual Recovery Amount	Percentage
1968-69	32.1	2.6	0.9	35.6	19.3	54
1969-70	12.4	2.9	1.2	16.4	7.3	45
1970-71	9.7	4.2	1.2	15.0	4.6	31
1971-72	19.5	0.9	2.0	22.4	6.7	30

Source : Agricultural Corporation.

credit basis. The charges were Ks.18 per acre turn for ploughing and Ks.12 per acre turn for harrowing, recoverable at harvest. Of about Ks.6 million annually, on average only 66 per cent had been recovered for the period 1963 to 1971 (Appendix .C..). Tractors, ploughs, offset harrows were sold by this department to co-operatives in five installments payable in 5 years, tractors in two installments payable in one year. Power tillers and water pumps were sold to village co-operatives, group of farmers and to individual

farmers on cash basis. The sales were made in co-ordinations with the People's Council.

The Small Loans Division of the Union of Burma Bank also provides loans for farmers through government pawnshops which were nationalized in 1963. Interest rate of 2 - 3 per cent per month are charged even with jewellery placed as collateral. No estimate of private money lending is available, but it is estimated that farmers still rely on private money-lenders for at least 40 per cent of their credit needs. These private money-lenders are mainly relatives, other farmers on local township inhabitants. Although they charge rates which are higher than the government pawnshops, they are often preferred since less red tape is involved.

Chapter Four

The Socio-economic Conditions of the village under study

Without having some knowledge of the socio-economic conditions of the village under study, it is incomplete to ~~access~~ evaluate the role of finance in the development of the farms cultivated by the farmers in this village.

The village is about 40 miles away from Rangoon and it is situated on the highway from Rangoon to Prome. It is about 9 miles away from both Hmawbi and Taikkyi. In the former town there exists the Agricultural Garden and two factories, one is a brick factory and the other is a football factory which is under construction. Close to the village is a big village called Myaungtaga, once a sub-township, where a purchasing depot of Trade Corporation (1) exists. Since there are buses and trucks coming to and from Rangoon all day long, the village has easy access to Rangoon.

The village has a total population of 558, out of which 254 are male and 304 female. The number of difference between male and female is more significant

in those age groups under 12 years and above 60. Even in the age group between 18 and 60, which may be assumed as the working age group, the number of female is more than 50 per cent. The total working age group in this village is less than 53 per cent.[1] (Table 12).

Table (12)

Population Structure by Age Group

Age	Male	Female	Total	Percentage
Under 6	48	57	105	18.82
6 - 12	25	54	79	14.15
12 - 18	36	31	67	12.02
18 - 60	143	152	295	52.86
60 Above	2	10	12	2.15
Total	254	304	558	100.00

1 As the result of high birth rates and high mortality among the young, population patterns are less favourable to output per head of population. If the working age group be taken as 15 to 59 years, the potential labor force is 59 to 62 per cent of the total population in North America, Europe and Oceania, as against 54 to 56 per cent of the rest of the world. The comparison is even more unfavourable to underdeveloped countries if the working age be regarded as from 15 to 65 years. Dr. Horace Belshaw, op.cit., p.18.

There are 113 housing units and 127 households. Generally, the housing units of the farmers are better than those of the farm labourers. There is one semi-pacca building owned by a farmen, a member of his family is a retired headmistress of the village primary school. There are about 10 buildings with corrugated iron roofs most of which are owned by non-agriculturists such as the village manager, teachers and shop-keepers. Most of the buildings, even the small ones, have wooden floors. Nearly all of the housing compounds have wells which are not very deep. The main occupation of the village is paddy farming, but a sustantial number of households, 44 of the total 127, is engaged in other occupations and 27 households earn their living as farm labourers. About one-fifth of the heads of the house-holds are female (Table (13)). Almost all of the farmers work on one or two acres of gardens or "Ya" from which they get side-income-in times of adverse weather such income is more than their income from the farms.

Most of the other occupants are gardeners, office-workers and teachers. Although the gardeners are not more well-off than the farmers, office workers, teachers, shop-keepers and black-smiths seem more well-

Table (13)

Number of Housing Units, Occupation Structure and Number of Dependents

	No. of Housing Units	No. of House holds	Heads of the house holds		Dependents		Total Populati
			Male	Female	Male	female	
Farmers	51	56	48	8	78	133	267
Farm-labourers	21	27	24	3	31	70	128
Others	41	44	31	13	42	77	163
Total	113	127	103	24	151	280	558

off than the farmers and gardeners. Odd-job workers, of course, are the poorest in the village. By the occupational structure it can be said that there is occupational differentiation to some extent in this village.

Table (14)

Other Occupations

Occupation	No. of Households
Gardeners	14
Office Workers	10
Teachers	8
Odd-job workers	8
*Shop-keepers	2
Black Smiths	2
Total	44

* There are four shop-keepers : two of them are too small to be counted and included in odd-job group.)

When we study the status of the dependents on the different occupations, we find that the numbers of female dependents is nearly two times greater than the number of male dependents. Except in the age group of 12 to 18 years, there are more females than males. It is striking that the number of female dependents are more than three times greater than that of male dependents in the age group of 18 to 60 years, which is assumed as the working age group; approximately two and half times in farmers' family, nearly seven times in farm-labourers' family and 3 times in other occupants' family. (Table (15)). This fact points out that there would not be shortage of transplanters in this village.

We can further find out that the dependent ratio for the farmers is 3.8, whereas it is 3.7 and 2.7 for the farm labourers and other occupants respectively.

In this village, like other villages of lower Burma, the nationalization and redistribution of land had been done in the fifties. The village tract, composed of two other smaller villages - Ywathagone and Nyaunggone, has 1808 acres of land for paddy cultivation. Of ~~ef~~ these acres, 1672 acres were cultivated in the year 1978-79 and due to the failure of crops only 1535 acres were

Table (15)

Number of Dependents on Different Occupations, by Age Group and Sex

Occupation	Dependents by Age Group										No. of Dependents		Total
	Under 6-years		6-12 yrs		12-18 yrs		18-60 yrs		60 and above				
	m	f	m	f	m	f	m	f	m	f	m	f	
Farmers	14	24	15	23	23	15	24	63	2	8	78	133	211
Farm-labourers	17	18	5	16	5	9	4	27	-	-	31	70	101
Others	17	15	5	15	8	7	12	38	-	2	42	77	119
Total	48	57	25	54	36	31	40	128	2	10	151	280	431

is not ...

cultivated in the following year. The 56 farmers of Myauk-chawgone village cultivate about 600 acres of land. The average farm size of this village is about 10.7 acfes although it has been 12 acres at the time of nationalization and redistribution. Some farmers has given back their farms due to the lack of capital, farm equipments and crop failure. Now the smallest number of acres is 3 and the largest is 24.

Table (16)

Different Farm-sizes Cultivated by Farmers.

Farm-size (acres)	No. of farmers
0 - 4.99	4
5 - 9.99	16
10 -14.99	28
15 -19.99	6
20 - above	2
Total	56*

* According to the bank-loan records, there are 62 farmers, 5 of them are not the residents of the village and the other one, a dependent who is working on 4 acres of land, is not listed as a farmer.

In table (16) we can find that half of the total farmers are working on between 10 and 14.99 acres of land. Out of them 22 farmers have 12 acres each. This number of acres was recognized as per yoke of bullocks at the time of land nationalization and re-distribution.

Most of the farmers have gardens which are originally pastures or farms. There are about 450 acres of pasture land in the village-tract. Some people of Myauk-chaw-gone village specializes in gardening, growing flowers and vegetables which are marketed in Rangoon. Both the farmers and gardeners sown sessamum on one or two acres of land which may be pasture or farm. One of the leading farmers, an innovator and probably the richest one, tried to sow ground-nut as second crop in the past five years. Unfortunately he was not successful due to the unfavourables weather. Other farmers do not try to grow groundnut even though the condition of their soil type is favourable since the cost of cultivation is too high.

Out of the 56 farmers, 18 of them have no bullock-carts and some of them have even no plough and harrow. Moreover, there are only 7 mechanical harrows

in the whole village. These facts indicate that some of the farmers in this village lack farm equipments. However, one of the farmers, the innovator, owns a power tiller (tractor) which cost Ks.17,000. It consumes about one gallon of diesel oil[1] to till per acre of land. It is hired at the rate of Ks. 40 for tilling per acre.[2] During last year many cattle suffered from diseases and some farmers had to hire the power-tiller. Another farmer has a water-pump of five horse-power. The purchase price was Ks.6850 and it is hired at Ks.5 per hour. It takes 3 to 6 hours to pump water for an acre of land, depending on the condition of the soil. One gallon of diesel oil can be used for 6 hours.

In the east of the village there is a dam called Aung-myin-gone. It is about 2½ miles away from the village and it could supply water for 500 acres in the past. Due to the lack of maintenances it can now supply only for 300 acres. The shortage in water supply is also caused by the Phugyi Water Supply Project. There are two small creeks from which water is available for

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1 The official price of which was Ks.3 per gallon last year.

2 The official rate for a tractor is Ks.12.

the farms of this village. One of them is in the north of the village and the other one in the south. The former is known as Kyun-gyaung-chaung and the latter is Myaung-ta-ga-chaung. Kyun-gyaung-chaung is usually dry in summer. There were shortages of rain in the late season in the past two years and some farmers who could not afford the cost of hiring pumping machine had to face crop-failure.

Most of the farmers had ~~bullocks~~ buffaloes and some have ~~buffaloes~~ bullocks. There are 74 buffaloes and 24 bullocks, 37 pairs of the former and 12 pairs of the latter. There are 51 baby-buffaloes (male 16 and female 35) and 29 calves (male 27 and female 2). In addition, there are 16 female-buffaloes and the same number of cows. Some farmers use even the female-buffaloes on their farms. There is no one who specializes in dairy farming that is more risky and demanding occupation.

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1 Including those who are not living at the village.

Although no one earns one's living from poultry, almost every household keeps two or more hens. There are 914 fowls, one pig and 19 ducks. At Nyaung-gone village[1] which includes in Myaut-chaw-gone village-tract, there are nearly 800 fowls, 57 pigs and 149 ducks. Most of the people of this village are Karens and some of them are christians whereas almost all of the villagers at Myaut-chaw-gone are Burmese-Buddhists. There are only 6 families of Karens and only one Indian who earn his living as an agricultural labourer. From these facts we can note that the racial and religious factors might be the causesof no interest in poultry farming in the village under study.

Such absence of dairy and poultry farmings, lack of capital, insufficient farm equipments, non-availability of enough water lead to poverty of the village as a whole although there are few relatively rich farmers. The village economy is a mono-crop economy and the source of its side-income is gardening only. However, the village has been recognized as a model village since 1977 and the minister of agriculture

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1 Nyaung-gone village has a total population of 300.

himself visited the village in the previous year. Besides, this village is included in Hmawbi township which is one of the townships for cultivation of special high-yield paddy on a township-wide basis where scientific methods of cultivation such as transplanting of correct seedling age, closer planting, proper and balanced use of fertilizers together with organic manure and integrated pest and disease control are to be employed. In this township it is expected to achieve an average yield of 56 baskets paddy per acre this season. The average yield of per acre in this village was not more than 30 baskets in the past season. In order to reduce the quota of compulsory sales of paddy, some farmers gave back certain acres of land which has low productivity and this results in increase in the numbers of fallow land acres.

As stated before, the village has good transport facilities. Moreover, there are 20 radios and 7 newspapers as public media. It seems that communication is not a problem in the development of this village. There is also an agricultural manager who is the native of this village. However, most of the farmers rely on their own past experiences rather than the advices of the agricultural personnel and they are generally not willing

to accept the scientific methods of cultivation due to high cost or lack of capital.

One of the significant facts concerning with this village is that the villagers, except the poor ones, are interested in education. The literacy rate of the villages is more than 95%. The total number of pupils at the village primary school is 87 (31 boys and 56 girls).

Table (XVII)

Primary Level of Education by Class and Sex

Class	No. of pupils		Total
	Male	Female	
Kindergarten	7	28	35
1st Standard	10	14	24
2nd Standard	7	7	14
3rd Standard	5	3	8
4th Standard	2	4	6
Total	31	56	87

In the above table, the decreasing number of pupils in the higher classes indicates that there are a large number of drop-outs during their primary schooling. More than 50% of the pupils enrolled left the school before they complete their primary education. This fact is an indicator of the villagers' economic condition. A child can be an income earner of the household by looking after the cattle, receiving 5 baskets of paddy for each cattle.

There are about 20 children who cannot attend the Primary School and learn at the monastery which is in Ywa-tha-gone, close to the village. There are 3 monks at the monastery and they have no influence on the socio-economic matters of the village.

Some people who can afford the expenses of education send their children to the middle school, which has joint high school, at Myaung-tags. Last year there were two high school graduates. Also, there are 2 university students, one is attending her M.Sc class and one is a correspondence student in economics. There were 3 graduates who left the village after their graduation and serve as teachers in other places.

Like in other villages the political structure of the village consists of the village peoples' council, the peasant asiayone, the co-operative bank committee and the co-operative committee. The village peoples' council as well as the bank committee is headed by an authoritative 69-year oldman related to many of the villagers. He has good relationship with the party and council members of the township as well as with his villagers. He has headed this village since the year 1962. In Hmawbi township he is the only one who can stand at his post without a break throughout the long period of 17 years. Most of the members of the council and committee are at the age of more than 35 and there are only 4 members who are under 30[1]. There seems to exist no tussle for power between the old and the new leadership.

The socio-economic conditions of the village seems to be static and no inner-generated force for the development can be expected. Therefore, changes in the economic conditions of the village may be rather slow although there exist some trends of progress in the

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1 There are 19 members, some of them have two or more posts in the council and committees.

social sector. At such conditions, the agricultural credit, bank loan, of round about Ks 40,000 per year cannot be sufficient for a take-off purpose. Nevertheless we have to find out the differences in development among the farmers some of whom are financially favourable and some are unfavourable.

The farmers in this village have four sources of finance nowadays. The first and the most important one is the Agriculture bank, the private money lenders form the secomd source and the pawn shop at Myaung-taga is the third source, village shop keepers are the fourth and the least important source.

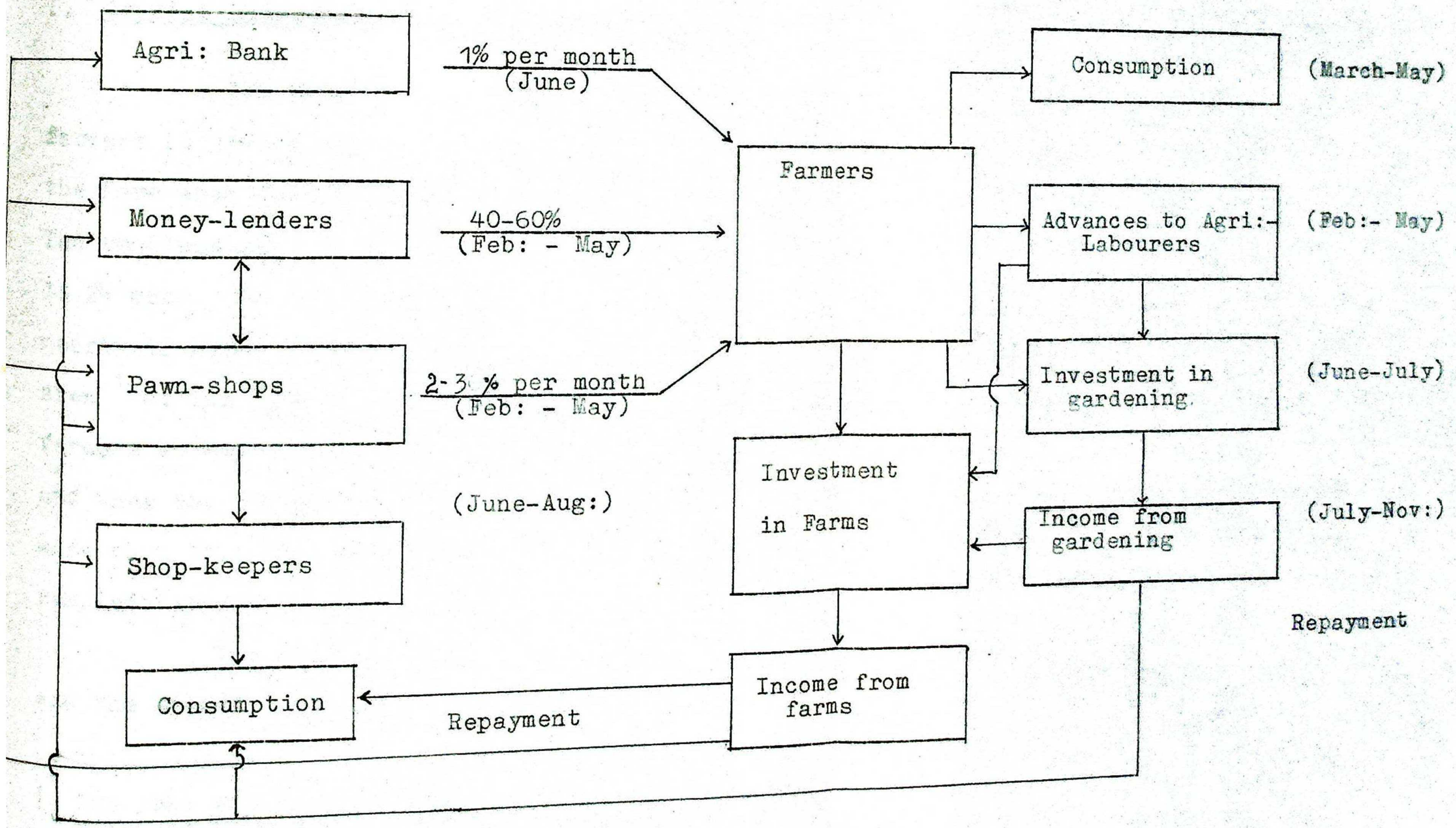
The interest rate of the bank is 1% per month, the licensed pawn-shop take2-3% per month. The interest rates of the money lenders vary from 40 to 60% per season or per annum depending on the closeness between the lender and borrower. Although the shop keepers do not take interest they usually raise the prices when they sell on credit terms and such prices are generally 25% higher than the normal ones. The private money lenders are living at Myaung-taga and Shwe-Mya-Yar-gone which is 1½ miles away from the village. Even at Myaut-Chaw-gone there are two or three money lenders who lend

only to their close friends and relatives.

Most of the villagers have not the habit of taking monthly credit, but they have to take 3 or 4 days credit when they have no ready cash, and they usually repay it by the income from odd-jobs. The shop keepers say that they don't want to sell on such credit for which they have to wait for the whole season. The villagers have to rely on the shop-keepers since the co-operative shop can sell only limited items such as rice and kerosene. Even such items as suger, soap and candles are often out of stock at the co-operatives shop.

The financial circle of the farmers can be illustrated as shown in the following diagram. It is the general scheme of the financial circles of the farmers at the village under study. As shown in the diagram, loans from the bank and money lenders are mainly repaid from the income (output) of the farms. This diagram points out that lack of credit to agricultural labourer makes the financial burden of the farmers heavier, and income from gardening helps the farmers to adjust their financial flow during the season of paddy growing.

"The Financial Circle of the farmers"



Chapter Five

Findings, and Analyses of the Village Under Study

I. General Characteristics of the Sampled Farmers

The total acreage owned by the 30 sampled farmers is 359.63 acres, which is nearly 54 percent of the farm area cultivated by the farmers of the village. The smallest size of holding is 4 acres and the largest is 24 acre. On the average the sampled farmers hold nearly 12 acres of land, which was assumed as per yoke area [1] at the time of land distribution. However, these farmers worked on only 322.75 acres in the year 1978-79, and thus the average number of acres cultivated was not more than 11. The distribution of lands by number of sampled farmers is shown below.

The total yield was 9,463 baskets of paddy and the average yield per acre was 29.32 baskets. Out

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1 The yoke area is neither a technical nor an economic unit, as it was simply defined as the amount of land available for redistribution divided by the number of qualified applicants.

Table (18)

Distribution of Land by Number of Sampled Farmers

Acreage(acre)	Number of Farmers	%
- < 5	3	10
5 - 10	8	26
10 - 15	14	57
15 - 20	3	10
20 < -	2	7
Total	30	100

[According to the table (18) the size group of 10 - 15 acre is the largest (57%).]

of these 9,463 baskets, the farmers had to sell 5,609 baskets as quota sales and another 283 baskets as "surplus" sales. Approximately 62 percent of the yield was sold to the government. The average yield per acre was very low for those farmers who cultivated under 5 acres. They complained that the weather was adverse for them.

Table (19).

Sown Acre and Output

Farm size	Acres sown	%	Total Output (baskets)	%	Output Per ac (baskets
< 5	11.00	3.4	117	1.2	10.64
5 - 10	64.00	19.8	1,698	18.0	26.53
10 - 15	159.75	49.5	4,543	48.0	28.44
15 <	88.00	27.3	3,105	32.8	35.28
	322.75	100.0	9,463	100.0	29.32

There were six farmers who could not fulfill their quotas from their own output and they had to buy from their relatives and friends at the price of Ks.1000-1200. The gross income from paddy, for the sampled farmers, was round about Ks.89,600. The total cost of production was about Ks.65,700 excluding depreciation and imputed labour cost, thus leaving only "cash" surplus of round about Ks.23,900. There were 10 farmers whose net "cash" income from paddy was negative. Five of them had no cattle. (It

is not necessary to mention that agricultural cost and income data should be studied with care since the farmers generally have the habit of overstating their cost and understating their income.)

The balance sheet of the sampled farmers can be shown as follows :

			Ks
(a) Income from sales :[1]		Ks	
Sales to the government		53,028	
Sales-outside		36,596	89,624
(b) Cost of labour:			
In kind	17,127		
In cash	17,818	34,945	
(c) Cost of inputs[2]		16,422	
(d) Cost of hiring cattle[3]		7,455	
(e) Land Tax		1,270	
(f) Interest on Loans		5,608	65,700
(g) Balance			23,924

Note: 1. Paddy for 'wunza' (consumption) is not deducted. Paddy sold to the government and paid to labourers in kind is priced at Ks.900, and the rest of output is priced at open market price, i.e., Ks.1000 - 1200.
2. Paddy for seeds is not excluded in calculating income and it is included in cost of input.
3. Cost of hiring cattle is usually paid in kind.

The sampled farmers preferred local improved varieties to foreign high yield varieties. All of them sowed Po-kaw-gyi whereas 20 of them sowed Shwe-ta-soke ~~of~~ which were distributed by the Agricultural Corporation. The other varieties sown by the sampled farmers were Sein-ta-lay, Shwe-wa-tun, Ye-baw-sein, Zi-yar, and Taung-pyan. The yields varied from 4 baskets per acre to 50 baskets per acre. Cultivation costs varied greatly, of course, according to the type of land and soil, farm size, and techniques employed.

The highest yield (50 baskets per acre) was from a farm of 15 acres cultivated by the man who seems to be the richest farmer in this village. He owns a semi-pacca building and a power tiller. He spent 32 per cent of the bank loan on fertilizer and used 25 baskets of seeds for his farm of 15 acres. (Other farmers generally used only one basket of seeds for an acre). The lowest yield (nearly 4 baskets per acre) was from a farm of 4 acres cultivated by a man who is partly a farm labourer. He has neither cattle nor bullock-cart. His house is in ruined condition, and he seems to be the poorest farmers in this village.

Twenty of the sampled farmers sowed sessamum mostly for household consumption. Generally, seeds were

broadcasted into ditches rather than in the ploughed fields. Twenty three of them also worked as gardeners growing flowers and vegetable marketed in Rangoon. The net income from gardening varied from Ks.400 to Ks.1500 per season. Nine of the sampled farmers earned income from other sources such as tailoring, hiring cattle, road repairing, etc. Moreover, also the members of the house-holds earned income by working as transplanters, harvesters, ditch-diggers, etc. The total amount of income from the above sources was nearly Ks. 65,000.

The total expenditure of the sampled farmers was nearly Ks. 131,000 and it was barely covered by the income from paddy, income from other sources, and the credit received.

(a) Total household expenditure		Ks. 130,800
(b) Income from sales of paddy	Ks.23,900	
(c) Income from other sources	65,000	
(d) Total credit received	41,500	
		130,400

Out of the total amount of credit received, nearly Ks. 24,200 was from the Agricultural Bank,

Ks.14,100 from pawn-shops, and Ks. 3,200 from private-money lenders.[1]

Table (20)

Sources of Credit

	Particulars	Amount Ks	Percentage
(a)	Bank Loans	24,200	58.31
(b)	Pawnshops	14,100	33.98
(c)	Private moneylenders	3,200	7.71
	Total	41,500	100.00

From the facts given above one might estimate that the farmers have to rely on other sources for nearly 42 percent of their credit needs. In addition to the sources mentioned above, the farmers could buy fertilizers which were sold on credit by the Agricultural Corporation through Township Peoples' Council, and also could buy food

1 It is difficult to differentiate the sources of credit between pawnshops and private moneylenders since the farmers often answered that the source was pawnshop when the real source was private money-lenders. Therefore, the amount from private money-lenders might probably be much larger than the amount shown here.

and clothes from the local shop-keepers, on monthly credit basis. The total amount of fertilizers sold on credit was approximately Ks. 7,700, and the total amount of food and clothes bought on credit was nearly Ks.3,400.

The total amount of credit received from the Bank, pawnshops, and private moneylenders can be classified by size of farm as follows :

Table (21)

Credit Per Acre by Size of Firm

Size of farm	No: of acres	Credit per acre (Ks)
Below 5 acres	11.00	187.27
5 - 10 acres	64.00	110.63
10 - 15 acres	59.75	133.21
Above 15 Acres	88.00	126.14
Total	322.75	128.58

It is obvious that those farmers working on below 5 acres of land had to borrow more money then those working on 5 acres and above.

The composition of the household expenditure is classified in the following table.

Table (22)

Classification of Household Expenditure

	Particulars	Amount (Ks)	Percentage
(a)	Food	108,076	82.63
(b)	Clothing	5,490	4.20
(c)	Repairing Buildings	6,495	4.97
(d)	Education	5,120	3.91
(e)	Social and Religious Expenses	5,525	4.22
(f)	Farm Implements	94	0.07
	Total	130,800	100.00

It can be seen that the expenditure on food is a dominating expense and the expenditure on farm implements is negligible. Expenditure per head is classified by size of farm as follows :

Table (23)

Expenditure Per Head by Size of Farm

Size of farm	Total No: of House-hold members	Expenditure per head (Ks.)
Below 5 acres	21	645.24
5 - 10 acres	43	578.51
10 - 15 acres	80	851.36
Above 15 acres	28	866.61
Total	172	760.47

There was a significant difference between the expenditures of the farmers working on less than 10 acres of land and these working on 10 acres and above.

It is awkward that the expenditure of the house-holds of 5 - 10 acres group was less than that of those households of below 5 acres (Total income per head was increasing as the size of farms increased : below 5 acres was Ks.530.70, 5-10 acres Ks.608.28, 10-15 acres Ks.1,265.61, above 15 acres Ks. 1,399.71. There might be certain "poverty-complex" among those working below 5 acres.

The total amount of the credit received Ks.4,1520 was only 31.74 percent of the amount of total expenditure : the credit received from bank was 18.48 percent, pawnshop 10.8 percent, and private money lenders 2.45 percent.

The total "cash" cost of production was Ks.65,697. It can be classified by size of farm as follows :

Table (24)

Cost of Production by Firm Size

Size of farm	Total Cost	Total Acres	Cost Per Acre (Ks)
Below 5 acres	2,316	11.00	210.55
5 - 10 acres	10,091	64.00	157.67
10 - 15 acres	31,987	159.75	200.23
Above 15 acres	21,303	88.00	242.08
Total	65,697	322.75	203.55

It is interesting that the cost of those farmers working on below 5 acres was greater than that of the farmers working on 5 - 10 acres and 10 - 15 acres. In fact, the farmers working on below 5 acres were not full-time farmers and all of them had no cattle for draft power.

The lowest cost of production per acre was about Ks.160 and it was within the group of the firm size five to ten acres. The amount of total credit received was 63.20 percent of the cost of production: The amount of the bank loans was 36.79 percent, pawn-shops 21.54 percent, and private moneylenders 4.87 percent.

The amount spent on technology (innovations) constituted only 20.59 percent of the cost of production; cost of using tractor was 1.76 percent, cost of straight line planting 4.75 percent, cost of high-yield-variety 2.30 percent, cost of fertilizer 11.67 percent, and cost of pesticides and water pumping 0.11 percent. There were only ten farmers who used tractor and three farmers who applied pesticides and used water pumps. There were also seven farmers who did not use high-yield-variety and four farmers who did not apply the straight line planting methods.

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Table (25)

Classification of Cost of Technology

Items	number of farmers	Amount (Ks.)	Percentage
(a) Fertilizers	30	7,667	56.68
(b) Straight line planting	26	3,120	23.06
(c) High quality seeds	23	1,512	11.18
(d) Tractor	20	1,156	8.55
(e) Pesticides and Water pumps	3	73	0.53
Total		13,528	100.00

The cost of technology was only 32.58 percent of the total amount of credit received : the cost of fertilizer was 18.5 percent, the cost of straight line transplanting 7.5 percent, the cost of high quality seeds 3.6 percent, the cost of using tractor 2.8 percent, and the cost of pesticides and using water pumps 0.2 percent. Further, we can analyse the cost of technology as percentage of the Bank loans. It was 55.97 percent and the cost of fertilizers constituted 31.72 percent.

The cost of technology is classified by size of farms in the following table. It can be seen that the cost of technology for those farmers working on the farms less than 5 acres was the lowest.

Table (26)

Cost of Technology by Size of Farm

Sixe of Farm	Total Amount (Ks.)	Total Acreage	Cost per acre (Ks)
Below 5 acres	342	11.00	31.09
5 - 10 acres	2,700	64.00	42.19
19- 15 acres	6,572	159.75	41.14
Above 15 acres	3,914	88.00	44.48
Total	13,528	322.75	41.91

The sampled farmers generally used one bag of urea (25 Kg) for 2 acres of paddy, and one bag of super phosphate for 4 acres. Since the recommended dosage is one bag of urea per acre, it is apparent that the farmers could not apply the recommended dosage of fertilizer to paddy.

Originally, fertilizers were sold to be applied to the planned quality of paddy such as shwe-ta-soke, shwe-wa-tun, and sein-ta-lay. There were 9 farmers who did not sow the planned quality of paddy. The total number of acres cultivated for the planned quality was 93, equivalent to 28.81 percent of total acres sown. It seemed large farmers sowed more acres of planned quality of crop than the small farmers.

Table (27)

Planned Acres Sown by Size of Farm

Farm size	Total Acreage	Planned Acres	Percentage
Below 5 acres	11.00	-	0
5 - 10 acres	64.00	12	18.75
10 - 15 acres	159.75	51	31.92
Above 15 acres	88100	30	34.09
Total	322.75	93	28.81

We would proceed to study the other socio-economic characteristics of the sampled farmers. The average age of the farmers was 53.9 (median 55). The distribution of age by firm size can be seen below.

Table (28)

Distribution of Age by Farm Size

Farm Size / Age	20-30	30-40	40-50	50-60	60-70	above 70	Total
Below 5 acres	-	-	2	1	-	-	3
5 - 10 acres	-	2	1	1	3	1	8
10 - 15 acres	1	2	3	3	3	3	15
Above 15 acres	1	-	-	1	-	2	4
Total	2	4	6	6	6	6	30

The total numbers of household members was 172 and the average size of a family was 5.73. Only about half of them (84) could work on the farms.

Table (29)

Distribution of Family Size by Farm Size

Farm size / Family size	2	3	4	5	6	7	8	9	10	Total
Below 5 acres	-	1	-	-	-	-	-	2	-	3
5 - 10 acres	1	1	1	1	1	2	-	1	-	8
10 - 15 acres	1	2	4	-	1	3	1	1	1	14
Above 15 acres	-	1	-	1	1	2	-	-	-	5
Total	2	5	5	2	3	7	1	4	1	30

Table (30)

Distribution of Working Members by Farm Size

Farm No size	1	2	3	4	5	6	Total
Below 5 acres	-	-	2	-	-	1	3
5 - 10 acres	1	4	1	1	-	1	8
10 - 15 acres	3	5	4	2	-	-	14
Above 15 acres	1	1	-	1	2	-	5
Total	5	10	7	4	2	2	10

The total number of cattle for draft power, owned by the 30 farmers was 65 out of which 9 were bullocks and 46 were buffaloes. One third of the farmers did not own any cattle and a farmer owned only one bullock. 18 of the houses dwelt in by the farmers were in good condition.

6 of the farmers had only phonegyikyaung education, 10 had primary education, and 14 had middle class education. 16 of the farmers frequently listened to the radio news; 8 had good communication with nearly townships and Rangoon; and 9 of the farmers often discussed with the extension worker, the village manager.

II. The Relationships between Credit and Acceptance of Technology and Production.

One of the principal purposes of institutional credit is to encourage the cultivators to use new techniques in farming with the view to increase production. On the other hand, as already been stated, the other objective of institutional credit is to have social equality, that is mainly to raise the standard of living of the small poor farmers.

One would normally expect that the greater the availability of financial resources, the higher will be the acceptance of new techniques such as using tractor, straight line transplanting method, high quality seeds and water pumps, and applying fertilizers and pesticides. In the case of agricultural credit for small farmers the problem is the other way round : the poorer the farmer, the larger will be the amount of credit taken and the less will be the degree of acceptance of new techniques that involves risk, and this will result in low production.

When we correlate the amount of credit received and the cost of technology we find that there is no significant relationship between these two variables and the sign is negative.

	Value of r
(a) Credit per acre and cost of technology per acre	- 0.149562
(b) Credit per acre and cost of straight line transplanting per acre	- 0.2394*
(c) Credit per acre and cost of high quality seeds per acre	0.0075
(d) Credit per acre and cost of fertilizer per acre	- 0.1479

The poor farmers who have to take more credit cannot afford then the cost of straight line planting, the cost of using tractor and water pumps, and the cost of fertilizer. The straight line planting method needs 8 - 10 transplanters per acre whereas the traditional method needs only 6 transplanters. It should be noted that the amount of fertilizer sold was fixed according to the number of acres on which the amount of the Bank loans depend. There is, of course direct relationship between the amount of the Bank loans received and the amount of money spent on

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* significant at .125 level.

fertilizer.

When we further correlate the amount of credit per acre to the output of paddy per acre, we again find that there is no significant relationship between these two variables (r = -.163227). The same line of reasons as above can be given for this phenomenon : the productivity of the poor farmers, who have to take more credit and who cannot afford the cost of new techniques, cannot be expected to be high.

Now let us proceed to consider the relationship between technology and productivity. Needless to say, positive resationship is to be expected. We find that there is a satisfactory relationship between the cost of "total" technology and productivity (r = .453588 significant at .02 level).

	Value of r	Significant level
(a) Cost of technology per acre and volume of output per acre	.453588	.02
(b) Cost of straight line transplanting per acre and volume of output per acre	.494077	.005

	Value of r	Signifincant level
(c) Cost of high quality seeds and volume of output per acre	.429817	.02
(d) Cost of fertilizer per acre and volume of output per acre	- .18242	.45

The lack of relationship between fertilizer and output may be due to the following reasons:

1. Since paddy is a monsoonal crop it is difficult for farmers to apply heavy dosages of fertilizers and have a reasonable assurance of obtaining benefit from such application.[1] They are quite reluctant to apply fertilizers in balanced ratio: they usually rely on urea which is the cheapest one.

2. The price for urea on the free market was twice that of the official price, so the poor farmers did not actually apply the fertilizers to paddy and resold the fertilizers they obtained to others.

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1 "The problem of water control is particularly difficult in the conditions which characterize the traditional rice-exporting conuntries of the mainland of Southeast Asia, where the main rice crop is grown in the wet season in the bread flooded areas and where it does not pay the farmer to apply fertilizer because it will simply be washed away." H.Myint : Southeast Asia's Economy, Penguin Books Ltd., London, 1972, P. 43.

3. Since most of the sampled farmers (23) also earned their living as gardeners they applied fertilizers to vegetable rather than paddy.

4. By the experts' opinion, local varieties of paddy usually do not response to fertilizers as the high yield-varieties.[1]

Although many farmers complained the "high" cost of straight line transplanting, we find that the relationship between this method and yield per acre is highly significant (r = .494077 significant at .005 level).

So far we can wind up that there is no relationship between credit and acceptance of new techniques which has significant relationship with the volume of output per acre. Only if "sufficient" credit is available and such funds are systematicly spent on new techniques, we can expect relationship between credit and production. However, it is doubtful at this level of poverty that the funds available would be used for new techniques unless there is systematic supervision.

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1 At present prices, farmers find it profitable to apply about 25 lbs of nitrogen per acre or about 54lbs of urea to local varieties. For IR-5 and IR-8, HYVs, the application of about 60 lbs of nitrogen per acre would be profitable and for C4 - 63 the profitable level is about 40 lbs of nitrogen or 87 lbs of urea per acre.

III. Relationships between some other Socio-economic Factors and Credit, Technology, and Productions:

(a) Size of Economically Active Persons:

The positive relationship between credit and size of economically active population indicated either that the poor farmers' family which has to borrow more money has more persons to be employed at farming or that the large farmers' family had more persons to work on the large size of farm which needs more credit to finance the investment in farming. Since there is no relationship between size of farm and the size of economically active population, the relationship is most probably due to the former case.

Active Population

Credit per acre

	High	Low
High	10	5
Low	5	10

$x_1^2 = 3.333$ (Significant at .07 level)

(r = 0.2576 significant at .07 level)

Although there is no relationship between size of economically active population and the cost of technology per acre, it has weak negative relationship

with output per acre.

Output Per Acre	Active Population: High	Active Population: Low
High	6	9
Low	9	6

x_1^2 = -1.2 (Significant at .25 level)

This relationship means that the higher the number of persons who can work on the farm, the lesser will be the output.

When we look for the association between the size of family members and the size of economically active population, we find as we should expect. The degree of association is positive and highly significant.

Active Population	Size of family: Large	Size of family: Small
High	8	-
Low	8	14

x_1^2 = 8.23 (significant at 0.1 level)

As is seen in the table, there is no difference between the size of economically active population for the large size of family. But no small size of family has high economically active population. Therefore, the size of family, of course, is a necessary condition for the size of farm labourers.

The positive relationship between the number of economically active population and credit, the negative association between the size of economically active population and output per acre, and the direct relationship between the size of the family and the number of active population, all indicates that the larger the number of economically active population, the greater will be the needs of credit and the less will be the output due to financial weakness and lack of sensitivity to new techniques. These facts point out the vicious circle that the farmers being poor cannot make sufficient investment in farming and this results in low productivity that ~~the~~ leads to lack of saving and investment.

(b) Hiring agricultural workers.

Agricultural workers are usually hired by those farmers who are better-off and sometimes very old and large farmers who had not enough family labour for

farming also hire agricultural labourers. Out of the 30 farmers, 10 farmers hired agricultural workers.

Although there is no relationship between the amount of credit per acre and hiring agricultural workers, there is the same degree of association between technology and output per acre and hiring agricultural workers.

Hiring Agricultural Workers : Cost of technology per acre

or

~~Workers~~ Output per acre

	High	Low
Hiring	7	3
Not Hiring	8	12

$x_1^2 = 2.4$ (Significant at .13 level)

As seen in the above table, there is not much difference among those farmers whose cost of technology and output per acre are high, with respect to hiring agricultural workers or not hiring, whereas there is much difference among those farmers whose cost of

technology and output per acre are low : only 3 of them (20%) could hire agricultural workers.

Although there is no relationship between the farmer's age and hiring agricultural workers, there is a weak relationship between the latter and the size of farm (seed section (d)), and also a quite significant relationship with number of persons who can work on the farm.

Hiring Agricultural Workers	Size of Farm	
	Large	Small
Hiring	7	3
Not Hiring	8	12

x^2_1 = 2.4 (Significant at .13 level)

The same type of relationship as cost of technology and output with hiring agricultural workers is found here.

Hiring Agricultural Labourers	No: of Economically Active Population	
	Large	Small
Hiring	1	9
Not Hiring	10	10

x^2_1 = - 4.59 (significant at .05 level)

The above figure indicate that almost all of the farmers whose family members are economically active did not hire outside Agricultural labourers.

Concerning with hiring agricultural labourers, we can only say that those farmers who could afford high cost of technology per acre and had larger output per acre hired agricultural workers, and those farmers who had enough family labour or small size of farm did not hire agricultural workers.

(c) Draft Power

About one third of the sampled farmers had not owned for draft power. Sunprisingly there is no relationship between credit, technology, and output and draft power. This might be partly due to that the farmers who had no draft power could easily hire bullocks or buffaloes at the cost of Ks. 810 (60 baskets for monsoon and 30 baskets for late winter).

(d) Size of Farm

It is hard to draw a demarcation between the small size of farm and the large size of farm to be sensitive to credit, technology, and output, since most of the farmers (more than 50 percent)were working on round about 10 acres. One might draw the demarcation by

economic or technical unit, The idea of designating 9 or 10 acres as the economic size of the farming in Burma is no longer relevant in the context of changing condition. The intensive use of land space through the application of scientific farming techiques, and the use of material inputs could make economically viable the farm of a much smaller size than 9 or 10 acres.[1]

Although productivity per acre and the size of farm was not related in the study made by Dr. Khin Maung Kyi and his associates, there is certain relationship between productivity per acre and the size of farm by groups in this study (See page 131). There is also significant correlation between the size of farm and output per acre (r = 0.410259 significant at .005 level).

(e) Income per acre from Other Sources

In this village income from other sources is quite considerable. It is conversely associated with output per acre.

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1 Dr. Khin Maung Kyi, Dr. Myo Nyunt, and Dr. Mya Than : Economics of Production and Farm Size in Burmese Agriculture with reference to Paddy Farming, Rural Socio-economic Research Series, Paper No. 3, Department of Research, Institute of Economics, Rangoon, 1975, p.27.

Income from other sources	Output per acre	
	High	Low
High	5	10
Low	10	5

x_1^2 = 3.3333 (significant at .07 level)

This association indicates that those farmers who had low income from farming had high income from other sources. It is not clear whether the low income from farming drived the farmers to earn more income from other sources or the high income from other sources discourage the farmers to work hard on the farms. By our experience it was most probably due to the former case.

(f) Income per head

Income per head had no association with credit, technology, and output. This might be due to the fact that the low income from farming is compensated by the income from other occupations.

(g) Housing Conditions

Housing condition generally denotes the economic status of the farmers in Burma. In this village it is related to output per acre significantly as shown in the following table.

Output per acre	Housing Condition	
	Good	Not Good
High	12	3
Low	6	9

x_1^2 = 5.0 (significant at .02 level)

It should be noted that only 3 farmers (20%) whose housing condition was not good had high yield per acre.

Either housing condition and technology or housing condition and credit is associated. In the study of the differential development of the villages in Upper and Lower Burma, housing condition was significantly related to acceptance of technology. But, the relationship in Upper Burma was negative, whereas in Lower Burma it was positive.[1] In this village, the relationship, although insignificant, denotes positive sign. ...

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1 ဒေါက်တာခင်မောင်ကြည်နှင့်အဖွဲ့၊ ``အထက်မြန်မာနိုင်ငံကျေးရွာဥပဓိဖွံ့ဖြိုးတိုးတက်မှုကွဲပြားခြားနားခြင်းများ၊`` ၁၉၇၆ခု သုတေသနဆွေးနွေးပွဲစာတမ်း၊ တင်သောင်းနှင့်မြသန်း ``အောက်မြန်မာနိုင်ငံကျေးရွာများ၏ဖွံ့ဖြိုးတိုးတက်မှုကွဲပြားခြားနားခြင်းများ`` ၊ ၁၉၇၄ခုသုတေသနဆွေးနွေးပွဲစာတမ်း။

(h) Level of Education

In the former studies the education level of farmers were significantly associated with the acceptance of technology. In this study, however, it is neither related with technology nor with credit. Nevertheless, the education level of the farmers is associated with productivity per acre to certain extent.

Output per acre	Level of Education	
	High	Low
High	9	6
Low	5	10

x_1^2 = 2.1428 (significant at .15 level)

We should expect that the level of education has positive effect on the farm productivity. But it might be the other way round.

Those farmers whose output per acre is high will be better-off and has better chance to have high level of education.

(i) Communication with townships

Since the village is situated by the Rangoon-Prome road, the farmers have the same degree of accessibility to nearby townships and this results in no relationship with credit or acceptance of technology or output per acre. No association is found among these Variables.

In the former studies, where the unit of study was village, there was significant relationship between the distance from township and acceptance of technology.

(j) Discussion with the Village Manager

There is a native village manager at this village. The enthusiastic farmers often discussed with him. The results obtained shows that there is considerable relationship between the discussion and the amount of credit per acre and acceptance of technology per acre. Unfortunately there is no association between the discussion and productivity per acre.

Discussion with the Village Manager	Credit and Cost of Technology per acre	
	High	Low
High	7	3
Low	8	12
$X_1^2 = 2.4$	(Significant at .13 level)	

It can be seen that only 20 percent of those farmers who has low level of discussion with the village manager has high level of accepting new techniques.

(k) Listening to Radio

Listening to Radio has no relationship with technology or output per acre, but it is negatively associated with availability of credit.

Credit Per acre	Listening to Radio	
	High	Low
High	5	10
Low	10	5

$x_1^2 = -3.3333$ (Significant at .07 level.)

In this village, listening to radio has no effect as a communication media, Radio is only just a symbol of economic status; the higher the level of listening to radio, the lower is the amount of credit taken.

(l) Reading Newspaper

The number of newspaper is quite negligible and there is no association between reading newspapers

and credit, technology, and output.

(m) Cost per acre

This cost excludes imputed labour cost and depreciation, and includes cost of all inputs. Cost of production per acre is directly related to acceptance of new techniques and output per acre, even though it is not associated with the amount of credit taken per acre.

Acceptance of New Techniques — Cost per acre

	High	Low
High	9	6
Low	6	9

$x^2 = 1.2$ (Significant at .25 level)

The degree of association, though exists, is not apparently significant.

Output per acre — Cost per acre

	High	Low
High	10	5
Low	5	10

$x_1^2 = 3.3333$ (Significant at .07 level)

As seen in the above table, the higher the cost of production, the greater is the amount of output per acre.

(n) Cost of hired labour

The same as in the case of hiring agricultural workers, the cost of hired labour is directly related to the cost of technology and productivity per acre, even though it is not related to the amount of credit taken.

Cost of Hired Labour	Cost of Technology per acre	
	High	Low
High	9	6
Low	6	9

$x^2_1 = 1.2$ (Significant at .25 level)

The level of significance is not as satisfactory as in the following case.

Output per acre	Cost of Hired labour	
	High	Low
High	10	5
Low	5	10

x^2_1 = 3.3333 (significant at .07 level).

We might say that those farmers who could afford the cost of hired labour and the cost of technology had better output.

(o) Cost of Owned labour

This imputed cost of labour is weakly and directly related to the amount of credit and inversely related to the amount of output per acre.

Amount of Credit per acre	Cost of Owned Labour	
	High	Low
High	9	6
Low	6	9

x^2 = 1.2 (significant at .25 level)

This finding is consistent with the finding in section (a) where the number of economically active persons is directly related to the amount of credit taken.

Output per acre	Cost of Owned Labour	
	High	Low
High	5	10
Low	10	5

x_1^2 = - 3.3333 (significant at .07 level)

There is a negative relationship between cost of owned labour and acceptance of technology (r = -0.2874 significant at .05 level).

These facts might suggest that there is hidden unemployment in agriculture or there is diminishing return effect in agriculture with respect to family labour.

(p) Expenditure per head

The cost of expenditure per head is directly associated with the cost of technology and the amount of output per acre, whereas it is inversely related to the

amount of credit taken.

Credit per acre	Expenditure per head	
	High	Low
High	5	0
Low	10	5

x_1^2 = 3.3333 (significant at .07 level)

This fact suggests that the poorer the farmer, the lower will be the expenditure per head and the higher will be the amount of credit to be taken.

Expenditure per head	Cost of Technology	
	High	Low
High	10	5
Low	5	10

x^2 = 3.3333 (significant at .07 level)

Expenditure per head	Productivity per acre	
	High	Low
High	9	6
Low	6	9

x^2 = 1.2 (significant at .25 level)

The figures shown above suggest that those farmers who are better-off can afford higher cost of technology and have better output.

(q) Growing planned variety of paddy

There is weak association between growing planned variety of paddy and credit, technology, and out put.

Planned Variety of Paddy	Technology, and Output	
	High	Low
High	9	6
Low	6	9

x^2 = 1.2 (significant at .25 level)

An inverse relationship is found between the amount of credit and growing planned variety of paddy.

Growing Planned variety of paddy	Credit per acre	
	High	Low
High	6	9
Low	9	6

$x^2 = -1.2$ (significant at .25 level)

We have to say that those farmers who were poor and who had to take more credit grew less planned variety of paddy, and their cost of technology and volume of output per acre was low.

(r) Size of Family

Size of family is negatively associated with acceptance of technology in this study of the differential development of the 30 villages in Upper Burma. The same relationship is found out in this study, (r=-.3319 significant at .04 level). It is also found out that size of family is directly related to the amount of credit taken.

Credit per acre	Size of Family	
	Large	Small
High	11	4
Low	5	10

x^2 = 4.82 (significant at .03 level)

This fact denotes that the larger the size of family, the higher is the amount of credit taken. This indirectly supports the fact that the poor farmers who usually have large size of family have to take more credit.

(s) Age of the Farmers

The level of the age of the farmers studied has negative association with the amount of credit taken and positive relationship with the acceptance of technology, although it has no significant association with the productivity per acre.

Amount of Credit per acre	Age of the Farmers	
	Old	Young
High	3	12
Low	12	3

x^2 = -8.57 (significant at less than .01 level)

This relationship suggests that the younger the farmer, the larger is the amount of credit to be taken : in other words, the younger the farmers, the poorer he is, or the more amount of credit is needed to spend on non-agricultural activities. This might also suggest that the old farmers have some saving and they are more cautious to take credit.

Cost of Technology per acre	Age of the Farmers	
	Old	Young
High	10	5
Low	5	10

x^2 = 3.3333 (significant at .07 level)

It is not safe to say that the older the farmer, the more he will accept the new techniques : the relationships with the age of the farmers might denote that the young farmers, being poor, could not afford the cost of technology, compared to the old farmers who do not rely on credit because of their saving.

IV. Multi-Variate Analysis of Credit, Technology, and Productivity and Other Socio-economic Factors.[1]

(a) Credit and Other Socio-economic Factors

Credit is mainly related to cost of production per acre, age of the farmer, size of family and cost of owned labour in their respective order :

	T Value	Partial Corr:	Significant level	Multiple Corr:
(a) Cost of Production per acre	1.92	-0.36	.04	-0.961
(b) Age of the farmer	2.18	-0.40	.02	-0.959
(c) Size of Family	3.30	0;55	.005	0.951
(d) Cost of Owned Labour	3.91	0.62	.005	0.945
(e) Cost of Hired labour	4.70	0.69	.005	0.935

These relationships point out the facts that the farmers who have large family also have more economically active persons who cannot afford the cost of production

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1 Multiple correlation is made by finding out the best equation with 5 variables.

due to poverty and they have to rely on credit : there exist strong correlations between the size of family and the number of economically active persons (r =.583866 significant at .005 level) and between the amount of expenditure per head and the size of family (r =-.54835 significant at .005 level). There is also negative relationship between the cost of hired labour and the size of family (r = -.340271 significant at .05 level). Moreover, a negative relationship between the size of farm and the size of family exist too(r = -.259517 significant at .07 level).

The age of the farmer is related to the following factors :

	Value of r	Significant level
(a) Expenditure per head	.325094	.05
(b) Cost of hired labour	.436733	.005
(c) Cost of owned labour	-.259254	.07
(d) Cost of per acre	.265079	.07
(e) Size of family	-.273313	.07
(f) Size of farm	.206092	.09

These relationships indicate that the older farmers have larger size of farm, higher cost of hired labour and cost of production. They have less number of family members and less cost of owned labour. They can spend more on household expenditure. These facts denote that the older farmers are better-off and less rely on credit.

Cost of hired labour is related with credit probably due to the relationship between farm size and hiring labourer (r = .447431 significant at .005 level).

(b) Technology and Other Socio-economic Factors

Technology is primarily related to growing planned variety of paddy, size of farm, income from other sources and cost of production as follows :

	T Value	Partial Corr:	Significant level	Multi: Corr:
(a) Planned variety of paddy	1.77	0.33	.05	0.973
(b) Size of farm	2.45	-0.44	.01	-0.970
(c) Income from other sources	2.33	-0.42	.012	-0.970
(d) Cost of production	4.25	0.65	.05	0.958

More cost of technology is incurred for the planned variety of paddy. Size of farm is negatively

related to the cost of technology. This might be due to limited quota of fertilizers. Income from other sources also is negatively related to technology. This might be caused by the fact that small farmers have to work for other income since their income from farming paddy is not enough for their living : Income from other sources is inversely related to the size of farm (r = -.422909 significant at .005 level) which is directly related to output per acre (r = .410259 significant at .005 level). The cost of technology, of course, is directly related to the cost of production.

(c) Output per acre and Other Socio-economic Factors

Productivity is found to be related with age, income from other sources, planned variety of paddy, and cost of production per acre.

	T Value	Partial Corr:	Signi- ficant level	Multiple Corr:
(a) Age of the farmers	0.76	-0.15	.232	- 0.956
(b) Income from other sources	1.44	0.28	.05	- 0.953
(c) Planned variety	2.03	0.38	.025	0.949
(d) Cost of production	2.55	0.45	.01	0.945

The inverse relationship between age and output might, though not clear enough, be due to the fact that the

old farmers have to hire more agricultural labourers rather than working by themselves : as shown before the age of farmer is directly and significantly related to the cost of hired labour, whereas it is negatively related to the cost of owned labour.

The negative relationship between productivity and income from other sources can be explained by the same reasoning as in section (a). Planned variety and cost of production are positively related to output per acre as in the case of technology.

To wind up this chapter we have to reiterate the following facts :

(a) Cost of production is the only and the most common variable which is negatively related to the amount of credit and positively related to the cost of technology and output per acre. This fact, though simple and known, confirms that the amount of credit is not sufficient to bear the cost of new techniques and consequently results in low production.

(b) Income from other sources is, though not related to credit, negatively related to cost of technology and output per acre. By common sense, this might be explained as negligence of farming by these who earn more money

from other sources. However, many findings lead to that the small poor farmers have to try to earn other income for their subsistence.

(c) Planned variety of paddy growing is positively related to both technology and output, although it is not related to the amount of credit taken. Planned variety of paddy usually necessitates high cost of production and it pays back good return.

Conclusion

In Burma, the role of state credit in the development of agriculture seems to be rather an instrument for an increase in social equity than an increase in agricultural production, although it is put through at some cost to the country's scarce resources. In fact, agricultural credit, at least for this village under study, is not related to the acceptance of new techniques and volume of output per acre. Findings in this study indicates that the small farmer, owing to the lack of finance, cannot afford the cost of new techniques that results in high cost of production and larger volume of output per acre. This leads to the known vicious circle of the agriculturists in developing countries.

Although credit is not a panacea, we can hope that a sufficient increase in the available volume of credit together with the accompanying factors which have to be linked to it can result in increased productivity. It is apparent that the present rate of credit (Ks. 70 per acre for paddy) is not sufficient for the farmers' credit needs.

The amount of credit, needed by the farmers, can roughly be estimated in different ways.

(1) The present study shows that nearly 58 percent of the credit needs is provided by the Agricultural Bank and the other 42 percent is taken from pawnshops or private moneylenders at higher rate of interest. Therefore, the rate of credit for paddy should at least be increased to Ks. 120.[1]

If this estimate is accepted, the amount of the Bank Loans for paddy would increase from Ks.693.43 million to Ks.1,552.56 million, which is a considerable sum for the country.[2] If only 70 percent of the sown acreage is rendered at the rate of Ks.120, the amount of the Bank loan would be only Ks.1086.792 million.

(2) If the credit is meant to cover the cost of transplanting, fertilizers, and harvesting, a paddy farmer needs round about Ks.125 per acre.

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1 $(\frac{100}{58} \times 70 = \text{Ks.}120.69)$

2 12.938 million acre of paddy land multiplied by 120. In actual practices, not more than 90 percent of the paddy land acreage is provided loan by the Bank. In the year 1978-79 it was estimated that the sown acre will be 12.938 million and the bank loan will be Ks.693.43 million, i.e.only for 70 percent of the sown acreage.

	Ks
Transplanting	50
Fertilizers	36
Harvesting	40
Total	126

(Note : Cost of transplanting is calculated at the maximum number of transplanters needed per acre, at Ks.5 per head. Usually, the traditional method of transplanting needs only 6 transplanters and the straight-line and close transplanting method needs 8 to 10 transplanters. Cost of fertilizers is calculated at the present rate of application, i.e., one bag of urea (at Ks.9) for two acres and one bag of TSP (at Ks.62) for four acre. The recommended rate is to double the present application. Cost of harvesting varies from 4 to 5 baskets of paddy).

(3) The average cost of production, excluding family labour, is Ks.207 for all paddy.[1] When nearly 60 percent of output is to be sold to the Government, it is justified to provide nearly 60 percent of the cost of production as credit : it is round about Ks.120.

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1 Standard deviation is 124 and family labour valued at market price is Ks.87. The average cost of production for a sample of 100 farmers in Lower Burma was Ks.301 in 1975-76. It included Ks.95 for family labour. The standard deviation was 113: Research Department, Institute of Economics, Rangoon.

The main intention of the increase in the rate of credit should be to raise productivity and income of the smallholders who make up the bulk of the farmers in our country (out of 4,380,000 farmers, 3,801,000 are working on under 10 acres). Larger farmers are not excluded and sometimes may be a necessary spearhead to stimulate the rest but the core of the problem is the smallholder.

The method of raising the productivity and income of the small holders is the input of technical improvements in a package program and the establishment of an effective farming unit for their application. Both purposes require credit : some short-term, some long-term.

There is a need to diversify the coverage of loans. Medium-term credit is not available and it is one of the main handicaps to purchasing bullocks or buffaloes for the farm.

Because the small holder starts from a level of deep poverty and often from a complete ignorance of the value of new techniques and of inability to take any risks, credit is required to help him up almost every rung of the ladder. An immediate major problem

is how to provide against widespread unproductive indebtedness.

It follows that the most important link for a successful credit system is an organisation which ensures that the technical improvements are available at the right place and time and are used, and that income is realised. This fixes the role of credit not as some independent factor which can be handled by some institution which has nothing to do with extension and marketing. On the contrary, credit should be the power producing unit in a perspectively planned chain both of inputs by way of timely supplies and outputs by way of processing and marketing. In Burma, the former link of the chain is very weak. The supply of credit must be strongly tied to the adoption of improved practices.

There is no reason why farmers themselves should not ultimately operate such an institution through co-operatives. The 20-year Plan Guidelines adopted at the first congress of the Burma Socialist Programme Party (published in January 1972) set out in considerable detail the functions and responsibilities of cooperatives. For agricultural development, co-operative will be designated as the main organisation for

implementing the Plan. They are expected to (a) undertake the supply of current inputs (seed, fertilizers, pesticides) and credit; (b) provide agricultural services (hiring of tractors and pumps); (c) supply farm equipment (ploughs, sprayers, etc.); (d) purchase and store agricultural products; and (e) distribute consumers goods in rural areas.

As we have experienced, we cannot, at present rely upon this solution by cooperatives which are premature since the farmers have little business experience and the country is only at an early stage of development. We have to train personnel to have competence and itegrity to run a package program efficiently. These men need to be something more than mere extension, community development or cooperative officers, and yet must have something of all their qualities in combination. They have not merely to advice and demonstrate but to organise supplies and see that they are used, to issue credit and recover it. They have to be energetic outdoor types dedicated to the rural renaissance of our country.

At present, we have to be satisfied with the proper link among the Agriculture and Farm Produce Trade

Corporation (T.C.I.), the Agricultural Corporation, the Agricultural Mechanization Department, and the Agricultural Bank, etc., through the Township and Village Peoples' Councils, in carrying out the proposed package program in order to have the effective use of agricultural credit as an investment function. In carrying out this program, we should have in mind that the Bank has been successful in repayment (90 percent), especially due to the system of repayment in the form of deduction from the paddy sale-proceeds at the paddy buying depots.

Appendix (A)(i)

Apportionment of Production Cost

Sample No	1 (10 acres)		2 (10 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed Preparation	75.00	-	50.00	-
2. Plucking Seedlings	192.00	-	240.00	-
3. Land Preparation	300.00	-	300.00	-
4. Transplanting	-	400.00	200.00	200.00
5. Land maintenance	600.00	-	600.00	-
6. Pest control	-	-	-	-
7. Harvesting	50.00	330.00	360.00	-
8. Haulage	20.00	90.00	75.00	-
9. Sayin-ngha(Agr.Worker)	-	-	-	-
Total	1237.00	820.00	1825.00	200.00
II. Inputs				
1. Seed	-	144.00	132.00	-
2. Pesticides	-	-	-	-
3. Fertilizer	-	238.00	-	183.00
4. Manure	40.00	-	100.00	-
5. Others	-	-	-	-
Total	40.00	382.00	232.00	183.00
III. Others				
1. Land revenue	-	34.75	-	43.00
2. Interest	-	112.00	-	216.00
3. Depreciation	40.00	630.00	150.00	-
4. Others	-	630.00	-	-
Total	40.00	776.75	150.00	259.00
Grand total	1317.00	1978.75	2207.00	642.00

Total Cost	1	Ks, 3295.75	Total cost	1	2271.00
	2	1978.75		2	642.00
	3	3255.75		3	2121.00

* Includes animal feeds, hiring cattle, etc.

(Cost 1 = All cost ; cost 2 =Bought (hired) Cost; cost 3 =All cost less depreciation)

Appendix (A)(2)

Sample No	2 (7 acres)		4 (10 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed preparation	50.00	-	-	-
2. Plucking seedlings	-	160.00	-	160.00
3. Land preparation	450.00	-	-	-
4. Transplanting	75.00	350.00	-	500.00
5. Land maintenance	600.00	-	-	-
6. Pest control	-	-	-	-
7. Harvesting	120.00	90.00	-	450.00
8. Haulage	75.00	-	-	225.00
9. Sayin-ngha(Agr.Worker)	-	-	-	810.00
Total	1370.00	600.00	-	2145.00
II. Inputs				
1. Seed	54.00	77.00	165.00	-
2. Pesticides	-	-	-	-
3. Fertilizer	-	277.70	-	295.80
4. Manure	-	-	60.00	-
5. Others	-	-	-	-
Total	54.00	354.70	225.00	295.80
III. Others				
1. Land revenue	-	50.00	-	35.25
2. Interest	-	62.00	-	143.00
3. Depreciation	10.00	-	125.00	-
4. Others	-	-	-	-
Total	10.00	112.00	125.00	178.25
Grand total	1434.00	1066.00	350.00	2619.05

Total Cost	1	Ks	2500.00	Cost	1	Ks 2969.05
	2		1066.00		2	2619.05
	3		2490.00			2844.05

* Includes animal feeds, hiring cattle, ect.

Appendix (A)(')

Sample No	5 (20 acres)		6 (9 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed preparation	40.00	-	-	-
2. Plucking seedlings	-	300.00	-	-
3. Land preparation	500.00	-	-	-
4. Transplanting	-	850.00	-	400.00
5. Land maintenance	-	-	-	-
6. Pest control	-	-	-	-
7. Harvesting	-	765.00	-	405.00
8. Haulage	60.00	-	-	-
9. Sayin-nga (Agr.Worker)	-	810.00	-	810.00
Total	600.00	2725.00	-	1615.00
II. Inputs				
1. Seed	375.00	-	225.00	-
2. Pesticides	-	-	5.00	-
3. Fertilizer	-	590.00	258.00	-
4. Manure	250.00	-	30.00	-
5. Others	-	-	-	-
Total	625.00	590.00	518.00	-
III. Others				
1. Land revenue	-	70.00	-	39.00
2. Interest	-	258.00	-	113.00
3. Depreciation	120.00	-	60.00	-
4. Others	-	-	-	- -
Total	120	328.00	60.00	152.00
Grand total	1345.00	3643.00	578.00	1767.00

Total Cost	1	Ks	4988.00	Total Cost 1	2345.00
	2		3643.00	2	1767.00
	3		4868.00	3	2285.00

* Includes animal feeds, hirins cattle, etc.

Appendix (A)

Sample No	7 (10 acres)		8 (3 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed Preparation	50.00	-	20.00	-
2. Plucking seedlings	-	225.00	40.00	40.00
3. land preparation	350.00	-	150.00	-
4. Transplanting	-	300.00	-	175.00
5. Land maintenance	600.00	-	450.00	-
6. Pest control	-	-	-	-
7. Harvesting	-	21.00	108.00	-
8. Haulage	-	30.00	14.00	-
9. Sayinbaga (Agr.Worker)	-	90.00	-	-
Total	1000.00	666.00	782.00	215.00
II. Inputs				
1. Seed	150.00	-	45.00	-
2. Pesticides	196.00	-	-	-
3. Fertilizer	196.00	-	-	98.00
4. Manure	10.00	20.00	40.00	-
5. Others	-	-	-	-
Total	356.00	20.00	85.00	98.00
III. Others				
1. Land revenue	-	54.25	-	10.00
2. Interest	-	100.00	-	58.00
3. Depreciation	-	-	-	-
4. Others	-	630.00	-	540.00
Total	-	784.25	-	605.00
Grand Total	1356.00	1470.00	867.00	921.00

Total Cost	1	Ks	2826.25	Total Cost	1	Ks 1788.00
	2		1470.25		2	921.00
	3		2826.25		3	1788.00

* Includes animal feeds, hirins cattle, etc.

Appendix (A)(ဇ)

Sample No	9 (15 acres)		10 (12 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed preparation	-	-	75.00	-
2. Plucking seedlings	-	-	-	120.00
3. land preparation	-	-	300.00	-
4. Transplanting	-	625.00	-	400.00
5. Land maintenance	-	-	400.00	-
6. Pest control	-	-	-	-
7. Harvesting	-	540.00	-	405.00
8. Haulage	84.00	28.00	21.00	21.00
9. Sayinhnga (Agr.Worker)	-	1340.00	-	900.00
Total	84.00	2533.00	796.00	1846.00
II. Inputs				
1. Seed	270.00	-	144.00	-
2. Pesticides	-	-	-	-
3. Fertilizer	336.00	-	294.00	-
4. Manure	100.00	-	120.00	-
5. Others	-	-	-	-
Total	706.00	-	558.00	-
III. Others				
1. Land revenue	-	60.00	-	21.50
2. Interest	-	84.00	-	218.00
3. Depreciation	1900.00	-	200.00	-
4. Others	-	-	-	-
Total	1900.00	144.00	200.00	239.50
Grand Total	2690.00	2677.00	1554.00	2085.50

Total Cost 1 Ks, 5367.00 Total Cost 1 Ks. 3639.50
2 2677.00 2 2085.50
3 3467.00 3 3439.50

* Includes animal feeds, hirns cattle, etc.

Appendix (A)(c)

Sample No	11 (12 acres)		12 (4 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed preparation	-	-	-	60.00
2. Plucking seedlings	-	100.00	-	24.00
3. Land preparation	-	-	135.00	-
4. Transplanting	-	333.00	-	110.00
5. Land maintenance	-	-	450.00	-
6. Pest control	-	-	-	-
7. Harvesting	-	405.00	-	72.00
8. Haulage	-	90.00	-	7.00
9. Sayinhnaga (Agr.Worker)	-	810.00	-	-
Total	-	1738.00	585.00	273.00
II. Inputs				
1. Seed	135.00	90.00	45.00	-
2. Pesticides	-	-	-	-
3. Fertilizer	-	325.00	36.00	-
4. Manure	-	200.00	-	-
5. Others	-	-	-	-
Total	135.00	615.00	81.00	-
III. Others				
1. Land revenue	-	23.25	-	12.00
2. Interest	-	174.00	-	97.00
3. Depreciation	-	-	-	-
4. Others	-	630.00	-	60.00
Total	-	827.25	-	169.00
Grand Total	135.00	3180.25	666.00	442.00

Total Cost 2 Ks 3315.25
2 3180.25
3 3315.25

Total Cost 1 Ks 1108.00
2 442.00
3 1108.00

* Includes animal feeds, hirins cattle, ect.

Appendix (A)(?)

Sample No	13 (12.75 acres)		14 (12 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed preparation	50.00	-	50.00	-
2. Plucking seedlings	-	160.00	-	120.00
3. Land preparation	450.00	-	450.00	-
4. Transplanting	-	650.00	150.00	500.00
5. Land maintenance	450.00	-	450.00	-
6. Pest control	-	-	-	-
7. Harvesting	-	360.00	135.00	225.00
8. Haulage	70.00	-	-	56.00
9. Sayinhaga (Agr. Worker)	-	-	-	-
Total	1020.00	1170.00	1235.00	901.00
II. Inputs				
1. Seed	225.00	-	180.00	-
2. Pesticides	-	-	-	-
3. Fertilizer	-	314.00	-	258.00
4. Manure	120.00	100.00	-	30.00
5. Others	-	-	-	-
Total	345.00	414.00	180.00	288.00
III. Others				
1. Land revenue	-	46.75	-	43.00
2. Interest	-	73.00	-	69.00
3. Depreciation	100.00	-	-	-
4. Others	-	-	-	630.00
Total	100.00	119.75	-	740.00
Grand Total	1465.00	1703.75	1415.00	1929.00

Total Cost 1 Ks. 3168.75
2 1703.75
3. 3068.75

Total Cost 1 Ks 3344.00
2 1929.00
3 3344.00

* Includes animal feeds, hirins cottle, etc.

Appendix (A)(5)

Sample No	15 (18 acres)		16 (12 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed preparation	100.00	-	75.00	-
2. Plucking seedlings	80.00	160.00	-	50.00
3. Land preparation	600.00	-	-	-
4. Transplantion	-	750.00	-	500.00
5. Land maintenance	400.00	-	-	-
6. Pest control	-	-	-	-
7. Harvesting	-	675.00	-	450.00
8. Haulage	28.00	56.00	-	42.00
9. Sayin ngha (Agr.Worker)	-	-	-	810.00
Total	1208.00	1641.00	75.00	1852.00
II. Inputs				
1. Seed	135.00	90.00	270.00	-
2. Pesticides	-	-	-	-
3. Fertilizer	-	294.00	-	294.00
4. Manure	100.00	-	30.00	-
5. Others	-	-	-	-
Total	235.00	384.00	300.00	294.00
III. Others				
1. Land revenue	-	100.00	-	72.00
2. Interest	-	161.00	-	367.00
3. Depreciation	250.00	-	-	-
4. Others	140.00	1260.00	120.00	-
Total	390.00	1521.00	120.00	439.00
Grand Total	1833.00	4046.00	495.00	2585.00

Total Cost	1	Ks	5879.00	Total Cost	1	Ks 3080.00
	2		4046.00		2	2585.00
	3		5629.00		3	3080.00

* Includes animal feeds, Lirins cattle, etc.

Appendix (A)(7)

Sample No	17 (12 acres)		18 (7 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed preparation	-	-	50.00	-
2. Plucking seedlings	-	150.00	64.00	30.00
3. Land preparation	-	-	300.00	-
4. Transplantion	-	400.00	350.00	-
5. Land maintenance	-	-	250.00	-
6. Pest control	-	-	-	-
7. Harvesting	-	450.00	315.00	-
8. Haulage	84.00	-	28.00	-
9. Sayinhnga(Agr.Worker)	-	810.00	-	-
Total	84.00	1810.00	1357.00	30.00
II. Inputs				
1. Seed	180.00	-	105.00	-
2. Pesticides	-	-	-	-
3. Fertilizer	-	258.00	196.40	-
4. Manure	200.00	-	40.00	-
5. Others	-	-	-	-
Total	380.00	258.00	341.40	-
III. Others				
1. Land revenue	-	32.00	-	13.75
2. Interest	-	67.00	-	195.00
3. Depreciation	-	-	-	-
4. Others	120.00	-	200.00	-
Total	120.00	99.00	200.00	208.75
Grand Total	584.00	2167.00	1898.40	238.75

Total Cost	1	Ks	2751.00	Total Cost	1 Ks	2137.15
	2		2167.00		2	238.75
	3		2751.00		3	2137.15

* Includes animal feeds, hiring cattle, etc.

Appendix (A)(c)

Sample No	19 (20 acres)		20 (7 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed preparation	-	-	30.00	-
2. Plucking seedlings	-	-	-	170.00
3. Land preparation	-	-	-	60.00
4. Transplanting	-	850.00	100.00	178.00
5. Land maintenance	-	-	150.00	-
6. Pest control	-	-	-	-
7. Harvesting	-	720.00	70.00	-
8. Haulage	28.00	-	-	14.00
9. Sayinhnga(Agr.Worker)	-	1670.00	-	-
Total	28.00	3190.00	300.00	319.00
II. Inpust				
1. Seed	375.00	-	-	45.00
2. Pesticides	-	-	-	-
3. Fertilizer	-	392.00	-	98.00
4. Manure	35.00	-	20.00	-
5. Others	-	-	-	-
Total	410.00	392.00	20.00	143.00
III. Others				
1. Land revenue	-	110.00	-	10.00
2. Interest	-	337.00	-	175.00
3. Depreciation	100.00	-	-	-
4. Others	-	1260.00	60.00	-
Total	100.00	1707.00	60.00	185.00
Grand Total	538.00	5289.00	380.00	647.00

Total Cost 1 Ks 5827.00
2 5289.00
3 5189.00

Total Cost 1 Ks 1027.00
2 647.00
3 1027.00

* Includes animal feeds, hiring cattle, etc.

Appendix (A)(b)

Sample No	21 (9 acres)		22 (11 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed preparation	50.00	-	50.00	-
2. Plucking seedlings	-	200.00	-	240.00
3. Land preparation	360.00	-	450.00	-
4. Transplanting	-	450.00	-	550.00
5. Land maintenance	300.00	-	400.00	-
6. Pest control	-	-	-	-
7. Harvesting	-	405.00	-	405.00
8. Haulage	49.00	-	42.00	-
9. Sayinhnga(Agr.Worker)	-	-	-	-
Total	759.00	1055.00	942.00	1195.00
II. Inputs				
1. Seed	135.00	-	165.00	-
2. Pesticides	-	-	-	-
3. Fertilizer	-	196.00	-	214.00
4. Manure	50.00	-	60.00	-
5. Others	-	-	-	-
Total	185.00	196.00	225.00	214.00
III. Others				
1. Land revenue	-	40.00	-	40.00
2. Interest	-	230.00	-	462.00
3. Depreciation	150.00	-	110.00	-
4. Others	-	-	-	-
Total	150.00	270.00	110.00	502.00
Grand Total	1094.00	1521.00	1277.00	1711.00

Total Cost 1 Ks 2615.00
2 1521.00
3 2465.00

Total Cost 1 Ks 2988.00
2 1711.00
3 2878.00

* Includes animal feeds, hiring cattle, etc.

Sample No	23 (12 acres)		24 (9 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed preparation	100.00	-	-	-
2. Plucking seedlings	80.00	80.00	-	141.20
3. Land preparation	450.00	-	-	-
4. Transplanting	-	600.00	-	385.00
5. Land maintenance	400.00	-	-	-
6. Pest control	-	-	-	-
7. Harvesting	405.00	-	324.00	-
8. Haulage	42.00	-	-	300.00
9. Sayinhnga (Agr.Worker)	-	-	-	-
Total	1477.00	680.00	324.00	826.20
II. Inputs				
1. Seed	180.00	-	165.00	-
2. Pesticides	-	-	-	-
3. Fertilizer	-	276.00	-	178.00
4. Manure	50.00	50.00	30.00	-
5. Others	-	-	-	-
Total	230.00	226.00	195.00	178.00
III. Others				
1. Land revenue	-	32.00	-	42.00
2. Interest	-	467.00	-	50.00
3. Depreciation	-	-	200.00	-
4. Others	-	270.00	-	585.00
Total	-	769.00	200.00	677.00
Grand Total	1707.00	1675.00	719.00	1681.20

Total Cost	1	Ks	3382.00	Total Cost	1	Ks 2400.20
	2		1675.00		2	1681.20
	3		3382.00		3	2200.20

* Includes animal feeds, hiring cattle, etc.

Appendix (A) (13)

Sample No	25 (6 acres)		26 (12 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed preparation	30.00	-	75.00	-
2. Plucking Seedling	120.00	-	120.00	-
3. Land preparation	300.00	-	450.00	-
4. Transplanting	300.00	-	-	400.00
5. Land maintenance	200.00	-	300.00	-
6. Pest control	-	-	-	-
7. Harvesting	270.00	-	-	540.00
8. Haulage	21.00	-	56.00	-
9. Sayinhga (Agr.Worker)	-	-	-	-
Total	1241.00	-	1001.00	940.00
II. Inputs				
1.Seed	90.00	-	180.00	-
2.Pesticides	-	-	-	-
3.Fertilizer	85.00	-	-	294.00
4.Manure	15.00	-	50.00	-
5.Others	-	-	50.00	-
Total	190.00	-	185.00	294.00
III. Others				
1. Land revenue	-	20.00	-	25.00
2. Interest	-	119.00	-	134.00
3. Depreciation	60.00	-	80.00	-
4. Others	-	-	-	-
Total	60.00	139.00	80.00	159.00
Grand Total	1491.00	139.00	1266.00	1393.00

Total Cost	1	Ks	1630.00	Total Cost	1 Ks	2659.00
	2		139.00		2	1393.00
	3		1570.00		3	2579.00

* Includes animal feeds, hiring cattle, etc.

Sample No	27 (15 acres)		28 (8 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed preparation	70.00	30.00	50.00	-
2. Plucking seedlings	240.00	40.00	80.00	-
3. Land preparation	450.00	-	300.00	-
4. Transplanting	500.00	100.00	150.00	150.00
5. Land maintenance	400.00	-	250.00	-
6. Pest control	-	-	-	-
7. Harvesting	770.00	225.00	770.00	-
8. Haulage	42.00	42.00	28.00	-
9. Sayinhga (Agr. Worker)	-	540.00	-	-
Total	1972.00	982.00	1128.00	150.00
II. Inputs				
1. seed	225.00	-	120.00	-
2. Pesticides	-	-	-	-
3. Fertilizer	-	392.00	-	196.00
4. Manure	60.00	-	30.00	-
5. Others	-	-	-	-
Total	285.00	392.00	150.00	196.00
III. Others				
1. Land revenue	-	83.00	-	31.50
2. Interest	-	575.00	-	50.00
3. Depreciation	120.00	-	60.00	-
4. Others	-	270.00	-	-
Total	120.00	928.00	60.00	81.00
Grand Total	2377.00	2302.00	1338.00	427.50

Total Cost	1	Ks	4679.00	Total Cost	1 Ks	1765.50
	2		2302.00		2	427.50
	3		4559.00		3	1705.50

* Includes animal feeds, hiring cattle, etc.

Appendix (A)(15)

Sample No	29 (9 acres)		30 (12 acres)	
Items	Own	Bought (hired)	Own	Bought (hired)
I. Labour Cost				
1. Seedbed preparation	50.00	-	-	-
2. Plucking seedlings	-	280.00	-	-
3. Land Preparation	500.00	-	-	-
4. Transplanting	120.00	270.00	-	500.00
5. Land maintenance	400.00	-	-	-
6. Pest control	-	-	-	-
7. Harvesting	-	135.00	-	450.00
8. Haulage	-	-	-	225.00
9. Sayinhga (Agr.Worker)	-	-	-	810.00
Total	1070.00	685.00	-	1985.00
II. Inputs				
1. Seed	180.00	-	180.00	-
2. Pesticides	-	-°	-	-
3. Fertilizer	-	314.00	-	298.00
4. Manure	40.00	-	60.00	-
5. Others	-	-	-	-
Total	220.00	314.00	240.00	294.00
III. Others				
1. Land revenue	-	27.00	-	42.00
2. Interest	-	85.00	-	359.00
3. Depreciation	150.00	-	140.00	-
4. Others	-	-	-	-
Total	150.00	142.00	140.00	401.00
Grand Total	1440.00	1111.00	380.00	2680.00

Total Cost	1	Ks	2551.00	Total Cost	1 Ks	3060.00
	2		1111.00		2	2680.00
	3		2401.00		3	2920.00

* Includes animal feeds, hiring cattle, etc.

Appendix (B)

The Amount of Loans Advanced by tne State Agricultural Bank and the Amount Repaid, from 1953-54 to 1960-61

(In million kyats)

		From village agricultural banks				Through co-operations			
		Kaukkyi Paddy	Kaing	Short-term	Sugar-cane	Kaukkyi	Kaing	Short-term	Sugar-cane
1953-54	Advanced	1.2	0.1	*	-	3.8	0.2	-	-
	Repaid	1.2	0.1	*	-	3.7	0.2	-	-
1954-55	Advanced	3.5	0.3	*	-	8.2	0.5	*	-
	Repaid	3.3	0.2	*	-	7.0	0.4	*	-
1955-56	Advanced	5.3	0.3	*	*	8.7	0.3	-	0.4
	Repaid	4.8	0.3	*	*	7.7	0.3	-	0.4
1956-57	Advanced	7.6	0.8	*	0.1	9.6	0.2	*	0.6
	Repaid	7.6	0.8	*	0.1	9.4	0.2	*	0.5
1957-58	Advanced	10.3	1.4	0.1	0.1	10.4	0.2	-	*
	Repaid	10.2	1.4	0.1	0.1	10.1	0.2	-	*
1958-59	Advanced	25.4	3.5	0.1	*				
	Repaid	24.7	3.5	0.1	*				
1959-60	Advanced	34.7	8.0	-	-				
	Repaid	34.1	7.9	-	-				
1960-61	Advanced	45.2	12.1	*	-				
	Repaid	40.7	0.6	*	-				

* Less than Ks-50 thousand.

ပြည်တောင်စုမြန်မာနိုင်ငံဗဟိုဘဏ်ရုံးတော်: ၁၉၆၀ ခု ဧပြီ ၁၉၆၁ ခု ဇွန်

SERVICES PROVIDED ON CREDIT BY AGRICULTURAL MECHANIZATION DEPARTMENT.

YEAR ENDING SEPT.30	PLOUGHING AND HARROWING 1/	AMOUNT RECOVERED	AMOUNT OUTSTANDING	% RECOVERY
1963	2.29	1.71	0.58	75
1964	3.05	2.09	0.96	69
1965	5.24	2.36	2.88	45
1966	5.40	3.13	2.26	58
1967	6.91	5.04	1.86	73
1968	7.30	5.67	1.63	78
1969	8.07	6.10	1.98	75
1970	7.14	5.22	1.92	73
1971	6.63	3.33	3.30	50
TOTAL	52.04	34.65	17.38	66

1/ At K18 per acre for ploughing and K12 per acre for harrowing

Source: Agricultural Mechanization Department.

Appendix (D)

Accoounts of the Village Banks

(Million Kyats)

Year Ending Sept.30	Share Capital Deposits	Savings Deposits	Profits Deposits	Total	Payments to Village Banks 1/
1962	1.76	3.01	7.13	11.90	
1963	0.44	1.06	6.16	6.66	2.10
1964	2.12	1.82	4.70	8.64	1.90
1965	3.59	3.57	13.21	20.37	1.99
1966	0.24	1.90	8.70	10.84	1.59
1967	0.19	1.03	5.64	6.86	0.94
1968	0.12	1.49	9.75	11.36	0.91
1969	0.16	1.50	8.46	10.12	1.81
1970	0.13	1.60	7.77	9.52	2.15
1971	0.14	1.68	7.94	9.76	2.26
1972	0.20	1.49	7.24	8.93	3.34
TOTAL	9.11	20.15	85.70	114.96	18.99

1/ Payment made from profits deposits to villages banks for contingency expense and for maintenance of accounts.

Source: Agricultural Finance Division, UBB.

Appendix (B)

VILLAGE BANK LOANS BY CROP

(million kyats)

Year Ending Sept.30	1967	1968	1969	1970	1971	1972	Percent of Loans 1967	Percent of Loans 1972
Paddy	83.8	89.1	103.1	122.7	124.7	126.0	81.4	79.8
Wheat	3.6	2.2	2.0	2.0	2.0	2.1	3.5	1.4
Pesingon	4.0	0.4	0.7	0.7	0.7	-	3.8	-
Cotton	2.7	2.4	4.2	4.8	5.8	7.3	2.6	4.6
Burmese Tobacco	3.2	3.0	3.4	3.6	4.1	4.2	3.2	2.7
Chillies	2.1	2.8	3.0	3.4	3.3	3.4	2.0	2.1
Onions	1.7	1.6	1.8	1.9	2.1	2.3	1.7	1.5
Others	1.9	4.7	6.9	7.3	8.6	12.6	1.8	8.0
TOTAL	102.9	106.1	125.2	146.4	151.4	157.9	100.0	100.0

Source: Report to the People 1972-73

Appendix (F)

Agricultural Loan by Crops

(Kyats in thousands)

Sr.No.	Crops	1975-76	1976-77	1977-78 (Revised Estimates)	1978-79 (Estimates)
1	2	3	4	5	6
1	Paddy	1399	1737	9790	693430
2	Wheat	3172	4548	5523	6075
3	Maize	1060	1227	1817	1999
4	Groundnut	22263	37870	66251	72876
5	Sessamum	3679	4788	12168	13377
6	Pulses and Beans	3361	4219	10779	11858
7	Chilly	2829	3182	3275	3602
8	Ounion	1716	1937	1713	1884
9	Garlic	580	551	573	630
10	Potatoes	543	514	368	404
11	Virginia	547	-	- *	-
12	Burmese Tobacco	2511	2980	2753	3028
13	Seeds Producing - eadiole oil		-	395	434
		43860	65400	115398	809597

Source: Report to the Pyi-Thu-Hlut-Taw 1979-80.

* Since 1978 monson the rate of credit has been increased to Ks. 70 per acre.

* Explorations: The period of pre-monsoon credit's from the first week of February to the last week of March. The period of monsoon credit is from the first week of April to the last week of September. Winter credit is from September to the end of November. Harvest loan is from November to the end of December.

Agricultural Loans

from 1964 to 1978 August.

Sr.No.	Particulars	Loans	Repayment	Balance	Repayment %
1	2	3	4	5	6
1	1964 to 1970 (Monsoon)	854827	707039	87788	89.73
2	1970 Harvest	21568	19666	1902	91.18
3	1970 Winter	14636	14137	499	96.59
4	1971 Monsoon	115178	106059	9118	92.08
5	1971 Harvest	19809	17142	2667	86.54
6	1971 Winter	14983	14252	731	95.12
7	1972 Monsoon	116265	102224	14041	87.92
8	1972 Harvest	7234	5542	1692	76.61
9	1972 Winter	21690	19875	1815	91.63
10	1973 Pre-Monsoon	1333	1029	304	77.19
11	1974 Monsoon	14537	14260	277	98.09
12	1974 Winter	18047	17750	297	98.35
13	1975 Pre-Monsoon	237	119	118	50.21
14	1975 Monsoon	21739	21417	322	98.52
15	1975 Winter	21951	21422	529	97.59
16	1976 Pre-Monsoon	172	82	90	47.67
17	1976 Monsoon	26909	26265	644	97.61
18	1976 Harvest	3	3	-	100.00
19	1976 Winter	37893	34528	3365	91.12
20	1977 Pre-Monsoon	595	502	93	84.37
21	1977 Monsoon	71406	49247	22159	68.97
22	1977 Harvest	122	21	101	17.21
23	1977 Winter	43027	18955	24252	43.87
24	1978 Pre-Monsoon	663	1	662	0.15
25	1978 Monsoon*	724052	34	724018	0.005
		2169056	1271571	897485	58.62

Source: Report to the Pyi-Thu-Hlut-Taw, 1978-79.

Basic Data on Paddy and Rice.

No.	Year	Sown Acrage (Thousand)	Productions baskets	Productions tons	Yield Per Acre (baskets)	procure-ment	procured price	Free Marke price
1	1961-62	11357	3158	6798.0	29.14	1448	312	
2	1962-63	11953	3438	7550.2	30.76	1656	312	
3	1963-64	12475	3730	7667.0	29.92	1950	312	324
4	1964-65	12624	4077	8373.0	32.29	1955	312	320
5	1965-66	12390	3861	7927.0	32.22	1578	312	368
6	1966-67	12328	3181	6531.5	28.50	1035	350	1411
7	1967-68	12193	3724	7646.7	32.02	1091	358	1329
8	1968-69	12402	3845	7896.2	32.67	1429	358	924
9	1969-70	12243	3827	7858.0	33.15	1453	358	508
10	1970-71	12294	3912	8033.0	30.91	1427	358	587
11	1971-72	12500	3918	8045.9	33.28	1080	369	1122
12	1972-73	12014	3528	7240.7	31.58	588	454	1489
13	1973-74	12175	4102	8468.0	34.20	720	600	1842
14	1974-75	12793	4114	8447.8	34.09	1297	900	1675

Sources: Central Statistical Office.

Appendix (I)

Bank Loans Per Acre from 1971 to 1979 (Ks.)

Crops	Monsoon	Winter
Paddy	25 (35)	35
Groundnut	50	50
Sessamum	10	10
Maize	10	10
Cotton	20	20
Potatoes	75	75
Virginia	-	80
Jute	20	-
Pulses and Beans	10	10

Appendix (j)

The Rural Development Activities Caried out by the State Organizations in Cooperation with the People.

(From 1962-63 to 1978-79)

Sr.No	Activities	No: of Activities		Allowance fund Development. (Ks in Thousand)	Contribution by the People (Ks. in Thousand)				Total (Ks. in Thousand)
		New	Repaied		Cash	Value of goods	Value of Labour	Total	
1	2	3	4	5	6	7	8	9=6+7+8	10=5+9
1	Cooperations and Collective Works	564	2	1512	781	29	64	874	2386
2	Agriculture and Land Reclamation	6989	804	32847	3424	613	12604	16641	49488
3	Land Mechanization	12		159	2	2	2	6	165
4	Roads and Bridges	6573	1071	41050	5146	914	14017	20077	61127
5	Water-Supply	5892	898	13460	1780	254	4500	6534	19994
6	Health	1080	55	5309	996	108	798	1902	7211
7	Education	10748	1865	65115	13883	1991	9497	25371	90486
8	Misc:	275	12	770	51	19	261	331	1101
	Total	32133	4707	160222	26063	3930	41743	71736	231958

Appendix (K) (1)

AGRICULTURAL MONOPOLY PURCHASE PRICES 1965-66 to 1967-68

(Contd.:)

	Accounting Unit	1962-63 to 1965-66	1966-67	1967-68 to 1970-71
1. Paddy	Kyat/100 Bskt.			
(a)Ngasein(Ordinary)	"	310.00	340.00	358.00
(b)Meedone(")	"	325.00	355.00	373.00
(c)Emata (")	"	330.00	360.00	378.00
(d)Ngahywe(")	"	385.00	415.00	433.00
(e)Kaukenyin(")	"	300.00	330.00	348.00
2.(a) Jute-first grade	Viss	1.65	1.65	1.65
3. Kenaf				
(a)First grade	Viss	+	+	+
(b)Second grade	"	+	+	+
(c)Third grade	"	+	+	+
4.Long Staple Cotton	100 Viss	155.00	155.00	160.00
5.Mahlaing 5/6	"	120.00	120.00	120.00
6.Wagate	"	100.00	100.00	100.00
7.Wagyi	"	106.00	106.00	106.00
8.Sugarcane	Ton	35.00	35.00	35.00
9.Rubber				
(a)First grade	lb.	0.88	0.88	0.88
(b)Second grade	"	+	+	+
(c)Third grade	"	+	+	+
(d)Fouth grade	"	+	+	+
(e)Fifth grade	"	+	+	+
10. Matpe				
(a) Grade	72lb.BSKT.	12.00	12.00	12.00
(b) Second grade	"	-	-	-
(c) Ordinary	"	-	-	-
11. Pedisein	"	-	-	-
(a)First grade	"	11.50	11.50	11.50
(b)Second grade	"	-	-	-
(c)Ordinary	"	-	-	-

Appendix(K)(2)

	Accounting Unit	1962-63 to 1965-66	1966-67	1967-68 to 1970-71
12. Pesingon	72lb.BSKT.	9.00	9.00	9.00
(a) First gra de	"	-	-	-
(b) Secong grade	"	-	-	-
(c) Ordinary	"	-	-	-
13. Butter Bea ns	69lb.BSKT.	10.00	10.00	10.00
(a) First grade	"	-	-	-
(b) Second grade	"	-	-	-
(c) Ordinary	"	-	-	-
14. Bocate	72.1b.BSKT.	8.00	8.00	8.00
15. Sultani/Sultapya	69lb.BSKT.	8.50	8.50	8.50
16. Peyin	72lb.BSKT.	9.00	9.00	9.00
17. Pebyugale	69lb.BSKT.	8.50	8.50	8.50
18. Virginia (Green)	3.61b.BSKT.	0.45	0.45	0.45
19. Maize Seeds	55lb.BSKT.	4.00	4.00	4.00

+ Data Unavailable

Source: Report to the Pyithulutaw Financial on Economic, and Social Condition; (1976-77) Pp. 124-126.

Appendix (K)(3)

AGRICULTURAL MONOPOLY PURCHASE PRICES 1971-72 to 1973-74

	Accounting Unit	1971-72	1972-73	1973-74
1.Paddy	Kyat/100BSK			
(a)Ngasein(Ordinary)	"	358.00	425.00	600.00
(b)Meedone(Ordinary)	"	372.00	442.00	625.00
(c)Emata(Ordinary)	"	473.00	448.00	634.00
(d)Ngakywe(Ordinary)	"	432.00	514.00	726.00
(e)Kaukkyin(Ordinary)	"	348.00	413.00	584.00
2(a)Junte-first Grade	Viss	1.65	1.65	1.65
3. Kenag			1.20	1.20
(a)First Grade	Viss	1.20	1.20	1.20
(b)Second Grade	"	0.90	0.90	0.90
(c)Third Grade	"	0.30	0.30	0.30
4.Lond staple cotton	100Viss	100.00	160.00	350.00
5.Mahlaing 5/6	"	160.00	160.00	300.00
6.Wagate	"	150.00	150.00	150.00
7.Wagyi	"	160.00	160.00	275.00
8.Sugarcane	Ton	40.00	40.00	40.00
9.Rubber	lb.			
(a)First Grade	lb.	0.88	0.88	1.25
(b)Second Grade	"	0.87	0.87	1.20
(c)Third Grade	"	0.86	0.86	1.15
(d)Forth Grade	"	0.84	0.84	1.05
(e)Fifth Grade	"	0.82	0.82	0.95
10.Latpe	72lb.BSK.	13.00	-	-
(a)Grade	"	-	16.00	17.00
(b)Sedone Grade	"	-	13.00	14.00
(c)Ordinary	"	-	-	-
11.Rediesh	"	1150	-	-
(a)First Grade	"	-	13.00	1..00
(b)Second Grade	"	-	12.00	12.00
(c)Ordinary	"	-	-	-

Appendix (K) (4)

	Accounting Unit	1971-72	1972-73	1973-74
12. Pesingon	72lb.DSM.	9.00	-	-
(a)First grade	"	-	11.00	13.00
(b)Second grade	"	-	10.00	11.00
(c)Ordinary	"	-	-	-
13. Butter Beans	69lb.DSM.	12.00	-	-
(a)First grade	"	-	15.00	18.00
(b)Second grade	"	-	13.00	15.00
(c)Ordinary	"	-	-	-
14. Bocato	72lb.DSM.	8.50	12.00	13.00
15. Sultone/Sultapya	69lb.DSM.	9.50	12.00	17.00
16. Peyin	72lb.DSM.	9.00	12.00	14.00
1 7. Pebyugale	69lb.DSM.	8.50	9.00	11.00
18. Virginia(green)	3.6lb.DSM.	0.45	0.45	0.70
19. Maize Seeds	55lb. DSM.	4.00	6.00	8.00

+ Data unavailable

Source: Report to the Pyidthuhuttaw Financial on Economic, and Social Conditions (1976-77) Pp. 124-126.

APPENDIX (K) (5)

AGRICULTURAL PURCHASE PRICES 1974-75 to 1976-77

(Contd.:)

	Accounting Unit	1974-75	1975-76	1976-77
1. Paddy	Kyat/100BSKT.			
(a)Nyasein(Ordinary)	"	900.00	900.00	900.00
(b)Meedone(")	"	940.00	940.00	940.00
(c)Emata (")	"	955.00	955.00	955.00
(d)Nyakywe(")	"	1090.00	1090.00	1090.00
(e)Kaukmyin(")	"	875.00	875.00	875.00
2.(a)Jute-first grade	Viss	2.15	2.70	3.10
3. Kenaf				
(a)First grade	"	1.20	1.20	1.20
(b)Second grade	"	0.90	0.90	+
(c)Third grade	"	0.30	0.30	+
4.Long Staple Cotton	100 Viss	550.00	550.00	700.00
5.Mahlaing 5/6	"	300.00	500.00	600.00
6. Wagate	"	225.00	400.00	400.00
7. Wagyi	"	275.00	450.00	450.00
8. Sugarcane	"	60.00	100.00	100.00
9. Rubber				
(a)First grade	lb.	1.25	1.25	2.00
(b)Second grade	"	1.20	1.20	+
(c)Third grade	"	1.15	1.15	+
(d)Fouth grade	"	1.05	1.05	+
(e)Fifth grade	"	0.95	0.95	+
10. Matpe	72lb.BSKT.			
(a)Grade	"	22.00	24.00	50.00
(b)Second grade	"	18.00	18.00	+
(c)Ordinary	"	16.00	16.00	+
11. Pedaung				
(a)First grade	"	18.00	24.00	40.00
(b)Second grade	"	16.00	16.00	+
(c)Ordinary	"	14.00	14.00	+
12. Pesingon				
(a)First grade	"	18.00	22.00	30.00
(b)Second grade	"	16.00	16.00	+
(c)Ordinary	"	14.00	14.00	+

APPENDIX (K) (6)

	Accounting Unit	1974-75	1975-76	1976-77
13. Butter Beans	60lb.DSM.			
(a) First Grade	"	25.00	45.00	30.00
(b) Second Grade	"	22.00	22.00	+
(c) Ordinary	"	20.00	20.00	+
14. Bocate	72lb.DSM	16.00	20.00	20.00
15. Sultani/Sultapya	69lb.DSM.	22.00	22.00	30.00
16. Peyin	72lb.DSM.	16.00	16.00	30.00
17. Pebyajale	69lb.DSM.	16.00	20.00	20.00
18. Virginia(green)	0.6lb.DSM.	0.70	0.70	1.40
19. Maize Seeds	55lb. DSM.	10.00	10.00	20.00

+ Data unavailable

Source: Report to the Public Accounts Financial on Economic, and Social Condition; (1976-77) Pp. 124-126.

Appendix(L)

Multivariate - Variate Analysis of Credit and Other Socio-economic Factors

VAR: NAME	REGRESSION COEFF:	STANDARD ERROR		T. STAT.	PART: CORR:	MULTIPLE CORRELATION	E . S . S .	
VARIX 3	1.1804579	.250980 E	0	4.70	0.69	0.935	.740974 e	5
VARIX 4	0.5656675	.144771 E	0	3.91	0.62	0.945	.633186 E	5
VARIX 5	0.1490994	.778543 E	1	1.92	-0.36	0.961	.450788 E	5
VARIX 7	1.0718029	.491550 E	0	2.18	-0.40	0.959	.467877 E	5
VARIX 8	9.3852892	.284311 E	1	3.30	0.55	0.951	.564468 E	5

E.S.S.	.393116 E	5
RESIDUAL ERROR	.396543 E	2
MULT: CORR:	0.966	

VARIX 3 = Cost of Hired labour.

VARIX 4 = Cost of Owned labour.

VARIX 5 = Cost of Production

VARIX 7 = Age of Farmer.

VARIX 8 = Size of Family.

Appendix (M)

Multivariate - Variate Analysis of Technology and Other Socio-economic Factors

VAR: NAME	REGRESSION COEFF:	STANDARD ERROR	T: STAT:	PART: CORR:	MULTIPLE CORRELATION	E.S.S.
CONST:	44.3706506	.759875E 1	5.84	0.76	0.942	.666952 E 4
VARIX 1 - VARIX 5	0.0207204 0.0775886	.888125E 2 .182642E 1	2.53 4.25	-0.42 0.65	0.970 0.613 0.958 0.342	.343577 E 4 .485817 E 4
VARIX 6 VARIX 10	18.4962143 1.6214342	.104392E 2 .66.657E 0	1.77 2.45	0.53 -0.44	0.973 0.650 0.970 0.603	.317576 E 4 .350126 E 4
E.S.S.	.232146 E	4				
RESIDUAL ERROR	.106235 E	2				
MULT: CORR:	0.976		0.698			

VARIX 1 = Income from Others Source.
VARIX 5 = Cost of Production
VARIX 6 = Planned Crop.
VARIX 10= Farm Size.

DURBIN-WATSON D STATISTIC = 1.6719

(D_L = 1.05 , D_U = 1.63)

Appendix (N)

Multivariate - Variate Analysis of Productivity and other Socio-economic Factors.

VAR: NAME	REGRESSION COEFF:	STANEARD ERROR		T.STAT:	PART: CORR:	MULTIPLE CORRELATION		E.S.S.	
CONST:	21.8774217	.663216 E	1	3.30	0.55	0.937	0.344	.308553 E	4
VARIX1-	0.0100154	.696565 E-	2	1.44	-0.28	0.953	0.579	.232759 E	4
VARIX5	0.0373019	.146449 E-	1	2.55	0.45	0.945	0.475	.270770 E	4
VARIx6	17.97[illegible]2266	.884230 E	1	2.03	0.38	0.949	0.533	.250514 E	4
VARIx7-	0.0856761	.13[illegible]204 E	0	0.76	-0.15	0.956	0.610	.219907 E	4

E.S.S	.214981 E	4
RESIDUAL ERROR	.927322 E	1
MULT: CORR:	0.957	

VARI x 1 = Income from other Source.

VARI x 5 = Cost of Production.

VARI x 6 = Planned Crop.

VARI x 7 = Age of Farmer.

DURBIN - WATSON	D	STATISTIC + 1.8027

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၁။ ခင်မောင်ကြည်၊ ဒေါက်တာနှင့်အဖွဲ့၊ အထက်မြန်မာနိုင်ငံကျေး
ရွာ(၃၀)၏ဖွံ့ဖြိုးတိုးတက်မှုကွဲပြားခြားနားခြင်းစာတမ်း၊ သုတေသနကွန်ဂရက်၊ ၁၉၇၂၊
(လက်နှိပ်စက်မူ)

၂။ _____။ သာယာကုန်းကျေးရွာသို့ပြန်လည်ရောက်ရှိခြင်း၊
သုတေသနဌာန၊ စီးပွားရေးတက္ကသိုလ်၊

၃။ မြန်မာ့စီးပွားရေးအခြေပြု၊ စာပေဗိမာန်ပုံနှိပ်တိုက်၊
ရန်ကုန်၊ ၁၉၆၈၊ ရန်ကုန်၊ ၁၉၇၀ခု။

၄။ မြန်မာ့ဆိုရှယ်လစ်လမ်းစဉ်ပါတီ၊ ဗဟိုကော်မီတီဌာနချုပ်၊ တောင်
သူလယ်သမားရေးရာအမှတ်(၅)စာပေဗိမာန်
ပုံနှိပ်တိုက်၊ ရန်ကုန်၊ ၁၉၆၉။

၅။ _____၊ တောင်သူလယ်သမားရေးရာအမှတ်(၆)
စာပေဗိမာန်ပုံနှိပ်တိုက်၊ ရန်ကုန်၊ ၁၉၇၁။

၆။ _____၊ တော်လှန်ရေးကောင်စီ၏တောင်သူလယ်သ
မားရေးရာဆောင်ရွက်ချက်များ၊ ပုံနှိပ်ရေး
နှင့်စာအုပ်ထုတ်ဝေရေးကော်ပိုရေးရှင်း၊ ရန်
ကုန်၊ ၁၉၇၇။

၇။ _____၊ မြန်မာ့လယ်ယာမြေသိမ်းခြင်း၊ အတွဲ၁၊ ၂၊
စာပေဗိမာန်ပုံနှိပ်တိုက်၊ ၁၉၇၀ခု။

၈။ မြသန်း၊ ဒေါက်တာ၊ စပါးဝယ်ယူရေးချမှုကျေးရွာချက်အမှတ်
(၄၈)အပေါ်သုံးသပ်ချက်စာတမ်း၊ သုတေသန
ဌာန၊ စီးပွားရေးတက္ကသိုလ်၊ ရန်ကုန်၊ ၁၉၇၃ခု။

၉။ မြသန်း၊ တင်သောင်း၊ အောက်မြန်မာနိုင်ငံကျေးရွာများ၏
ဖွံ့ဖြိုးတိုးတက်မှုကွဲပြားခြားနားခြင်းများစာ
တမ်း၊ သုတေသနကွန်ဂရက်၊ ၁၉၇၆ခု။