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AGRICULTURAL CREDIT IN THE LESS DEVELOPED COUNTRIES

"A study of the issues and problems affecting the design and implementation of small farmer credit programs in the less developed countries with suggestions for improving performance"

By

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DEDICATED

To my mother, Fatou Njie Mbayang, whose hard work, dedication and guidance made what seemed impossible a reality. Also to my dad, Alieun Njie, who paved the way but never lived to share the pleasures. To these very special people I say,

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=====

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## Chapter I

### INTRODUCTION

#### (1) The Track Record of Economic Development

Throughout the past three decades, since World War II, development has been viewed as an important goal of national life for the poor and rich nations alike. The emerging nations of Africa, Asia and Latin America have come to see development as a continuation of the struggle that has won them independence. Development of these nations is thus often associated with the ever continuing struggle to remain free from alien domination. The post World War II era was consequently characterized by an active pursuit of economic development. As the LDC's plunged into planning for development, the developed nations while pursuing their own goals have shown an even greater tendency and preparedness to assist the low income countries attain their goals of improving the conditions of life for the majority of the poor who seem to have been bypassed by the progress thus far achieved.

Tremendous progress has been made over the past quarter century for in virtually all the less developed countries incomes have risen faster than population with a consequential rise in per capita income. Such rapid growth has been accompanied by dramatic expansion of education systems, growing literacy, improvements in nutrition and health, increasing technological sophistication and structural changes including a growing industrial base and urbanization.

A great deal however still remains to be done. While incomes have risen, the available empirical evidence suggests that a large number of people in the LDC's remain inadequately fed or malnourished, poorly housed and poorly clothed and not provided with adequate medical care. Furthermore many of these countries have not yet completed the transition to modern economies and societies and their growth and development continues to be hampered by a variety of both domestic and international factors.

For many people in the LDC's there has been little or no improvements in living standards while for still others their living standard may even have deteriorated. However there has been a growing awareness and agreement that rapid growth and the alleviation or elimination of poverty are inextricably intertwined and that, development objectives should focus on rapid growth as well as the reduction of the number of people in abject poverty. The record over the past two decades suggests that most countries in the underdeveloped world have either moved or are moving towards these objectives in designing their development strategies.

The obstacles to development in the LDC's are neither homogeneous nor of the same magnitude or degree and the diversity of development obstacles reflects differential endowment with respect to natural resources availabilities, economic structure, social and political institutions, managerial and technical skill availability as well as their relationship with the international economy. With average income per capita hovering around \$250 per annum, alleviation or elimination of poverty will increasingly have to focus on seeking to raise the level of output from agriculture, increase the productivity of both land and

labor, create jobs and thus curb unemployment and raise the wages paid to labor. These tasks are not at all easy and there is a growing awareness that twenty-five years is not long enough to warrant high expectations especially when viewed against the background that most of the countries in Africa attained the status of nationhood in the 1960's.

Since a greater proportion of the population of the LDC's live in the countryside with agriculture as the main source of income and sustenance, greater attention will have to be given to programs that seek to improve the productivity and profitability of the operations of these people.

## (2) Why Small Farmers?

Why is so much attention being given to the small farmers in developing countries? In looking for the reasons for this somewhat belated concern for the welfare of the small farmer, it is perhaps enlightening to begin with an examination of the reasons that have given rise to an increased concern for agriculture in general and later focus on the cause for special concern with the small farmer.

Until very recently (late 1960's and early 1970's) neither agriculture nor small farmers received very high ratings in the minds of development theorists and practitioners. The small farmer was seen as the symbol of backwardness which the developing countries at the time were rejecting in an effort to emulate the developed countries of the West. The mass consumption societies of Europe and North America were regarded as synonymous with development and industrialization was seen as the only key to progress. The emerging countries of Africa, Asia and Latin America emphasized rapid industrialization in their policies with

industrial import substitution as the quickest way to eliminate poverty. Large amounts of scarce resources were devoted to setting up urban industrial activities to the complete neglect of farmers and the rural sector. But because most of these countries lacked a strong economic base to support industrialization policies, costs and prices of the industrial output tended to be high and rising while output and prices from the farm sectors tended to be low or declining for a wide range of reasons. To make matters worse, the existence of overvalued currencies depressed farm prices further -- while benefitting imports of goods for urban consumption -- in so far as the price of such goods were determined by the international market. The inherent weaknesses of the industrial import substitution\* policies were not recognized until the late 1960's or early 1970's when it became apparent that the lag in the output from agriculture constituted a much more important constrain and obstacle to development whether we define development to mean an increase in the welfare of the population or in the very narrow terms of industrial achievement. The role of agriculture as a contributor to exports, to domestic food and raw material supplies and to foreign exchange earnings began to receive increased recognition and priority.

At the other end of the spectrum, improvements in medical science and in health care delivery systems combined to give rise to a rapid growth of populations as a result of declines in infant mortality, death rates and increases in the birth rate. Problems of unemployment have been rising with the rise in the rate of population growth and the need

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\*Industrial import substitution entails the setting up of local industries to produce manufactured goods which go to replace previously imported goods. Such policies invariably tend to have a negative effect on the economy especially when the local economy does not have the base to support it.

to provide productive employment at a rate faster than the rate of population growth for the currently developed countries at a comparable period in their development. But the problems of population growth and the resultant unemployment have neither been uniform nor of the same magnitude for all of the developing countries. Over the period 1950-1975 the growth rate of gross national product has varied widely both within and between countries. Of 72 developing countries surveyed by the world bank, 3 countries (1 percent of the population) showed negative growth rates, 25 (48% of population) had growth rates of between 0-2 percent per year, 33 (with 35% of the population) had growth rates of 2-4 percent while 11 countries representing 15 percent of the population registered average annual growth rate of GNP in excess of 4 percent. At the same time the birth and death rates for the period 1960-1975 have declined from 48 per thousand to 46 per thousand for the former and 26 per thousand to 20 per thousand for the latter. With respect to production the average annual growth rate has been of the order of 3.1 percent although over 50 percent continues to be contributed by the agricultural sector.

Despite this somewhat impressive development performance for all the developing countries put together, Africa's performance has been less impressive. Population growth in excess of the 2.0 percent per year recorded for the developed countries has been observed and in the face of declining per capita food production exacerbated by drought, increasing political instability and rural-urban migration, the problems of development have become even more acute. At the same time, for most countries of Sub-Saharan Africa, the rate of increase of the labor force has far exceeded the capacity to generate productive employment to absorb the ever increasing numbers.

For many African countries new land settlement is increasingly becoming a limiting factor and in those countries where the population growth is even faster, the increasing unemployment in the cities and of underemployment in the countryside are rapidly becoming not only an economic problem but also a source of political instability manifested in an increasing spate of military takeover (or in attempts to takeover) the reigns of Governments in many countries. If present trends continue, the situation can only become worse in the years or decades ahead.

Concurrent with this unhealthy state of affairs, the need to create productive employment in both rural and urban areas of the LDC's has been accelerating but the capital requirement to create more industrial jobs has also been rising. Here too, developments in science and technology as well as the prevalent methods of industrialization have contributed to the problem. While capital intensive technology developed in the western world has been copied or transferred to the LDC's, their effective adaptation to the labor intensive conditions and the product mix they are capable of giving rise to are not likely to be fulfilled under the industrial import substitution policies of the less developed countries.

For Sub-Saharan Africa these situations pose even more formidable problems and consequently, economic development has been slow for most countries over the last two decades. When the world economy experienced a recession in the mid 1970's Sub-Saharan Africa was hit the hardest. Slow economic growth, sluggish or declining agricultural output and productivity, acute balance of payment deficits with fiscal problems in the presence of rapid population growth and unemployment are often dramatic indicators of trouble. Between 1950-1960 per capita incomes in

19 Sub-Saharan countries increased by more than 2.0 percent per year on the average but for the period 1960-1979 per capita income in the same countries had dropped to an annual growth rate of about 1.0 percent on an annual basis, and many countries have begun to experience negative growth rates in per capita income since 1979. With the statistics available (World Development Report 1982) it would not be an exaggeration to say that almost all of the countries in Sub-Saharan Africa are in deep economic and fiscal trouble.

The economic crisis has been even more evident in agriculture. Export crop production has stagnated or declined over the past decade while the 20 percent increase in export recorded during the period of 1960's was completely wiped out by a decline of a similar magnitude in the 1970's. As a result Africa's share of the world market has shown a sharp decline while the increases in requests for food aid for the region is a fairly good indicator of the magnitude of the problems of food self-sufficiency desires of the region. With populations growing by more than 2.5 percent per year but food production only growing at an average of 1.5 percent per year, Sub-Saharan Africa is likely to be dependent on external food supplies for a long time to come unless major changes in domestic economic policies are put into effect.

The decline in the performance of Africa's agriculture has brought in its wake a whole range of fiscal and monetary problems. Current account deficits for the whole region have risen from \$1.5 billion in the 1970's to \$8.0 billion for the 1980's and is getting higher. Concurrently, the external debt has increased from \$6 billion to \$32 billion over the 1970-1979 period while service charges rose from 6 percent to 12 percent of export earnings. Simultaneously, foreign exchange



reserves (adequate to cover up to two months of imports in the 1960-1970 period) have declined sharply for most countries of Sub-Saharan Africa. Many countries have requested assistance from the world bank but as a condition for extending financial assistance, the bank often requires drastic changes in both domestic and external economic policy. Acceptance of some of the conditions for aid constitutes, in the view of many African leaders, a loss of sovereignty and an undue attempt by the bank to interfere in the internal affairs of sovereign nations. Tanzania, for example, chose to reject the conditions stipulated by the bank electing to go it alone. But for how long it can continue to hold out while masses go hungry and deprived remains to be seen.

The problems enumerated thus far have important implications for economic development planning for the LDC's in general and for Sub-Saharan Africa in particular. Identifying the implications, however, constitutes a much simpler task than finding workable solutions. For the LDC's as a whole, it is clear that:

(i) Continuation of past economic policies and programs is not likely to yield an increase in the rate of employment generation that is fast enough to absorb the ever increasing additions to the labor force. New ways and policies have to be found and found fast enough if disaster is to be averted in the decades ahead.

(ii) In the countries in which the rural population is much larger, the chances for creating additional and productive urban employment are at best inadequate to meet even the natural unemployment needs and therefore a large proportion of the population of these countries will continue to live in the countryside. A necessary component of any development policy or strategy will continue to be the search for opportunities

which make it possible to create productive employment in the rural areas with agriculture and related rural non-farm occupations as the most likely candidates.

(iii) Small farmers are almost everywhere the largest number of agricultural producers as well as the majority of the underdeveloped. But there is evidence that they produce more per hectare than large farms even though they produce less per man year than larger farms.<sup>1</sup> Policy measures focusing on increasing output and productivity at the small farm level are therefore called for.

However overconcentration on small farms to the total neglect of large farms, where they exist may have its drawbacks. Evidence exists to suggest that small farmers -- for various reasons -- are slow adopters of new innovation and technology and are typically prone to employ traditional methods of production due among other things to their limited access to financing and a tendency to be more risk averse. Governments have therefore often looked to larger farmers whenever quick results in increasing agricultural production were desired. It cannot therefore be categorically said -- without qualification -- that the small holder sector is the most promising area for improvements in efficiency or productivity. It can however be said that comprehensive, more enduring efforts aimed at increasing the level of agricultural output and productivity must give greater attention to the small holder than has been the case in the past.

Another set of reasons for increased concern for the welfare of small farmers and rural people in general may be traced to the problems

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<sup>1</sup> Donald, Gordon (1976). Credit for Small Farmers in Developing Countries. Westview Press, Boulder, Colorado.

brought about by the erroneous industrial substitution policies of the 1950's and 1960's. The establishment of a small sector of modern industry limited to scope and size by the extent of its market, but sufficiently monopolistic to allow high profits to entrepreneurs and high wages to those workers who could organize to make demands, permit these groups (owners of labor and capital resources) to enjoy a level of living far out of tune to what was available to much of the population. The economic dualism which is thus created by these policies further widened the gap in living standards between the much larger rural (traditional) sector and the far smaller modern sector as subsequent rounds of economic gains (arising out of reinvestment of profits) allow benefits to accrue more to the modern than to the rural sector. Such apparent inequity may pose serious threats to both political and social stability to make governments sufficiently concerned as to seek to improve the lot of the rural mass.

### (3) Why Credit?

Given the arguments advanced in the preceding section, that the development strategy of the less developed countries should focus more on improving the conditions of small farmers, the following question would seem to arise naturally: Why employ credit programs as the vehicle for achieving the desired increases in farm output and incomes?

The fact that the economies of the less developed countries are dominated by small farmers is not in doubt. Ample empirical evidence exists to show that over 80% of the population of the less developed countries is dominated by farm households whose level of operations as well as the proportions of their income generated from farms qualifies

them to be defined as small farmers. It has also been pointed out that attempts to increase output from agriculture are constrained more by a shortage of productive inputs; capital and access to markets than by a shortage of labor. T.W. Schultz<sup>2</sup> in "Transforming Traditional Agriculture," has argued that small (traditional) farmers are efficient but poor and that their poverty derives from the fact that they have exhausted all profitable opportunities to invest in the agricultural factors at their disposal. The implications for agricultural planning therefore are:

(i) That programs designed solely to improve the economic efficiency of traditional farmers are doomed to fail and

(ii) That programs aimed at inducing farmers to increase their investment in the same set of productive factors that they have been employing for generations are not likely to be successful because the pay-offs are too low. Improvements in output from agriculture dominated by traditional (small) farmers must therefore be sought from improvements in the quality of agricultural inputs used and then supplying these at a price which would make their employment in production profitable. But even granting that this type of technology can be made available to the farmers of the LDC there would still remain the problem of obtaining the means of gaining access to the technology. Access to productive technology may be facilitated through direct transfer of the physical inputs in the form of improved seeds, fertilizer, pesticides or farm implements. But direct physical transfer of resources is beset

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<sup>2</sup>T.W. Schultz (1964). Transforming Traditional Agriculture, Yale University Press.

with numerous problems:

(i) There is need for a double coincidence of wants and desires. The resources acquired and stocked by the supply agency must be the same as those required by the recipients (producers). A failure of this requirement to hold would mean that the recipients ability to make a choice of resources to suit his production process would be severely restricted with the result that there will be a loss of efficiency in production. Given the large number of small farmers that are likely to be involved (as recipients) during any production cycle, it is unlikely that any public institution charged with the responsibility to effect the transfer will be able to efficiently discharge the function.

(ii) Physical transfer of productive resources necessarily limits the scope as well as the range of assistance to items directly going into the production process while completely neglecting other needs of the household which are nonetheless very real and as important as those going into production. Examples of the latter group would include school fees for the education of the children of the household, cash requirements to buy food to meet the needs of the household before the harvest is ready and the meeting of the households expenses for ceremonial and other social functions. Miller<sup>3</sup> has shown that of 156 cash loans advanced to small rice and maize farmers in the Kwara state of Nigeria in 1973, 36.6 percent was for payment of additional hired labor during peak periods, 11.5 percent for ceremonial expenses, 20.7 percent to pay children's school fees and only 11.9 percent went into purchasing inputs going directly into production activities such as fertilizers,

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<sup>3</sup>Miller, Leonard F. (1977). Agricultural credit and finance in Africa. The Rockefeller Foundation.

seeds, pesticides and farm implements.

(iii) Direct physical transfer is hardly likely to be the most efficient way of making resources available to producers. There are problems associated with making inputs available on time, and in the quantities and places desired.

Financial credit on the other hand assuming the existence of efficient and competitive markets, is the most universal and flexible way of transferring economic resources. With cash on hand via credit, the recipient can buy anything that is available for sale. When credit is given in kind (physical goods) the agency often has to delineate what items constitute or do not constitute production items. Embarrassing situations are likely to arise, for instance, a farmer may ask for a loan to buy a bicycle which may be used to travel to the next village to visit a fiance or be used to transport produce or inputs to and from the main market town about ten miles away. In the latter usage, the bicycle is clearly a capital investment while in the former usage it may be regarded as an item of consumption. Viewed against the background of the small farmer in the LDC, it is difficult if not impossible to separate the farm household from the farm firm. Thus while goods and services can be transferred to targeted groups by administrative allocation, the transfer can be more easily and efficiently effected through financial credit.

The social efficiency involved depends on the ability of the credit receiver to judge his/her particular needs and to act on them as compared to the capability of an allocation mechanism and also on whether the credit receiver's motives coincide with what is socially desired. Assuming the efficiency of the market, and also that individual rationality

will serve social ends, the efficiency of the transfers of resources via credit is self-evident. Even where these assumptions are not simultaneously or completely satisfied, it can still be shown that guided financial credit is still likely to be more efficient than a pure allocation mechanism specifying the direct transfer of physical goods (Miller 1977).

#### (4) Problem Setting and Need for the Study

The developing countries of Africa, Asia and Latin America have had considerable experience with both commercial and agricultural credit programs. For many of these countries, the experience can be traced as far back as the colonial era when development policy -- both economic and agricultural -- was designed and administered by colonial powers whose interests and motivations did not always correspond to those of the citizens of the countries they ruled over. With the attainment of independence and nationhood status many of the governments chose to continue the programs started by the colonial powers. In some cases, new programs were added or existing ones expanded or broadened in scope in the hope that such action would accelerate or ease the process of economic growth and development.

With the benefit of hindsight, it is now clear that many of the programs were doomed to fail while for many others especially those still in existence, one can at best say that their future is uncertain. The available empirical evidence suggests that some of the programs have failed outright though some have produced mixed results and stand a chance of being improved if only the governments are willing to set in motion the policy changes necessary for their revival. The reasons that have given rise to this poor performance of credit programs particularly

agricultural credit are many and varied but the following stand out clearly.

(i) Little -- if any -- research was undertaken prior to initiation of programs to determine the extent to which credit was a constraint in agricultural production, or to ascertain the type of programs that were most likely to succeed given the social and economic setting of the individual countries. Credit programs were initiated and executed on the basis of certain assumptions which were very popular at the time (a) that people in the LDC's especially farmers, were very poor, did not or could not save and (b) that credit was needed in order for them to adopt new technology and innovation so as to increase their level of output and income.

(ii) In a number of cases, post mortem studies were undertaken only when it became apparent that programs had failed to achieve the objectives for which they were designed. Even these studies were limited in scope because they focused on repayment problems, delinquency and default rates but important issues regarding efficiency of operations, availability of production inputs, procedures for distribution of credit, collection of repayments, level of interest rates to charge or the impact the programs would have at both farm and national levels were often neglected. Other important issues that have not received the attention they deserve include the amount of credit to advance to individual households, the form credit should take, the purpose as well as the extent to which the beneficiaries understood the mode of operation of the programs.

(iii) Credit was often advanced on the premise that there was a set of improved technology waiting to be adopted; that such technology was known to be productive or profitable; that farmers had the capacity



and known-how to use it and that credit in kind -- the composition and magnitude of which was determined by a remote bureaucracy operating from a distant capital city -- was suitable and would be used in the forms given. To what extent are these assumptions valid? Adams (1973),<sup>4</sup> Donald, A. (1976)<sup>5</sup> and Schultz (1964) have shown that in the great majority of cases, the assumptions underlying the design and implementation of agricultural credit programs in the less developed countries are either unfounded, unsubstantiated by data, weak or totally incorrect. Answers to these and other questions and solutions to the problems would certainly help improve the design and implementation of future agricultural credit programs in the less developed countries.

#### (5) Objectives of the Study

The general purpose of this study is to examine the major issues involved in the design and implementation of agricultural credit programs in the less developed countries with particular emphasis on Sub-Saharan Africa. Specifically the study aims at the

(i) Identification and discussion of the major issues affecting the design and implementation of small farmer credit programs in the less developed countries with particular emphasis on Africa.

(ii) Description of the role of traditional/informal credit system prevalent in Africa as a contrast to the formal or institutional credit system.

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<sup>4</sup>Adams, D.W. (1973). Mobilizing Household Savings Through Rural Financial Markets. Economic Development and Cultural Change, Vol. 26, No. 3.

<sup>5</sup>Donald, Gordon (1976). Credit for Small Farmers in Developing Countries. Westview Press, Boulder, Colorado.

(iii) Identification and discussion of the major issues that would have to be addressed and resolved in order that credit programs may be made more effective in meeting the objectives set out for them.

(iv) Description (Case Study) of the Gambia's experience with agricultural credit in order to point out the weaknesses (if any) in the system and thus facilitate improvements in the planning of future programs.

(v) From the lessons that emerge out of this study, recommendations will be made as to how the Less Developed Countries may proceed in a general way to improve the effectiveness of credit programs intended to service the small farmers.

#### (6) Methodology of the Study

Hard core data are difficult to obtain whenever a study of the less developed countries is undertaken and this exercise is no exception. The approach therefore will be more theoretical than empirical although empirical evidence from the Gambia and other LDC's (where such exists) will be drawn upon wherever it helps to clarify a point under discussion.

Chapter I, the Introduction, has traced the record of development in the LDC's over the last twenty-five years in an attempt to uncover the reasons for the increased concern and attention devoted to agriculture in general and the small farmer in particular. The factors responsible for the tendency to employ credit programs to improve the lot of small farmers are further explored while the last portions of this chapter is devoted to a brief overview of the need for the study, the objectives and methodology.

Chapter II, the literature review, examines the major issues in formal and informal credit. The definition of performance and the criteria for measuring performance are reviewed briefly. The role of credit in the development of small farm agriculture is explored in more detail in the third chapter. The financial, economic, social and institutional environment of small farmers is examined closely in an attempt to spell out the proper role that credit should or can play in the development process. Chapter IV undertakes a discussion of the problems of small farmer credit programs in the LDC's. Issues considered here include technology, markets, institutions as well as the mobilization of rural household savings through rural financial markets. The problems of management and the issue of political interference in the operation of credit programs (often neglected in studies of this nature) are given careful attention.

A case study of the Gambian's experience with agricultural credit programs is undertaken in Chapter V with the sole purpose of illustrating the nature of the problems encountered in designing and implementing small farmer credit programs in the LDC's. A review of the nature of agriculture in the Gambia's is provided merely to place the issues under discussion in proper perspective.

Chapter VI summarizes the issues that emerge from the study and offers recommendations to improve the performance of small farmer credit programs in the less developed countries.

## Chapter II

### LITERATURE REVIEW

#### (1) Introduction

Over the past twenty to twenty-five years, following the United Nations' declaration of the first and second development decade in 1960 and 1970, respectively, both multilateral and bilateral lending institutions have become increasingly interested in extending financial assistance to countries that had programs aimed at alleviating the plight of the poor. As a consequence, programs aimed at agricultural development in general and small farmer credit programs (SFCP's) in particular have mushroomed in all of the less developed countries. This reorientation of policy toward programs aimed at helping the poor was brought about in part by the realization, recognition and general acceptance of three important lessons that have emerged out of development experienced of the previous decades:

(i) That the poverty of nations is not immutable and that development can be attained, albeit with some difficulty.

(ii) That the disparity of income between the developed nations (DC's) and developing nations (LDC's) as a whole and among the developing nations has increased.

(iii) That development and higher rates of growth do not necessarily provide proportionate increases in employment or reduce income inequality between the different segments of society within a given country; and

that programs focusing specifically on the poor were needed and called for. A second reason for this reorientation of policy stems from the assumption that financial resources were regarded as critical to increasing agricultural production.

Consequent upon this reorientation of policy towards the poor, large amount of funds were channeled into agricultural and agricultural credit programs. The largest single contributor of funds to these activities has been the world bank followed closely by the Inter-American Development Bank (IDB), the Asian development bank and the African development bank. Donald, Gordon (1976) has recorded that average annual lending to agriculture by the bank was \$25 million between 1964-1968, \$350 million between 1968-1973 and by 1974 the average was well in excess of \$500 million. Between 1961 and 1972 the Inter-American Bank for similar lending activity averaged \$50 million a year but this has been growing since. The Asian and African development banks (the smallest of the group) have averaged \$20 million and \$2 million, respectively, over the period 1966-1972. In another study, Adams and Ladman (1978)<sup>6</sup> reported that the total amount of agricultural loans advanced to eighteen Latin American countries was \$3,282 billion in 1960, \$6,316 billion in 1968 and \$8,789 billion by 1973.

Much of the increased eagerness could be traced to several factors amongst which the Schultztian hypothesis that "traditional farmers were efficient but poor" was an important contributor. Because of this hypothesis, it was assumed that credit would enable small farmers to

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<sup>6</sup>Adams, D.W. Ladman, JR. (1978). Structure of Rural Financial Markets in the Dominican Republic. Unpublished study prepared for USAID/Dominican Republic.

finance the acquisition of new technology thereby improving both their social and economic condition. Schultz, however, emphasized investments in human capital as a way of ensuring that farmers were sufficiently prepared and able to use credit and technology profitably and that the proper social and economic environment for profitable exploitation of opportunities were put in place.

## (2) Major Issues in Formal Credit

A credit system whether developed to service agricultural or commercial customers must of necessity be viewed as an integral part of the financial markets. Financial markets exist primarily to facilitate the process which consists of creating the requisite economic and institutional environment within which funds may be transferred (at minimum costs) from those who have the funds but lack profitable investment opportunities to those who have the necessary investment opportunities but lack the funds to take advantage of them. Any interference (political, social or economic) which prevents financial markets from being able to effect the transfer process constitutes a potential source of inefficiency at substantial costs to society.

### Financial Markets

The developing countries for political, demographic or economic reasons are generally characterized by the absence of well functioning financial markets to facilitate this transfer process which many development theorists argue, is essential to their development. However, since the bulk of the population in the LDC's is rural with agriculture

constituting the dominant sector of their economies many governments have over the past several decades resorted to establishing specialized financial institutions especially agricultural credit agencies to fill the void by helping to service the rural poor to enable such recipients to take advantage of opportunities which may exist in agriculture. There is ample evidence in the literature that many of the agricultural credit institutions have failed completely while many more remain perpetually dependent upon central bank or government subsidy even for continuation of operations. The somewhat unpleasant experience with agricultural credit institutions throughout the LDC's raises a number of issues regarding the goal or objectives of agricultural credit institutions, organization and structure, management and staffing, degree of participation by the clientele they are supposed to serve, the nature and type of services provided to their clients, competitive capacity with respect to existing informal lenders and degree of independence from government support and control.

#### Goals and Objectives

With respect to goals and objectives of agricultural credit institutions, there is no agreement as to what role or specific place they should occupy in the economies of developing countries. Uma Lele (1974) argues that an agricultural credit system must facilitate the free flow of economic resources between sectors, among regions and among income classes in order to bring about an efficient allocation of scarce resources. Other scholars notably Ronald Tinnermeier (1973)<sup>7</sup> observe that

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<sup>7</sup>Tinnermeier, R. (1973). Technology, Profit and Agricultural Credit. Spring Review of Small Farmer Credit USAID, Washington, DC.

an agricultural credit system can serve to (1) mobilize loanable funds for the economy; (2) supply these loans for the acquisition of productive assets; and (3) provide technical assistance at the farm level.

Implicit in this argument is the notion that credit should be provided only for production purposes. It, therefore, tends to break down when attempt is made to apply this approach in an LDC setting where consumption and production decisions of small farmers cannot be separated into watertight compartments and must therefore be considered together. Gordon, Donald (1976) holds the view that "there may or may not be any increases in production following the initiation of a credit program." He argues that for a credit system to succeed, more than money is required. That there must be new technology, markets that supply inputs and absorb additional outputs, institutions willing to lend to small farmers on terms they (farmers) consider to be attractive and most important farmers who are willing to borrow, invest and repay loans. A close examination of the conditions in developing countries will reveal that many of the conditions required by Donald's argument were not satisfied prior to setting up of credit institutions. If one accepts this point of view, it would not be difficult to understand why LDC's as a whole have had so much trouble or difficulty setting up institutions which were doomed to fail from the onset.

In another article reminiscent of Rostow's stages of growth theory, Singh (1973)<sup>8</sup> puts forward the position that the role of credit

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<sup>8</sup>Singh, I.J. (1973). The Need for Flexibility in Small Farmer Credit Programs. Spring Review of Small Farmer Credit. USAID, Washington, DC.



changes over time reflecting the technological phases of development society (a country) is in. Singh then outlined three phases of technological development during each of which agricultural credit should play a well defined set of roles.

Phase I of this technological ladder is characterized by the unavailability of new technology with farmers employing a purely traditional or subsistence type of production system. In this phase, credit is supposed to (1) drive interest rates down, (2) reduce the dependence of small farmers on high cost monopolistic money lenders, (3) reduce the monopoly profits of informal lenders and that there is no need to subsidize credit.

Phase II, or the transition phase, is characterized by a move towards the adoption of technology. In this phase, the role of credit is to (1) mobilize funds and provide large amounts to meet rising demand, (2) prevent interest rates from rising (since this could interfere with adoption of technology) in order to facilitate the adoption of technology, and (3) establish rural institutions to replace high cost monopolistic lenders. He suggests that during this phase, credit should be tied to technology as a condition for extending it.

In Phase III, marked by adoption of technology, the role of credit is (1) to strengthen credit institutions, (2) mobilize savings and (3) expand farm incomes so that rural credit institutions can become self-supporting in order to facilitate the phasing out of special programs.

There are several problems implicit in the arguments advanced by Singh. In the first place, it is doubtful whether the three phases of technological development can be identified and their boundaries

sufficiently demarcated in order to determine what credit programs to set up. Technological development is not marked by well defined stages. Secondly, in Phase I, unless credit is supplied to satisfy consumption needs, its role in the development process would not at all be clear.

Finally, it is implicit in Singh's technological phases of development that development must be undertaken in a step-by-step fashion with some needs satisfied during one phase while others are deferred until a later stage. If this were so, development economists and heads of government along with their planners would have had a really easy life. Fortunately, it is now widely recognized and generally accepted that for progress of any form to be made, a society must simultaneously address and resolve a whole set of interrelated and often conflicting factors which act as constraints to economic growth and progress. And while it is often much easier to identify the basic constraints to progress, there is no agreement regarding the steps that have to be taken to resolve them. It may well be that resolution of one set of constraints may only help to expose further constraints.

Von Pischke (1973) and Gonzalez-Vega (1976)<sup>10</sup> have adequately pointed out that for credit institutions to operate effectively and efficiently, fundamental changes are needed in the policy and economic environments within which they must operate. Such economic and policy changes should seek to eliminate the distortions put in place by monetary and fiscal policy as well as price control regulation. Such distortions often create adverse terms of trade for local agricultural

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<sup>10</sup> Von Pischke (1973). Farm Credit in Kenya. The Poor Farmers Paradox. Unpublished study, Institute of Development Studies, University of Nairobi, Kenya, Sept. 10th.

producers while favouring foreign suppliers. They may also favor industry while penalizing agriculture with the result that credit institutions serving agriculture suffer.

### Organization and Institutional Structure

The question of organization and institutional structure has received wide attention in the literature over the last decade or so. While the discussions rage on, the issues of institutional structure and organization continue to impede the proper operation of credit programs in almost all the LDC, and many reasons can be cited for this state of affairs. Over the years developing countries have set up various types of institutions to service the credit needs of their farmers. Among these can be included (1) Agricultural development banks with branch offices; (2) Regional development agencies or pilot projects with a credit function; (3) Private cooperative societies supported by a cooperative bank; (4) Produce marketing agencies with some credit function, and many more. For many developing countries, credit institutions change over time as government brings increasing pressure for a new emphasis within an institution or shifts emphasis from one type of institution to another. While it is generally accepted that no one institution is the answer to all the problems a country may face, there are certain basic factors which must be considered before any one form of institution or set of institutions is decided upon.

In the first place, the goals, procedures and evaluation criteria must be clearly spelled out, specific and understood by all those who would participate in the program. In a great many cases, goals have been poorly defined, e.g., development of small farmer situations, while

in others they were so broadly and vaguely stated as to include every conceivable goal that might be envisioned by a developing country. The result is that administrators, policy makers and clientele were so confused that neither group knew which goals were to receive priority or what the institution, in fact, was supposed to do.

Of equal importance, many policy statements setting up credit institutions fail to define specifically how success was to be measured or who should do the evaluation. In numerous instances, institutions were charged with the responsibility of increasing the net income and productivity of small farmer yet no one bothered to collect "before" and "after" farm level data to use in evaluations at a later date. Furthermore, operational procedures are often conspicuously absent from policy documents leaving both management and the clientele unclear as regards to the methods or criteria to employ in distribution of credit.

#### Personnel and Management Issues

For many developing countries, the problems of competent management and adequate well trained staff continue to exist. More often than not, managers of credit institutions have been appointed simply because they hold a college degree of one sort or another. In too many instances, such managers have an urban background, are totally unfamiliar with the problems of farming or rural life and therefore, totally out of tune with the problems and desires of the people they are required to serve. This type person has little appreciation for the viewpoints of the clientele and they often doubt his decisions and procedures because of his different background.

Because of this problem, many experts in the field have suggested the use of para-professionals. The approach would involve the training of a promising local person to become a credit manager or fieldman without having to obtain a college degree or even a college education. While this idea has merits, it also raises the problem that the local personnel recruited and trained to serve may feel discriminated against by being required to serve only in the rural areas which often have poorer educational facilities for their children or poor social and recreational amenities.

Somewhere between the two extremes of urban college trained managers and the rural locally trained manager a compromise could be sought. This would require all personnel to be recruited as cadet managers to be rotated over many rural branch offices before being finally confirmed in their appointment. Confirmation in a managerial capacity could be made contingent upon proven ability and performance rather than mere possession of a college degree.

#### Decision Making Levels

The levels at which decisions are made constitutes a major area of problems and difficulties. Many institutions in the past and even now have failed to tackle this issue effectively. A diffusion of decision making authority may lead to excess paperwork on the one hand or to multiple levels of decision making. Having so many different levels of decision making before loans are approved may lead to (1) untimely release of loans, (2) creates the opportunity for political interference in the procedures of the institution, and (3) high administrative costs and inflexibility of programs.

A top-down approach to implementation of small farmers credit programs has been a major source of problems. Too often, the board of directors of credit agencies are selected from high ranking government officials from the ministry of agriculture and finance or the banking and commercial communities in the capital cities. Clientele participation in decision making is noticeably lacking with the result that programs become "their" rather than "our" program. Clientele participation can serve two major functions essential for success:

(1) it facilitates effective communication between management and the clientele with the result that goals, objectives and procedures are fully understood by all;

(2) participation through purchase of stock, requiring minimum deposits or positions on the advisory board facilitates support and helps create the "our" rather than the "their" feeling among the clientele.

#### Nature and Type of Services Provided

Finally the type, extent, and nature of services provided the clientele are important. Many institutions were established to fill only one or a small number of the farmers' needs, i.e., production credit, or commercial credit institutions. The farm households' needs, however, cannot be easily categorized into either pure consumption or production. Some institutions while filling a need for credit, fail to provide attractive savings and deposit facilities for their clientele and therefore condemn themselves to total and perpetual dependence upon the support of central banks or the finance ministry.

Part of the problem may be explained by government policy towards chargeable interest rates on agricultural loans, but part is due to the belief that farmers are too poor that saving capacity does not exist in the countryside. As a result, credit institutions fail to tap a useful source of operating funds that exist in the rural areas.

The very narrow range of services provided by credit institutions affects their ability to survive the competition of informal local lenders. Local informal lenders are known to provide their clients with a wide range of services which helps create an atmosphere of confidence and understanding. In addition, their superior knowledge of the people they serve vis a vis the formal lenders gives them a superior advantage in the evaluation of default and repayment risks and, hence, enables them to charge a rate that ensures the coverage of all their lending costs.

#### Level of Interest Rates

In developing agricultural credit programs, low income countries have employed highly subsidized interest rates as a method of inducing small farmers to adopt the use of credit. But a large number of experts have criticized these policies on several grounds. For example, Adams (1980), Gonzalez-Vega (1976-1977) and Bottomley (1975) have argued that subsidized interest rates are counterproductive because they introduce distortions which discourage savings, and capital accumulation, bringing about the fragmentation of financial markets and introduce inefficiencies in resource allocation. These distortions may also exacerbate the disparities with respect to asset (property) ownership and income

distribution. All of them advocate flexible and positive real rates to avoid these problems.

### (3) Major Issues in Informal Credit

In the face of numerous criticisms and often outright condemnation of the attitudes, behavior and practices of informal lenders (local money lenders, village merchants, produce buyers and dealers) in the countryside, the question may logically be posed: Why study informal credit institutions? In the previous chapter, it was pointed out that an understanding of local institutional structure, organization and mode of operation is essential to the design and implementation of a successful credit program to service the needs of small farmers in the countryside.

Brake (1973), for example, suggests that a credit institution must fit the purpose, situation and culture or at least should not run counter to the values and traditions of society. He further argues that a credit institution is not likely to be successful in a society where no penalty for default or delinquency exists. In another article, Tinnermeier and Dowsell (1973) have put forward the position that social change requires among other things an understanding of the setting within which the individual as well as the institution must operate.

Most importantly, however, we undertake a study of informal institutions to gain hard facts with which to plan the design and subsequently implement a program. For example, many of the credit institutions in almost all the developing countries were set up without savings facilities on the simple assumption that rural people were too poor to save,



or could not save. Consequently, credit institutions have continued to depend on government funding as a source of supply of funds which is, in turn, largely responsible for the untimely release or approval of loans since such institutions are not in a position to act on their own unless government gives the signal that funds are available.

Adams (1973) citing evidence from Taiwan, Korea and Zambia argues that substantial saving capacity exists in the rural areas and that credit institutions if they are to be free from political manipulations and compete effectively with informal lenders must offer attractive saving services to their customers. To do so, however, would require an ability to mobilize the substantial savings potential of the countryside. Other economists do not agree. For example, L. Harlan Davis (1973) counters by saying that only a very limited saving potential exists in the rural areas.

The question of the practices of informal lenders is one issue that has received wide attention in the past several decades from economists, government officials and common citizens. The general belief is that local informal lenders are exploitative, charge usurious interest rates and are, therefore, not acting in the interests of the small farmer. Interest rates of between 50 and 100 percent are often used as evidence in support of the widespread condemnation of their behavior. The problem is that while the debate rages on, small farmers continue to use the services of informal lenders and have been known to express preference for the informal lenders over the formal lending institutions (Nisbet 1973). In a survey of 200 Chile farmers in 1967, Nisbet found that 44 percent did business with informal lenders, 45 percent used the services of formal credit agencies, while 25 percent

used both systems. The survey also revealed that 74 percent of farmers borrowing from informal sources were landless operating holdings of less than 12.5 acres.

Because of higher risk and collection costs associated with small borrowers, interest rates charged were related to farm size with the highest rates being paid by those who did not own any land. He concluded that usurious interest rates were charged in the commercial segment of the informal credit-market composed by money lenders, shopkeepers, produce buyers, merchants and dealers. He, therefore, attributed observed high interest rates to market-imperfections which ranged from being oligopolistic to outright monopolistic in operation.

Matlon (1977) observed most borrowing in the informal market (Northern Nigeria) occurred between May and August. This is not surprising since it corresponds to the period when most poor households would run short on cash reserves, would need to pay operating expenses for seed, fertilizer or even hired labour in order to carry out operations on their farms. Matlon also found that the mean annual interest rate was about 142 percent for those repaid in kind, although the poorest 40 percent did not pay any interest (a practice consistent with Islamic teachings to help shelter the poor).

Despite the "usurious" interest rates charged by informal lenders, government attempts to destroy the monopolistic control they appear to have over lending to small farmers has remained largely unsuccessful and informal lenders continue to corner the small farmer credit market. There are several reasons responsible for the success of informal lenders and these will be explored in greater detail in Chapter IV.

This brief review of issues in informal credit has helped outline, even if vaguely, some of the issues that have to be addressed if formal credit programs are to perform better than they have done in the past. However, hard facts about the operation of the informal lenders continue to be lacking, thus, pointing to a need for more research on the informal system. Data thus obtained might sharpen an understanding of small farmers economic behavior and, hence, enhance our ability to design credit programs that would more adequately meet his needs and those of society.

#### (4) Defining Performance and Criteria for Evaluating Performance of Credit Programs

The Webster dictionary defines performance in a variety of ways: (1) the execution of an action; (2) something accomplished, i.e., deed or feat; (3) fulfillment of a claim, promise or request, i.e., implementation; and (4) the manner of reacting to a stimuli, i.e., behavior. Implicit in all of these definitions is the notion of a goal(s) or objectives against which we evaluate/measure the degree to which the program comes towards the attainment of its goals or objectives. Unless we have established specific goals or objectives for any program, evaluation of performance will be of very little use.

The literature review has pointed out that the overriding goal or objective of an agricultural credit system is to facilitate the smooth transfer of economic resources across sectors, regions of a country and among income classes in order to bring about a more efficient allocation of scarce resources. The performance of a credit system may thus be evaluated by examining (1) the effectiveness of the program in

mobilizing funds which may be used to extend loans; (2) the degree of efficiency with which it distributes those funds in a cost effective way and on timely basis; and (3) efficiency of collecting repayments.

At another level we may evaluate performance by evaluating the degree to which the program attains the goals it has set out to accomplish, i.e., increases in farm income. This, of course, would require the gathering of "before" and "after" farm level data to be able to isolate the impact it has had on the income of those farmers using the program. Increases in food or crop production may also be evaluated but here, too, before and after farm level data are essential. Mobilization of funds may be evaluated by examining the size and rate of growth or demand or time deposit accounts that the beneficiaries of the program or other residence of the area have opened up with the agency of the program provided, of course, facilities exist to provide such services to the clientele. For example, during the latter part of the 1960's, the University of Nottingham did intensive case studies of 239 households in Zambia. Detailed accounts were kept on important economic activities. At the end of the 2 year period of study, it was found that 30 percent of household income was saved. In another case, cooperatives in Kenya began to deposit members' receipts from sales of coffee in unblocked savings accounts (von Pischke 1973). At the end of the coffee buying seasons, officials of the cooperatives were surprised by the large amounts which were left in deposit for long periods of time. By 1978, deposits in these cooperatives far exceeded the volume of funds lent by the Cooperatives, thus giving further support to the idea that credit institutions can benefit by providing depository type facilities for their clientele. The savings mobilization

objective is achieved if it can be shown (*ceteris paribus*) that deposits are large enough to enable the program to stand on its own feet rather than depend on government or central bank subsidy.

Repayment rates may also be used as a measure of performance since non repayment of loans constitutes one sure way of forcing a credit institution into bankruptcy. Repayment may be measured by

(a) Collection ratio: volume of loans collected as a percentage of volume of loans due (on a yearly basis).

(b) Percentage of loans in arrears: Here we compare the size of the loan portfolio with the proportion of loan portfolio in arrears at any given time.

(c) Proportion of borrowers meeting repayment obligation may also provide a useful indication of repayment rates. This may be evaluated by comparing the number of borrowers who have loans falling due with the number of borrowers who actually repay loans at their due date.

As a third measure, the cost per unit (dollars or other monetary yardstick) of loan extended may provide an indication of the degree of efficiency attained by the program in extending loans to farmers. Credit institutions that are not able to extend loans at the lowest possible cost (given competition from other lenders) will sooner or later be forced to close unless they resort to being under perpetual subsidy from other sources.

Impact of the credit system on income or output of the farmers using credit may be compared to those of nonusers. Alternatively, we may compare farmer's income/production "without" credit to income/production "with" credit to determine whether or not the program has had any impact. Unless the system can be shown to provide positive benefits

to users, their continued use of the services provided by the program may be in jeopardy.

Finally, it is also necessary to examine the equity issues, i.e., who benefits and by how much? In a number of cases, credit programs have been set up to service small farmers, i.e., the group often excluded from the credit market by institutional lenders like commercial banks. Too often programs end up channeling more funds and services to large and rich farmers, or petty traders rather than the small farmer. The equity issue may be approximated by measuring the proportion of loan portfolios going to the small farmers as opposed to the large farmers -- whichever way we defined small farmers. Since the objective is to service small farmers specifically, it has to be shown empirically that a higher percentage of loans (greater than 50%) goes to the small than large farmers. Also that the dollar amount of loans going to the small farmers should be greater than that going to larger farmers.

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Chapter III  
ROLE OF CREDIT IN THE DEVELOPMENT  
OF SMALL FARM AGRICULTURE

(1) Performance of Small Farm Credit Programs in  
the Less Developed Countries

Agriculture is the dominant sector of almost all of the less developed economies of the world and the small farm dominates the agriculture of these economies although large farms and plantations may exist. The contributions and responses of agriculture in general are therefore of concern to policy makers, political leaders and citizens alike. Especially relevant are the contributions and responses of small farms to economic growth and development in the LDC's. But for the agricultural sectors of the LDC's to be able to make significant contributions to growth, improvements in technology are required. Technological improvements require substantial investments in human capital (education and training) and in such capital and infrastructural improvements as machinery, transportation, communication, research, efficient markets for farm inputs and products as well as investments in farm operations at the small farmers level. In examining the role that credit can play in the latter process, Baker (1973) observed that:

"Most small farm credit programs are narrow in terms of small farmer concerns and broad in terms of national concerns. By confining loans to production use credit policies invite outright rejection or misuse by the small farmer. Made to carry wider infrastructure reform, they are limited in outreach and permanence because of excessive cost and incompatibility: Cultural, institutional or both."



In another paper, Adam (1973) noted that: "With a few exceptions formal credit programs in the LDC's have performed very poorly and that despite the infusion of tens of billions of dollars over the past two decades, only a small portion of the rural population currently has access to formal credit-savings services. Moreover, many of the agricultural credit systems have been constantly in danger of decapitalization because of default, capital erosion due to unrealistic interest rates and/or very high costs of administration and supervision." At least three reasons have been advanced to explain the lack of access to formal credit by the rural poor. Lipton (1976) feels that urban interests conspire against the rural poor and deny them access to significant amounts of formal credit. Gonzalez-Vega (1976), on the other hand, focuses on supply allocation problems within financial institutions pointing out that wide use of concessional interest rate policies and large lender loan transaction costs for extending loans to small borrowers, discourage financial institutions from lending to the rural poor. In an insightful article, Adam, D.W. and Nehman, G.I. (1979) have argued that differential borrowing costs strongly affect the willingness of the rural poor to seek loans from formal lenders. In order to gain better understanding on the poor performance of small farmer credit programs in the LDC's it is necessary to examine the issue of borrowing costs further.

### Borrowing Costs

In properly functioning market interest rates represent the price borrowers pay for the use of borrowed funds. In the LDC's, however, borrowers often incur additional expenses over and beyond the interest

charged by the lending institution. Borrowing costs, therefore, include three distinct elements. The nominal interest payment made to the lender ( $r$ ), additional loan transaction costs ( $t$ ) and changes in the purchasing power of money ( $\Delta p$ ). Very often  $r$  and  $t$  can be accurately predicted by the borrower while estimates of  $\Delta p$  are likely to depend on the borrowers expectations regarding changes in the inflation rate. Expected total borrowing costs ( $BC^*$ ) can be represented as:

$$BC^* = r + t - \Delta p^*$$

where  $\Delta p^*$  represents expected changes in price over the period the loan is outstanding. The available empirical evidence suggests that borrowers in the LDC's do not ignore  $t$  and  $\Delta p^*$  in making loan demands from formal lenders.

Borrower transaction costs are affected by such factors as travel expenses to and from the office to negotiate the loan, application fees, bribes, forced purchases of other services provided by lenders, service fees, compensatory balances and loan closing costs. By far the largest component of transaction costs is borrowers' time and travelling expenses spent in going to and from the office. This may become even more significant when it occurs during peak periods of work as at planting or harvesting. Based upon a study of 2500 farmers in Bangladesh in the early 1960's, Shahjahan et al. found that borrowing costs varied widely with the size of the loan requested, the period the loan is outstanding as well as whether the borrower was doing so for the first time or was a repeat borrower.

From Table 1 it can be observed that interest costs made up less than half the borrowing costs for both 6 and 12 months loans but were

Table 1  
Farmers costs of borrowing in Bangladesh  
from the agricultural development bank 1962-63  
by loan-size groups

1	2	3	4	5	6	7	8
Ave. size of loan in rupees	Loan trans- action costs <sup>d</sup> (in 1963 rupees)	Interest costs if loan held		Interest costs as % of total borrow- ing costs		Effective annualized costs of borrowing % of loan	
		for 6 months <sup>b</sup>	for 12 months <sup>b</sup>	for 6 months <sup>c</sup>	for 12 months <sup>d</sup>	for 6 months <sup>e</sup>	for 12 months <sup>f</sup>
		(in rupees)		%	%	%	%
50	16.73	1.75	3.50	9	17	74	40
150	25.54	5.25	10.50	17	29	41	24
250	30.70	8.75	17.50	22	36	32	19
350	38.18	12.25	24.50	24	39	29	18
450	43.59	15.75	31.50	27	42	26	17
550	70.62	19.25	38.50	21	35	33	20
650	56.20	22.75	45.50	29	45	24	16
800	67.10	28.00	56.00	29	45	24	15
1000	67.51	35.00	70.00	34	51	21	14
1300	68.58	45.50	91.00	40	57	18	12

Source: Adapted from Shahjahan [1968 p. 77].

<sup>a</sup>Transaction costs include application fees, travel expense, etc.

<sup>b</sup>In 1963 Agricultural Dev. Bank of Pakistan charged 7% of p.a. on all agricultural loans.

<sup>c</sup>Column 3 divided by columns 2 plus 3.

<sup>d</sup>Columns 4 divided by columns 2 plus 4.

<sup>e</sup>(Columns 2 plus 3 divided by columns 1) X 2 to convert to an annual rate.

<sup>f</sup>Columns 2 plus Columns 4 divided by Column 1.

<sup>g</sup>In 1963 4.792 rupees was equal to U.S. \$1.0.

much larger for borrowers in the largest loan size groups. On 6 month loans, interest costs made up 40 percent of borrowing costs and 57 percent on 12 month loans. Also the effective annualized interest costs dropped sharply with an increase in the size of loans. Borrowers of 50 rupees (US \$10) incurred 74 percent interest on a 6 months loan but 40 percent on a 12 month loan. For an identical period borrowers of 1300 rupees (U.S. \$270) the effective interest costs were 18 and 12 percent on 6 and 12 month loans, respectively. However, because transaction costs are often fixed for a given loan size, the effective annualized cost of borrowing a given amount at a fixed interest rate tends to decrease as the duration of the loan increases.

In another study of 150 farmers in the Sao Paulo State of Brazil, Nehman (1971) found a similar pattern to that observed by Shahjahan in Pakistan. The results of the Nehman study are summarized in Table 2.

These figures reveal that borrowers in the smallest farm size group (0-20 hectares) acquired transaction costs of 109 cruzeiros while borrowers in the largest farm size groups (over 50 hectares) incurred transaction costs of 144 cruzeiros.

On the other hand, interest charge as a percentage of direct borrowing costs increased with loan size. On a 6 months loan on the 0-20 hectare borrower group, interest charge made up 29 percent of borrowing costs while for a 12 month loan in the same size group they made up 45 percent of borrowing costs. For the largest borrower category interest charge made up 76% and 86% of borrowing costs for the 6 and 12 month loans, respectively. The annualized direct costs of borrowing varied inversely with the loan size. Small amount borrowers paid rates of 44% and 29% on 6 and 12 month loans, respectively, while the borrowers of

Table 2

Farmer costs of borrowing from formal sources  
in the state of Sao Paulo, Brazil in 1971  
by farm-size groups

1	2	3	4	5	6	7	8	9
Farm size in hectares <sup>a</sup>	Average loan size (in 1971 cruzeiros) <sup>b</sup>	Average transaction cost of getting loan <sup>b</sup>	Nominal interest payment <sup>c</sup>	Interest charge as % of direct cost of borrowing	Interest charge as % of direct cost of borrowing	Interest charge as % of direct cost of borrowing	Annualized direct costs of borrowing as % of loan amt.	Annualized direct costs of borrowing as % of loan amt.
			6 months	12 months	6 months	12 months	6 months	12 months <sup>g</sup>
0-20	680.00	109.00	44.20	88.40	29	45	44	29
21-50	3665.00	178.00	238.23	476.45	57	73	23	18
Over 50	6871.00	144.00	466.62	893.23	76	86	17	15

44

Source: Adapted from Nehman [1937, p. 78].

<sup>a</sup>One hectare equals 2.47 acres.

<sup>b</sup>In 1971 one cruzeiro equalled US \$0.20.

<sup>c</sup>Assumes average nominal interest charge of 13% p.a. on loans.

<sup>d</sup>Columns 4 divided by columns 3 plus 4.

<sup>e</sup>Columns 5 divided by columns 3 plus columns 5.

<sup>f</sup>Columns 3 plus columns 4 divided by columns 2 multiplied by 2 to convert to annual rate.

<sup>g</sup>Columns 3 plus columns 5 divided by columns 2.

large amounts faced rates of 19% and 15% on their 6 and 12 month loans. These computations do not, however, make any allowance for inflation. But given an average annual inflation of about 20% Adams (1979)<sup>11</sup> for Brazil over the period of the study, large borrowers would experience negative real rates, medium amount borrowers experienced real rates of interest close to zero while borrowers of small amounts experienced positive real rates of interest. A third study by Villamil on a sample of 63 Columbian farmers operating holdings which averaged less than 20 hectares has produced evidence which supports the findings of Nehman and Shahjahan.

The limited scope of the empirical information presented above does not permit anyone to draw wide ranging conclusions or make policy prescriptions aimed at making small farmer credit programs more effective. However, the information thus far available does seem to suggest that small farmer credit programs in at least some of the LDC's have performed poorly and that to a large extent the non use of formal credit by small farmers, the high rate of default associated with what credit has been extended or the non use of credit to speed up the adoption of technology or new innovation may be explained by the very high borrowing or lending costs associated with financing the small farmers. It should not be surprising to find, therefore, that many of the credit programs established to assist small farmers end up channelling cheap funds or income transfers to large estate operators, urban entrepreneurs or those within the rural areas who have the political clout and connections to gain access to public credit agencies and funds.

<sup>11</sup> Adams, D.W. (1979): Borrowing Cost and the Demand for Rural Credit. Journal of Development Studies, Vol. 15, 1979.

## (2) Credit in the Development of Small Farm Agriculture

The arguments concerning the specific role of credit in the development of small farm agriculture has gone on for quite a long time. The lack of unanimity as to the specific role of credit reflects to a large extent the complexity of the environment within which small farmers in the LDC's have to operate as well as the lack of a complete understanding of the functioning of the various components of that environment. Small farmer's decision to produce, consume and save are determined by financial, economic, social and institutional factors and yet their decisions to produce, consume and save are not made independently.

### Financial and Economic Environment of the Farmer

Financial behavior is part of economic behavior which consists in making rational choices in managing alternatives in production, marketing, consumption and saving (Baker 1973). Financial management interacts with other economic behavior and for the small farmer this interaction is especially important since production and consumption decisions are not made independently of each other. The small farmer like any other economic entity must tackle the problems of risk, uncertainty and cash flow even though the sources of cash flow to him or his operations are limited. Because of the biological and seasonal nature of agricultural production, surpluses and deficits in cash flow often arise. In addition he must face and try to overcome uncertainty with respect to growing conditions, markets, disease, etc., while at the same time trying to generate reserves for those unpredictable occasions when cash is required.

In his or her production operations, the small farmer must incur liabilities but a limited net worth and constrained repayment ability often restricts his borrowing capacity to very high cost informal lenders whose ability and interest in financing the small farmers' operations are in turn circumscribed by the amount of personal funds available as well as the length of time over which they can afford to part with those funds. In a great many cases, informal lenders often commit their funds in the short end of the market (about 5 to 6 months or at the most, 12 months) and interest rates of 50 to 100 percent are not uncommon. These high rates of interest impose minimum requirements on rates of return which simply exclude too many alternatives that otherwise would be economically useful to him as well as to his society while the short term nature of the loans they advance also impose restrictions on the range of production activities (investment opportunity) to those that have a cycle of one year at most so he can repay the loan. As a consequence, investments in land improvement (irrigation and drainage canals), buildings, draught animals and machinery cannot be undertaken.

In the area of marketing his produce, large seasonal variations in price are often experienced in the LDC's, with price being lower at or near harvest time. The variations in price which may be very significant constitute an important characteristic of the small farmers' economic environment. But the small farmer's cash flow requirements and commitment to local informal lenders often require him to market his produce at harvest. The informal lender may also require the producer to repay in kind which means that any increases in price accrues to the lender rather than the producer.



Inputs required for production also create problems for the small farmers. Though his purchases are small, few and far apart, they are very real and often demanding because of restricted cash flow. Sometimes these input needs are provided in kind by the informal lender and this further obligates the farmer to him. To solve these cash flow problems, the small farmer is often forced to use his family labor by withholding labor commitment on his operations in favor of off-farm activities to earn an urgently needed source of liquidity.

Consumption requirements of the farm household are as demanding as are the production needs; and like all his other requirements, surpluses as well as deficits are often experienced. During the peak of the cultivation season the farm household may run short on essential food supplies necessary to supply the energy and nutritional needs of workers who must perform the difficult operations. Separation of consumption needs of the household from the requirements of the field operations is neither helpful nor productive since the health and nutritional status of family members has a direct and important bearing on work on the farm. Here too, where personal cash flow is restricted he/she may fall back on the informal lender who may supply him in kind at high levels of interest rates. Other family requirements demanding liquidity may include funerals (as the death of a relative or family member), weddings and initiations (circumcision ceremonies in parts of Africa) ceremonies or the payment of taxes. These too are very real activities which have a bearing on production consumption and other decisions of the farm household. If the credit program does not provide for these needs of the household, they are likely to resort to the high cost lenders with the consequences already discussed above.

A further aspect of the farmers' economic environment and activity is the issue of reserve management to provide additional liquidity as and when the need arises. Liquidity here is defined as the ability to generate cash while reserves are simply those assets held primarily for the purposes of generating liquidity, i.e., cash and cash substitutes or other assets that can be readily converted into cash with minimum loss of value. In the developed economies of the world, insurance often serves as a useful form of reserve but this is completely unavailable to most farmers in the LDC. Where markets are poorly developed or savings/deposit institutions totally absent or available only in main towns and cities, farmers resort to poor methods of reserve management. Their cash surpluses are often kept under mattresses, converted into gold or jewelry or livestock for reconversion into cash when the need exists. Credit can often help in overcoming the problems of reserve management but this requires broadening our conception of credit as an asset held in reserve (Baker 1973) rather than as funds borrowed from the lender. In this context, credit is used as a reserve by simply not using it for borrowing. Also credit may more adequately help reserve management if credit institutions can provide attractive savings service to induce the rural people to use them effectively.

#### Social and Institutional Environment of the Small Farmer

The importance of social organization is that it places each individual in a particular position within his community under any given set of circumstances. A local community is, despite whatever cleavages and conflicts exist, an entity in which some mutual benefits derive from maintaining at least a minimum of harmony (Gillette and Uphoff 1973).

The community of the small farmer may be the village in which he resides or the entire district of which his village or hamlet forms an integral part. Every community has its own norms, mores and values which members must recognize and uphold if they are to continue to live and be respected within the community. The norms, values and kinship structures within each community may to a large extent govern the individual's access to productive resources (land, labor and capital), the type of practices he can adopt on his farm, and the nature and type of relationships he can enter into with other individuals and agencies external to the community. Kinship structures may, therefore, affect behavior in a number of ways. They will often define many of the social and financial responsibilities he must meet to maintain his membership; they will wholly or partially define his relative power or lack of it within the society and they will often provide him a form of social security which he can call upon during periods of distress or need. Often the same kinship ties provides a member a valuable source of informal credit.

Values existing in a community may also affect one's sense of value with respect to time, work and leisure, as well as the relative merits of present consumption as opposed to saving for investment in ongoing operations of the family farm. Recognition and understanding of the social relationships which go on within a small farmer's community are important because they can inhibit or facilitate the operation of formal credit programs. For example, a centralized village level leadership can among other things act effectively to ensure repayment of loans whereas a factionalized structure may have difficulty in monitoring default rates.

Values relating to work and leisure condition both the kind and amount of work carried out. In some societies hard work is viewed as consistent with low economic status while leisure is regarded as a luxury which only the economically successful or well to do can afford. In parts of the Gambia and Senegal (particularly among the Mandinka and Wollof Societies) the village man of means may or may not do any manual work on his farm. He often can readily rely upon the labor supplied by migrant workers and the members of his family for all of his farm operations. In return for such labor services, he provides the migrant worker with maintenance ration during the season. In addition, he may provide land for the tenant and credit in the form of seeds, fertilizer and pocket money to be paid at harvest time. Time thus released by this arrangement may be spent on non farm activities as petty trading; operating a small shop or any other activity deemed to befit the standing of a man of means. To recommend in such a setting that the village man improve his economic condition by expanding upon his existing farm operation -- which may require his participation in "demeaning" manual work on the farm, would seem to him like poor advice especially when given the opportunities set and resource endowment, he is already considered a successful man.

Apart from the issue of work versus leisure, attitudes also affect the type of work. For instance, until very recently (mid to late 1960's) activities relating to the production of rice in both the MID and URD (except for land clearing) of the Gambia were regarded as women's work. The men would help by clearing and burning off the stubble early in the season (Haswell 1963). Once this is done the remaining operations would be carried out by the women of the household while the men concentrate

on the upland grain crops (maize, millet and sorghum) and cash crops (groundnuts and cotton).

While this has changed with the introduction of riceland mechanization and large irrigation facilities, an important legacy remains. In many parts of the Gambia, the rice land is owned by women exclusively. Consequently, even though a man may have sufficient capital to invest on improved production practices (i.e., construction of irrigation canals, drainage systems or to install pumps), prior approval of the wife must be sought and obtained. In a polygamous family situation often characterized by rivalry and competition between the wives, it may prove almost impossible to secure the confidence or win the approval of the wife that owns the field.

The concept of time also affects not only the pattern but the type and nature of farm work willingly undertaken. How long, for instance, should a farmer work on his farm. This may not be defined by law but may and often is defined by custom. New farming practices often called for by many credit programs may create conflicts between what is deemed appropriate use of time by the culture and what has to be done if any benefits are to be realized out of participation in the program. Equally important is the perception people have about credit. In some African communities (Lele 1975) credit is regarded as being synonymous with debts and that indebtedness is viewed as something to be avoided at all costs, since it may often be viewed as a measure of one's inability to provide for his family and could give rise to a loss of status in the community. Credit agents and institutions seeking to operate in such communities must, therefore, exercise great care with respect to the meaning and understanding of credit they convey to their

clients. Other areas in which attitudes and social values can affect the success of a program include attitudes towards risk, thrift and investment.

Turning towards the farmers' institutional environment, the literature is replete with evidence of distrust and lack of confidence exhibited by farming communities towards the formal institutions established to "serve them." To a large extent, the prevailing atmosphere of distrust and lack of confidence affects the farmers' responses and willingness to seek credit or demand services provided by the institutions. The explanations for this state of affairs are many and varied but have a lot to do with the historical experience of rural communities with formal institutions.

For many developing countries, the rural communities first came into contact with formal institutions during the colonial era. Many of the colonial agencies in one form or another were seen as extensions of remote bureaucracies whose primary function was the collection of taxes, mobilization of forced labor to directly exploit the rural folk for the comfort and conveniences of a colonial power. In many cases, the colonial administrations provided absolutely no services in return for the taxes or revenues collected from the rural communities beyond the maintenance of a skeleton police force to "preserve law and order."

The attainment of independence has, in many cases, done little to change the status quo. Rural people still remain largely unserved with respect to medical and health care facilities, schools, roads, water supplies, electricity or even marketing outlets for their produce except for cash crops which provide the bulk of government's operating revenue and foreign exchange. Post independence improvement especially

for large segments of populations in Africa has remained primarily an urban affair and often at the expense of the rural masses in general. Governments continue to promise to bring development and improvement to the countryside but their ability to deliver has increasingly been eroded by budgetary, fiscal and monetary constraints. The result is that distrust and loss of confidence increases and this creates obstacles which the formal credit agencies can only overcome by first establishing an atmosphere of trust and confidence between them and the people they are out to serve.

The high default rates so widely reported as typifying small farmer credit programs in many LDC's may be explained in part by a feeling on the part of defaulting parties as (1) a way of recouping benefits that rightfully should be theirs with or without a credit program; (2) a payment in return for services already rendered, i.e., voting a certain political party into power; or (3) a compensation for hardship suffered as a result of ill conceived, poorly planned and/or improperly implemented government policies. In this latter case, rural people may default on their loan obligations not because they do not want to pay but because they perceive extended credit as a way of getting their own share of the national pie in the face of rampant corruption (in high places) or outright mismanagement or misappropriation and embesselment of public funds. Farmers in this group will take whatever credit comes to them from public credit agencies in the full knowledge and belief that no penalties will be exerted on those who fail to pay when the loan becomes due and payable.

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## Chapter IV

### CRITERIA FOR SETTING UP SMALL FARMER CREDIT PROGRAMS IN LESS DEVELOPED COUNTRIES

The factors or forces which have constrained small farmer credit programs in the LDC's are many and varied but there is a general recognition that (1) technology, markets and institutions; (2) the degree to which rural household savings are mobilized; (3) the focus of programs (whether specialized or whole farming systems approach); (4) management and the availability of competent personnel and (5) the political and social environment within which programs must operate are all important. Problems associated with these constraints must be resolved before credit programs can be expected to perform in accordance with the goals set out for them.

#### (1) Technology, Markets and Institutions

##### Technology

Mosher, A.T.<sup>12</sup> (1969) argues that the technology of farming is simply the way things are done and that a given technology implies a given set of inputs or factors of production (land, labor, capital and managerial skill). Traditional technology, therefore, implies the particular way in which the traditional inputs of land, seeds, fertilizers, water, and hand tools and human/animal power are combined with owner/operators'

<sup>12</sup>Mosier, A.T. (1969). Getting Agriculture moving: Essentials for Development. Agricultural Development Council, Washington, DC.

labor and skill in producing an output from the farm. New technology must, therefore, combine a new set of inputs or factors of production with new ways of doing things if it is to be regarded as superior to the old. It is, however, not sufficient that the new technology be superior to the old in terms of physical output, it also has to be demonstratively more profitable for small farmers to be willing to adopt and use it. In short, profitable technology has to be appropriate.<sup>13</sup>

Technological change, in turn, is any change in production coefficients resulting from purposeful resource using activity directed toward the development of new knowledge embodied in designs, materials and organization. This may take the form of biological, chemical or mechanical change with the direction often determined by the relative factor scarcity of the given country. But for technology to be profitable, the increase in the value of output resulting from investments in technology must exceed the increase in costs required to acquire and use the technology.

Traditional credit programs in the LDC's have often held that large doses of credit are needed to facilitate rapid technological change at the small farmers' level. This, however, presupposes that profitable investment opportunities do, in fact, exist. What evidence is there to support this presumption?

The Schultizian hypothesis of the "efficient but poor" small traditional farmer implies that these operators cannot significantly increase

<sup>13</sup> Appropriate technology is that technology which given the pricing of all factors of production at their scarcity value, is in line with the resource endowment of the country in question and would not give rise to a misallocation of resources in the economy.

their farm production by a simple reallocation of the resources at their disposal or by the addition of more of the same traditional inputs in their operations. Studies in many places as Pakistan (Eckert) and Brazil (Meyer, et al.) appear to support this conclusion and have attributed the low profitability of traditional technology to the very low production functions which exist for traditional practices.

Under certain conditions (Tinnermeier 1973) changes in land tenure patterns, leasing arrangements or availability of credit may bring about increases in production. But it is worth noting that even here limitations and new constraints rapidly set in. Thus, while data on the profitability of traditional technology is not available, what is available does seem to suggest that there is little to be gained (if any) from the expanded use of traditional technology even with large doses of readily available credit. The solution must, therefore, lie in supplying new technology along with credit. But is there a set of profitable new technologies suited to the specialized circumstances of small farmers in the LDC's? The available evidence does not permit one to draw conclusions one way or the other. But credit programs (except a very few) by failing to provide any technical assistance with the increased supply of loanable funds have implicitly assumed that (1) either technology is already known and accepted at the farm level or (2) that it was not needed (i.e., unemployed profitable traditional technology exists). On the other hand, many programs even though recognizing that profitable new technology does not exist, have complacently assumed that improved technology developed in other parts of the world may simply be transferred and adapted to local conditions.

Experience in a number of countries has shown that too often the new technology has not been developed and tested under conditions similar to those faced by the farmer. For example, Sacay, in a study of small farmers' credit in the Phillipines, reports that the new high yielding rice varieties were profitable during the regular growing season. But for a different province (Smith 1973) states that "in the lower price ranges which prevail, the high yielding variety technology is less profitable per crop, than the lower yielding traditional varieties for the typical yields cited." Sacay also found that during the dry season, the high yielding rice varieties produced lower yields than the traditional varieties.

In another study, Oluwasammi (1965) concluded that "the farm credit schemes in Nigeria have only a limited effect so long as they are operated without due regard to the earning capabilities of the innovations being financed." Roberts (1972), in a study on Zambia, concludes that "what is needed is an educative process, with regard both to the potential commercial nature of farming and to the profitability of innovations." Large yield variations were also found in India by Lele (1972). Fogg (1971) found a direct relationship between the rate of adoption of new technology and its monetary returns to the farms in Nigeria.

Thus, what is generally assumed to be profitable may not, in fact, be so for the farmer. Indeed, in a rigorous test of profitability requiring a margin of up to 50 percent to compensate for risk and uncertainty for a selected set of improved practices for a district in India, Mellor (1976) reported that half of the demonstrations did not pay. Quite often, by the time the innovation gets to the farmer, it is even

less profitable.<sup>14</sup>

Schultz (1964) and Wharton (1962) argue that profitability depends not only on the productive capacity of innovations being extended, but also on the relative prices of inputs and products, land tenure arrangements, degree of risk and uncertainty involved in adoption of the technology, knowledge base and skills of farmers and on the transportation and marketing systems. Thus, if farmers only see the possibility of a meager additional return for what is in effect a major added cost or risk, there will likely be a considerable resistance to the adoption of the innovation. Except for the high yielding rice varieties developed in the Phillipines in the 1960's and high yielding wheat varieties developed in Mexico at about the same time, there has not been much significant new technology developed in the LDC's that has proven to be consistently superior to traditional methods over the past decade or two. Consequently, profitable technology has not always been available to small farmers when credit is extended. It should, therefore, not come as a surprise to anyone that small farmers have not adopted any improved practices to raise their incomes. Such improved practices are not there to be adopted (with profit) in the first place.

For Sub-Saharan Africa the situation has even been worse. Research on agricultural has, until recently, concentrated on single crops mainly the cash crops for export. Even then no breakthrough has been made in the development of new high yielding cocoa, groundnuts, cotton, coffee or oil palm varieties nor in the area of crop fertilization, pest and

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<sup>14</sup>See Appendix Table V at the end of the chapter.

disease control or the harvesting, storage or processing of produce. For example, in Senegal and the Gambia -- where groundnuts are the chief exports -- farmers still depend upon seed saved from the previous crop for planting in the following season. Research reports from these areas do indicate that even with increased use of fertilizers over the past decade, yields appear to have reached their upper limit. Thus, new high yielding varieties, better husbandry and fertilization methods are needed to support the increased flow of funds into agriculture if farmers are to experience any significant increases in income levels or output.

Furthermore, the level of risk associated with new technology does seem to affect the rate of adoption or the decision to adopt by small farmers (Wharton 1962). But problems of risk arise primarily out of variability in the yield of the crop although under certain conditions price variability may constitute an important source of risk especially as regards the adoption of new technology. It is widely recognized now that the new technologies show consistently greater yield variation than the traditional technologies. Indeed, under adverse weather conditions (drought or inadequate rainfall), the high yielding varieties yield even less than the traditional varieties (Tinnermeier 1973) while under ideal growing conditions, they often produce four or five times more. Malya found that Indian farmers in districts plagued by uncertain rainfall kept a higher percentage of their crop under drought resistant varieties than their counterparts in districts with more certain rainfall.

In another study on the impact of oxenization on output and income of small farm households in the Gambia, Hunter (1969) found for groundnuts producers, that manual operators (those not using the oxenization

package) had a distinct advantage over those using the ox-package. He reported gross margins for manual operators of D 122 per acre compared to a gross margin of D 113 per acre for the households employing the ox-package. Thus, even though technology may be available or can be made available, the profitability of the technology as well as the risks associated with adoption may militate against its employment.

### Markets

However, technical change or technological innovation should not be confused with economic opportunity. New investments or innovations must be sufficiently profitable to overcome small farmer's reluctance to assume the additional risks often associated with new ventures. Profitability, in turn, depends on the availability of inputs for production as well as ready and assured markets for the sale of the increased output. Without assured markets and fairly stable product prices, a credit financed expansion of demand for inputs, if not matched by an expansion of supplies, will only give rise to a rise in input prices but not output. On the other hand, a fall in the price of products in response to expanded output, given the inelasticity of demand for agricultural products, may only serve to lower the profitability of the innovation to the farmer.

Experience from many LDC's has shown that, in general, new crop varieties are not received well because of their poor taste when compared to the native varieties. Because of this non-acceptance, high yielding varieties may sell at a discount making it even less profitable for farmers to adopt them in place of the lower yielding native varieties. In other instances, poorly developed infrastructure (roads, communication

facilities or absence of market information) makes the marketing of additional output costly. A number of studies, i.e., Ghana (Goodwin and Selley), Ecuador (Guzman) and Malaysia (Long and Hoover) have hinted that absence of access to markets and lack of attractive product prices have been largely responsible for the non-adoption or slow adoption of what technology was made available with credit. Markets are, therefore, very important to the adoption of technology for in the final analysis it is the economic not the technical potential of an innovation which determines profitability and such economic opportunities are created and coordinated by an effective and well functioning marketing system.

However, for many of the developing countries, there is a tendency for two types of marketing systems to exist and more often than not, the dualistic marketing system is a legacy of colonial agricultural and economic policy which the governments have taken over at independence and have done little about to change. The first and often more organized is the market characterized by such institutional arrangements as marketing boards (state monopolies) or national trading corporations. These organizations often have monopoly power to handle both the local purchase and overseas sale of the export crops in which the countries trade. Such marketing boards and agencies usually are well organized and run by adequately qualified and competent personnel.

However, because these institutions are usually set up as means for (1) earning much needed foreign exchange and (2) as a means to collect taxes from the rural people through export tax on agricultural export commodities, their pricing policies often act as disincentives to the expansion of output since an increasing proportion of added income goes to the Government rather than the producers. At any rate,



the mere existence of such assured marketing outlets has often led producers to concentrate the use of improved methods of production and technology on the production of export bound crops to the complete or partial neglect of food crops and other agricultural produce for local consumption. More generally however, marketing boards, in carrying out their functions, often act through a whole range of intermediaries such as cooperative societies, produce merchants and buying agents directly licensed by the board. Since the board has to allow a certain margin at every stage, the effect of going through intermediaries is the widening of the gap between farm gate price and export price of farm produce.

The second type of marketing system is that which handles the marketing of food crops and other agricultural produce. Typically (although now changing gradually) this may be regarded as informal with no established distribution channels, collection or storage facilities. Dealers in this market may include the farmer himself when he takes on the responsibility of finding a buyer for his produce, bus and taxi drivers who may handle a couple of bags each time while transporting passengers, local village shopkeepers or produce merchants who engage in food crop purchases and sales as a side line to their main operation of buying cash (export) crops for the marketing boards.

Prices in this market are, in general, not known by the farmer prior to planting and tend to vary widely even within the same locality. The price the farmer gets often depends upon his ability to haggle over the price with a potential buyer. Because of the difficulties associated with the marketing of non export crops, farmers are often unwilling to adopt technology related to non export crop production even

when it is clear that adoption will increase the level of output from the farm.

Over the past decade many governments in the LDC's particularly those in Sub-Saharan Africa have taken steps to organize better marketing facilities for food crops and other agricultural produce in an attempt to improve farm incomes, adoption of technology and give meaning to the expressed policies of food security and food self sufficiency. The initial steps in such policy moves have taken the form of developing rural road networks, guaranteed minimum producer prices and the broadening of the areas of responsibility of the existing boards or the creation of new grain and food crop marketing boards to handle the expansion of output which may occur. Whether or not such policies will have the desired effect of expanding output from agriculture will depend upon the incentive structure generated for farmers, the relative prices between farm inputs and outputs as well as the availability of consumer goods which rural households may desire to acquire.

### Institutions

Finally the nature and types of institution that support agriculture are important to the adoption of new technology. New innovations and improved methods of production developed by research are not directly available to the farmer. An efficient and adequately manned extension service must first bring the existence of the innovation to the awareness of the farmer and carry out the necessary demonstration of its usefulness and profitability before adoption can take place. Extension must also carry information in the opposite direction by helping farmers identify their problem areas, help them solve these problems or

communicate them backwards to research scientists who would then find the solutions to these problems. Too often, however, developing countries tend to have the process reversed.

Research is some of the LDC's focus on problems the Government wants solutions to; not necessarily those problems that are of concern to farmers. Once solutions are obtained, effort is directed at convincing farmers to adopt them in their farming operations. The problem with this approach is that conflicts are likely to arise between what the governments want and what the farmers feel is their most important concern. Institutional reform is therefore called for in order to make the processes of research and development more and better oriented towards finding solutions to farmers' production and marketing problems rather than a concentration on problems of concern only to the Government or some centralized authority.

Furthermore, there appears to be an urgent need to integrate and better coordinate the activities of the numerous institutions having to deal with small farmers. Too often farmers have to go through several intermediary organizations before any of their needs are satisfied. Not only is this process time consuming, but it is also expensive especially when the activities of these organizations are not properly coordinated to ensure timely release of approved loans, inputs and purchase of farm output.

## (2) Mobilization of Rural Household Savings

The developing countries have -- over the past two decades -- made substantial efforts to improve their economic and social conditions.

Attempts are being made to achieve high and steady rates of economic growth, by acting in ways to improve the living conditions of the lower income brackets with less inequality in income distribution. To achieve the objectives, however, it would be necessary to make the appropriate investments and these, in turn, would call for dedicated and sustained efforts at capital formation within the developing countries.

Capital formation may originate from domestic as well as foreign sources but for sustained development and economic progress a country would eventually have to rely increasingly upon its ability to generate investment capital. Reliance on foreign sources of investment capital has the well known attribute that eventually the loans will mature and require payment with interest and the associated debt service charges may create balance of payments problems at a time when a country's economy is least able to meet those cash outflows.

However, foreign investment capital -- especially when given in the form of loans or grants -- is often tied and this may restrict the ability of a country to use such capital in ventures that will be of the greatest long run benefit to the recipient. On the other hand, domestic generation of investment capital requires of the citizens of a country (especially those in the rural areas, because they form the majority of the population in the LDC's) a desire as well as an ability to defer present consumption in favor of savings for investment in productive ventures that would facilitate even greater consumption at a future date.

The proportion of disposable income (income net of taxes) that is not spent in consumption is referred to as the propensity to save. But there are several factors which may influence the propensity to save and

these may be (a) environmental and social, (b) legal and political order, and (c) the general economic policy of the state, i.e., monetary, fiscal and trade policy.

Traditional credit programs in many of the developing countries -- except a few cases -- have done little to encourage savings and their mobilization but have instead relied essentially on public funding and external assistance as a source of operating and loanable funds. Much of the failure to encourage and mobilize rural savings is due in part to (a) the assumptions underlying rural savings potential but in part to (b) the official policy regarding chargeable interest rates on agricultural loans and loans to rural people in general, and (c) to official policy regarding trade, creation of attractive financial investment opportunities in the rural areas as well as the absence of an effective institutional structure to tap the rural savings potential.

With respect to the assumptions underlying rural saving behavior, it has been widely held that people in rural areas cannot save or are too poor to save and that those who acquire additional income spend the windfalls on consumption or ceremonial sprees. It was also generally held that factor proportions in agriculture were badly distorted giving rise to too much labor and too little capital. Transfer of labor out of agriculture and the injection of capital into the rural areas, therefore, became the rule of the development game. Farmers were believed to face profitable investment alternatives but because they were too poor to save -- invest, it was also assumed that they needed concessionally priced credit along with close supervision to take advantage of the investment opportunity which exists. Although data on rural savings behavior is scarce, a number of studies undertaken in Taiwan,

South Korea, Japan and Zambia do seem to indicate that a substantial rural saving potential does exist in the developing countries. (See Appendix Tables I, II, III, and IV at pages 86 to 88.

For example, in the case of Taiwan, the rather high average propensity to save was due mainly to the interest rates offered to depositors. Over the period 1953-1970, Chyau Tuan (1973) reported that real interest rates paid on time deposits were negative only in two years (1953 and 1960) otherwise savers could expect to receive positive real rates between 5% to 6% over the 1953-1970 period, thus drawing a large amount of deposits into farmers associations and postal savings facilities. Between 1954 to 1970 Chyuan Tuan reported that deposits in farmers associations rose from about U.S. \$6 million to over U.S. \$124 million, making it possible in some years for excess funds to be transferred to other parts of the economy through financial channels.

In the case of Japan (though not a developing country), the APs for all households ranges from 0.10 to 0.22 between 1950 to 1973 and tends to increase for households with smaller farm sizes owing to the rapid rise in household incomes derived from off-farm sources. The evidence from Korea shows an even greater potential to save by rural households. However, the sudden increase in APs after 1965 is explained primarily by the fact that in September 1965 the Korean monetary board nearly doubled the interest rates applied on loans as well as time deposits. Nominal rates rose to 30% with the result that real rates in excess of 8% were paid on financial savings from 1965 to 1971. This reform resulted in sharp increases in the volume of time and savings deposits in all banks from 39 billion won (1964) to 366 billion won by 1968.

Deposits in agricultural cooperatives also increased by about the same magnitude.

The evidence from India shows a lower APs compared to Korea, Taiwan and Japan but this is due to the fact that per capital incomes in India are also much lower. Despite this lower income level along with low returns to on farm investments in many areas, the average household still saved between 12% and 37% of its income. With increased availability of attractive on-farm investments offering high rates of return, it is reasonable to speculate (given the evidence from the other areas) that significant increases in the APs could be achieved in almost all rural areas. There are other pieces of evidence from Zambia (Roberts, R.A.J. 1972) which indicates that on average rural households saved more than 30 percent of its income over a two year period while Homberg in a study on Ethiopia reports APs between 0.11 and 0.14 (as conservative estimates since income was likely to be underreported).

The evidence thus far presented indicates rather clearly that the assumptions of low or totally absent savings capacity in the rural areas of the LDC's are not substantiated. There is therefore a need for Governments in the LDC's to try to tap this valuable source of investment and loanable funds that have until now not been fully utilized.

The second reason why rural financial institutions do not attract significant savings volume may be traced directly to Government policy regarding chargeable interest rates on agricultural loans. Government policy in many LDC's has often specified low interest rates on agricultural loans and financial institutions (cooperative societies, credit unions, commercial and agricultural development banks) were often directed not to charge interest rates in excess of 10 or 12 percent while

inflation runs rampant at well above 20 percent. These low interest rates have affected the ability of credit institutions to function effectively in two main ways.

In the first place because inflation has been so high in the LDC's along with the fact that the rates charged were below the opportunity cost of capital (estimated at between 12-18 percent for LDC's) the policies implied a direct income transfer to recipients of loans. The effect is that demand for credit has tended to exceed the available supply leading to a policy of credit rationing by lending agencies. Because of the high costs and higher risks often associated with lending to small farmers, rationing policies of lending agencies has only served to further exclude small farmers from the credit market to the benefit of larger farmers and the rural/urban businessman.

Secondly, the low interest rates stipulated on agricultural loans places an effective ceiling on the rate of interest that financial institutions can offer to their depositors. This is not difficult to see since financial institutions derive their income and profit from the spread between the rates paid to depositors and those charged borrowers. Since the rates charged borrowers tended to be determined by legislation rather than supply demand relations in the funds market, the only alternative left for financial institutions is to offer savers a lower rate. As a result of the low or unattractive rates paid on deposits, small farmers have one less incentive for saving since they will neither gain because of the low rates of return on deposits nor by being able to obtain loans. Either way, therefore, they are excluded from participating in the financial markets.



On the part of financial institutions, low interest rates below the opportunity cost of capital leads to an erosion of capital and therefore to continued dependence on central banks or foreign subsidies which, in turn, opens the way to corruption, political interference and to manipulation by those among the rural bourgeoisie who either by virtue of individual political power or connections, end up siphoning the largest proportion of loan funds designed to be made available to small farmers.

Furthermore official monetary, fiscal and trade policy may militate against the accumulation of savings both in the urban and rural areas. It is well known that many of the LDC's maintain overvalued currencies with the immediate effect of making imports cheaper relative to domestically produced goods (especially agricultural products). Because of the artificial cheapening of domestic agricultural products, the rates of return on investment in agriculture are depressed, with a tendency for rural people to incline more towards current consumption rather than saving and investing in the low return ventures in agriculture.

Finally, trade policy may make durable consumer goods (sewing machines, refrigerators, motorcycles, etc.) totally unavailable to rural people, hence, eliminating any incentives that might induce rural people to save in anticipation of some future purchase of these items. Furthermore, the absence of rural depository type institutions (except in few cases) or financial instruments in which rural people could deal has not helped LDC's ability to mobilize rural savings and channel them into profitable investments in other areas of the economy. Rural people have, therefore, resorted to other forms of saving, i.e., the purchase of livestock, jewelry, urban property, the putting of excess funds into tin

cans buried in backyards or the extension of loans to friends, relatives and other less fortunate rural folks.

Mobilization of rural savings even though not given the attention it deserves, can offer several advantages both to rural financial institutions lending to small farmers as well as to the larger society in general especially when the process is voluntary:

(i) voluntary savings mobilization can give rise to the strengthening of financial markets by enabling them to generate sufficient funds to cover all their loan portfolios and consequently maintain a degree of independent existence from central government or foreign funding sources. The ability of institutions to generate their own funds will also tend to insulate them from political and other types of interference and/or control by government officials.

(ii) voluntary mobilization through the offering of positive real interest rates may have the impact of discouraging current household consumption in favor of savings. Funds thus accumulated may then be employed in extending loans to those who have profitable investment opportunity but lack the necessary funds to take advantage of them. Institutional self-sufficiency rather than dependence is fostered.

(iii) profitable credit -- savings activities in farmers service organizations (cooperatives, credit unions and farmers associations) may provide the financial cornerstone on which these organizations can be built. In addition, the higher interest rates thus put into force would allow both the formal and informal portions of the rural financial markets to grow and to better service the small farmers needs.

(3) Specialized Programs vs. Total Farming Systems  
Approach to Small Farmers Credit

Fungibility is an important characteristic of modern currencies because standardization and interchangeability enables money to serve both as a numeraire and as a medium of exchange thus making monetized transactions more efficient than barter. The attribute of fungibility is, however, not limited to money alone because in modern monetized economies, almost any material good that has economic value, may be easily converted into money which, in turn, can be used to purchase anything that is available for sale. Fungibility, therefore, underlies the role of money in efficient resource allocation in classical economic models and in increasing monopoly accumulation in marxist models. Failure to recognize this attribute in any financial transaction may cause difficulties when efforts are made to limit exchange or when the channels through which funds are directed prove too small to accommodate the desired flow.

Low income countries have for long recognized that agricultural credit can be an important element in development efforts; yet many of the programs that have sprung up in the last quarter century have failed to take full cognizance of the fact that credit given either in cash or in kind can and often has been funged and the proceeds used in ventures other than those for which the credit was made available. Why has this been the case? To a large extent the answer lies in the assumptions underlying agricultural credit programs and in part on the design of the programs.

It has often been assumed that small farmers in the LDC's are too poor that they have little or no saving capacity, that credit was needed

to enable such farmers to acquire and employ new methods of production in order to raise their level of income and that credit could be regarded as part of a package of inputs which with close supervision farmers could be made to use in the form in which it was given. The production and consumption decisions of rural farm households were assumed to be separate and independent. Based upon these assumptions, it logically followed that specialized credit programs which made funds available either for purchase of production inputs or for consumption goods would enable farmers to break the constraints that mitigated against increases in farm output and income.

Although only very little is known about rural household's decision making processes, it is now widely recognized that within the household, consumption and production decisions are neither separate nor independent and must be evaluated together. Indeed, it is neither profitable nor advisable to try to partition rural household decision making into production and consumption components, since the reasons often given to justify a loan at any point in time may or may not be related to the activities stimulated at the margin by the additional liquidity provided by a loan.

Credit programs which have in the past focused only on one aspect of the household's activities by granting production loans -- albeit in cash or kind -- have often met with very little success. If the household's immediate need is for food, granting a loan with the restriction that the funds provided be used for purchases of seed or fertilizers is not likely to be successful. The money or materials received would most likely be converted and the proceeds used to finance consumption. The high default rates and capital erosion which have plagued small farmer

credit programs in many LDC's are a testimony to the fact that specialization of programs is not likely to be productive in the long run. The high default rates and capital erosion are due to the fact that when credit given to finance input purchase is diverted to the satisfaction of consumption needs, very little or nothing of it will be left to finance production. Because the output realized from the production activities are not sufficient to cover costs (including the credit) farmers often find themselves unable to pay at the end of the production season.

To overcome the difficulties and problems posed by specialized credit programs, developing countries should move towards a total farming systems approach in the area of agricultural credit. This would imply a more dedicated study of the rural household's production and consumption activities in order to identify the constraints to increases in output and income. Credit would then be extended in cash to enable the household to overcome those constraints. For the system to work, there would be a need for a simultaneous resolution of the problems posed by poor communication and infrastructural development, expansion and development of adequate produce marketing facilities, availability of improved and profitable technology as well as fully integrated and well functioning rural financial markets. There will also be a need to make financial institution more independent and self-sufficient in terms of generating their own funds to support their credit portfolios. The key to the independence lies in an effective financial incentive mechanism (attractive rates of returns on savings and other financial investments), and more aggressive approach to the mobilization of rural household savings. Credit institutions will then be in a position to

charge rates of interest on farm loans that will compensate for the opportunity cost of capital, cover operating and other costs and leave them a reasonable profit margin with which to finance the expansion of their activities as to better service a larger segment of the farm sector.

#### (4) Problems of Management

The issue of adequate, well trained and knowledgeable management personnel was raised and discussed in part in Chapter III. However, despite widespread criticism of the status quo, management and personnel problems continue to plague small farmer credit programs in the developing countries. Issues in management and the problems they cause for credit programs ought to be examined at two levels: (1) at the national level (i.e., planning ministry) where overall agricultural policy and credit policy in particular are defined and (2) at the project or agency level (cooperative, commercial or agricultural development bank) where policy defined at the national level is supposed to be put into effect.

At the national level, development planning is generally the responsibility of ministries of economic planning and this is particularly true of countries in Sub-Saharan Africa. National development objectives, short and long run policy goals, the focus of policy as well as the mechanisms by which national development goals and objectives are to be attained are defined and handed down to ministries responsible for implementation. The management problems often encountered center around (1) the availability of hard core reliable data upon which to base plans and projections and the delineation of development targets, (2) the

definition of development objectives and goals, and (3) availability of high level manpower to handle the tasks of national development planning.

Planning for development whether at the farm or national level requires reliable data concerning input output relationships, prices, production levels, acreage under cultivation for each crop as well as potentially available land, i.e., land that can be brought under cultivation if the required conditions are satisfied. In addition, there is a need to understand the economic and social environment within which farmers must make their production, marketing and consumption decisions. And with respect to credit, there is a need for data on the functioning and operation mechanisms of the informal rural financial market in order that programs that better meet the needs of small farmers may be designed. Too often, however, the main constraint to planning (even where high level qualified manpower is available) is the acute shortage of data. In those limited and rare cases where some data is available, the sampling methods, collection procedures or skill and competence of data collectors as well as the supervision and training given them often make the data unreliable for purposes of planning. In the absence of reliable data, knowledge about the situation which plans are supposed to improve will be severely limited and the process of planning will at best be reduced to planning without facts.

The setting of national goals and objectives for national development in general and agricultural credit programs in particular has been a problematic area for many developing countries. Too often goals and objectives tend to be too vague (to convey any clear meaning) or too broad as to include almost every conceivable concern of a developing

country. The immediate result is often a lack of understanding by those charged with execution regarding the exact type of action expected from them. In addition, development targets have tended to be over-ambitious with the result that resources tend to be so thinly spread that no significant impact is obtained following an intervention program.

Availability of qualified and well trained personnel at the planning level constitutes an important bottleneck to be overcome by most developing countries. Part of the problem arises out of the reluctance of governments to make meaningful changes in the structures of their civil service, the incentive and reward mechanisms currently faced by the upcoming management personnel. With the present set up, very little incentive exists to attract, much less retain qualified personnel for any length of time given the opportunities that are available in the private sector. Poor salary scales, slow promotion prospects and a tendency to promote by seniority (waiting for the dead man's shoe) as well as the top-down approach to decision making authority have not helped government's efforts to train and retain qualified personnel. Policy changes are required; to make Civil Service jobs offer enough challenge to the upcoming personnel with the requisite basic background, to base rewards on merit (initiative, drive, skill and proven competence on the job), and to decentralize decision making authority in order to improve efficiency and motivate bureaucrats to give of their best.

Management and personnel problems may also be encountered at the agency or project level. At this level, management personnel (bank managers, credit officers and assistant registrars of cooperatives and central bank officials concerned with small farmer credit programs) have



usually been recruited from a cadre of university graduates or college educated urban intellectuals (Brake 1973). Usually these type of personnel have little in common with the rural people they are out to serve and generally have difficulty dealing with their clientele. Because of their urban background and different culture, their lack of knowledge and experience with respect to farming or rural conditions of life, they are usually incapable of either understanding or respecting the points of view of the rural farming communities. Credit decisions made by such management personnel often do not take into account the best interests of the rural household.

Credit managers are also handicapped by a lack of sufficient decisions making authority. More often than not, loan applications have to be referred to headquarters or the regional center or capital city for approval. This process usually gives rise to delays in loan release, inability to take advantage of early planting and farming activities in the event of early rains and, consequently, leads to an increase in the default rate on loans extended. Flexibility in the use of loans and resource allocation efficiency at the farm level are, therefore, stifled by a centralization of credit decision making authority.

Changes needed in this area would have to consider the recruitment of personnel with the requisite agricultural and rural background, adequate training and orientation to inculcate an appreciation and understanding of rural values and ways of life as well as a decentralization of decision making authority to empower on the spot management with sufficient authority to take on the spur of the moment decisions as the need arises. Promotion of personnel would have to be increasingly based on performance on the job and competence. Supervision from headquarters

would then have to focus more on evaluating the soundness of loan decisions made by on the spot management, suggesting changes where needed and making sure that the performance of credit agencies is in line with national agricultural and economic development goals.

#### (v) Political Influence and Interference

While many economists would willingly blame the failure of agricultural credit programs on economic, social and technical factors only a very small number have been willing to level part of the blame on the political influence and interference (by governments in the LDC's) in the operations and activities of credit institutions and agencies. The reluctance is due in part to the fact that governments in the LDC's are apt to view any such leveling of blame as an attempt to interfere in the internal affairs of a sovereign nation and in part to the fact that donor agencies (who have contributed much of the funds used in setting up credit programs) in trying to win goodwill do not want to be viewed as antagonizing the governments they have to work with.

Although direct method of interference have been used at times such as governments arbitrarily stepping in and writing off loans (as the government of Senegal did in 1981 - Eicher 1982), the more common methods of exerting influence or interference is generally through the setting of very low interest rates, making credit available on easy terms, the power to hire and fire management personnel at will and control over the finances and loan policies of lending institutions.

Low interest rates (5% to 12%) have generally been set as the maximum formal credit institutions could charge on all agricultural loans

without adequate consideration of the opportunity cost of money, the effect of rising inflation rates or of the rates of return without which the incentive to save and defer consumption (needed for capital formation) would be quickly eroded. Although several reasons may be advanced for the willingness on the part of LDC governments to employ low interest rate policies, two important explanations appear to be widely accepted.

In the first place, official fiscal, monetary, pricing and trade policies may give rise to a shifting of the terms of trade against agriculture in favor of industry or import competing goods. Overvalued domestic currencies may also create the illusion of cheapening imported goods while making locally produced goods more expensive and, consequently, dampen incentive to local agricultural producers. Realizing that the adverse conditions facing producers of agricultural commodities may eventually lead to social unrest and political agitation, governments have often resorted to low interest rate policies and easy credit terms to offset the effects of their actions.

In addition, such low interest rates and easy credit policies have been used as disguised methods of compensating certain groups in society for past or anticipated political support. The timing of the Senegalese government's action (of writing-off loans at a time of intense political activity by the opposition parties and the action of the Gambia government in writing off all outstanding debts (arising out of the revolving loan scheme (to small farmers) in 1968 just prior to the 1969 referendum for Republican status have done little to defuse suspicion that the actions were politically motivated.

Whatever the stimulus giving rise to such policies, low nominal interest rates especially in times of higher inflation rates can be counterproductive to the development effort as well as the desire to strengthen the financial institutions which lend to small farmers since low nominal rates do lead to negative real interest rates. Negative real rates of interest lead directly to an expansion in demand for credit (greater than supply) because of the implicit income transfers involved. But because the income transfer from negative interest rates is proportional to the size of the loan, borrowers of large amounts receive much larger subsidies than do borrowers of small amounts (Gonzalez-Vega 1977). Non-borrowers receive no benefits from cheap credit and this affects income distribution and equity issues. For example, Sayad 1979, Reynolds and Corredor 1976 have estimated that for Brazil and India, the amount of annual income transfers resulting from negative real interest rates is several billion dollars while for Mexico, several hundred million dollars may be thus transferred.

Negative real rates of interest force lenders to use credit rationing policies because of the excess demand created. Borrowers who get these loans often have an insatiable demand because they can (and often) convert the loan into any kind of real assets (land, gold, cattle, crop inventories) which appreciate in value. When the asset is liquidated and the loan repaid, the borrower is in effect only repaying part of the purchasing power that was received from the lender and is able to retain part of the purchasing power despite having paid the nominal interest and principal (Vogel 1981). In the event borrowers are able to secure a write-off of the loan due to political influence, the entire amount of principal and interest due accrues as an income transfer.

Furthermore, the excess demand for credit and the credit rationing which occurs may result in most of the cheap credit going to the well-to-do rather than the small farmers who eventually get excluded from participation in rural financial market transactions. In addition, the low nominal rates stipulated by government makes it impossible for banks and other depository type institutions to offer attractive rates of return to large numbers of small depositors. The majority of rural people are, therefore, further alienated from dealing in the financial markets. The rich or the well-to-do can, however, secure attractive rates of return for they can turn around and relend to small farmers at high nominal rates or invest in urban property or other types of investments which promise a high rate of return. Government efforts to extend pay-offs or render financial favors to political allies for past or future service may in the end backfire since the same groups end up worse off than they would have been had the level of interest rates and loan allocation procedures been left to competitive market forces.

The effects of easy credit terms (not requiring any collateral from farmers or making it impossible for banks to repossess items of machinery financed or selling property used as collateral) are similar to those of low interest rate policies and need not be discussed further.

There are other ways in which governments have interfered with the operation of credit institutions. These range from stipulation of the proportion of the lending institution's loan portfolio to be allocated to small farmers; the hiring of personnel sympathetic to the party in power to run financial institutions without regard to experience, qualification for the job or competence, and by making lending institutions an integral part of a government ministry so they can be directly

controlled and used for political ends.

Whatever form political interference takes there is sufficient evidence to suggest that the end result may be more harmful than beneficial. The arguments made against direct and indirect political interference should not be construed to imply that governments in the LDC's should remain aloof or totally unconcerned about the activities of lending agencies and financial institutions and leaving everything to bureaucrats to run as they deem fit. On the contrary, because these same bureaucrats and bureaucracies may also be motivated to pursue interests totally out of tune with national development goals, there is need for government to exercise some degree of responsibility in the regulation of the activities of lending institutions. But such control and regulations, where they are exercised, should be based on sound economic considerations, concern for national development goals and a desire to make financial institutions efficient and more responsive to the needs of their clients and without regard to political convictions, party alliances or socioeconomic status. Government interference should focus on efficiency and equity objectives even though these may conflict at times.

APPENDIX TABLE I

APS<sup>1</sup> of farm record-keeping households in Taiwan  
by farm size groups, 1960-74

Farm Size Groups Hectares	1960	1962	1964	1966	1968	1970	1971	1972	1973	1974
0.5 or less	-0.3	0.09	0.09	0.19	0.19	0.15	0.08	0.19	0.21	0.17
0.5 - 1.0	0.15	0.17	0.22	0.16	0.23	0.14	0.16	0.16	0.23	0.26
1.0 - 1.5	0.14	0.20	0.27	0.25	0.25	0.20	0.23	0.16	0.27	0.31
2.0 or more	0.27	0.25	0.29	0.38	0.36	0.26	0.24	0.32	0.28	0.39
Ave. all households	0.19	0.31	0.23	0.28	0.28	0.20	0.19	0.23	0.27	0.31
Total # of "	95	233	535	430	416	404	347	452	460	461

Source: Dept. of Agriculture and Forestry, Provincial Govt. of Taiwan: Report of Farm Record Keeping Families Various Years 1960-74

APPENDIX TABLE II

APS of families in the Japanese farm household economy  
surveys by farm size groups 1950-1973

Farm Size Groups (in cho*)	1950	1955	1960	1965	1970	1971	1972	1973
0.5 or less	0.04	0.07	0.10	0.14	0.16	0.17	0.19	0.23
0.5 - 1.0	0.07	0.08	0.08	0.14	0.14	0.15	0.18	0.19
1.0 - 1.5	0.10	0.12	0.11	0.16	0.14	0.12	0.19	0.21
1.5 - 2.0	0.13	0.14	0.13	0.20	0.14	0.12	0.16	0.21
2.0 or more	0.16	0.15	0.17	0.24	0.19	0.13	0.24	0.23
Ave. all households	0.10	0.10	0.11	0.16	0.15	0.15	0.19	0.22
No. of households	5306	5666	5781	17,002	10,460	10,307	10,380	10,439

Source: Adapted from D. W. Adams (1973) Mobilizing household savings through rural financial markets in economic development and cultural change Vol.26:3 p. 553.

\*one cho  $\approx$  2.47 acres or one hectare

1/ APS = Average Propensity to Save =  $1 - c/yd$  where  $c$  = consumption and  $yd$  = disposable income.

## APPENDIX TABLE III

APS of families in Korean farm household economy  
survey by farm size groups, 1962-1974

Farm Size Groups (in cheongbo*)	1962	1965	1966	1968	1970	1971	1972	1973	1974
0.5 or less	0.05	-0.05	0.01	0.06	0.03	0.17	0.02	0.15	0.22
0.5 - 1.0	0.12	0.01	0.09	0.11	0.13	0.24	0.21	0.19	0.29
1.0 - 1.5	0.16	0.06	0.10	0.20	0.16	0.34	0.34	0.27	0.35
1.5 - 2.0	0.15	0.12	0.13	0.23	0.26	0.35	0.30	0.34	0.43
2.0 or more	0.22	0.13	0.23	0.24	0.19	0.47	0.30	0.40	0.40
Ave. all households	0.15	0.04	0.11	0.16	0.15	0.29	0.24	0.26	0.33
Total No. households	1163	1172	1180	1181	1180	1180	1182	1170	2515

Source: Adapted from D. W. Adams: Mobilizing household savings through rural financial markets: in Econs. Dev. and Cultural Change vol.26 No. 3, 1978.

\*one cheongbo = 0.992 hectares or 2.45 acres

## APPENDIX TABLE IV

APS of 180 farm households in two districts of Punjab  
(India) by farm size groups 1966/67 - 1969/70

Farm Size (+) hectares	LUDHIANA DISTRICT				HISSAR DISTRICT			
	1966- 1967	1967- 1968	1968- 1969	1969- 1970	1966- 1967	1967- 1968	1968- 1969	1969- 1970
*Small	0.02	0.06	0.06	0.17	0.01	0.09	0.34	0.34
Medium	0.17	0.23	0.30	0.26	0.21	0.21	0.38	0.36
Large	0.18	0.22	0.28	0.25	0.09	0.17	0.37	0.34
Average	0.14	0.20	0.25	0.24	0.12	0.18	0.37	0.34
No. of households	72	72	72	72	108	108	108	108

Adapted from D. W. Adams: Mobilizing household savings through rural financial market: Econs. Dev. and Cultural Change vol. 26, No. 3, 1978, p. 555.

\* Small units < 3.5 hectares, medium = 3.5 - 6.0 ha and large > 6.0 hac.



## APPENDIX TABLE V

Rates of return on new rice varieties in India 1966-68

Main variety	Total expenditure per acre		Net returns per acre		Additional capital expenditure	Additional net returns	Rate of return %	
	HYV (1)	Local (2)	HYV (3)	Local (4)				(5)
<u>1966-1967</u>								
Kotaba	TN-1	128	68	132	269	61	-137	-224
Thanjavur	ADT 27	139	118	395	227	21	168	800
Cuttack	TN-1	296	82	646	377	214	269	126
Karnal	TN-1	113	54	491	348	60	143	236
Krishna	TN-1	202	101	482	565	101	-83	-82
Ernakulam	TN-3	365	226	692	792	139	-100	-72
Mahar Dist.	TN-1	194	126	261	310	68	-49	-72
Manya	TN-65	426	293	789	1124	233	-335	-101
<u>1967-1968</u>								
Birbhum	TN-1	401	221	NA	NA	180	-60	-33
Amritsa	TN-1	214	169	NA	NA	45	-175	-39
Saharanpur	TN-1	159	87	NA	NA	72	54	75
Thanjavur	ADT 27	183	139	NA	NA	44	133	302
W. Godavari	IR 8	294	138	NA	NA	156	163	104
Raipur	TN-1	104	110	NA	NA	-6	-340	-566
Varanasi	TN-1	159	125	NA	NA	34	-58	-171
Sibsagar	TN-1	NA	NA	NA	NA	82	206	252

Source: Adapted from Michael G. G. Schluter: "Role of co-op. credit in small farmer adoption of new cereal varieties in India. Spring review of small farmer credit vol. X 1973. USAID. Washington, D.C.

Note: No allowance is made for risk arising out of possible variation in yields of HYV's. Thus if the net returns per acre for the HYV's are discounted for risk say at the 50% level (common experience in LDC's) most of the rates of return on the additional expenditure on the HYV would be negative. In that case adoption of the HYV by small farmers even where credit is available would not be profitable and would support the view that proven and profitable technology has not always been available with credit.

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Chapter V  
AGRICULTURAL CREDIT IN THE GAMBIA  
(Case Study)

(1) Introduction

This chapter, a case study of the Gambia's experience with agricultural credit programs, is included to help illustrate some of the more common problems often faced in the design and implementation of small farmer credit programs.

Because of its small size (in terms of land area and population) and fairly homogenous structure of its agriculture, i.e., the small size of farms dominated largely by subsistence producers engaging in the production of a narrow range of food and cash crop, the complete absence of large scale commercial estimates or plantations hardly qualifies the Gambia as a good choice with which to illustrate the agricultural credit problems of the developing world.

However, financial and time constraints, the author's familiarity with the Gambia based on over fourteen years of service with the Gambia's Ministry of Agriculture, and difficulties in obtaining funding to support on the site study of small farmer credit programs in another country, have been the main reasons for the choice of the Gambia as a case study.

Furthermore, the paucity of material on the Gambia and the author's plans to pursue further research work on the issues and factors relevant to the effective operation of small farmer credit programs in the Gambia

have been a major force leading to the choice of the Gambia as a case study.

### Background

The Gambia is a small country on the extreme western tip of the western African land mass lying between latitudes  $13^{\circ}\text{N}$  -  $13^{\circ}35'\text{N}$  and longitudes  $13^{\circ}45'\text{W}$  -  $16^{\circ}50'\text{W}$ . It is bounded to the North, East and South by the Republic of Senegal and to the West by the Atlantic Ocean. Land area is estimated at 4000 sq. miles or  $10,400\text{ Km}^2$  which is divided almost equally into north and south territory by the river Gambia running the entire length of the country. The population of about 603,000 (1980 estimate) is 60-75 percent rural and engaged in agriculture. Official statistics indicate that the agricultural sector (Table VI) contributes about 30 percent of GDP (factor costs) and 90 percent (Table VII) of export earnings (FYP 1981/82-1985/86, p. 140/57). The dominant aspect of climate in the Gambia is the juxtaposition of five months of an intensely wet season (though the drought of 1974-1980 has introduced changes in the pattern of climate) with about seven months of dry season. Cochemé and Franquin (1967) relate the structure of local weather to the cyclical imbalance of high pressure regions centered north and south of the equator following the apparent passage of the sun. The Inter-tropical Convergence Zone (ITCZ), the boundary interaction of high pressure regions advances northwards several weeks behind the sun and produces the atmospheric conditions suitable for rainfall. Climatic and vegetation zones in this part of the world tend to be very narrow producing greater north-south than east-west variations. Tropical rainforest becomes evident 200 Km (125 miles) south of the Gambia while desert conditions are encountered 500 Km (190 miles) to the north. Annual rainfall is

APPENDIX TABLE VI

GDP at Producers Value (Factor Cost) by Broad Industrial  
Origin in Constant 1976/77 Prices (in million dalasis)

Sectors	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	Annual growth rate (%) 1974/75 1979/80
Agriculture	107.0	102.4	103.8	90.0	112.5	70.6	76.9	-8.0
Industry	8.0	14.3	14.3	12.4	16.2	12.9	13.7	10.0
Electricity & water	1.3	1.4	1.8	1.8	1.3	2.0	0.1	9.0
Construction, mining and quarrying	16.4	16.1	17.2	24.9	26.8	28.8	0.5	11.9
Hotels & restaurants	7.4	7.6	7.1	5.5	10.4	8.2	0.1	2.1
Transport, storage and communications	15.3	18.5	19.8	21.4	26.8	29.8	8.3	14.3
Trade	36.8	44.8	48.5	45.6	53.7	59.0	0.5	9.9
Banking & insurance	7.2	10.9	9.7	10.5	11.1	12.5	12.3	11.7
Real estate/business services	13.7	13.9	14.2	14.5	14.8	15.0	15.3	1.8
Other services	5.9	6.3	6.5	7.1	7.5	7.9	8.3	6.0
Govt. services	25.8	29.7	37.1	42.9	44.4	49.5	55.6	13.5
Imputed bank charges	-5.2	-6.4	-6.2	-6.4	-7.9	-8.9	-8.7	11.4
GDP (Factor Cost)	239.6	259.5	273.8	273.2	317.6	286.3	287.9	3.6
GDP (Market Prices)	296.6	331.9	347.6	329.6	379.0	341.9	327.8	2.9
Agric. as % GDP (at Factor Cost)	44.7	39.5	37.9	32.9	35.4	24.7	26.7	

Source: Govt. of the Gambia FYP 1981/82 -1985/86 (Table 5, p. 25).

Average annual contribution of agriculture to GDP is 30 percent.

Table VII  
Exports by Principal Commodities 1974/75-1980/81<sup>1</sup>  
(in million dalasis)

	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81
G'nut shelled/unshelled	47.0	43.7	52.6	26.2	40.1	35.8	12.6
G'nut oil unrefined	26.1	21.8	31.0	27.6	16.7	14.7	14.9
G'nut meal & cake	7.7	5.8	14.5	9.2	5.9	5.1	3.4
Total G'nut products	80.7	71.4	98.0	63.0	62.8	55.6	30.9
Palm kernels & nuts	0.7	0.4	0.8	1.6	0.8	0.8	0.9
Fish/fish preparations	1.7	2.6	4.8	7.6	3.7	6.6	6.4
Other products	0.5	0.7	1.1	2.2	2.1	1.8	2.7
Total domestic exports	83.4	75.0	104.6	74.4	69.4	64.8	40.9
Re exports	1.5	2.3	4.6	13.6	25.0	18.2	15.0
Total exports (f.o.b.)	84.8	77.4	109.2	88.0	94.3	83.1	55.9
% g'nuts to total domestic exports	96.8	95.2	93.7	84.7	90.5	85.8	75.5

(1) Figures for 1977/78 - 1980/81 are preliminary.

Source: Government of the Gambia FYP 1981/82-1985/86, page 27.

Note: Average % contribution by g'nuts to total domestic exports is 90.0%.

about 50 inches (1270 mm) in normal years although in the last 8-10 years, precipitation has fallen far short of the annual average. Most of the rainfall occurs between the months of July, August and September. Mean monthly temperatures (min.) are about 19°C (66.2°F) while mean maximum monthly temperatures are about 24°C (75.2°F) although considerable variations do exist especially between the eastern and western or coastal parts of the country. Annual rainfall shows little east-west variation but there is a tendency for a marked increase along the coastline.

The climatic pattern, the short duration of the seasons as well as the uneven nature of the rainfall have important implications for the agricultural producer as he makes his production decisions:

(a) Because the season is short, only those crops which can be planted and harvested within a timeframe of five months (except crops which may be stored underground, i.e., cassava) can be grown and excluding irrigated rice in the McCarthy Island and upper river divisions only one crop per season or per year can be grown.

(b) Excepting a few places bordering on the river Gambia, the establishment or permanent pastures for improved livestock production (beef and dairy) must be ruled out.

(c) Any delay in the onset of the rains could give rise to producers (farmers) shifting away from cash crops to food grain production since most of the food crops have shorter growing periods relative to cash crops such as cotton and groundnuts (peanuts).

(d) Realization of a harvest (assuming even normal rains in terms of quantity and distribution) is essentially a race against time as the producer must carry out all of his field operations on time if he/she

is to be assured of the harvest upon which may depend the survival of his/her family.

(e) Institutions and support services to agriculture (cooperatives, credit agencies and input suppliers) must strive to organize their operations such that farmers receive inputs (seeds, fertilizers, pesticides) and credit on time. Delays in providing any of these services could adversely affect output, farm income and, consequently, farmers' ability to repay loans received during the season.

## (2) Agricultural Production and Practices

Production of agricultural crops and livestock products is carried out largely by peasant producers operating essentially individual family farm units locally referred to as dabadas. There are no estates, land settlement schemes, plantation operations or cooperative farms. It has been estimated (FYP 1981/82-1985/86) that approximately 40,000 dabadas (households) averaging 12 persons each operate holdings which average 1.235 acres (0.5 hectares) per adult household member. Although cattle may be owned by the household, it is common for these to be herded by full-time "shepherds" or herdsmen (who may at the same time render the same type service to several households in the village or district) and the integration of crop and livestock operations is still very much limited.

Farm sizes are small averaging between 14.82 and 17.8 acres (6.0 - 7.206 hectares) per dabada and often more than one (in general several plots scattered over a wide area) may be operated. Allocation of land between the various cropping enterprises of the household may vary



widely but would tend to follow the pattern shown in Table VIII.

Table VIII  
Area of Crop per Sampled Dabada  
1973-1974

Crop	1973		1974	
	hectares	acres	hectares	acres
Groundnuts (peanuts)	2.6	6.5	3.2	8.0
Millet major crop	1.0	2.5	1.0	2.6
Rice (rain fed - alluvial)	0.8	2.0	0.9	2.3
Rice (upland)	0.6	1.5	NA	NA
Sorghum (major crop)	1.0	2.5	1.9	2.6
Total Area	6.0	15.0		

Source: Land Resources Study No. 22. The agricultural development of the Gambia Ministry of Overseas Development U.K. (p. 173).

NOTE: The total mean area per farming unit with these crops was 4.1 ha. (10.2 acres) in 1973 and 4.6 ha. (11.5 acres) in 1974. Data based on a sample survey of 620 farming units in 1973 and 2284 units in 1974.

The subsistence nature of farming in the Gambia is reflected in the table. A greater portion of available land about 57 percent is devoted to food crop production while 43 percent goes into the production of cash crop although food crop supplies in excess of the household needs may be marketed to provide an additional source of income.

Use of irrigation in crop production has been successfully introduced in recent years for rice and to a limited extent vegetables. Rice production is largely undertaken in the eastern half of the country above the salinity limits of the main river.

Seed for planting is largely supplied by farmers themselves from the previous harvest although the government (through the seed multiplication division of the Ministry of Agriculture and Natural Resources) is intensifying efforts to make improved seeds available (at competitive prices) to all producers. Fertilizer use has steadily increased from 4000 metric tons per year in 1974/75 to 10,000 metric tons per year by 1979/80. This quantity is only just sufficient to fertilize 40 percent of the acreage under groundnuts and 28 percent of acreage under cereals at current levels of application.

Mechanization of farm operations has been cautiously introduced although this has been limited to animal drawn equipment (to aid in seed-bed preparation, planting and harvesting operations) except in the irrigated rice growing areas where small diesel pumps, threshers and diesel powered cultivators have been introduced. Tractor plowing services are provided by the Ministry of Agriculture's rice land plowing services but these continue to be supplied through the co-operative societies.

Although the department of agriculture would be celebrating approximately sixty years of continuous existence and operation, crop yields are still very low. Recent figures (though not very reliable) indicate that average yields per acre are about 1100 Kg/ha (981.82 lbs/acre) for groundnuts and 700-800 Kg/ha (624.79 - 714.05 lbs/acre) for cereals (millet, sorghum, maize and upland rice) not including irrigated rice. This low level of achievement may be explained in part by the fact that until recently research effort has concentrated on adaptive work and fertilizer testing to determine optimum dosage rates on what are essentially unimproved crop varieties. Other factors which have contributed to the existing low crop yields include the unavailability of indigenous

qualified research personnel (to provide for continuity) and the absence of a clear focus of research policy over the past several years. In addition, effective coordination of research effort at the national level has been and continues to be the weak link in the research services. However, with more indigenous and qualified personnel now joining the ranks of the research establishments, it would not be unrealistic to expect that this area will soon be strengthened enough to have the desired impact and contribute its quota in the national development effort.

Cash crop production is dominated by groundnuts, accounting for about 90 percent of agriculture's contribution to gross domestic product (factor cost). In the period 1965/66 to 1970/71 and 1980/81, total export sales varied from 110,000-135,000 tons of unshelled groundnuts valued about U.S. \$15 million on average per year while palm kernel exports brought in another U.S. \$0.4 million (average/year) representing approximately an average of 2000 tons per year. Commercial cotton production started in the mid 1970's is rapidly becoming a third important cash crop with 1980/81 sales figures of about 1389 metric tons representing about U.S. \$0.2 million.

Subsistence crops include sorghums, millets, rice and cassava. Traditionally, sorghum and millet have been the main staples but in the last twenty years, rice has become the dominant staple for the majority of the population. About 40,000 metric tons of sorghum and millet and between 27,000 metric tons to 40,000 metric tons of rice (paddy) are produced annually. Small quantities of cassava (*manihot* spp) and Findo (hungry rice or *digitaria exilis*) are grown but mainly

as backyard crops to tide rural families over the lean periods of the year (July to late August) when food stocks from the previous season's harvest are low or exhausted. Small quantities of these crops may, however, be sold in the urban markets to provide extra cash for the household. Vegetables are becoming very important in the diets of rural people and are now widely cultivated both for supplementing the family diet and as a source of additional family income.

Livestock consisting of cattle, sheep and goats are widely kept. The size of the national herd is estimated at 280,000 heads of cattle with about 300,000 sheep and goats. In the past, animals were kept mainly as a social status symbol but the picture is now rapidly changing as more farmers begin to view their stock of animals as a source of steady income and wealth rather than a social symbol. Annual off take is estimated at 15,000 heads of cattle but is likely to grow rapidly with improvement in marketing facilities resulting from the creation of a national livestock marketing board to improve both the domestic and export marketing of beef and other livestock products (mainly hides and skins).

The marketing of agricultural produce (crops) has been the responsibility of the Gambia produce marketing board (originally the Gambia Oilseeds Marketing Board). Established in 1949 as a state monopoly, the GPMB has until recently concentrated on the domestic purchase and overseas marketing of export crops (mainly groundnuts, palm kernels and their products). In 1971, the activities of the GPMB as well as its areas of responsibility were broadened to include the domestic marketing of food grain crops and other agricultural products for domestic

consumption. The GPMB carries out its functions through a network of intermediaries consisting of the cooperative union, licensed buying agents (LBA's) and private dealers who are under contract to sell to the board at a predetermined price.

### (3) Agricultural Development Strategy

Overall development strategy of the Gambia has -- since independence from Great Britain in February 1965 -- focused primarily on agricultural development as a vehicle for national progress. This focus of policy is easily understood if one takes into account the very peculiar characteristics of the Gambia namely, the complete absence of any form of exploitable mineral resources; the predominantly rural and agricultural nature of the population, and the extremely small size of the country (hence, the domestic market) which makes large scale manufacturing and heavy industry development totally unrealistic as a policy goal. Accordingly, the first and second five year development plans (1974/75-1985/86) have emphasized a three pronged approach to agricultural development:

(a) increasing export earnings from agricultural through increased production and productivity of the resources employed in agriculture as well as the generation of productive employment in the rural sector.

(b) diversification of the sources of agricultural earnings, i.e., production of a variety of cash crops, increased exploitation of forest products, livestock development and better and more effective fisheries projects.

(c) self sufficiency in food supplies, basically cereal grains of which rice is the most important crop although greater attention will be devoted to increasing the yield potential of maize, millet and sorghum than has so far been the case.

To give effect to the policy pronouncements, the current five year development plan (FYP 1980/81-1985/86) proposes to spend D 131.2 million on agriculture representing 28 percent of total development expenditure over the period as compared to 16 percent of expenditure during the first five year plan (1974/75-1979/80). With this 29 percent increase in allocation to the agricultural sector, it is projected that groundnut production and export will increase from 110,000 metric tons at the beginning of the period to about 135,000 metric tons by 1985/86 representing a 5.3 percent annual growth rate of output. Food crop (cereal) production, i.e., projected to grow at an annual rate of 4.6 percent from 66,000 metric tons at the beginning of the plan period to 79,000 metric tons by 1985/86. Overall, the plan projects a 35 percent increase in domestically consumed food and a 45 percent increase in marketed exports. Given the diversity and magnitude of the problems in the agricultural sector as well as the short duration of the plan, it is doubtful that these growth rates in output can be attained over a five year period. Table IX summarizes the projected increases in output for both domestically consumed food crops and marketed exports over the duration of the plan. It is hoped that expected increases in output of food crops will come partly from reduction of crop loss currently representing 10 percent of annual output or 4000 metric tons (estimated at 4.409 million) and partly from expansion of area under cultivation as well as

increases in yield and productivity of the resources employed in food production.

Table IX  
Projections of Agricultural Production  
1981/82-1985/86 (Thousand metric tons)

	1981/82	1982/83	1983/84	1984/85	1985/86
Groundnuts (peanuts)	110.0	127.0	130.0	132.0	135.0
of which available for purchase	93.0	111.0	114.0	115.0	118.0
Cotton	1.6	2.0	2.5	3.2	4.0
Cereals:					
a) Sorghum	14.4	14.7	14.9	15.2	15.5
b) Millet	18.2	18.5	18.8	19.3	19.9
c) Maize	8.2	8.3	8.6	9.0	9.8
d) Findo	1.3	1.3	1.3	1.4	1.4
e) Rice (Paddy)	36.4	36.9	42.6	45.2	48.5
(i) Rainfed rice	24.6	24.8	25.2	25.3	25.6
(ii) Irrigated rice	11.8	12.1	17.4	19.9	22.9
Total cereals including rice (as milled)	65.8	66.8	71.3	74.4	78.8

Source: Government of the Gambia Five Year Plan for Economic and Social Development 1981/82 - 1985/86. Government Printer Banjul.

Note: Figures assume the following growth rates

- (i) Groundnut 1.0 percent per year
- (ii) Sorghum, millet & findo 1.5 percent per year
- (iii) Maize 2.0 percent per year
- (iv) Rainfed rice 1.0 percent per year
- (v) Irrigated rice 2.0 percent per year

Strategies to achieve the planned growth rates in agricultural production include intensification of efforts devoted to agricultural research (better trained indigenous personnel, upgrading and improvement of research facilities as well as the reorientation of research policy to focus on problems which reflect the farmers' concerns better), creation of an incentive structure for agricultural producers, i.e., pricing policies, infrastructural improvements and the development of more effective food grain marketing outlets with minimum guaranteed prices. In addition, availability of agricultural credit through formal institutions (the national agricultural development bank) will be improved with greater effort being devoted to the mobilization of rural savings as a means to fostering the development of independent rural financial institutions. However, the stipulations in the five year plan (FYP 1981/82-1985/86) to give more emphasis to production credit as opposed to consumption credit and the planned phasing out of consumption credit by 1984/85 is a cause for concern.

#### (4) Experience with Agricultural Credit Programmes

The Gambia has had considerable experience with formal (institutionalized) agricultural credit program -- dating as far back as the late 1940's with the establishment of the Gambia oilseeds marketing board (now replaced by the Gambia produce marketing board). Indeed, soon after the marketing board was established, the colonial government in an attempt to obtain rapid increases in the production of groundnuts, authorized the board to extend seed nut loans (to provide planting material) to farmers to bring about an expansion in the acreage devoted



to the production of the country's chief export crops. By 1958 seed nut issues had reached 168.8 tons valued at £ 3713.875 about (US \$10,398.85 at an exchange rate of US \$2.8 = £ 1.0) although distribution of seed nut loans had now been taken over by the cooperative societies which were set up in 1955 to assist members with the marketing of produce as well as the provision of formal agricultural credit. In addition to the seed nut loans provided by the marketing board, subsistence (consumption) credit amounting to £ 7,500 (US \$21,000) was also made available to farmers through the 25 primary cooperative societies in existence at the time. The fund being supplied to the societies by government for seven months at 1 percent above the bank rate of about 5.0 percent. By the end of the 1958 production season, 31.125 tons of the seed nut (18.4%) loan representing £ 684.75 (US \$1917.3) and £ 854 (US \$2391.2) of the cash loan (subsistence) of 11.4% were in default (Report of the Registrar of Co-op Societies, March 31, 1959, p. 4). Most of the defaults in both cash (subsistence) and seed nut loans were in 11 societies (all located in the Western Division) with the same individuals responsible for both types of loans in default. Although there was hope that defaulting members would be able to repay at some future date, the cooperative movement was in immediate danger of running short of operating funds. Even during this early stage of the development of the cooperative movement, some of the problems that have affected small farmer credit programs elsewhere in the developing countries have begun to create difficulties for the cooperative credit program. In particular, there was a high default rate of 18.4 percent in the seed nut loans and 11.4 percent on the subsistence (cash) loans. In addition there was an acute shortage of trained manpower to manage the operations

of the organization which by 1959 had covered 25 primary societies scattered throughout the country. Total number of staff was limited to one Registrar (stationed at the movement's headquarters in Banjul) supported by four Inspectors (junior officers) who would visit each society at least twice during the year to inspect the books of the societies to make sure that records were kept in accordance with the standards set by the organization. As a direct result of the acute shortage of personnel, activities of the cooperative organization were limited to the extension of subsistence and seed nut (production) credit and the marketing of members' produce through Gambia produce marketing board. However by the beginning of the 1961 season, seed nut loans were 381 tons valued at £8648 (US \$24,283.58) while by 1962 (the last year for the seed nut loan) seed nut loans were 528 tons valued at £18,482 or US \$51,754.22. Default in seed nut loan repayment continued to be high (9% for 1961) and accumulating. Subsistence credit extended to cooperative society members over the 1961/62 period also increased being £37,964 (US \$10,6603.0) for 1961 and £87,000 (US \$243,817.50) for the 1962 cropping season. By March 1963, the total amount of seed nut and cash subsistence credit outstanding and due for payment stood at £107,076 (US \$299,438.03).

Seed nut loans were discontinued after the 1962 issues primarily because of the increasing rate of default which the produce marketing board was not prepared to tolerate any longer. However, the cooperative societies continued to extend production and subsistence loans to members secure in the knowledge that Government would continue to underwrite the loss even if for purely political reasons.

Subsequent intensification of loan collection effort by the cooperative appeared to have been gradually paying off. For example, in the 1963 cropping season subsistence loans totalling  $\text{£}106,047$  or US \$296,569.44 were made of which all but 6.3 percent had been repaid by the end of the season. Further progress resulted in the reduction of the default rate to 3.0 percent on an annualized basis by the end of the 1964/65 trading season. Following this initially respectable performance by the cooperatives with respect to repayment, subsistence loan issues expanded dramatically to  $\text{£}154,486$  (US \$433,024.26) by the 1965 cropping season with a default rate of 3.0 percent at the close of trading in March 1966.

It is worth noting that throughout the three decades that the cooperative movement has been in existence in the Gambia, it has virtually remained a credit and marketing institution with very little or no effort being made to mobilize rural savings beyond the initial share capital purchase required of our members. The absence of any savings mobilization effort has given rise to an ever increasing insolvency and dependence on government loan guarantees and commercial bank financing of even their most basic activities as the extension of credit or the marketing of members' produce. Table X shows the pattern of growth in commercial bank lending to agriculture through the cooperative organization (guaranteed by Government through the Central Bank) from 1971 to 1979. The figures represent total borrowing to cover credit extended to farmers as well as funds required to finance the purchase of members' produce and other related marketing operations (transport, labor and equipment).

Table X  
Commercial Bank Lending to Agriculture  
Through the Co-ops in Dalasis

Year	Total Borrowing by Co-ops
1971	\$ 5,919,000
1972	9,369,000
1973	24,810,000
1974	26,308,000
1975	21,696,000
1976	20,612,000
1977	25,629,000
1978	35,215,000
1979	47,333,000

Source: Central Bank of the Gambia, Quarterly Bulletin 1976/80.  
Government Printer, Banjul.

However, the inability of the cooperative movement to generate its own funds through savings mobilization may be blamed partly on the cooperatives for not making the effort in the belief that savings capacity in the rural areas was too low and in part on Government policy regarding the interest rates that can be charged on loans to agriculture which, in turn, effectively limits the rate that the cooperatives could afford to pay on savings were they to pursue a vigorous rural savings mobilization policy in their areas of operation. Table XI provides a summary of rates of interest for various types of financial transactions from 1971 through 1980. For crop finance, cooperatives could borrow from the commercial banks at rates varying from 7.5 to 10 percent (fixed

Table XI

## Selected Nominal Interest Rates % per Annum by End of Period

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
<u>Central bank lending rate:</u>										
(i) Discount rate on comm. paper	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	8.0
(ii) Rate on treasury bills								4.5	4.5	6.0
(iii) Rate on crop finance	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
(iv) Non-seasonal advances	6.0	6.0	6.0	6.0	6.0	6.0	--	6.0	6.0	8.0
<u>Commercial bank lending rate:</u>										
(i) Short term advances						8-10	8-11.5	8-13	8-13	10-15
(ii) Crop finance	7.5-8	7.5-8	7.5-8	7.5-8	7.5-8	7.5-8	7.5-8	9-10	9-10	8.5
(iii) Discounts	--	12.0	12.0	12.0	12.0	12.0	12.0	12-13	12-13	13-15
(iv) Others	7-12	7-12	7-12	7-12	7-12	7-12	7-12	7-12	7-12	10.5-11
<u>Rates paid on deposits:</u>										
(i) Short term dep. accounts						2.5	2.5	2.5	2.5	5.5
(ii) Savings bank accounts						3.5	3.5	4.5	4.5	6-6.5
(iii) Time deposits a) 3 months								5.0	5.0	7.0
b) 6 months								5.5	5.5	6.5-7.5
c) 9 months						5.0	5.0	6.0	6.0	7-8.0
d) 12 months						6.0	6-7	7.0	7.0	8-9
Inflation rate (CPI all items with 1970 = 100)	103	112	120	131	165	193	217	236	NA	NA

Source: Central Bank of the Gambia Quarterly bulletin 1976-1981. Government Printer Banjul.

Note: Geometric mean of inflation rate = 62.230% for period 1971-1978

by Government) and, in turn, lend to members at rates not exceeding 15.0 percent (the rate at which individuals could borrow directly from the commercial banks) per year. Because the rates chargeable on loans to farmers are also fixed very low by Government, the spread between cost of borrowed funds and the nominal rate of return on loans extended to farmers is also correspondingly very small and effectively places a ceiling on the rates banks and cooperatives can offer to depositors of various categories. Given the high operating costs associated with lending to small farmers scattered over a wide area of the countryside (Adams 1979) as well as the high inflation rates that have characterized the economies of the LDC's over the past decade (estimated at 60.0 percent per year for the Gambia, Table XI), the rates of 2.5-9.0 percent paid on deposits are simply not attractive enough to insure the financial independence of the cooperative movement. Indeed, when inflation is taken into consideration the real rate of return that depositors realize would be negative just as the real rate of return to lenders are negative. For depositors, a negative real rate of return would mean that no rational individuals would save with the financial institutions (such as commercial banks and cooperatives) while for the financial institutions negative real rates of returns on loans means an income transfer to the recipients of the loans. Since the cooperatives obtain their funds from the Government, then it is the Government which is making the income transfer to farmers. The effects of negative real rates have already been discussed in Chapter IV. It should, therefore, not come as a surprise that the total borrowings by the cooperatives have increased eight fold (Table X) over the period 1971 through 1979.

Besides the low interest rate issue and the problems of management and staffing that have plagued the activities of the Gambia cooperative movement since its beginning in 1955, there are other issues which have tended to militate against effective cooperative organization. Among these, two problem areas stand out very clearly.

The first problem concerns the limited areas of activity of the cooperative movement. The movement has sort of specialized on the marketing of members' produce and the extension of subsistence and production credit (with greater emphasis on production credit) with very little or no effort being devoted to making sure that profitable and productive technology and technical assistance are provided along with the credit.

The absence of profitable technology in which recipients of loans could invest and the restriction of loans to the purely production activities of the farm household has tended to give rise to an increase in the incidence of loans being diverted to meeting other consumption needs of households.

In fact, the current five year development plan (1981/82-1985/86) has categorically indicated that subsistence (consumption) credit will be phased out by 1984. When that happens, there is most likely going to be an increase in the amount of production credit diverted to consumption needs unless, of course, attractive investment opportunities are created in agriculture to induce recipients of credit to invest in agriculture.

The second problem that the Gambia cooperatives have faced, has been the ubiquitous problem of political interference in the policies as well as the day to day operatives of the movement. For example, when the rapid rise in rate of default on subsistence loans threatened the viability of the movement by 1963, a 5 percent rule was set by the management committee (board of directors). Under this rule, societies

that did not repay fully 95 percent of loans received would have their borrowing privileges suspended until the rule was satisfied. By 1968, however, the rule had virtually remained a dead letter for the country was preparing for the republican referendum and politicians were anxious to get the required two-thirds majority to have the republican bill passed by the electorate. As a result, even societies with default rates exceeding 10.0 percent were allowed to borrow for the 1968/69 cropping season. For the most part, however, (given the exceptionally democratic nature of Gambian society) the ability of Government and politicians to manipulate the movement for political purposes arises directly from the total dependence of the movement on Central Government (through the Central Bank) to provide them with the necessary operating funds.

Beginning with the current five year plan (FYP 1981/82-1985/86) an agricultural development bank established in 1982 will take over all responsibility for coordinating small farmer credit activities of financial institutions in the country. Specifically the plan recognizes:

"That agricultural credit is important for increased agricultural production and that the current plan will increase the availability of credit and strengthen the technical and managerial capacity of credit institutions. Subsistence credit will be phased out and replaced by production credit before 1984/85 and the cooperative societies grouped into branch cooperatives."

The plan then goes on to add (p. 147) that:

"An agricultural development bank will be established to cater to the financial needs of the agricultural sector. It will provide short, medium and long term credit to individual farmers either directly or through cooperative societies for the development of agriculture, forestry, fishing, animal husbandry and beekeeping and for the marketing, transportation, storage and processing of agricultural produce. Attempts will be made to



mobilize rural savings as well as coordinate the activities of various institutions engaged in agricultural credit operations."

Except for the restriction of credit to the purely production needs of the rural household (which cannot be isolated from consumption needs in any meaningful way -- the two being interdependent for all practical purposes), the plan appears to address itself to the very thorny issues that must be resolved before any credit program designed to help small farmers will have significant impact on alleviating poverty in the countryside. There is need, however, to incorporate the consumption needs of the rural household into any considerations that seek to improve the condition of small farmers via agricultural credit (Tinnermeier 1973, Goodwin 1973, Miracle 1973, Long 1973 and Baker 1973). However, provision of agricultural credit (for production as well as consumption need) is not in and of itself a sufficient condition to secure improvements in the levels of income and output of small farmers. There is a need to ensure that profitable technology does exist and effective marketing facilities are created to enable producers take advantage of the economic opportunities that exist.

In the case of the Gambia, as in many developing countries, such improvements would have to take the form of increased availability of improved and high yielding varieties, improved road networks to effectively link production and marketing areas, greater orientation of research policy towards farmers' problems and better processing and storage facilities to reduce the high loss of produce that occurs.

## Chapter VI

### SUMMARY AND CONCLUSIONS

#### (1) Summary

The developing countries of Africa, Asia and Latin America have demonstrated remarkable performance over the last twenty-five years or so with respect to the level of economic growth attained. Much, however, remains to be done as the development effort continues to be stifled more by a variety of technological, institutional and managerial problems than by actual shortages of financial and material resources.

Convinced that credit availability (particularly agricultural credit) can have a catalytic effect in stimulating the adoption of technology -- and thus give rise to increases in income and output from farms -- many LDC's have embarked on a wide range and variety of agricultural credit programs. A large number of these programs have, however, remained ineffective for reasons deriving from the distortions put in place by domestic economic, fiscal, monetary and trade policies.

Furthermore, poor institutional structure and a neglect or inability to mobilize rural savings have continued to make formal credit institutions totally dependent on Government and Central Bank subsidy for continuation of operations. In addition, poor marketing facilities, poorly developed transportation and communication network as well as the total absence of market information have made it difficult if not

impossible for producers to take advantage of the economic opportunities which may exist.

Finally, the widespread use of low interest rate policies on agricultural loans, the absence of attractive financial instruments offering positive real rates of return to depositors in the rural areas, the limited availability or non-availability of durable consumer goods and the absence of demonstratively superior and profitable technology have given rise to a fragmentation of rural financial markets, the exclusion of rural people from participation in financial transactions, the exclusion of small farmers from access to the credit markets which all combine to militate against the adoption of technology. As a result, there is set in motion a vicious cycle of a low level of productivity and output from agriculture, a low level of income for people engaged in agriculture and depressed living standards for the majority of people in the LDC's.

The experiences of countries such as Japan, Korea and Taiwan have shown that the poverty of nations is not immutable and that economic growth with equitable distribution can be attained albeit with some difficulty. But for rapid and sustained economic growth to be attained there is a need for economic development policy to give greater attention to improving conditions of people who constitute the majority of the poor (i.e., the small farm household) than has so far been the case. Whether or not progress will be made in the desired direction will, to a large extent, depend upon the forms of Governments that are in power as well as the desire and willingness of those in power to make the needed policy changes.

The diverse nature, differing magnitude of the development problems facing the LDC's as well as their differential endowment with respect to human and material resources make it difficult, if not impossible, to advance any form of specific recommendations for a resolution of the many thorny issues that tend to impede progress. However, given the generalized nature of some of the problems mitigating against the development and effective operation of agricultural credit programs some general suggestions can be made.

## (2) Conclusions and Recommendations

### Government Economic and External Trade Policy

Whether or not efforts devoted to the development of profitable technology, competitive markets or the reform of credit and financial institutional structure will pay any dividends at all, will, to a large extent, depend upon the monetary, fiscal and external trade policies put in place by Governments in the LDC's. It will also depend upon the ability and willingness of subsequent governments to allow the system to function without undue interference.

Since economic activities take place within a political environment, stable governments and democratic systems and institutions are essential to the smooth operation and functioning of all financial institutions.

The maintenance of overvalued domestic currencies, the setting up of currency controls and restrictions and the levying of very high taxes on agricultural exports as a means for extracting the rural agricultural surplus may, in the end, backfire. Such measures often lead

to a shifting of the terms of trade in favour of imports and away from domestic agricultural production.

Furthermore, the enactment of industrial import substitution policies in the hope of securing faster rates of growth in output and income from the domestic industrial sector, may further depress farm prices, lower incomes to farm producers and hence, make investments in agriculture unprofitable.

In addition, the wide spread use of subsidies on farm inputs (fertilizers, seeds, pesticides and farm implements) as a means for offsetting the adverse effects brought about by poor economic and trade policies may only serve to bring about resource misallocation at the farm and national level. The net effect of such resources misallocation is that society's scarce resources may be used in the production of those goods and services for which the maximum possible benefits are not realized.

The reverse multiplier effect of such ill-conceived and misguided policies may create more serious development problems than these policies were aimed at resolving.

National economic development policy should seek to create the right incentive structure for both domestic and export producers without causing a dislocation of the resource allocation mechanism.

Such incentive structure should primarily aim at setting up the right pricing mechanisms such that input and product prices more appropriately reflect their scarcity value. This will lead to optimization in resource allocation at the farm level and consequently to efficiency in both production and consumption.

Finally, external trade policy should seek to bring about the production and export of that combination of commodities for which the country has the greatest relative competitive edge and to import those commodities for which it is least competitive given resource endowments. This, however, may raise questions regarding national independence and security needs but policy formulators should be aware that placing too much emphasis on security and independence needs may, in the end, compromise the objectives of development and economic progress.

Development policy must be based on sound economic reasoning and backed by a dedication and a commitment to see them through to their logical end.

#### Technology Generation

The discussions in Chapter IV have shown that appropriate and profitable technology has not always been made available along with credit. Instead, efforts have concentrated on the attempt to transfer and adapt technology from other parts of the world to the specialized conditions of individual LDC countries. These attempts have largely been unsuccessful because technology tends to be location specific.

There is an urgent need, therefore, for increased investment in agricultural research to develop suitable and profitable technology (seeds, animal breeds, fertilizers, pesticides and farm implements) to enable farmers to realize the positive real rates of return needed to justify the use of loan funds in production activities.

In addition, changes in national agricultural research policies are needed and these would have to show a greater orientation to the resolution of those problems that are of concern to the small producers.

To ensure that farmers concerns are reflected in national agricultural research policies, it is necessary to have farmers representation on regional or national agricultural research councils or boards where they exist. Where such organizations do not exist, development needs and the need for faster progress in the growth rate of agricultural output, may make it necessary to have some form of organization set up to facilitate farmers' participation in agricultural research policy formulation.

The remaining members of such research councils may come from the Cadre of research scientists, officials of the Ministry of Agriculture and Finance (to represent Government goals and objectives) as well as consumer groups. Official representation is necessary because in the final analysis, whatever policies are decided upon, they would have to be funded from public funds under the control of the Ministry of Finance while the agriculture ministry would have the responsibility for implementation. Once the research policy for the region or country is set, farmers cooperation with research scientists at every stage (from design to field testing) could be jointly arranged at meetings at the regional, district or national level.

This grass roots approach to technology generation has the advantage of developing the much needed "our" rather than the "their" feeling among farmers and would enhance a more rapid rate of technology adoption as farmers come to see such innovations as the outcome of their own efforts in cooperation with scientists in the field.

### Markets for Inputs and Farm Products

Availability of suitable and profitable technology although very necessary is not in and of itself a sufficient condition for achieving the desired increases in output or income from farms. Well organized and competitive input and products markets are needed to coordinate the production and consumption activities of the many small producers and consumers scattered over a wide area of the countryside.

The use of state monopolies -- marketing boards for exports and grain boards for food crops -- has not been very effective and a wide range of agricultural products still do not have ready or assured marketing outlets.

Of perhaps equal importance, many of the state export and food grain marketing boards are plagued by bureaucratic "red tape," poor and inefficient management, high costs and some times outright corruption. There is ample evidence in the literature to suggest that marketing boards as state monopolies have neither been successful in providing effective outlets for farm products nor in providing for stability in farm and consumer prices.

The need exists, therefore, to move away from state monopolies in agricultural products and input marketing to a privately owned and operated competitive marketing system. Government role in this area should be one of regulation and control through legislation, inspection and in creating the environment needed for the development of a private enterprise marketing system.

The development of effective, efficient and competitive input and product marketing system however, requires investment in infrastructure such as road network, transport systems, telephone and telegraph



communication facilities to speed up the collection and distribution of market information on a timely basis to producers as they make their production and marketing plans.

Furthermore, markets must not only provide assured outlets for farm products (food and cash or export crops), they must also facilitate the ready availability of farm inputs and such durable consumer goods that rural households may need.

In the early stages of the development of such markets, it may even be necessary for Government to step in and stipulate guaranteed minimum producer prices -- particularly for food and other non-export crops -- in order to nurture and maintain the full confidence of participants (farmers especially) in the marketing system.

Finally, legislation may be employed to create the legal environment essential to the development and smooth operation of agricultural commodities markets. Such legislation may initially concentrate on the promulgation of laws governing contracts, transactions in commercial activities, i.e., commodity futures and the setting up of the requisite regulatory authority to protect property rights and spell out the responsibilities of parties to such transactions.

#### Institutional and Organizational Reform

Credit and financial institutions set up in many of the LDC's to service the needs of small farmers have largely been an unmitigated disaster because (1) they have failed to bring about the expected increases in output and incomes for which they were established, (2) they have failed to achieve the independence and financial self-sufficiency essential to the efficient and smooth operation of a financial

institution, (3) they have failed to provide adequate financing to small farmers -- the bulk of their funds being channelled to large estate operators and commercial traders as cheap funds or income transfers and (4) they have largely remained an integral part of the government bureaucracy and subject to all the bureaucratic "red tape" and manipulation by government officials and politicians for purposes other than for which they were designed to serve.

Institutional and organizational reform is necessary to ensure that institutions fit their purpose. Any such institutional reform would at least have to satisfy three basic requirements:

(i) Reforms should seek to make credit and financial institutions independent of the government bureaucracy and machinery. This does not mean that national governments will have no role to play in the process. On the contrary, the national governments will have an important role to play. But such role would be centered around regulation and supervision, the provision of inspection and auditing services as well as the provision of facilities for deposit insurance.

(ii) Reforms must seek to make financial and credit institutions self supporting and profitable. To achieve this objective, it would be necessary as a first step to (1) abolish the low interest policy on agricultural loans; (2) allow financial institutions to charge commercially competitive rates of interest to all borrowers whether they are farmers or commercial traders and (3) facilitate a more aggressive rural savings mobilization strategy by all financial institutions.

Abolishing the artificially low interest rate policy will serve several useful purposes. In the first place, it will enable financial institutions to pay more attractive rates of return on deposits and

thus provide rural households with a strong incentives to defer current consumption in favour of saving and investing in income generating ventures to facilitate greater future consumption.

Secondly, the elimination of low interest rates on agricultural loans will automatically remove the implied income transfers brought about by the outright subsidization of agricultural loans. The distortions in resource allocation and use they bring about are also removed. Both small and large scale operators are, therefore, forced to employ input resources to the point where marginal costs are equated to the marginal returns resulting from the employment of those resources and inputs in the production process.

Finally, with the abandonment of low interest rate policies, the determination of the level of interest rates on all loans will be governed by supply and demand forces operating within the funds market. Assuming that funds markets are competitive, the rate prevailing at any point in time will be that rate which equates the demand for funds to the available supply. Since there is no excess demand at this equilibrium rate, the need to ration credit -- which invariably results in the exclusion of small farmers from the credit market -- is also eliminated.

(iii) Reforms must also seek to bring about greater small farmer participation in the decision making and day to day operation (administration) of credit and financial institutions at the district, regional and national levels.

The specifics of institutional or organizational reforms are likely to vary with the country and with changing times because the needs and circumstances of individual countries change over time. Built-in

flexibility is, therefore, required to enable institutions to respond to changing needs and times.

Using the Gambia as an example, the reorganizations in Chart 1 are suggested as a way of making credit institutions and organizations more responsive to the changing needs of small farmers.

#### National Structure:

(i) Divide the country into three agricultural credit administrative regions, i.e., western, central and eastern. Specifics of boundary and administrative feasibility may be worked out to reflect demographic structure, agricultural production patterns and other aspects.

(ii) Establish regional agricultural development bank, cooperative marketing, purchasing and service societies and production and credit cooperatives in each region. This facilitates specialization by type and size of loans.

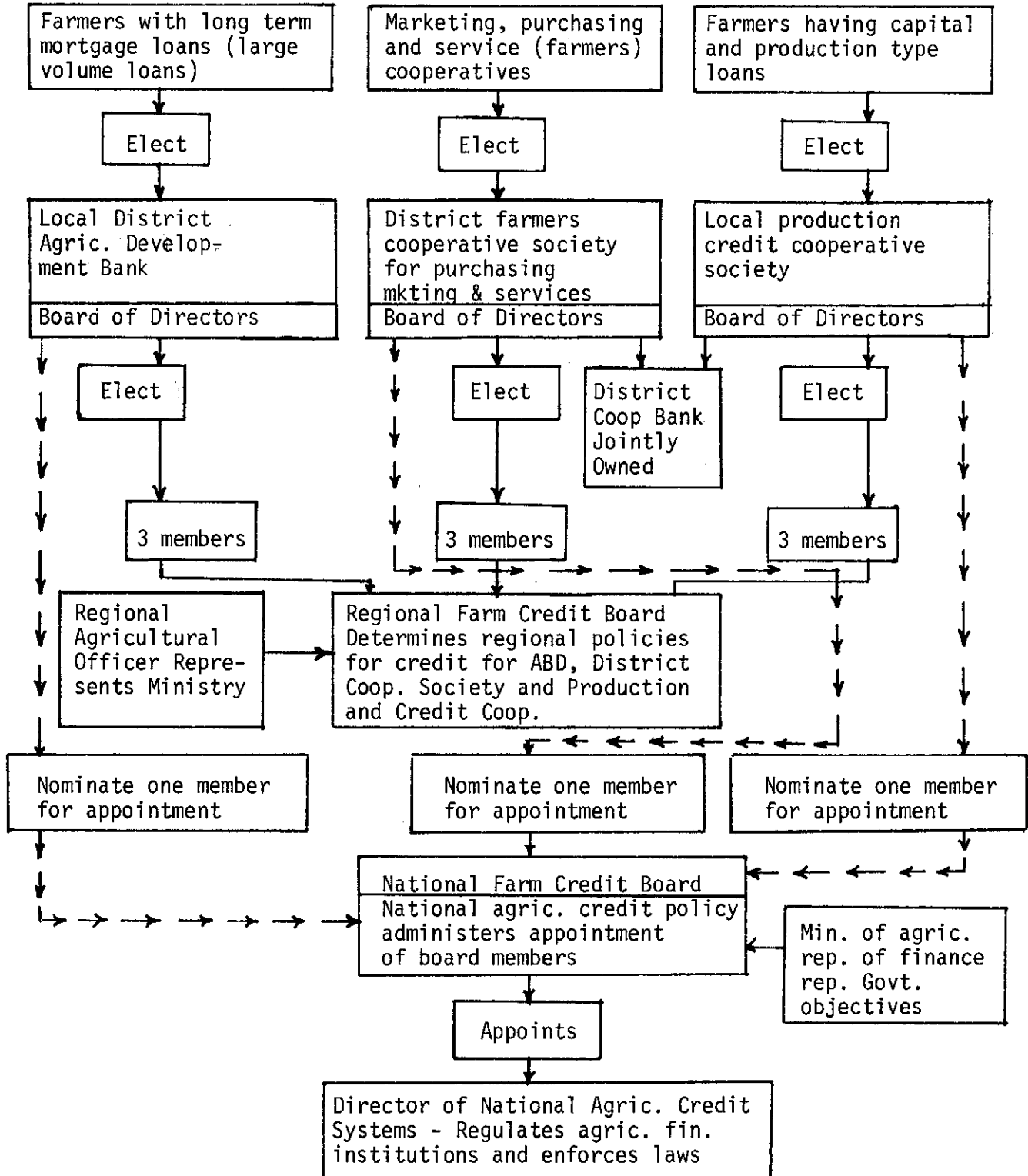
(iii) Financial and banking services should be provided by a regional cooperative bank jointly owned by the two types of regional cooperatives -- through the contribution of share capital as well as the sale of shares (primarily non-voting) to the general public and other investors.

(iii) Branch organizations of both the cooperative societies and cooperative bank should be established at the district level. This brings the institutions in direct touch with the people they are intended to service. It also facilitates a more aggressive savings mobilization strategy.

(iv) Each district cooperative elects its own board of directors and also nominates three members to the regional board of directors.

Chart 1

# How Farmers May Share in Control of National Credit Systems



Representation for Government agricultural development policy is provided through the permanent presence of the regional agricultural officer on the regional board of directors. This representation would also smooth the process of providing the much needed technical assistance along with credit.

#### Regional Structure:

The recommended structure for the credit system at the regional level is graphically represented in Chart 2.

The regional board of directors who are the legally elected representatives of the members of the cooperative societies is the administrative authority for the region except that any loan applications exceeding a certain maximum amount and duration to maturity, must be passed on to the national board for approval.

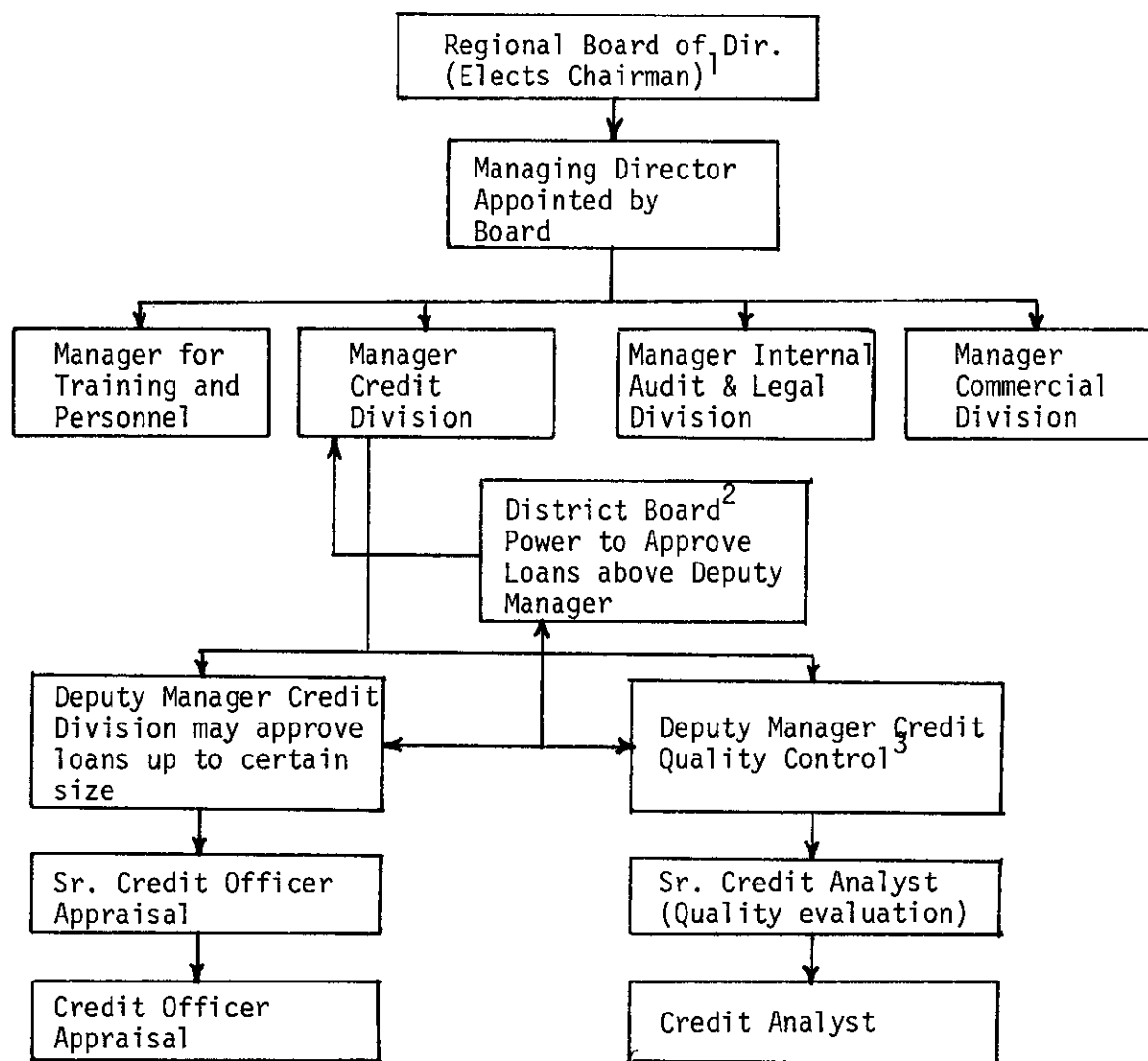
The regional board must, in addition, approve any proposed expansions within the region as well as identify, recruit and train personnel and staff for the regional societies and banks under its jurisdiction.

#### Financing the Proposed Reforms

The institutional and organizational reforms being proposed call for large scale capital investments in buildings and equipments, personnel and in operating funds. The funds needed for the set up can, however, be obtained from three main sources:

(i) member contribution of share capital would be the primary source of funds for setting up the cooperative societies as well as the banks to service their financing needs. Share capital contribution will, by definition, have to take the form of purchases of a minimum

Chart 2

Proposed Regional Structure for ADB and Co-op Bank

NOTES: <sup>1</sup> Loans above certain size and duration to be passed on to national board for approval.

<sup>2</sup> District approves all loans beyond the capacity allowed deputy manager up to a certain limit. Beyond this limit all applications must be processed through managing director to regional board.

<sup>3</sup> Complaints and Querries uncovered by Quality Control are sent to director for processing/redress. More serious cases of delinquency/default go to the district board first then to the Regional Board if unsettled below.

number of the societies' voting stocks as well as purchases of non voting stocks which may also be open to members of the general public.

(ii) Public institutions (local government agencies, parastatal organizations and publicly owned corporations) as well as private corporations may be given a tax incentive (initially) for investing in the stocks of such cooperative institutions. Such tax incentives would eventually have to be abolished as these organizations gather momentum and begin to operate profitably and compete effectively with other entities for the available funds.

(iii) Direct government assistance in the form of low interest rate loans or government loan guarantees may be essential to help the institutions obtain the needed start up capital. As the organizations become more profitable, they would generate sufficient cash reserves to repay the government loans and become financially independent entities.

(iv) It may also be possible for such organizations to tap the existing national capital markets by borrowing from private banks or obtaining the support of investment bankers in order to be able to float some bond issues. Given the lack of experience and expertise by most LDC countries in this area, it may be essential for government to help by creating the incentive structure to entice foreign or international investment bankers to assist with raising the needed capital.

(v) Finally, foreign or external aid may be sought for both funds supply and technical assistance which would inevitably be needed to set up the institutional structures that would be required to make the system operational.



Furthermore, regional economic cooperation could go a long way in making funds available provided governments are willing to allow the flow of funds across national boundaries. In the initial stages, there may be minor problems regarding the direction of flow of funds but as the system becomes functional, funds will tend to be attracted to the areas where the expected real rates of return are highest and this will largely be dependent upon productivity and profitability. Such occurrence will force financial institutions and credit organizations to strive for profitability and efficiency of operations in order to attract the needed operating funds.

#### Mobilization of Rural Household Savings

Once the problems of set up and starting capital have been overcome, continued profitable operations will depend, to a large extent, on the ability of the institutions and organization to generate large volume of funds to finance overheads and operations. This, inevitably, calls for more aggressive rural household savings mobilization strategies than has been the case. Up until now, saving mobilization has been a weak-link in the activities of financial and credit institutions in the less developed countries.

In order to operate an effective rural savings mobilization system, depository type facilities must be made available at convenient locations, and these must provide attractive real rates of returns to farmers or the rural households in order to entice them to save in preference to current consumption.

In addition, it is necessary to have deposit insurance facilities to develop confidence in the system. Deposit insurance facilities

must be operated by the national government to provide the security and guarantees needed for it to work.

In areas where settlements are few and far in between mobile savings and banking facilities may be set up and operated from the regional or district center until such time that volume of transactions and demand for the institution's services justify the construction of fixed facilities. A system such as the one being suggested has been tried and found to work in Taiwan, South Korea and Uganda. With proper control and supervision, there is every reason to expect it to work in other parts of the developing world.

To reduce the chances of outright embezzlement of funds entrusted to their care, bonding services may be provided to facilitate the bonding of all officers of financial institutions who would have the responsibility of handling the large volume of funds involved.

Finally, the availability of high quality financial instruments in which small farmers can deal will enhance the ability of institutions to attract more deposits from the countryside. Such instruments would include bonds, treasury bills, corporation stocks and negotiable commercial papers. Granted these instruments are not in widespread use in much of the developing world (except in the capital cities and large urban centers) but as the appropriate legal and incentive structures are put in place and confidence in the system developed, they can be easily introduced. It does not take much time for rural or seemingly unsophisticated people to learn, however, to play the economics game.

### Meeting the Management and Staffing Needs of the System

Without doubt, a sophisticated, efficient and well-managed financial system requires well trained and qualified manpower to manage and provide supporting staff to the various branches and units. But qualified and experienced persons to effectively manage a financial institution or credit system are in very short supply in many of the developing countries where access to higher education or professional training is still very much limited to the fortunate few.

Furthermore, institutions for the training of professional management personnel are rather rare and consequently, only a few qualified persons are turned out every year.

Training institutions and programs suited to the needs of the developing countries must be developed to provide the steady flow to meet the staffing needs of the financial institutions to be set up.

Since the ability of many LDC countries are circumscribed by acute resource constraints, regional cooperation may appear to be the most feasible way of developing and running these institutions. For example, cooperation between the many countries of the "club du sahel" or ECOWAS\* in setting up a regional management training school could very well hold the key to success in providing the much needed management staff.

At the national level, annual or semi-annual refresher or promotion courses may be organized and run jointly by the various regional agricultural credit institutions. They may take the form of workshops,

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\*ECOWAS: Acronym for Economic Commission of West African States with HQ in Lome-Togo.

seminars or intensive three to six weeks courses each year or so. In the initial stages, technical assistance from various sources may be sought to provide the needed training staff while indigenous personnel are being trained to take over and man the system.

On the job training for new entrants could be arranged by the respective institutions within their premises. This may also provide the opportunity for newly recruited managers, credit officers and analysts to gain experience and skill in dealing with farm people especially important, where such persons come from an urban background with little or no farm experience.

Training programs should provide managers, credit officers and credit analysts with sufficient skill in analyzing credit needs, repayment ability based on actual and projected cash flows from operations, determination of credit quality as well as farm financial reorganization techniques. They should also have an understanding of agricultural practices in effect in their areas of operation in order to be able to make needed projections or suggestions for improvements to the clients they service.

Familiarity with the design and management of financial information systems at the bank or credit institution level will enhance the ability of managers and officers in making sound and speedy credit and financing decisions. This would also facilitate the speedy approval and timely release of loans to farmers.

#### Decentralization of Decision Making Authority

Built into the suggested system is a device for the decentralization of credit decision making authority to facilitate the approval of

loans at various levels depending upon size and type. At the credit office level -- it is necessary not to tie down top management's time by passing all loan applications to the top. Small loans can be approved on the spot by the credit officers up to a certain cut-off point set by either the board or management.

Above this cut-off point, moderate sized production and or purchasing or service loans may be approved by the deputy managers and again up to a certain maximum amount. Above that amount, deputy managers may check the appraisal and forward to the manager with a recommended course of action. The manager may approve directly or in the case of capital loans, pass it on to the board of directors for approval at the regional level.

Large volume loans requiring national commitment of significant amounts of scarce national resources should be thoroughly scrutinized and approved or disapproved only at the national level after all members of the national board have been given adequate time to study and digest the contents of the loan application.

#### Specialized Credit vs. Total Farming Systems Approach

The small rural households activities are not easily separable into production and consumption decisions since both household consumption and production decisions tend to be intricately related. No useful purpose is, therefore, served by offering specialized consumption or production credit independently of each other.

In making credit decisions or offering financing services to producers, credit institutions should focus on the entire activities of the household and determine cash flow constraints or problems. Whether

or not such cash flow problems derive from production or consumption activity is immaterial because of the fungibility property of credit.

Credit decisions should seek to bridge the cash flow problems of the household in order to enable it to carry on profitable operations, generate enough cash flow to enable it to repay the loan and at the same time, realize an attractive rate of return to the resources used.

Which ever way the problems of agricultural credit are attacked, development from below appears to be the only way of reaching the rural poor who constitute the majority of the population in the developing countries.

The savings strategies, institutional structures and farmer participation suggested in the sections above might be a first step in a bootstrap approach to rural development in the LDC's. They are intended to stimulate the rural poor to increase their own capital base, provide a healthy environment for organizations to grow and allow local financial institutions to integrate with national financial institutions.

Current financial policies and institutions in LDC's are an unmitigated disaster for most of the rural poor (Adams 1978). It is, therefore, past time for making policy adjustments so that the rural poor are more fairly treated by this most important development instrument.

### (3) Limitations of the Study and Suggestions for Further Research

Readers will observe that this study raises more questions regarding the design and implementation of small farmer credit programs than it provides answers or solutions to.

The paper is uniquely lacking in specific recommendations or prescriptions which LDC's can follow in the development of effective financial and credit institution to serve the small farmers' needs. Specific recommendations for each country would have required extensive and lengthy periods of on the spot data collection which time and financial resource constraints did not permit.

For example, the literature is replete with strong criticisms of the "undesirable" and "usurious" activities of rural informal lenders yet only very little data is available on the structure of the informal funds market, the cost functions faced by participants or the range and type of services local money lenders provide their clients.

Secondly, aggressive rural household savings mobilization strategies have been advocated as a way of providing financial and credit institutions with much needed sources of operating funds. But only very little is known about rural saving propensities or the major factors affecting household production, consumption and savings decisions.

The data on rural household savings propensities is not and cannot be regarded as typical of all the areas of the developing world and cannot, therefore, be employed as the basis for advancing concrete recommendations.

Also, Government intervention activities and the likely effects of government policies on the performance of credit institutions have received wide criticisms in the literature. Yet as far as the author is aware, not enough studies have been undertaken to ascertain the specific impact of government policy on the free flow of loan funds or credit allocation in the developing countries.

Finally, most of the material used in carrying out this study was obtained from secondary sources and there was no way of verifying either their accuracy and/or validity.

These problems and limitations would seem to recommend more work in the area of small farmer credit institution development. For a start, design of a good credit system would presuppose the existence of adequate information on the informal system especially as regards costs, level of interest rates charged, risk levels and the nature and type of services informal lenders provide their clients.

Data is also needed on rural household savings propensities if effective savings mobilization schemes are to be designed and made operational. Research programs need to be set up to provide planners with the much needed but often non available micro and macro information.

Furthermore, micro level farm level studies need to be undertaken on a much large<sup>✓</sup> scale to develop a strong data base on input output relationships needed for determination of credit need and the projection of income necessary to the determination of loan repayment capacity.

Finally, macro-level research studies are needed to determine the effects that government policy may have on the flow of funds and allocation of credit to various economic groups in society. Unless such studies are undertaken and concrete empirical evidence available on the effects of the various government programs impinging on financial markets, it is doubtful whether economist or their recommendations will be taken seriously.



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