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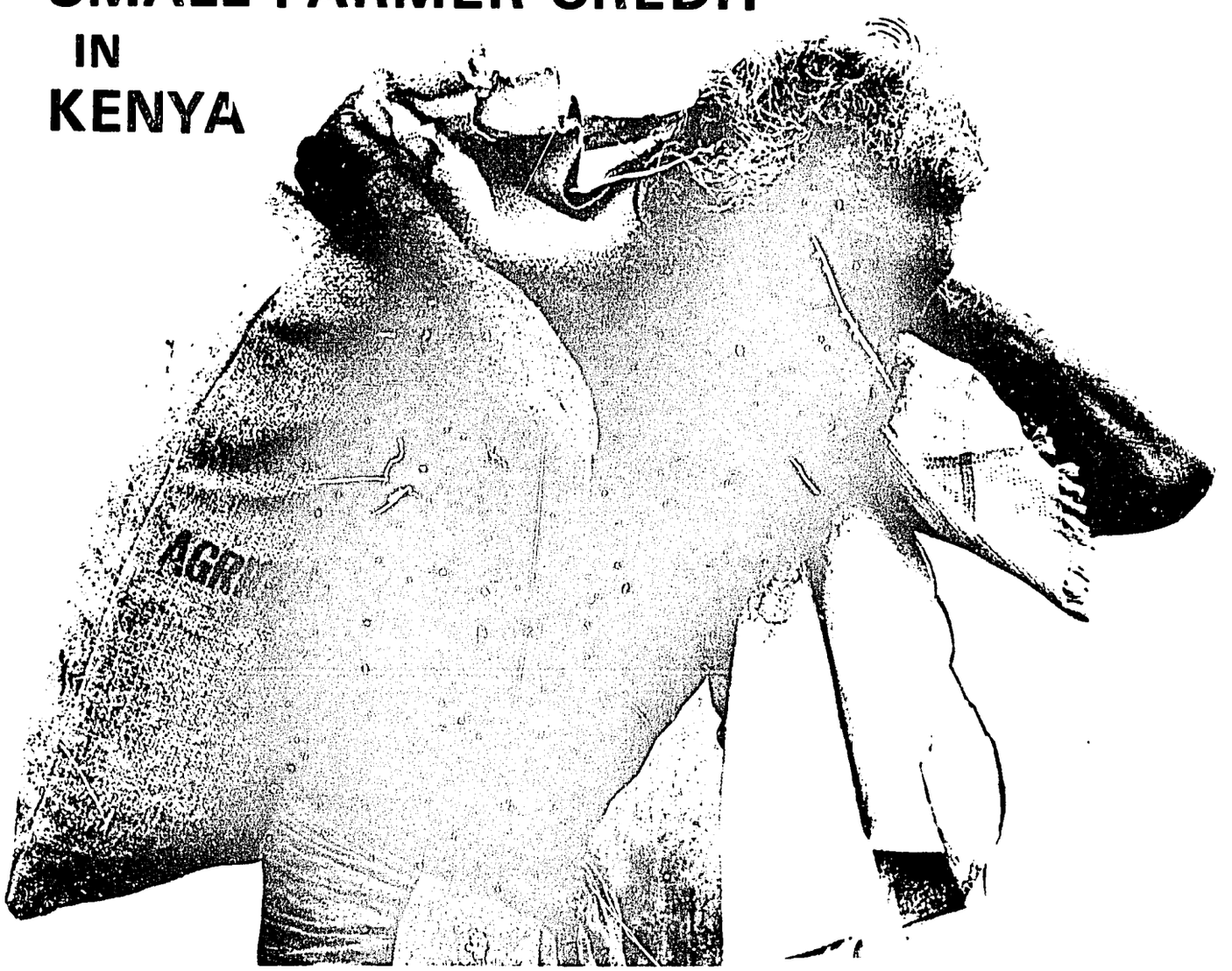
SMALL FARMER CREDIT IN KENYA



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"A Survey of Farm Credit in Kenya" by G.F. Donaldson and J.D. von Pischke.

This survey of farm credit in Kenya is presented in two parts. Part I reviews credit provision and requirements in the farm sector and discusses the related policy issues and strategies. Part II details the features of the major institutions and programs providing farm credit in Kenya, including their terms, procedures, and portfolio performance.

"The Vihiga Maize Credit Program" by ~~G.F. Donaldson and J.D. von Pischke~~ Peter Weisel et al.

The Vihiga Maize Credit Scheme was initiated in 1971 and continued during the 1972 maize production cycle. During 1971 some 76 farmers signed loan agreements to receive inputs in kind (fertilizer, hybrid seed and insecticide), of which 63 utilized the loan. In 1972 the program was expanded to include 383 farmers and, according to data collected in July, 1972, 320 had drawn on the credit.

Along with this loan package a system was devised to disseminate to the farmers technical information concerning the inputs. It utilized the existing Government agricultural extension service, focusing in 1971 on individual instruction to the loanees by extension agents and attempting to modify this approach slightly in 1972 to utilize methods of group instruction (primarily through farmer field days).

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COUNTRY STUDY

A SURVEY OF FARM CREDIT IN KENYA

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Washington, D.C.
February, 1973

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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL DEVELOPMENT ASSOCIATION

A SURVEY OF FARM CREDIT IN KENYA

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February 16, 1973

FOREWORD

1. This survey of farm credit in Kenya is presented in two parts. Part I reviews credit provision and requirements in the farm sector and discusses the related policy issues and strategies. Part II details the features of the major institutions and programs providing farm credit in Kenya, including their terms, procedures, and portfolio performance.

2. While the major concern of this report is with smallholder credit, no attempt is made to discuss this element in isolation from the overall agricultural credit scene. To do so would be to overlook what is perhaps the most critical factor affecting credit provision to smallholders in Kenya - the interaction between large-scale and small-scale farm needs and programs.

3. Grateful acknowledgement is made to the many officers of institutions involved in supplying credit to farmers, who provided data, interpretations and helpful comments without which this report could not have been compiled. Our thanks are also due to Sandi Scrivener who prepared the manuscript, and Shirin Velji who provided editorial assistance. The authors retain full responsibility for all errors and omissions in the full knowledge that they may be manifold.

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PART I

PRACTICE AND POLICIES AFFECTING SMALLHOLDER CREDIT

1. Survey of Farm Credit Provision and Requirements

1.1 Agricultural credit is provided in Kenya by a number of institutions and through a variety of programs. These reflect to a large extent the transitional features which characterize the Kenyan national economy. Accordingly, there exist side by side the old institutions which served the European farmers, who dominated the farm economy for the half-century before Independence in 1963; the new institutions designed to serve the African smallholder, who characterizes Kenyan agriculture today; and some special institutions created to facilitate the transition from the European to the African mode.

1.2 Overall, Kenya has an array of well-established credit institutions and programs oriented toward the farm sector. The institutional framework is, in many respects, much better developed than that of most other developing countries, both in Africa and elsewhere. On the other hand, the rapid changes of the last decade and the expectations for the future have created both a need and an opportunity for the employment of a variety of forms of farm credit which is already being reflected in the proliferation of credit programs operated through various institutions.

(i) Farm Credit Provision

1.3 Sources of Farm Credit. The oldest farm credit providing institutions in Kenya are those characteristic of a European agriculture: the commercial banks, the merchant suppliers, and certain quasi-government agencies. These include: (i) nine commercial banks, some of which have changed their ownership and policies since Independence; (ii) the merchant suppliers, mainly the Kenya Farmers Association(KFA) and several similar

but smaller firms, and (iii) the government-backed Land and Agricultural Bank, now amalgamated with the Agriculturel Finance Corporation (AFC), and the Guaranteed Minimum Return Scheme

1.4 The newest farm credit institutions are those introduced to directly promote the development of smallholder agriculture: the cash crop authorities, the cooperative movement, and a variety of experimental programs. These include: (i) the Kenya Tea Development Authority (KTDA), Pyrethrum Board, National Irrigation Board, Cotton Lint and Seed Marketing Board, Horticultural Crop Development Authority and Chemalil Sugar Out-growers Scheme; (ii) the Cooperative Societies, especially those associated with coffee production, and the more recent Cooperative Production Credit Scheme (CPCS); and (iii) the experimental programs of the major commercial banks and merchant suppliers, the FAO input supply schemes, and various related pilot programs, and the smallholder credit schemes of the AFC.

1.5 Between these there are those programs specifically instituted to facilitate the transition from a European dominated commercial agriculture to one based on African ownership, predominantly in the form of smallholdings. This category includes the components of the British land transfer program and its related development schemes, together with the supporting activities of the AFC and the older institutions. Of these, by far the most important are the programs supported by the Settlement Fund Trustees through the Department of Land and Settlement. The AFC and the commercial banks have, however, also had schemes that have contributed to this transition.

1.6 Outside of these formal institutional credit sources there is, of course, a traditional supply of credit within the rural society. This includes financial transactions between members of families and "clans" who may lend to one another or on occasions (and especially in some tribal groups) pool their savings in order to provide funds. Since the tradition of the extended family remains strong and the wealth of individual family members can, in relative terms, grow rapidly through their participation in the modern sector, this source of capital is likely to be an expanding one. Remittances of family members working in towns represent a major source of funds for a growing number of farm families. Similarly, it is known that credit is also provided in various forms by village head-men and merchants. As the traditional sector becomes increasingly monetized, it is likely that this form of lending is also expanding. No studies exist of this informal or unorganized credit market, but rural indebtedness to traders is generally thought to be relatively small and is not regarded as a social problem in Kenya.

1.7 Types of Credit Provided. This considerable array of credit sources can be classified conventionally into long-, medium- and short-term credit respectively. By convention, long-term credit is mainly that used for land purchase, medium-term for farm development including land clearing, buildings and equipment, and short-term for seasonal inputs. A classification of the major lenders on this basis is set out in Table 1.1

Table 1.1 LENDING INSTITUTIONS BY CREDIT TYPE

Credit Type	Institutions Providing	Proportion of All Farm Credit (%)	
Long	Agricultural Settlement Fund	33	
	Agricultural Finance Corporation	6	
	Commercial Banks	4	43
Medium	Agricultural Finance Corporation	18	
	Commercial Banks	11	
	Government Schemes	2	31
Short	Commercial Banks	13	
	Merchant Suppliers	9	
	Guaranteed Minimum Return Scheme	3	
	Cooperative Societies	1	
	Kenya Tea Development Authority	0.2	
	Pyrethrum Board	0.1	26
Other Institutions		0.6	

This classification is, of course, based on approximations since the defined use and the period of loans does not permit a precise breakdown into these somewhat arbitrary categories.

1.8 From Table 1.1 it is evident that, despite the number of programs in existence, most of the farm credit provided is from a relatively few major institutions. These are discussed in detail in Part II of this report.

The relatively high proportion of long-term credit extended reflects the extent of the post-Independence land transfer program. Outside of that, there is a relatively small amount of long-term credit in use. The AFC is the major long- and medium-term lender to agriculture (and in fact the dominant institution on the farm credit scene). The commercial banks provide the largest amount of short-term credit, though some of this may be longer in effect since much of it is in the form of overdraft facilities. However, these details achieve greater meaning once the characteristics of the borrowers are taken into account, since small and large farms are to a large extent served separately.

1.9 Competing Credit Users. The dominant feature of Kenyan agriculture is the existence of separate small- and large-farm sub-sectors. The small farms comprise some 1.2 million smallholdings, more than half of which are less than two hectares in area. The large farms comprise 3,500 farms and ranches, with an average size of 800 hectares (of which some 400 are owned by European families). The large farms produce about half of the marketed output, but the small farms sustain 90 per cent of the population. The original credit institutions, and indeed virtually all of the institutions serving agriculture, emerged to meet the needs of the large farms when under exclusively European ownership prior to Independence. Accordingly, the adjustment in agricultural institutions over the last decade has involved not only a shift to African ownership, but also a more significant adjustment toward meeting the needs of a smallholder agriculture. This re-orientation, while far from complete, has put the two sub-sectors clearly in competition - for land, technical

inputs and services and for credit, or at least for the skills and infra-structure that are necessary to provide it.

1.10 A breakdown of farm credit by sources for the two sub-sectors is provided in Table 1.2. This shows gross outstandings from the AFC and Agricultural Settlement Fund schemes and annual amounts granted by the other lenders in 1971 or 1972. Clearly, the large farm sector receives the "lion's share" of credit from the AFC, KFA and other merchants, and the commercial banks. With the exception of the Agricultural Settlement Fund grants, the total amount of credit available to smallholders is very small. Of the 1.2 million smallholders, it seems that fewer than 250,000 have access to formal credit. These 12-15 per cent are probably in the upper quartile of smallholders in terms of farm size and gross income.

1.11 Of the institutions serving only smallholders, the major sources in terms of volume of credit and number of borrowers is the cooperative movement. Of some 500,000 rural members, perhaps 15 to 20 per cent enjoyed access to cooperative credit, provided largely in kind and predominantly for seasonal inputs to coffee production. The KTDA and Pyrethrum Board programs also provide credit in kind. At various times, this has included planting materials and seasonal inputs. There is a notable lack of credit for production that might contribute to subsistence even though any surplus generated would effectively be a cash crop.

1.12 Those institutions lending to both sub-sectors generally provide less to the small farm category. Over the period 1967-1971, commercial

bank advances to agriculture accounted for 10 to 13 per cent of total bank lending with roughly 3 per cent going to African farmers (much of the balance going to statutory bodies and farming companies). Of the GMR advances, an estimated 4,500 were to farmers with between 15 to 20 acres of maize or wheat, while the balance were to even larger farmers. The small-scale credit programs of the AFC employ funds provided by the World Bank, the Federal Republic of Germany and AFC's own resources, but these amount to less than 15 per cent of their loan portfolio. The programs reach some 15,000 small farmers, again at the larger end of the smallholder farm size spectrum. The credit provided has been used mainly for production inputs, particularly dairy cows.

1.13 As revealed in Table 1.2, the various institutions providing farm credit generally cater for specific market segments or credit needs. The institutional structure is fragmented and there is no mechanism for coordinating the sources and flows of credit to the agricultural sector. The Central Bank of Kenya has no special programs or regulations affecting credit to the agricultural sector on a selective basis, and loans to the small-scale sector do not generate paper eligible for discounting or as security for Central Bank advances. As a consequence, the various categories of farms and types of production are not served on a uniform or integrated basis, as reflected in the imbalance in lending between the sub-sectors.

1.14 At a lower level, credit provision is frequently not well integrated with the availability of inputs (e.g., the shortage of grade cattle) nor with the provision of advisory services. When a number of

Table 1.2 Estimated Agricultural Credit Provided in Kenya - 1972

Source	Small Farmer Borrowers No.	Small Farmer Borrowers Amount KSh '000	Small Farmer Borrowers Amount US$ '000	Large Farmer Borrowers No.	Large Farmer Borrowers Amount KSh '000	Large Farmer Borrowers Amount US$ '000	Percent
1. Agricultural Settlement Fund	34,000	240,000	34,000	450	63,000	9,000	33
2. Agricultural Finance Corporation	15,000	32,000	4,570	2,300	186,000	26,600	24
3. Other Government Schemes	8,000	15,000	2,140	-	-	-	2
4. Guaranteed Minimum Return	4,500	15,000	2,140	2,500	15,000	2,140	3
5. Commercial Banks	9,000	50,000	7,140	3,000	205,000	29,280	28
6. Cooperative Societies							
- General	55,000	2,000	290	-	-	-	<1
- CPCS	35,000	4,000	570	-	-	-	
7. Kenya Tea Development Authority	21,000	2,000	290	-	-	-	<1
8. Pyrethrum Board	10,000	600	85	-	-	-	<1
9. Merchant Credit							
- KFA, etc.	5,000	20,000	2,860	2,200	44,250	6,310	
- machinery	-	-	-	-	21,200	3,030	9
10. Other Sources	2,000	300	43	400	3,450	490	<1
Total	200,000	381,000	54,428	3,500	538,000	76,850	

Source: Authors estimate based on annual reports and personal interviews. ASF, AFC, Coops General and Other Government Schemes are based on gross outstandings. Others are based on annual amounts granted in 1971 or 1972.

more recently established programs have sought to integrate extension and credit, they have resulted in the setting up of cumbersome and time-consuming arrangements directed mainly at assessing credit-worthiness. However, an increasing number of short-term credit programs for smallholders are based on the delivery of "packages" of production inputs which are supported by extension advice.

1.15 The advantages of the crop-oriented smallholder programs are that input packages can readily be devised, and that collection procedures are simplified by deductions being made from the proceeds of cash-crop deliveries. These factors clearly encourage their development. A major short-coming, up until now, has been that the institutions associated with each cash crop have single-mindedly pursued their own production program. Thus, there is no provision made for the delivery of inputs for subsistence crops, though this might increase cash crop acreages and the quality of production, and a combined cash and subsistence package could readily be delivered and paid for. On the contrary, some authorities have gone to considerable lengths to ensure that inputs such as fertilizer are not used on crops other than those intended. Further, there has been little or no willingness to establish reciprocal or centrally coordinated repayment deduction procedures whereby credit for subsistence, consumption, or other special purpose could be repaid through deductions from harvest proceeds of whichever cash crop the farmer happens to market. These represent opportunities which are unexploited at present for want of a more coherent set of policies relating to farm credit provision, and for lack of effective coordinating machinery.

(ii) Farm Credit Requirements

1.16 Uses of Farm Credit. The specific uses made of farm credit vary inevitably according to the nature and the stage of development of the agricultural sector of any economy, with generally more credit being used as farming becomes progressively more commercialized. In general, we might discuss three basic functions of credit in a farming context: (i) to provide access to or control over the basic factors of production, notably land; (ii) to promote increased production through development of resources; and (iii) to facilitate commercial transactions. These might be summarized as the "access", "development" and "commercial" functions respectively, which essentially define the uses of long-, medium- and short-term credit. Farm credit is used in Kenya for all of these purposes.

1.17 The "access" category includes all of the land purchase funds employed in the Land Transfer Program, together with those provided for private transfers by commercial banks and other sources. Because of the scale of land transfer since Independence, this has been a large part of total credit use over the last decade, though it is proportionally declining. The "development" uses have, on the other hand, grown progressively over the years, especially as the smallholder programs for coffee, tea, dairy, pyrethrum and other production have got underway. There remain, however, many forms of production for which no development credit is readily available. The "commercial" uses have also increased with the expansion of the smallholder sector, but may have increased little for agriculture

as a whole. This form of credit is normally employed for financing storage, the holding of stocks and advancing payments by the various agencies that serve agriculture, and not by farmers directly, though they are much affected by them.

1.18 Credit Needs in Kenya. The extent of farm credit needs in Kenya is a much discussed and controversial issue. Those who see a need for more credit essentially take the conventional line that credit is essential in the development of a more modern, and hence more capital intensive, agriculture. It is argued that credit, or rather the lack of it, is the major constraint on the intensification of both large- and small-scale farming. The main concerns are thus considered to be the institutional arrangements and lending conditions, including the means of obtaining repayment.

1.19 The opposing argument says that credit is not a major constraint on the development of Kenyan agriculture, at least at this point in time, and that providing credit through existing channels only serves to distort the pattern of access to resources and of production, thus worsening the income distribution pattern by benefitting those who are already well-off. In support of this argument, it is pointed out that some credit programs have been stopped without a decline in the rate of expansion; for example, in the case of the KTDA. It is also pointed out that Kenyan farmers are in a relatively advantageous position because of the number of cash crops they can produce, and it is reasoned that these generate sufficient liquidity in rural areas to offset the need for credit. The amounts paid by farmers in school fees, often as much as Sh 600-800 per child per year, are cited as evidence of this high level of liquidity. There is, further,

some evidence of available credit not being taken up by farmers. In the Vihiga maize credit program, for instance, many of the borrowers in the first year did not apply for credit in the next year, for reasons which remain unexplained. Also, some branches of commercial banks and the AFC report that they have more funds available than there are applications. However, they take no stock of the conditions on their loans and the extent to which these might exclude those who most need credit.

1.20 Whether or not credit is a major overall constraint in Kenyan agriculture may be irrelevant. What is almost certainly the case, in Kenya as elsewhere, is that credit is required for certain purposes and in certain situations even if it is not a constraint across the board. Further, it seems likely that existing programs - with some notable exceptions - are not meeting these needs as effectively as they might be. Some of these needs are relatively obvious, though sometimes difficult to provide for; and they include credit for all three functions described.

1.21 First, there is a need for certain types of <u>access credit</u>. Apart from the Agricultural Settlement Fund loans, now virtually at a standstill, there is relatively little credit available for land purchase, particularly to smallholders. This situation is paralleled by a relatively low turnover of formal land ownership in recent years. In turn, this undoubtedly reflects the reality that (i) many farmers are relatively new owners so that there has been as yet little occasion for transfers between generations, and (ii) legal interuption of ownership for reasons of bankruptcy or otherwise are virtually unheard of in the current scene.

However, access to land the the distribution of land ownership are highly charged social issues in present-day Kenya, reflecting the demands of a rapidly growing rural population. One means of alleviating some of this pressure lies in the creation of an effective market in agricultural land, which currently does not exist. If this were done, many larger farms might be sub-divided, promoting a more even distribution of ownership and more labor-intensive production. An important ingredient in promoting such a land market must be the provision of credit for land purchase by prospective smallholders. This might allow part of the clamor for land to become an effective demand. However, if such credit were made available it would be important to ensure that it was not used to promote land accumulation by a privileged group. Alto, there is no point in providing access to land without the seasonal inputs and other factors necessary to farm it.

1.21 The need for development credit is more complex. While the level of liquidity in rural areas may be sufficient to meet the needs of many farmers, there are many others denied access to new technology for want of funds. First, there are those whose holdings are too small to generate a cash surplus under traditional technology. Given effective establishment of an improved subsistence technology, a cash crop element would be possible. Though this might not be a feasible scheme for the very smallest farms, it is likely that a further 40 to 50 per cent of smallholders, in addition to those already with access to credit, could effectively use credit if a program were available to them. Of course, no single package could meet the needs of this large section of smallholders, nor suit the diversity of physical conditions that they work under. At present, there

would seem to be a significant shortage of appropriate technology to meet these diverse requirements. Further, it seems unlikely that many more could be served by lateral extension of existing smallholder programs, unless they were modified to include a subsistence crop credit element. Even then there are obvious market limitations upon such an expansion, though these have not yet been reached.

1.22 Second, there is a category of farmers who are unable to obtain credit under present circumstances because they are technically "uncredit-worthy". This includes many larger smallholders, both on settlement schemes and elsewhere, who have their collateral fully pledged or are otherwise ineligible to participate in credit programs. In many readily observable cases, part of the farm area may remain under-utilized for want of resources to bring it into production. This is, again, a special credit need which it is not possible to meet through existing programs, or on conventional lending terms.

1.23 Third, there is a need from time to time for credit to facilitate capital reconstruction. Despite the mild temperate climate that prevails over the most populated parts of the country, there are extensive marginal areas used for agriculture which are subject to drought. This can cause considerable destruction of working capital and production resources ranging from stocks of crop inputs to breeding cattle. The prolonged period required for rebuilding this capital can be much shortened, and the hardships of reduced income, lowered nutrition, and lost schooling significantly offset by the provision of credit for the purpose of capital

reconstruction after such natural disasters. Again, the conventional sources of credit and terms of lending will not meet this need.

1.24 Finally, even if credit were not a severe constraint on agricultural development, it may still be useful in promoting such development. Where the use of new technology is sought as a means of improving or expanding production, the availability of credit may provide some incentive to adopt the innovation, particularly if it diminished the short-run hardships or reduced the risks associated with innovation. Although credit has been used successfully for this purpose in Kenya (notably, at its outset, by the KTDA), its potential effectiveness is not well accepted.

1.25 The need for credit for commercial purposes is becoming increasingly recognized. The FAO fertilizer program has provided evidence that adequate and reliable supplies of inputs cannot reach the farmer unless funds are available for building storage capacity and holding stocks. Accordingly, there has been initiated a pilot program to provide some village stockists and cooperative unions with credit for this purpose. But, the need goes further than this if there is to be an orderly system of credit and repayments. The authorities responsible for cash crop production need credit to make farmer payments on time and cover the lag between farmer payments and eventual disposal of the processed crop. Currently, there is a shortage of such refinance facilities in Kenya.

1.26 In summary, despite the well established institutions providing farm credit in Kenya, which meets the needs of many farmers through a variety of programs, there seem to be many other credit requirements for

which there is no provision. Overall, the availability of credit is patchy in relation to the many apparent needs. Further, there seem many barriers preventing the existing credit structure from adequately meeting these needs.

2. Issues and Strategies Regarding Farm Credit Provision

(i) Structural and Administrative Aspects

2.1 Many of the shortcomings in the provision and uses made of farm credit reflect the limitations and imbalances in the system relative to the current farm situation in Kenya. The longer established farm lending institutions, such as the commercial banks, have changed little to meet the new challenges. Even the newer institutions such as the AFC are modeled on traditional concepts which are not well oriented to the immediate situation let alone the future. Those institutions which are oriented to the reality of a largely traditional agriculture, which must adjust to meet the needs of a rapidly growing population, are as yet small and less well established. The consequence is that the large farm sub-sector receives over 75 per cent of the short- and medium-term credit to produce some 50 per cent of the marketed output, while the smallholders obtain perhaps 25 per cent of the short- and medium-term credit to produce not only half the marketed output but provide subsistence for 90 per cent of the total population as well.

2.2 Structural Imbalance. Adjustments in the institutional arrangements have not kept pace with the dramatic changes in the national scene for several reasons. First, all of the older institutions are dominated by experienced staff with a wholly traditional outlook toward the role of

credit. Some of the banks are subsidiaries of overseas-based institutions. Thus, the adjustments that have been made by the older institutions have been restrained by the conservative conventional wisdom that prevails among them. Some of the adjustments that have been made, including the purchase by the Government of a controlling interest in the Kenya Commercial Bank and the setting up of the Cooperative Bank of Kenya were a response to the conservatism and rigidity of the commercial banks.[1]

2.3 Second, the process of land transfer from European to African ownership has "swamped" the system. Though credit provided for this purpose has not benefitted many farmers, it has diverted funds, resources and attention away from the mainstream of development. Since the African buyers usually had very little capital, a large proportion of total credit has been diverted to this purpose. Based on aggregate data, the 3,000 odd large farms carry an average debt (to the formal system) in the order of $25,000 each. The physical resources required for development have also been diverted to stocking the large farms and settlement areas to the relative disadvantage of the other 98 per cent of farmers. Further, the skilled manpower that might have been used to develop programs for the agricultural sector as a whole has been pre-occupied with the concomitants of the land transfer program to the exclusion of the rest of the country.

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[1] It should be noted, on the other hand, that the commercial banks are aware of some need for adjustment and have tried some pilot lending schemes of their own. In addition, they play a useful role in financing many broader functions which affect agriculture as a whole. The truth is that large commercial banks have rarely served agriculture as satisfactorily as they might in most countries, hence the frequency of "extra-bank" farm credit institutions around the world.

Consequently, relatively little thought or resources have been devoted to adjustments in the system overall.

2.4 Imbalances have emerged as a result at all levels of the system. At the top there is a lack of integrated policy and of policy-making machinery. The Central Bank of Kenya has no special programs or regulations that deal with the agricultural sector on a selective basis, and loans to farmers do not generate paper that is eligible for discounting or as security for Central Bank advances. The rural credit system thus operates in isolation of the overall financial management of the country. The principal institution concerned with agricultural credit is the AFC, and the only policy-making body is the Board of Directors of that agency. Although the members of this Board include most of those who might usefully be involved in the formulation of agricultural sector credit policy, there is no evidence that it functions in this way. Given the internal operational problems of the AFC, it is difficult to see how it could.

2.5 At a more functional level the credit system is isolated from the technical and managerial developments in agriculture. The technical staff who are involved are mainly concerned with problems of implementation - making the best of a difficult situation. There is little, if any, effective integration between extension programs and credit. When there are attempts to achieve integration, there is frequently little research and development on which to base a program and the contribution of the extension personnel is usually relegated to that of assessing creditworthiness and providing ostensible evidence of the potential of the proposal. In some situations they are also involved in the somewhat dubious role of payment collectors.

2.6 Remedying this situation is probably the most urgent task relating to farm credit in Kenya. The first requirement is that adequate policy-making procedures be implemented. This includes setting up a formal policy panel separate from any single lending institution , but with representation of all institutions involved, including the Central Bank, Ministry of Finance and Economic Planning, Ministry of Agriculture, commercial banks, AFC, the cooperative movement, and so on. This should become the apex policy-making body concerned with agricultural credit. To make it effective there must be an associated secretariat to provide policy analysis and reporting and to ensure implementation. This could be located in either of the main Ministries involved. The regulatory function could be fulfilled by the Central Bank with possibly some extension of its current procedures.

2.7 At a more operational level, there is a need for a unit to undertake the entrepreneurial function of exploring the development uses of farm credit, and of developing programs and delivery mechanisms to promote its use. While this unit must be closely associated with the policy and planning staff of the Ministry of Agriculture, the nature of its functions suggest that it should lie outside of direct civil service control. Presuming that the AFC was to be revamped to become a true development institution rather than just a "quasi-bank," such a unit could be located there. However, even within such an organization, it would need to have considerable autonomy in order to undertake pilot projects and experiments and to formulate programs for agriculture as a whole. It should also be free to deal directly with research and development groups and the extension

services in pursuing its entrepreneurial role. This activity would of course underpin the functions of the agricultural credit policy panel and its secretariat. Overall, this would provide the basis for developing an integrated and balanced credit system oriented to its potential uses as an instrument for development.

2.8 Administrative Limitations. Beyond the structural issues, there are many further constraints at the operational level. Even the newest institutions have maintained the tried and true administrative practices of the traditional lenders. Consequently, there is the same heavy emphasis on collateral as a basis for lending and obtaining repayments, an adherence to the gospel of low interest being essential for farm lending, and a lack of integration with technical and field specialists. As a result, little account is taken of the nature of the farming situation and its sequences, cycles and uncertainties. There has also been adherence to traditional accounting practices and control procedures, also unrelated to the institutional or farm situation. All this has been compounded by the move toward "Africanization," necessitating the employment of persons without adequate skills, largely because this need had perhaps not been foreseen and was thus inadequately prepared for by training schemes or programs for developing experience.[2]

2.9 The consequences of employing these practices are manifold and far-reaching. The insistence on adequate collateral, conservatively valued, augers against smaller farmers, those outside the areas where land

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[2] A notable exception is the CPCS, introduced by the cooperative movement, which is innovative in many of these respects.

registration has been completed, and those who have either mortgaged their land on purchase (and are hence "technically uncreditworthy") or do not own their land. The belief in the need for low interest rates makes agricultural lending less attractive, makes it difficult to cover the costs of lending in small amounts, and generally helps to ensure that farm credit provision is isolated from the broader financial system. The disregard for technological and management changes means that credit provision is not adjusted to the development opportunities that exist. Overall, the fact that procedures are not well related to the realities of the situation has resulted in a poor repayments performance and, in the case of some larger farms, has contributed to (or at least not prevented) the decline in their productivity and commercial viability.

2.10 One reason that these administrative procedures have been maintained is that alternatives are not readily available. However, there are some measures that might usefully be considered. First, it is clearly possible to evolve more straight-forward and fool-proof record and accounting procedures. Computerizing the system helps control, but records such as those introduced by the cooperative CPCS program should be further explored by other institutions. Generally simplifying and making explicit the procedures, terms and conditions related to borrowing might improve the performance overall. Second, as an alternative to accepting a high level of "write-offs," this expense could be taken in the form of higher staff costs for more intensive supervision and borrower education. This more positive approach could lead to steadily improving performance in this respect, whereas the acceptance of large losses on repayments has limited benefits for the country as a whole and in the long term.

2.11 Third, the question of interest rates needs to be resolved. Low interest rates, which may frequently become negative if inflation increases, would seem to provide little benefit and possibly costly consequences if viewed in a broad context. The available evidence suggests that most proposed innovations will readily provide sufficient return to cover much higher short- and medium-term rates. Low rates discourage lenders with opportunities outside agriculture and make any kind of short-term lending to small borrowers an unprofitable business. In a real sense, the interest rate limits how far along the spectrum a program can go while remaining viable. Thus, higher rates broaden the potential market. Further, since low rates generally apply to deposits as well as to loans, they also provide little incentive for the mobilization of resources or expanding commercial practices through increasing savings deposits. Rates at least double those prevailing in Kenya might be feasible.

2.12 Fourth, it is fairly evident that traditional institutions cannot effectively lend to a smallholder agriculture in the same way as to large farms - the costs will not allow it. Accordingly, it is essential that other delivery mechanisms must be used. Ideally, these will be integrated with other services and programs, and with one another. Finally, the nature of smallholder agriculture, especially in marginal climatic zones, makes it necessary that specific account be taken of the risk factor in production. The integration of lending and insurance programs would seem to be desirable. In addition, the use of flexible repayment schedules and other adjustments need to be introduced if lending to smallholders is to expand.

(ii) Expanding Smallholder Access to Credit

2.13 Development of Outlets. The use of credit in promoting smallholder development in Kenya is not restricted by the availability of funds. If nowhere else, these are available to the Kenya Government on fairly reasonable terms from both bilateral and multilateral agencies. The real barrier is the limited number of fundable proposals for credit use in rural development, and this in turn hinges on the institutional arrangements available. Since a relatively limited role has been seen for credit in the area of smallholder development, and because there are many problems involved in its use for this purpose, there is a consequent shortage of outlets or delivery points for small farmer credit. In all, there are no more than 200,000 smallholder borrowers, and there may be less if there are many cases where more than one loan has gone to a borrower. In other words, credit directly reaches less than 15 per cent of the smallholder population and less than a quarter of those with farms large enough to be able to use it effectively by the implementation of modern production technology.

2.14 The shortage of outlets is paralleled by the lack of deliverable packages. Although agricultural scientists have been able to devise a variety of packages embodying new technology for all kinds of situations, there is a lack of soundly-based packages in Kenya. There are two elements in this. First, there is a limited amount of relevant research directed toward the development of smallholder technology - the exceptions are tea, pyrethrum and maize. Second, there is a problem concerning the poor quality of extension advice. This is exacerbated by the shortage of suitable

packages, but derives mainly from the limited training of the farm level field officers.

2.15 A prerequisite for the expansion of credit access to smallholders is the removal of these barriers. This includes making the opportunities for credit use more widely recognized and developing packages and delivery mechanisms. It is in this area that the proposed entrepreneurial unit would work. Its functions would be directed at the integration of all aspects of package development and promotion. Without a specific unit charged with this specific coordinating and development role, the best that can be expected will be a piece-meal approach much in line with the few programs that have been developed to date. While these isolated programs have each been highly successful, especially tea and pyrethrum, they affect a small group and are not well integrated into programs of local development. So long as it remains a development catalyst used largely in isolation, the benefits of credit use will be limited.

2.16 The means of expanding smallholder access to credit in the short-run might include both the lateral expansion and the diversification of existing schemes. The lateral expansion of programs for tea, pyrethrum and dairy production, among other things, could increase smallholder participation. Clearly, there are limits to how far this can go in terms of market limitations, but there is some scope yet (and , in fact, some expansion is already planned for tea and pyrethrum). There is also a conflict of interest between expanding the role of existing participants and expanding the number of participants. Expanding the production of existing participants is easier and cheaper, and does not encounter the

limitations of inadequate infrastructure that arise when the program is spread to other areas. Increasing the number of participants has greater social benefits in terms of promoting more even income distribution and the commercial development of the traditional smallholder sector. There is obviously need for a compromise here in that the creation of too many participants, each with a very small acreage, may affect the viability of the program.

2.17 For those programs that are directed only to one cash crop, there is scope for diversification by introducing an additional crop. This could help to reduce the production risk effects, promote expansion of the program by encouraging adoption of a cash crop, and provide a supplement to subsistence with the possibility of improved nutrition. The fact that the various cash crop programs have been so strongly single crop oriented up until now is a notable shortcoming that should be readily and quickly corrected.

2.18 Perhaps the greatest scope for lateral expansion is through the cooperative movements and particularly the CPCS program. For several years now the Commissioner for Cooperative Development has been pursuing a policy of consolidation. In this period, the CPCS has been launched together with a savings scheme. Under current plans it is likely that the CPCS could reach 500,000 smallholders by the end of this decade (at which time there may well be 2 million smallholders). But this is a plan for institutional capacity and not a program for credit use. The credit use element of the scheme does not, at this stage, seem well developed. There is ample evidence of the need for a program development capability in the area of agricultural production.

2.19 Growth of Commercial Practice. In the broader context, credit expansion must be seen as but one element in the overall process of monetizing the traditional sector economy. Since it is one of the more sophisticated elements of monetization, it is hardly surprising that expanding credit use is a slow and difficult process. Achieving the prerequisite conditions where credit can be used effectively to promote development is clearly a key part of any overall strategy of promoting modernization. Modernization implies, inter alia, the development of commercial practice at all levels. Happily this dimension has not been neglected in Kenya, though there have been inevitably some shortcomings.

2.20 Some of the measures adopted to facilitate such development include the provision of basic infrastructure and services by: (i) promotion of the post office scheme to include agencies in all villages, (ii) the use of mobile banks by commercial banks to visit villages and market places, and (iii) the introduction of the cooperative CPCS. These have provided the basic administrative infrastructure to facilitate payments, transfers, deposits, withdrawals, and other transactions. While the record is good in this respect, there remains the need to expand such services so that they are accessible to all members of the community. This is largely a matter of expanding the services currently available, though there are other aspects of these services that deserve attention.

2.21 The major problem in the provision of commercial services is their reliability. Such reliability is a function of both the skill and the honesty of the employees. To a large extent, both are a function of knowledge and understanding which can be built up by training. Thus, an

essential concomitant of expanding the system to reach all of the people is a training program to ensure that the system functions effectively. Ideally, this should be accompanied by the use of as straight-forward a system as possible and backed up with an auditing and control procedure. Again, the innovations of the cooperative movement, including their CPCS bookkeeping procedures and the training system through the Cooperative College of Kenya, provide an excellent lead.

2.22 Finally, there is a need to recognize the importance of experience and example in conditioning the behavior of people toward new processes and procedures. Unless the nature of credit is clearly understood, there will be no attempt at repayment. If persons in high office are seen to not repay, there is similarly no felt need to make repayments either. Kenya has had a few bad examples in this respect, though largely unwitting rather than machiavellian. A good example is the Farm Betterment Program which provided inputs to small farmers in the period prior to Independence. This was funded by undistributable profits from the Maize and Produce Board, and was designed to improve the production methods used for maize. However, the funds were distributed as a grant in kind. The fact that no repayments were expected in that case could obviously create surprise that they should be required the next time around. Such experiences create the need for a great deal of re-education. However, even more serious are the examples of persons in responsible positions who do not make repayments and otherwise flout the law. There is no way of achieving workable repayment levels if the officers responsible for collection do not make their payments. The sanctions for use against such officers are

obvious and must be invoked. This is a political and highly sensitive issue, but it is essential for orderly progress that attention be paid to it.

2.23 In summary, smallholder credit can be viewed as a catalyst for promoting development. To expand its use for this purpose, major adjustments are suggested for the existing system. First, there is a need for top level policy-making machinery which currently is either poorly developed or does not exist. Second, there is scope for adjustments within the parent institutions, to improve their administrative procedures. Third, there must be a coordinated approach to the development of integrated packages and delivery mechanisms. Finally, attention must be devoted to the basic infrastructure and attitudes of the people if the system is to have any real development impact. Given these adjustments, credit could play a very different and more significant role in development than is usually seen for it.

PART II

MAJOR FARM CREDIT

INSTITUTIONS AND PROGRAMS

1. LAND TRANSFER AND SETTLEMENT SCHEMES

1.1 The land transfer and settlement schemes were the means through which the land farmed by European settlers in Kenya was transferred to African ownership subsequent to the attainment of Independence. Prior to this, some seven million acres was held by some 3,600 farmers of European descent, predominantly British, in the areas variously known as the "Scheduled Areas" or "White Highlands." The transfer of this land was both politically desirable, given the "land hunger" of the African population, and practically necessary, in view of the unwillingness of the European settlers to remain in an independent Kenya on a permanent basis. The land transfer program was consequently included as a component of the independence arrangements. Since both the Europeans and the Africans had a common desire to ensure an orderly transfer of ownership, the land transfer program began in 1961, following the revocation of the order preventing Africans from owning land in the "Scheduled Areas."

1.2 Credit played a major role in the program, since very few Africans had sufficient capital to purchase the large farms available. Since the British Government felt politically obliged to ensure their settlers were reasonably compensated (given that European settlement had been encouraged up to the mid-fifties), most of the finance was provided by the British Government, although other donors also participated. The funds provided to Kenya were used to purchase farms from European owners and the African settlers were granted loans for both land purchase and development. The program began in 1961 and is still continuing, though 90 per cent of the land had been transferred by 1968.

1.3 The major components of the transfer program were: (i) the Settlement Schemes, comprising predominantly small-holdings but some medium to large farms and some cooperative units; (ii) the British Land Transfer Assisted Owners Scheme; and (iii) the Stamp Purchase Plan. The latter programs financed the transfer of large-scale farms to African ownership.

1.4 Settlement Schemes. Mixed farming land in the Scheduled Areas was chosen for settlement purposes on the basis of its proximity to spheres of tribal interest and to areas of population pressure, and its suitability for subdivision. An effort was also made to group settlement projects together rather than creating a patchwork of African and European farms which might be undesirable for security reasons and which might upset the market for land that the economic conditions required for successful large-scale operations. It has been officially stated that land used for settlement was generally superior to the average mixed farming land found in the European areas, but probably inferior to the average land found in the areas which had previously been restricted to African ownership.[1]

1.5 Settlement land was distributed to Africans though under several different methods, according to several sets of criteria, and for different purposes. The various elements of the program may be categorized by the target incomes to be obtained from settlement plots, their acreage, improvements and locati... Low Density schemes contained relatively large plots, in terms of arable equivalent acreage, and settlers on these plots were expected to attain a net income of Sh 2,000 per annum after meeting subsistence requirements and loan repayments. Some early Low Density schemes included

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[1] Kenya Central Land Board, Final Report 1964-1965, p. 12.

"yeoman farmers" who were selected on the basis of their demonstrated expertise in agriculture and who were expected to realize a net income of Sh 5,000 annually from their settlement holdings. Within any one scheme a uniform target income was expected. Plots distributed to settlers were not of uniform size, however, reflecting differences in land potential. High Density schemes had target incomes of from Sh 500 to Sh 1,400 per settler per annum depending on the scheme, and consisted of relatively smaller plots.

1.6 The selection of settlers from among the numerous applicants has been the responsibility of the settlement authorities and agricultural extension staff. Initial preference was given to the landless and the unemployed, although by 1964 the criteria had shifted to some degree towards farming experience and the possession of a minimum amount of capital. Yeoman farmers were chosen for their demonstrated expertise as cultivators, and other Low Density Settlers were expected to have attained a level of competence which would enable them to operate their holdings on a viable basis. Both of these classes of settlers were also required to possess sufficient capital to cover expenses not met by settlement loans, described later in this report. High Density scheme settlers were selected against less rigorous standards.

1.7 A number of larger farms were also transferred under the Settlement Schemes. These were known as Compassionate Case Farms, Assisted Owners, "Z" plots and Cooperatives. The Compassionate Case Farms number about 160 and involved special circumstances regarding the welfare of the British owner. Some of these farms were obtained for

settlement purposes from widows and aged persons who wanted to leave Kenya quickly. Most, however, were located outside areas chosen for settlement, and in certain instances the presence of an isolated European farm in such an area was the subject of considerable bad feeling among Africans. Compassionate Case Farms within settlement areas were subdivided and treated as other holdings on the scheme in which they were located, but those outside settlement areas were transferred intact to Africans. The Assisted Owners were settlers who negotiated privately for European farms, excluding compassionate case farms, in settlement areas. Loans from the Agricultural Settlement Fund, the source of finance for land transfer for settlement purposes, were granted to successful bidders. Some compassionate case farms were obtained in this manner, too, but for administrative purposes these are retained under the Compassionate Case heading. The "Z" Plots were generally units of at least 100 acres designed for mechanized farming. These plots included the homestead of the former European farm. Homesteads were used as cooperative society offices and training establishments in most cases, but some were sold to wealthy or influential Africans who could make a down payment of 10 per cent of the purchase price and raise Sh 10,000 working capital. Cooperative Farms were established in settlement areas where subdivision was considered uneconomic due to difficult soil conditions or other environmental factors.

1.8 British Land Transfer Assisted Owners Scheme. The transfer of farms owned by UK citizens and located outside settlement areas was assisted by the British Land Transfer Programme which provided funds to

the Kenya Government for on-lending to the Agricultural Finance Corporation (AFC). The AFC used these funds to extend 25 year loans for up to 90 per cent of the purchase price agreed upon through private negotiations between African buyers and British sellers. AFC employed independent assessors to ensure that the purchase price was not inflated. Details of this scheme are given later in this report.

1.9 Stamp Purchase Plan. The Stamp Purchase Plan was initiated in 1966 on the recommendation of a British Government mission led by Maxwell Stamp. Britain provided funds to Kenya to finance the purchase of remaining British owned farms which comprised some of the best farm businesses in the country located primarily in the Mt. Elgon area and adjacent regions. The Plan was designed to transfer the farms to African ownership and to ensure their continuation as single units in order to safeguard what were considered to be unique economic advantages of this scale of activity in certain ecological zones and for certain highly sophisticated agricultural specializations. The Kenya Government, through the Agricultural Development Corporation (ADC), acquired 120 farms under the Plan. Sixteen of the largest and best of these, known as State Farms, have been retained and managed by the ADC "in the national interest" as seed farms and as farms on which stud herds are maintained for breeding purposes. The balance of the Stamp Plan acquisitions, known as Transitional Farms, were sold outright to Africans if they comprised fewer than 800 acres, or were leased on 15 year contracts to individual or corporate groups of Africans if they comprised more than 800 acres, but many lessees have applied to ADC to purchase the farms they are

operating, and sales are underway. Political factors are to some extent responsible for this change from a policy of leasing to one of selling. Buyers are frequently financed by the Agricultural Finance Corporation on 20 year loans for 80 per cent of the purchase price.

1.10 Organizational Aspects of Settlement. The acquisition of land for settlement purposes began in 1961 under the Land Development and Settlement Board which had complete responsibility for selection of land, purchase and settlement. The Board was expected to purchase, subdivide and distribute about 250,000 acres of European mixed farming land, many located in areas in which there was considerable political pressure for the removal of European farmers. This Board was dissolved with the promulgation of the 1963 Constitution and internal self-government. It was replaced by the Central Land Board, established under the new constitution as an independent body; but it took over only certain of the functions of its predecessor. These included selection, valuation and purchase of land for settlement schemes, and conveyance of freehold title to settlers. Purchases of Compassionate Case Farms were handled by the Board of Africulture. The Central Land Board was dissolved in 1965 under the Constitution of Kenya (Amendment) Act of 1964. The need for such an independent body had been diminished by the degree of stability which followed Independence, and the regional representation on the Board became less appropriate with the change from decentralized to centralized government and administration under the constitutional amendment of 1964. At the time of the dissolution of the Board, 780 European farms had been transferred to 26,000 Africans.

1.11 The Department of Settlement has had responsibility for the operation of the settlement schemes from the outset. The Department runs its own extension service to benefit settlers, organizes cooperative societies, and is responsible for the subdivision of schemes, the installation of basic amenities for settlers, and the establishment of settlers on the land. The Department is also responsible for maintaining farming operations on farms which have been purchased but not yet subdivided and settled. Since 1965 the Department has also been responsible for the selection of and purchase of European owned farms and overseeing the selection of settlers by local committees. The Department is located in the Ministry of Lands and Settlements, along with the Land Office, which has, since the abolition of the Central Land Board in 1965, been responsible for the valuation of farms for settlement and Stamp Purchase Plan transfers. Overall responsibility for the settlement program rests with the Settlement Fund Trustees, a committee composed of the Ministers of Settlement, Finance and Planning, and Agriculture. This was created in 1963 at the time of the first large injection of British funds for the inauguration of the Million Acre Scheme, which represented a quantum jump in the scale and timing of land transfer plans. With the dissolution of the Central Land Board in 1965, the Settlement Fund Trustees absorbed the responsibilities of the Board, delegating operations as mentioned above.

1.12 <u>The Mechanics of Land Purchase, Sale, and Settlement</u>. The Land Transfer Program was designed to ensure "fair" compensation for British citizens selling farms, and transactions took place on a "willing seller - willing buyer" basis. Land values as of 1 January, 1959 were used as

the basis for acquisition prices, adjusted to reflect the value of permanent improvements, current profitability, standing crops and livestock on hand, and a 12.5 per cent return on capital. The year 1959 was considered to be the last in which a "normal" land market existed - "normal" being characterized by the absence of apprehension by landholders about their future, and a turnover of about five per cent of all farms for usual reasons of death or retirement, farming failures, migration and so forth. By 1966 the pace of transfer slowed as the program had achieved many of its goals. Land market values were no longer depressed by a glut of sellers, and prospective purchasers had access to British Government and other funds. In that year the 1959 bench mark was abandoned and all further transfers have occurred at comtemporary market values. Land purchases from UK citizens for settlement purposes were financed entirely by the British Government. The original arrangement involved the provision of funds to the Kenya Government on a one-third grant and two-thirds loan basis. The loan portion was granted for 30 years at 6.5 per cent interest. The funds provided to the Kenya Government were used to buy out UK citizen landholders, who were paid in Sterling at the time of sale and not subject to any exchange controls on expatriation of these funds.

1.13 African settlers purchased the land on which they settled, at a price derived from the amount paid to the previous owners. The grant element of the British loans, which was designed to cover the cost of permanent improvements such as buildings, which would not benefit settlers, plus the cost of land used for building roads, shops, schools, villages

and other non-farming purposes, was deducted from the price paid to the previous owner. The grant element did not equal one-third of the total price in each case, but was rather an average for all schemes. The grant element in each scheme reflected, in economic terms, the proportion of the price paid to the European seller which could not realistically be recovered from smallholders, given land potential, plot size, and level of production. To this net amount was added a 10 per cent allowance for bad debts, and the sum was then divided by the number of plots to yield the purchase price or "settlement charge" to be paid by each settler. Land purchase prices ranged from Sh 1,200 to Sh 7,300 per plot. The price could be paid in full in cash or under credit arrangements with the settlement authorities.

1.14 Each plot was designed to enable the settler to attain the target income applicable to its particular class of land in the scheme of which it was a part. In consideration of the diversity or land quality and potential within a scheme, not all plots consisting of a given class of land were of a uniform size. Individuals chose their own plots in Low Density schemes and were allocated land by lot in High Density areas. Average plot sizes in settlement blocks ranged from 10 to 140 acres. On High Density schemes 100 per cent of the purchase price to be paid by the settler was funded by a loan to the settler secured by the land itself. Loan terms included repayment in sixty equal half-yearly installments, with interest charged at 6.5 per cent per annum on the actual unpaid balance. Low Density settlers were required to pay 10 per cent of the

purchase price in cash and received loans for the remaining 90 per cent, on the same terms as the High Density settlers.

1.15 To enable and to encourage the settler to undertake capital improvements on his holding and to purchase inputs and livestock, development loans were also provided. These loans were initially provided on terms from 5 to 20 years, depending upon the economics of the scheme. By 1964, however, the terms were changed to a uniform ten years for all new settlers in order to simplify accounting and budgeting procedures. These loans were funded by a variety of external sources, and were distributed through the Kenya Government in the same manner as land purchase loans. Development loans on the High Density schemes were funded by the Governments of the United Kingdom and Federal Republic of West Germany, while the World Bank and the Commonwealth Development Corporation furnished the funds for development loans to Low Density settlers. On the High Density schemes development loans averaged in excess of Sh 2,000 per small-holding and were granted for purposes such as the purchase of pyrethrum planting materials, cattle, fencing, seed and fertilizer. Average development loans on ordinary Low Density schemes ranged as high as Sh 11,000 and up to Sh 36,000 for yeoman farmers. Development loans were secured by charges registered by the Settlement Fund Trustees against the settler's chattels.

1.16 Loan repayments were scheduled to begin six months after the loans were granted, and installments were scheduled to fall due every six months. This scheduling reflected extremely unrealistic planning, as many of the farms were not in production when the first payment fell due, and

the installment dates were not related to seasonal peaks in farmers' cash income. Arrears mounted steeply and have continued to plague the settlement loan portfolio. In 1967 President Kenyatta decreed that all future settlers would be allowed a two-year grace period before being required to start making loan repayments, but by this time most land attractive for settlement purposes had already been transferred. Interest on both land purchase and development loans is charged at 6.5 per cent per annum on amounts outstanding. No penalties are charged on balances overdue.

1.17 The typical pattern of establishment on both types of schemes was for the male head of the family to arrive first and construct a house, after which his family would join him. Buildings on the schemes were adapted as transit camps, and some temporary huts were also erected to house incoming settlers while they were building their own houses. Upon arrival on High Density schemes family heads were offered employment at the prevailing agricultural wage in the area so that subsistence needs could be met during the initial establishment period. Workers recruited in this manner were used in the preparation of the land for settlement by delineating subdivisions, constructing roads and schools, and other works. A subsistence grant was provided to High Density settlers in instances in which no employment was available. Low Density settlers were not provided with any grants to assist them initially, although loans were made available in a few cases of hardship.

1.18 <u>The Pace of Settlement and Loan Disbursement</u>. As noted earlier, the first significant developments were purchases by the Government in 1961 of roughly 90,000 acres of underdeveloped parts of European mixed

farms for subdivision and sale to 6,000 smallholders. (These latter plots were incorporated into the Low Density schemes which were started in 1962.) Land transfer received a major fillip in 1962 with the provision of over Sh 200 million by the British Government for the establishment of the Million Acre Scheme, which absorbed these two earlier projects. The Scheme was aimed at establishing 33,000 families within a period of five years on more than 1 million acres of former European mixed farming land. By June 1965 one million acres had been purchased under the scheme, but the number of settlers lagged somewhat behind the target. However, the 33,000 settler goal was reached by June 1969, and total settlement land exceeds 1.3 million acres in Kenya today.

1.19 Table 1.1 contains various indicators of the growth of the settlement program, as reflected in figures taken from Annual Reports of the Department of Settlement. Although they are the best available, they do contain inconsistencies, as demonstrated by the difference between the number of plots settled and the number of settlers installed. These reports were evidently published in haste in the early years of the scheme when the political situation was very sensitive with regard to settlement. The acreage purchased statistics are probably relatively accurate because this operation was closely scrutinized by the British Government. In summary, Table 1.1 indicates that purchases under the Million Acre Scheme were completed by June 1965, and that about Sh 186 million was spent on land purchases under this scheme, giving an average buying price of Sh 186 per acre. The average purchase price during any given year, however, varied widely, reflecting variations in the types of land obtained over

Table 1.1 SELECTED MEASURES OF THE GROWTH OF SETTLEMENT SCHEMES IN KENYA, 1961 - 1970

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
The One Million Acre Scheme										
Acres Purchased ('000)										
Per Period	3.8	148.5	271.1	360.0	276.6					
Cumulative	3.8	152.3	363.4	723.4	1000.0					
Purchase Expenditures:										
Cumulative Total (Sh million)	0.934	17.128	52.114	131.744	186.084					
Per Period	0.934	16.194	34.986	79.630	54.340					
Per Acre Per Period	244	109	165	221	196					
Expected Total Acreage of Plots Settled or Being Settled ('000)										
Acres per Period	n.a.	n.a.	n.a.	n.a.	57	319	105	18	20	29
Cumulative Total	n.a.	n.a.	n.a.	809	866	1,185	1,290	1,308	1,328	1,357
Plots Settled										
Per Period	n.a.	n.a.	n.a.	10,485	8,235	4,343	671	1,758	1,892	302
Cumulative Total	n.a.	n.a.	5,197	15,682	23,917	28,260		31,689	33,581	33,883
Settlers Installed*										
Per Period	-	857	2,083	11,642	8,711	4,362				
Cumulative	-	857	2,940	14,582	23,293	27,655				

SOURCE: Department of Settlement Annual Reports

* Settlers Installed refers to numbers of families or family heads occupying plots.

the period. Not all land purchased before June 1965 fell within the Million Acre Scheme, and additional acquisitions have been made since its completion. Settlement began at a relatively slow pace but between June 1963 and June 1966 progressed rapidly. Since 1966 the trend has been one of slower expansion. This slower rate no doubt reflects the fact that most of the land attractive for settlement had already been transferred, but it is also possible that the political pressure for settlement has abated somewhat, or at least off-set by competing pressure for large-farm transfers.

1.20 Table 1.2 shows the rate of loan disbursement by the Agricultural Settlement Fund between 1962 and 1970. Total and cumulative loans issued show the same sort of pattern as the variables summarized in Table 1.1, with a slow start through June 1962, a rapid increase until 1966 and 1967, and gradual expansion through 1970. The trend has not altered significantly since 1970. An interesting feature seen in Table 1.2 is the extent to which land purchase loans and development loans vary in relation to each other between different years for any one category of borrowers. In 1963, for example, High Density settlers received Sh 6.74 million in land loans and Sh 2.94 million in development loans, a ratio of 2.5:1. In 1967 loans extended to High Density smallholders included Sh 6.88 million for land purchase and Sh 7.14 million for development purposes, a ratio of 1:1. This pattern is the result of several factors. Land purchase loans are granted when plots are allocated, while development loans are paid out as the settler obtains the goods for which the loans are granted. Lists of goods are established at the outset for each class of land on each scheme. Local

Table 1.2

LOANS GRANTED BY THE AGRICULTURAL SETTLEMENT FUND - 1962 TO 1970

(Sh Millions)

Land Purchase Loans Issued to Settlers	1962*	1963	1964	1965	1966	1967	1968	1969	1970
Smallholders									
High Density	.820	7.540	37.540	27.500	21.080	6.880	4.240	3.340	2.900
Low Density	2.040	2.520	1.480	8.160	6.400	2.580	.300	.280	.080
Large Farms									
Compassionate Case Farm Purchasers	-	.780	8.940	.640	.020	.120	-	-	-
Assisted Owners	1.700	2.780	.760	1.780	-	.020	.220	-	-
Cooperative Farms	-	2.080	-	-	.900	.200	1.240	.960	.180
Others	-	-	-	-	-	-	-	8.320	2.360
Total	4.560	15.700	48.720	38.080	28.420	9.820	6.020	12.900	5.500
Cumulative Total	4.560	20.240	68.960	107.040	135.460	145.280	151.300	164.200	169.700
Development Loan to Settlers									
Smallholders									
High Density	-	2.940	14.680	13.380	10.220	7.140	5.640	3.140	5.720
Low Density	1.020	2.080	2.780	4.740	6.940	3.040	1.320	3.460	.540
Large Farms									
Compassionate Case Farm Purchasers +									
Assisted Owners	.360	1.260	.400	.120	.020	-	-	-	-
Cooperative Farms	-	.580	1.300	.160	1.020	.520	1.840	2.940	1.020
Others	-	.420	1.660 ++	.680	.220	1.780	2.140	6.920	3.640
Total	1.380	7.280	20.820	19.080	18.420	12.460	10.940	16.460	10.900
Cumulative Total	1.380	8.660	29.480	48.560	66.980	79.440	90.380	106.840	117.740
Total Loans Issued	5.940	22.980	69.520	57.160	46.840	22.280	16.960	29.360	16.400
Cumulative Total	5.940	28.900	98.440	155.600	202.440	224.720	241.680	271.040	287.440

SOURCE: Annual Reports of the Settlement Fund Trustees

* Cumulative loans issued.

\+ No development loans were granted by the Agricultural Settlement Fund to purchasers of compassionate case farms. Many buyers obtained loans for development purposes from the Agricultural Finance Corporation.

++ Includes unspecified amount of West German contributions to high density schemes which are classified under smallholders. High density in following years.

settlement officials issue to settlers varifications of amounts available for specific purposes, and these documents provide the basis on which suppliers furnish goods to settlers. The varification document and the supplier's invoice is forwarded to Nairobi by the supplier for payment by the Department of Settlement. The lag between loan approval and the final paycut to suppliers may be considerable. The shortage of grade cattle during the life of the settlement program has contributed to this lag.

1.21 The varying relationship between land purchase and land development loans also reflects differences in the relative quantities of these two loans resulting from differing requirements relating to farm types. The composition of the settlement program has not been uniform from year to year in this respect. In certain instances settlers have obtained additional development loans several years after they have taken possession of the land, and these loans also account for the varying relationship between land purchase and land development loans disbursed in any given period. The book-keeping problems of the Department of Settlement also distort the pattern. Development loans involve a greater number of entries than land purchase loans. The latter are disbursed in a single transaction, while development loans, as noted above, are disbursed over a period of time. Therefore, the probability of a lag in development loan book-keeping is correspondingly higher.

1.22 The "Others" category includes borrowers not in the categories specifically identified in Table 1.2. These borrowers include machinery contractors to whom the Settlement Fund Trustees extended credit so that this type of service would be available to settlers. In addition, some

loans have been given to contractors installing water supply systems for settlers. This category also includes "Z" plot owners, and these borrowers were the recipients of the land purchase loans shown in the "Others" category in 1969 and 1970. Prior to 31 December, 1969, "Z" plot loan recipients were included in the High and Low Density statistics for the schemes on which the "Z" plots are located.

1.23 Loan Repayment Performance. The standard repayment terms for settlers were equal semi-annual installments over 10 years for development loans and equal semi-annual installments over 30 years for land purchase loans. Development loans were originally scheduled for repayment over 5 to 15 years, depending upon the scheme, but by 1963 terms had been altered and standardized to facilitate bookkeeping. Billings to settlers "east of the Rift" are scheduled for the close of March and September of each year, and settlers "west of the Rift" are supposed to receive their statements of account at the six-month period which occurs between six and twelve months after the settler has been allocated his plot. However, the two-year moratorium on repayments due from settlers allocated plots subsequent to May 1967 means that the settler receives his first bill on the second anniversary of the close of the billing period which occurred between six and twelve months following the allocation of his plot. Land purchase loans to these settlers are to be repaid in 57 installments, and development loans fall due in 20 installments. Interest for the two year moratorium is capitalized and repaid over the life of the loan. Computerized bills are sent out by the Department of Settlement in Nairobi to the Settlement Officers on each of the schemes, who are in turn responsible for the distribution of the bills to settlers.

1.24 Settlers may make their payments in a variety of ways. Payments may be made out of the proceeds of crop deliveries to cooperative societies and statutory boards. Cooperative societies receive a one per cent commission on amounts they remit to the Department of Settlement, which is intended to encourage the use of this channel. Settlers may of course make cash payments, either to local settlement officers or at the Department in Nairobi. Settlers who are civil servants may have settlement loan payments deducted automatically from their salaries. In addition, transfers may be made between loan accounts. For example, if a settler sells a cow to another settler who is buying the cow with the proceeds of his development loan, the development loan account of the buyer is debited and the loan account of the seller is credited. If the seller is up to date in his payments or if his arrears are less than the amount of the transfer, the balance is remitted by check unless the seller requests that the amount be credited to his account.

1.25 Table 1.3 provides data from the Annual Reports of the Department of Settlement and of the Settlement Fund Trustees, showing loan repayment performance for the portfolio as a whole. The figures do not always specify the precise position because of inconsistencies and because of the structure of accounts. The reports of the Settlement Fund Trustees (SFT) are audited, but the auditor's opinions are frequently heavily qualified. The Department of Settlement reports contain unaudited figures. In Table 1.3 the audited figures have been used whenever possible, but in certain instances only the Department of Settlement figures are available.

Table 1.3

AGRICULTURAL SETTLEMENT FUND PORTFOLIO PERFORMANCE

(Sh million)

		1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
1.1	Loans Issued per Period	7.940	20.960	69.540	57.160	46.840	22.280	16.960	29.360	16.400		
2.1	Cumulative Loans Issued	7.940	28.900	98.440	155.600	202.440	224.720	241.680	271.040	287.440		
2.2	Principal Billed - Cumulative	-	.100	.780	5.740	12.080	20.460	30.480	41.260	53.000		
2.3	Principal Not Yet Due	7.940	28.800	97.660	149.860	190.360	204.260	211.300	229.780	234.440		
3.1	Interest Earned Per Period	.020	1.000	2.600	8.940	12.220	15.520	16.020	16.700	17.360		
3.2	Cumulative Interest Earned	.020	1.020	3.620	12.560	24.780	40.300	56.320	73.020	90.380		
4.1	Principal Billed Per Period (2.2)	-	.100	.580	4.960	6.340	8.380	9.920	10.880	11.740		
4.2	Interest Earned Per Period (3.1)	.020	1.000	2.600	8.940	12.220	15.520	16.020	16.700	17.360		
4.3	Total Billings Per Period	.020	1.100	3.180	13.900	18.560	23.900	25.940	27.580	29.100		
4.4	Cumulative Billings	.020	?	3.240	15.140	33.700	177.600	83.540	111.120	140.220	160.220	191.520
5.1	Collections Per Period+	-	.540	1.520	5.380	8.560	15.180	16.020	21.860	11.680		
5.2	As A % Of Billings (4.1)	-	45%	48%	45%	46%	64%	62%	79%	40%		
5.3	Cumulative Collections+	-	.540	2.060	7.440	16.000	31.180	47.200	69.060	75.320	88.980	102.340
5.4	As A % Of Cumulative Billings	-	45%	64%	49%	47%	54%	57%	62%	54%	56%	53%
6.1	Cumulative Interest Earned (3.2)	.020	1.020	3.620	12.560	24.780	40.300	56.320	73.020	90.380		
6.2	Cumulative Collections+ (5.3)	-	.540	2.060	7.440	16.000	31.180	47.200	69.060	75.320	88.980	102.340
6.3	Interest Not Covered By Collections	-	.480	1.560	5.120	8.780	9.120	9.120	3.960	15.060		
6.4	Cumulative Collections As A % Of Cumulative Interest Earned	-	53%	57%	60%	65%	77%	84%	95%	81%		
7.1	Cumulative Billings (4.4)	.020	?	3.240	15.140	33.700	57.600	83.540	111.120	140.220	160.220	191.520
7.2	Cumulative Collections (5.3)	-	.540	2.060	7.440	16.000	31.180	47.200	69.060	75.320	88.980	102.340
7.3	Prepayments (incl. in 7.2)	-	-	.040	.120	.260	.380	.240	1.140	1.420	1.900	2.320
7.4	Arrears	.020	?	1.220	7.240	17.960	26.800	36.580	43.200	66.320	73.140	91.500
8.1	Loan Repayments Outstanding	-	.660	1.820	10.340	18.880	28.760	38.560	51.260	67.280		
9.1	Principal Not Yet Due	7.940	28.680	97.660	149.860	190.360	204.260	211.300	229.780	234.440		
9.2	Loan Repayments Outstanding (8.1)	-	.660	1.820	10.340	18.880	28.760	38.560	51.260	67.280		
9.3	Total Portfolio	7.940	29.460	99.480	160.200	209.240	233.020	249.860	281.040	301.720		
10.1	Loans to Settlers - Suspense Acct.	-	.500	1.900	2.820	3.440	3.800	3.760	n.a.	2.820		
10.2	Loan Repayments in Suspense	-	-	-	-	-	.020	.300	n.a.	.120		

SOURCE: Annual Reports of the Settlement Fund Trustees, and Land Development and Settlement Board.

1.26 The figures for total billings illustrate some of the problems involved in analysis of the Trustees' portfolio. The SFT Annual Reports do not show total billings, and the data given in Table 1.3, Item 4.3, are obtained by adding principal billed and interest earned as shown in the SFT reports. Interest earned, the terminology used in the reports, is actually interest billed. This figure excludes interest accrued on payments due at the end of the quarter following the close of the financial year; i.e., interest not yet billed. An unaudited figure for total billings is presented in the Department of Settlement reports, but is not used in Table 1.3 because of the preference for audited figures. Neither figure for billings necessarily reflects amounts due according to loan repayment schedules. Billings currently lag about two months behind repayment schedules, and an additional month may elapse between the time the Department prepares the bill and the time it is received by the settler. Some indication of the extent of the discrepencies involved may also be seen in the difference between loan repayments outstanding (Item 8.1) as indicated in the Trustees' reports, and arrears (Item 7.4) computed by comparing amounts due based on the Trustees' figures for principal billed and interest earned (Item 7.1) with the Department's collection figures, adjusted for prepayments (Items 7.2 and 7.3). The difference is substantial in relation to either figure in the early years, although the trend in each case is identical.

1.27 The collection ratio (Items 5.2 and 5.4) in Table 1.3 varies from the one listed in the Annual Reports of the Department. This reflects the fact that the billings against which collections are compared are

probably slightly different, and also because collections in Table 1.3 include prepayments whereas these are conservatively deducted from collections by the Department for the computation of its collection ratio. The Department's figures are slightly lower than the ratios shown in Table 1.3. Item 10, which shows suspense accounts related to loans provides an additional qualification to the accuracy of the other figures in the table. These suspense accounts are included in the statements published by the Trustees. The loans to settlers suspense account includes supplies on hand to be provided to settlers against their loans as well as problem entries which have not been sorted out. With the slowing of the pace of settlement, it is probable that a growing portion of items in suspense represents bookkeeping errors.

1.28 These difficulties stem to some extent from the design of the accounts published by the Department and the Trustees. The accounts appear to have been designed to enable the British Government and other external donors to ascertain how their funds were being used, and not to give a detailed picture of the financial situation with respect to the loan portfolio. For example, the reader of the Trustees reports while searching in vain for a clearly labelled, precise figure for overdue loan amounts outstanding or total portfolio size will note that losses for the year 1963-64 included Sh 100 with respect to one bed that vanished and Sh 1,400 in respect to one drying shed eaten by ants! In spite of these problems, Table 1.3 probably gives a relatively good indication of the trends involved, as well as an approximate indication of the actual situation at any given year-end closing date. The data is not complete in every case, and the Trustees have not yet published reports for the years 1970/71 or 1971/72.

1.29 Table 1.3 indicates that total loans extended to settlers through June 1970 exceeded Sh 280 million. Principal amounts billed have been rising under the repayment schedules, reflecting the fact that the equal annual loan installments contain a decreasing proportion of interest due as time passes. Interest earned per period has increased in line with the total portfolio, which includes principal not yet due plus arrears. Billings have also increased with the growth in the size of the portfolio. Collections have exhibited an increasing trend in absolute terms, but have remained at around half of the amount billed, but have in fact failed to cover the amount of interest due from the settlers. The extent to which collections have covered interest has generally increased from year to year, reflecting the decreasing proportion of installments represented by interest. However, until cumulative collections exceed cumulative interest earned, larger and larger arrears will accumulate in the portfolio. These arrears will consist of principal billed but not collected and interest billed but not collected - including interest on arrears. In accordance with accounting practice, payments are credited first to interest payable and the balance is applied to principal due. Prepayments are credited to the next installment due. Arrears and loan repayments outstanding, which are two attempts to quantify the same thing, do in fact increase without respite, and at 30 June, 1970 comprised about 30 per cent of the total portfolio. As principal falls due it simply goes into arrears, as collections fail to cover interest. Meanwhile, interest due mounts as the portfolio expands through the issue of new loans and through the accumulation of the interest which is not covered by collections.

1.30 The Causes of the Poor Repayment Record. Table 1.3 shows the position for the portfolio of the Agricultural Settlement Fund as a whole. The repayment record is obviously "poor" in relation to expectations as manifested in loan repayment schedules, and from this point of view the Fund exhibits the weakest performance of any of the major schemes which have provided small farmers with credit in Kenya since Independence. However, there is considerable variation between schemes and categories of borrowers. As of 30 June, 1972, about 1,200 settlers had prepaid their loans in full. In most cases their motivation was to clear their title deeds in order to obtain new mortgage loans from commercial banks and other lenders. As of the memo date 30,673 settlers were in default, although there were no settlers being billed who had not made at least some repayment. The remainder, about 250, were paying their bills on time. Paying bills as they are received is not necessarily the same as repaying according to schedule, given the lag in billing by the Department. As of June 30, 1972, the overall collection rate, as computed by the Department, stood at 52 per cent. However, within the nine settlement areas into which schemes are grouped for administrative purposes, the collection ratio varied from 25 to 70 per cent, and for assisted owners was 89 per cent.

1.31 Reasons for the relatively poor collection performance are in many cases difficult to identify precisely, but several factors probably contribute. Some settlers are reported to feel that they should not really have to pay for the land, and certain politicians have at times voiced this sentiment. Their reasoning is that the land was stolen from

the people in the first instance by colonial settlers, and therefore the people should not have to pay for its return. Some settlers no doubt hope that the Government may one day cancel outstanding loans, and the political force of this sentiment probably varies inversely with the collection ratio. Another but related reason may be that poor "loan morality" tends to be self-perpetuating. The Government has made fewer than 300 effective evictions of the most blatant defaulters, and the politics of eviction are extremely difficult for the Government. If the prospect of being penalized is remote, there is little likelihood of its being effective. If a settler sees that his neighbor makes only token payments year after year, he may begin to wonder why he should make full payments himself.

1.32 The situation is complicated by the fact that some settlement plots were granted to "big men" who are difficult to pressure because of their political clout. This group, protected to a significant extent from pressure for repayment, finds it in its own interests to keep pressure from being applied to other, less well protected settlers. "Z" plots holders, assisted owners, and purchasers of compassionate case farms are often "big men", but the collection ratio for these categories as of 30 June, 1972, was above those for the settlement program as a whole. However, some owners of the ordinary High Density and Low Density plots were, at the time they were selected as settlers, not among the classes the program was supposed to assist.

1.33 The reasons listed above are difficult to quantify in terms of impact, and it is impossible to say to what extent they do in fact

contribute to portfolio performance as observed. In addition to these reasons why some settlers will not pay, there is also some compelling evidence that many settlers cannot pay. The repayment schedules for loans have not always been realistic. Until the proclamation of the two-year moratorium in 1967, new settlers were required to pay their first installment between six and twelve months after receiving their land. No attempt was made to harmonize the loan repayment schedule with the realities of agricultural production. Many farms were not in full production by the time the first installment fell due and no allowances were made for learning curves in the structure of the repayment schedule. Under the model farm budgets for the various schemes, however, farms were not expected to reach maturity for several years. Repayments were not scheduled to coincide with harvests or peaks in settlers' income flows. In addition, the farmer faces the heaviest repayment burden in the first ten years, when land purchase and development loans fall due simultaneously. In year 10 the development loan is supposed to be paid off, and the annual debt burden then decreases to the amount due on the land purchase loan which would have an additional 20 years to run.

1.34 Probably the greatest single reason for the continued poor repayment record, relative to expectations, is that, by and large, settlement farms have failed to achieve the output expected in the model farm plans under which they were established and relative to which the loan repayment schedules were derived. The nature of this problem is brought out in a recent government report.[1] In 1964/65 only 10 per cent

[1] An Economic Appraisal of the Settlement Schemes, 1964/65 - 1967/68. Published in 1971 by the Statistics Division of the Ministry of Finance and Economic Planning as Farm Economic Survey Report No. 27.

of settlement farms are estimated to have achieved their target incomes, while in 1967/68 the proportion rose to about 20 per cent. The authors of this report list the following pattern of inter-related factors which have contributed to the situation: (i) the farm budgets over-estimated what the farmers could realistically achieve and were also based on faulty assumptions about the economic behavior of the farmers; (ii) the pattern of output projected in the budgets was not achieved because the farmers preferred to avoid risks by diversifying their production, rather than by specializing to the extent envisaged in the plans, a response reflecting farmers' unfamiliarity with some of the enterprises they were expected to undertake; (iii) budgeted production patterns were also distorted by a shortage of grade cattle; and (iv) the budgets assumed a certain level of marketed output, with a residual for the satisfaction of subsistence requirements, whereas farmers provided for their subsistence requirements first and marketed the surplus.

1.35 Because levels of marketed output did not achieve budgeted targets, the farmers faced an insufficiency of cash relative to budgeted expectations. This insufficiency was reflected in levels of on-farm investment and rates of reinvestment below budget and also in failure to meet loan installment schedules. As a consequence, purchased inputs were not used to the extent envisaged, which constrained yields. A shortage of services such as contract plowing at times exacerbated the situation.

1.36 The planners of the settlement program appear to have achieved success with the political aspects of their activities - land transfer occurred rapidly and in an orderly manner, and the European sellers were

paid promptly and at reasonable prices. With respect to the economies of settlement, however, the planners' performance is not an unqualified success. The reports of the Department of Settlement indicate that production per unit of land has increased significantly with the transfer and subdivision of the land, which demonstrates a degree of economic success. However, the planners failed to estimate accurately the difficulties which settlers would have in achieving the target incomes, given the resources to which they have access and the extent to which they are willing to use these resources. The planners' basic fallacy that farmers would accord first priority to marketing a certain level of output and using any surplus for subsistence demonstrates a lack of appreciation of the realities of African smallholder agriculture, and even in the context of the early 1960's this error appears inexcusable. It is a matter of speculation whether the planners really expected the settlers to be able to meet their loan obligations, or whether their primary concern was ensuring that sellers' interests were protected, giving only secondary concern - at worst window dressing - to the situation of the settlers. Certainly the 10 per cent allowance for bad debts included in the prices the settlers were supposed to pay for their plots has proved woefully inadequate.

1.37 The first Annual Report of the Department of Settlement, covering the year 1962/63, does in fact devote most attention to the purchasing of land and the presettlement aspects of the Department's operations - which of course constituted a major portion of the Department's activities for that period. In the following years, however, the Annual

Reports of the Department become more and more preoccupied with the performance of settlers. It therefore appears reasonable to assume that the emphasis of those involved in the settlement program has shifted from primary concern for the seller to primary concern for the buyer.

1.38 It seems unlikely that the present situation can be allowed to continue indefinitely. The performance of the loan portfolio of the Settlement Fund Trustees appears to provide little expectation that the situation will alter significantly unless structural changes are made in the program. It is expected that the next Five Year Plan will contain proposals for changes in the settlement program. These may involve reconstruction of settlement schemes, plot sub-divisions, and debt adjustment. Whether or not recommendations of this type are put into force, an excellent case can be made for government policies aimed at increasing the agricultural productivity of settlers. Improvement in rural infrastructure, measures to reduce the farmers' risks through the introduction of more productive crop varieties or the under-writing of losses, the design of pricing and marketing policies to increase farm incomes, and the replacement of farming failures with more skillful managers are among the measures which could improve the settlers' ability to achieve target incomes. The portfolio situation may also improve, in money terms, if inflation reduces the real burden on the settler of loan repayments. However, inflation has not been a major domestic problem for Kenya in the past, though the rate has increased over the last two years.

2. OPERATIONS OF THE AGRICULTURAL FINANCE CORPORATION

2.1 The Agricultural Finance Corporation (AFC) is a statutory body established under the Agricultural Credit Act of 1963 to take over the credit functions of the two Boards of Agriculture then serving the Scheduled (European) and Nonscheduled (African) Areas and which worked in close cooperation with the Land and Agricultural Bank. Under the Agricultural Finance Corporation Act (No. 1 of 1969), the AFC was re-constituted with wider, additional powers and also took over the operations and assets and liabilities of the Land and Agricultural Bank which had been established in 1931. The AFC is now the primary agricultural credit institution in Kenya, and it is the only lender serving the farm sector through a variety of lending programs aimed at both the small and large farmer. The functions of the present Corporation are to assist in the development of agriculture and agricultural industries by making loans to farmers, cooperative societies, incorporated group representatives, private companies, public bodies, local authorities and other persons engaging in agriculture or in agricultural industries.

AFC Organization and Procedures

2.2 Structure. As a Statutory Board the AFC is responsible to the Office of the President, while its management is in the hands of a Board of Directors. The Ministry of Finance and Planning and the Ministry of Agriculture are represented on the Board by the Permanent Secretaries. The Permanent Secretary of the Ministry of Finance and Planning is currently serving as Chairman of the Board. In addition to the two Permanent Secretaries, the Board consists of between four and six

Ministerial appointees (two of whom are required to have experience in banking or finance) drawn from official and private sources. On matters of day-to-day concern, the AFC is intimately involved with the Ministry of Agriculture, and major policy decisions always involve the Office of the President. Since the AFC is a Statutory Board, it is not subject to the Companies Act or the Banking Act.

2.3 The Corporation's headquarters are in Nairobi, while a network of 12 branch offices and 20 sub-branches provides fairly thorough coverage of Kenya's principal agricultural districts.[1] The Corporation is highly centralized despite some effort to decentralize in order to spread administrative burdens and utilize staff more effectively. Accounts are kept at head office, and the accounting system is intended to provide branches with timely information as required for the supervision and collection of loans. Most lending decisions are made at head office, but plans are gradually being implemented for the establishment of discretionary lending limits at regional and branch levels. However, an initial screening of loan applications takes place in the field in two stages: the first stage is the procedure by which extension staff advise farmers to purchase an AFC loan application (the fee is KSh 10)

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[1] Branches or sub-branches are located at Nairobi (Head office), Athi River, Bungoma (Kavujai), Busia, Chuka, Eldama Ravine, Eldoret, Embu, Home Bay, Kakamega, Kapsabet, Karantina, Kericho, Kerugoya, Kiambu, Kimilili, Kisii, Kisumu, Kitale, Machakos, Meru, Molo, Mombasa, Muranga, Naivasha, Nakuru, Nanyuki, Narok, Ngong, Nyeri, Tambach, Thompson's Falls, Voi.

and assist in filling it in, and the second stage occurs in the District Loan Committee. These committees include branch managers and extension officers, and have as their function advising AFC's head office on the creditworthiness of proposals and prospective borrowers in their respective districts. Staffing deployment reflects AFC's centralization, with 114 of the 241 persons employed as of June 30, 1971 working at head office. All disbursements are prepared at head office and signed by head office officials.

2.4 Financial Resources. The Government provides the bulk of AFC's resources. As of March 31, 1971, the latest date for which audited statements are available, over KSh 200 million (US$28 million) of the Corporation's total assets of KSh 232 million (US$33 million) were financed by Government funds. Capital consists of "irredeemable" or ownership capital and "redeemable" or long-term debt capital. As of March 31, 1971, irredeemable capital amounted to KSh 124 million (US$17.7 million) of which KSh 80 million carried an interest obligation of 5 per cent per annum. The remainder of irredeemable capital was interest-free. The interest-bearing irredeemable capital may be traced back to the superceded Land and Agricultural Bank. Redeemable capital, as of March 31, 1971, amounted to KSh 78 million (US$11 million), and included proceeds of loans to the Government from the World Bank's International Development Association (IDA) and other external sources, on-loaned to AFC mainly on 25-year terms. The interest rate on obligations incurred by AFC prior to the effectiveness of the IDA smallholder

credit project on April 1, 1967, is 6 per cent per annum, but since then all funds have been provided at 3.5 per cent per annum interest.

2.5 At March 31, 1971, the General Reserve stood at Sh 5.9 million (US$800,000). This account has diminished in size continuously over the past several years due to the inability of the corporation to operate at a profit. Deposits are not a major source of funds for AFC and amounted to Sh 4.2 million (US$600,000) as of March 31, 1971. Half of this sum was represented by land purchase deposits which consist of borrowers' downpayments of up to 40 per cent for land purchases which are temporarily held by AFC pending completion of transfer formalities which generally require at least two months.

2.6 Use of Resources and Types of Programs. Most of AFC's resources (95 per cent) have been used for making agricultural loans. At March 31, 1971, gross large-scale loans outstanding (for land purchase, large-scale farm development, ranching, etc.) amounted to Sh 179 million (US$25 million) and gross small-scale farm loans outstanding amounted to KSh 24 million (US$3.5 million). That is, 88 per cent for large-scale farms and 12 per cent for small-holder development.

2.7 AFC operates some credit schemes on an agency basis, and is the principal for others. The Guaranteed Minimum Return scheme,[1] pineapple development loans, and loans to cotton growers and cotton cooperative societies are included in AFC's operations as an agent for other organizations which provide the funds for each of these schemes. Amounts advanced under these programs are not reflected on AFC's financial statements, and for this reason are not discussed further here.

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[1] The GMR scheme is described in a separate section of this report.

2.8 AFC is presently extending credit in the role of principal under three large-scale schemes and three small-scale programs. The large-scale schemes include land purchase and development loans financed by the British Land Transfer Program, and ranching loans funded by the World Bank Group, Sweden and West Germany. The small-scale schemes presently in operation include smallholder development projects funded by the World Bank Group and the West German government, and a third project which is funded by AFC entirely with resources generated or made available locally. The West German projects are confined to districts in Western Kenya in which West German agricultural assistance personnel are located: Kitale for large-scale loans, and Kisii and Kericho for small-scale loans. The World Bank smallholder project operates in all districts which contain smallholders cultivating registered land. The AFC's own smallholder program is limited to areas in which land is not registered, such as Bungoma. (About 50 per cent of smallholder land in Kenya is registered.) For purposes of definition, AFC ostensibly considers farmers to be small-scale if their income per year is less than Sh 10,000 and large-scale if their income exceeds this level. However, this index is ambiguous in certain respects, and the operational definition is based on loan size. The small-scale programs generally provide funds for specific purposes in amounts up to Sh 10,000 and advances under the large-scale schemes are for larger amounts and often finance farm enterprises such as ranching, which are different from those typically promoted in the small-scale schemes, such as dairying and food and cash crop production. Disbursements under these programs during the year ending March 31, 1971, are shown in Table 2.1.

Table 2.1 DISBURSEMENTS ON AFC LOANS FOR FINANCIAL YEAR ENDING ON MARCH 31, 1971

(Sh millions)

Large Scale Loans:	
Land Purchase and Development	19.62
Range Development - IDA 129	1.78
KFW	.87
Total	22.27
Small Scale Loans:	
AFC Small Scale	1.75
IDA 105 Smallholder Project	7.36
KFW Small Scale	.38
Total	9.50
Total Disbursement	31.76
Small Scale as a % of Total Disbursements	29.9%

The amounts of large and small scale loans on the books at annual closings since 1967 (before provision for doubtful accounts) is given below:

	12/31/67	3/31/69	3/31/70	3/31/71	3/31/72
Large Scale Loans Outstanding (before provision)	146	152	160	178	
Small Scale Loans Outstanding (before provision)	4	10	18	24	

2.9 The comparative size of the two segments of the AFC portfolio reveal that much more credit is outstanding to large-scale than to small-scale farmers, although the proportion outstanding to small-scale farmers has increased since 1967. This proportionate increase reflects the fact that small-holder lending has only recently been attempted on a broad scale, while loans to large-scale farmers comprised the bulk of the business of AFC's predecessor, the Land and Agricultural Bank, since 1931. The relative proportions of each loan category is of course linked to the amounts involved in individual loans of each type. In fact, AFC has many more small-scale borrowers than it has large-scale borrowers. An additional factor contributing to the relatively small portfolio share consisting of small-scale loans is that small-scale loans are generally extended for shorter periods than are large-scale loans. AFC's large-scale portfolio includes land purchase loans which are extended on 30 years terms, while practically all of the small-scale loans are for land and enterprise development, on terms ranging from about three to ten years. Thus, the small-scale portfolio turns over several times more rapidly than the large-scale portfolio, and this turnover consumes a lot of AFC's administrative resources. No cost data have been developed by AFC for the apportionment of overheads to its various programs.

2.10 Collection Mechanism and Procedures. AFC's collection mechanism involves centralized preparation of statements, consistent with the Corporation's centralized accounting structure. Repayments for most loan accounts are made in response to quarterly "installment reminders"

prepared and sent out to borrowers by AFC, but an increasing portion of recoveries are being obtained through standing orders of various kinds which provide for automatic, periodic payments to AFC from borrowers' bank accounts, salaries and proceeds of crop deliveries to agricultural marketing or processing organizations. The Corporation has recently instituted a policy of paying interest, at approximately 5 per cent per annum, to borrowers who in effect make prepayments by making monthly payments to AFC in anticipation of larger sums which fall due quarterly. Interest is not paid on credit balances below Sh 100 on small-scale accounts and Sh 250 on large-scale accounts. At the outset it should be stated that AFC has experienced difficulties in preparing statements on time, because of problems with accounting machines and other factors which result in bookkeeping delays. As of the middle of December 1972, for example, small-scale accounts were up to date to the end of August, while large-scale accounts were posted through the end of July. AFC appears to have made some progress in closing its accounting gap during the latter half of 1972; however, for reasons of simplicity, the following description of billing procedures is based on the model used by AFC, and not upon the actual procedures, which are frought with many administrative problems as suggested by the delay in the preparation of statements.

2.11 AFC's accounting procedures related to billing begin with the preparation at head office of installment reminders one month prior to the due date for the particular installment in question. Installments

on most loans are due at the end of each calendar quarter. Reminders are mailed directly to large-scale borrowers with a copy to the AFC branch through which the borrower has obtained his loan. Most small-scale borrowers do not have postal addresses, so installment reminders to these borrowers are sent in duplicate to the managers of AFC branches, who are responsible for distributing one copy to borrowers. For the distribution of these statements, branch managers utilize district administrative channels which may involve district officers, chiefs, and civil servants. Copies retained by the branches are used to record payments received and as a basis for activating the next step in the collection regime if payment is not forthcoming. Installment reminders are supposed to reach the borrower by the due date. Payments are to be made to the local AFC branch from which the borrower has obtained his loan. (Standing orders, however, should provide for funds to be paid directly to head office). If payment is not received within 14 days, or if no satisfactory proposal for later payment is received by AFC within 14 days, an arrears notice is prepared by the branch and distributed in the same manner as the installment reminder.

2.12 The arrears notice requests the borrower to bring his account up to date within 14 days or to call at his AFC branch to make satisfactory alternative arrangements. These arrangements may include the drawing up of an alternative repayment schedule which will bring the borrower up to date within a reasonable period of time (AFC only very rarely rewrites or renews loans), the borrower's providing a standing order against a bank account or some source of income, or arrangements

for the voluntary sale of some asset belonging to the borrower. If the arrears notice fails to elicit any response from the borrower, a call notice is sent to the borrower. The call notice again requests the borrower to visit his AFC branch within fourteen days and states that if the borrower does not come to the office an AFC official will inspect his farm and that a fee will be charged for the visit. These calls are arranged in advance by AFC branches so that farmers can arrange to be on hand to meet the AFC official. The purpose of the call is to obtain details concerning the cause of non-payment, to make satisfactory arrangements for repayment or to obtain repayment on the spot. Inspection visit fees of Sh 60 plus mileage at Sh 1 per mile are debited to the loan accounts of large-scale borrowers, while a lesser fee of Sh 30 is charged to small-scale borrowers' accounts.

2.13 If the inspection visit fails to yield results satisfactory to AFC, one of two courses of administrative action is taken. Small-scale accounts are referred directly to the Credit Controller at the AFC head office. Large-scale farmers are sent a demand notice which again asks for payment within 14 days. If these notices fail to produce the desired results, branch officials are expected to make a second inspection visit to the borrower's farm, charging the borrower as for the first visit. At this stage, the Credit Controller is informed if satisfactory results have not been obtained.

2.14 Until this point in the regime the initiative for follow-up rests with the local AFC branch, but when the matter is referred to head office all further decisions are taken at that level until the situation is resolved. Several options are open to AFC at this point. The Credit

Controller may decide to accept repayment proposals which have been made by the farmer, over-ruling the branch officer's rejection of these proposals. The defaulter may be called to Head Office, at his own expense, to discuss things and hopefully to conclude satisfactory arrangements for repayment of arrears. The Credit Controller may ask the AFC Farm Management Officer in head office to undertake a thorough economic, financial or other relevant type of analysis of the defaulter's farming operations and to make recommendations for remedying the problem situation. The Credit Controller may, at the conclusion of these other steps, or immediately upon the referral of the account by the branch manager, place the case on the agenda of the Foreclosure Committee, which consists of AFC's senior management. Foreclosure is, of course, the ultimate sanction which AFC can exercise, and the Foreclosure Committee may suggest arrangements short of foreclosure if such appear warranted. The foreclosure procedure first involves notifying the defaulter by registered post in the form of a final warning allowing three weeks to repay the amount overdue, after which foreclosure on the assets pledged to secure the loan will be undertaken.

2.15 If no satisfactory response is forthcoming from the borrower at this point, the case is referred to AFC's Board of Directors by the General Manager. The Board may authorize the General Manager to institute foreclosure proceedings. This involves informing the defaulter by registered post that foreclosure arrangements will be undertaken if payment of the entire amount of the loan is not received within 14 days. At this stage repayment must be made - "work out" proposals may no longer be accepted.

AFC may demand repayment of the entire amount, outstanding, as opposed to the amount overdue, because the loan is in default whenever payments are not received according to schedule. When the loan is in default, the entire amount outstanding becomes due automatically under an "acceleration" clause included in AFC loan agreements. However, at stages short of foreclosure AFC does not exercise its right to call the entire amount outstanding. Foreclosure notice fees of Sh 30 on small-scale loans and Sh 300 for large-scale farms are charged to defaulters' accounts. Under its Act, AFC may institute foreclosure proceedings without reference to the courts. However, AFC must advertise in the press and also announce in the Kenya Gazette, a government publication, that the farm in question is being foreclosed, giving details of the auction arrangements. Advertisement may not occur before the expiry of the 14 days given the borrower by the foreclosure notice. Sh 221 is charged to small-scale accounts and Sh 640 to large-scale accounts for the publication of these notices.

2.16 Foreclosure proceedings at the farm level involve the seizure of loose assets on the farm and the compilation of an inventory of these items. Auction of loose assets, such as cattle and machinery and crops in storage, may take place off the farm, in which case AFC charges the defaulter's account for the costs of transport. Auction fees of Sh 450 and Sh 600 are charged to small- and large-scale defaulters' accounts, respectively, when foreclosure is instituted. If repayment is received after notification of foreclosure, the borrower is charged a cancellation fee and a fee for advertisement of cancellation. These fees amount to

Sh 300 in the case of small-scale accounts and Sh 650 for large-scale accounts. Large-scale defaulters are also charged Sh 1,500 to compensate AFC for legal expenses. The total cost of all of these steps which is charged to the borrower, excluding mileage charged for inspection visits, is Sh 1,031 for small-scale farms and Sh 3,810 for large-scale farms. Assuming that AFC's security includes a mortgage on the borrower's land as well as a charge against his loose assets, the auction of the borrower's farm occurs if the sale of loose assets is not likely to yield enough to repay the loan. In many cases the liquidation of loose assets is insufficient to repay the debt, especially as borrowers often dispose of loose assets before AFC forecloses. The defaulter may continue to live on his farm until it is auctioned and sold, because the property is still legally in his possession. His rights of disposal are of course suspended by the mortgage he gave to AFC at the time he received his loan. In certain instances, defaulters have failed to vacate gracefully after their farm has been sold, and the buyers have had to resort to lengthy legal proceedings to secure eviction.

2.17 The length of time which AFC allows borrowers before undertaking foreclosure, when seen in practice, appears to be ample. The theoretical minimum period, based only on the total number of weeks included in the various demands, i.e., excluding the time consumed by administrative requirements, is 11 weeks. However, the length of time required to activate the various stages, for the preparation of the papers involved, for the Foreclosure Committee and the Board of Directors to meet and for the legalities of foreclosure to be accomplished easily, expand the period

to 42 weeks, and even longer. The borrower may interrupt or stall the process and gain a bit of grace by making a partial payment at certain stages, or propose a new repayment schedule which he may later dishonour. Also, the Foreclosure Committee and the Board of Directors may not act immediately but instead request that further information on a particular case be prepared so that the matter may be deliberated in a more analytical manner at their next meeting. The Foreclosure Committee meets at intervals of from one to three months, depending upon the volume of business on their agenda, and the Board of Directors meets quarterly. Thus, the procedure leading to seizure of a defaulter's farm may indeed require one year for completion and the initial billing lag by AFC of about four months before the cycle is even begun gives the borrower an additional opportunity to delay payment.

2.18 The pattern of loan repayment at AFC typically involves arrears on the accounts of many borrowers, as might be expected from the lag in billing alone. The annual balance sheet, drawn off at the close of business on 31 March, carries a large proportion of arrears which include amounts which have fallen due on the closing date. An ageing of arrears gives a more realistic idea of the situation. A study of AFC finances undertaken late in 1971 shows that for large-scale land purchase and development loans, the arrears position at the close of April 1971 amounted to Sh 20 million. Fifty-one per cent of the total amount was less than one year overdue, 26 per cent was between one and two years overdue, while the remaining 23 per cent was more than two years overdue. The arrears position at the close of April should be relatively smaller than

at 31 March, reflecting payments made during the period with respect to amounts due on 31 March. However, the extent of this expected diminution would be distorted by the deviation of the actual billing date from the due date.

2.19 AFC forecloses approximately 10 large-scale and 10 small-scale farms per month, which may be compared with a total of about 2,500 large-scale and 12,000 small-scale loans outstanding. AFC tends to be stricter in dealing with small borrowers than with large ones because of the numbers and administrative costs involved. The large-scale borrowers are more frequently able to make acceptable "work out" proposals because of the scope of their operations. Of the farms which are foreclosed, very few are actually sold by auction, and sales of small-scale farms by AFC are especially rare. Defaulters generally make suitable arrangements or repay amounts in arrears before auctions occur. The funds provided on such occasions often come from kinship loans, the sale of loose assets, and the sale or mortgage of non-farm assets (which have often been purchased with the funds which should have been repaid to AFC according to original repayment schedules). The fact that small-scale loans in default are almost always repaid prior to auction, once foreclosure is threatened, and that large-scale loans are less frequently brought up to date at this stage no doubt is a function of the smaller amounts involved on the former, the extent to which the large-scale farmer may have more options open to him than the small-scale farmer (such as the sale of some loose assets and continued operation on a smaller scale), and the relatively greater importance of the farm to the subsistence of the small-scale operator than to the large-scale operator.

2.20 No data on the relation of debt to capital in the large- and small-scale farm sectors are presently available for Kenya, so there is no way of knowing whether small-scale borrowers are relatively more or less indebted than large-scale borrowers. However, it is generally held that small farmers are in a higher risk category than larger farmers due to (a) the narrower margin between their output and their subsistence requirements, (b) perhaps the more limited number of enterprises on their farms, and (c) their more limited access to opportunities, information, inputs and services from outside their farms. Research into the causes and incidence of poor loan repayment among these two broad classes of borrowers could be helpful for the formulation of credit policy and credit supervision measures.

(i) World Bank Group Smallholder Credit Project (IDA 105)

2.21 In 1967 Kenya obtained funds from the World Bank Group for a smallholder agricultural credit project to be administered by the AFC as principal. The program was designed to provide credit for on-farm development and improved crop and animal husbandry to selected smallholders having registered titles to land located in areas with at least 25 inches of "dependable" rainfall annually. Borrowers pledge their land as security for their loans, so the scheme is operative only in areas in which land has been registered. In fact, the project was conceived as an adjunct to the Kenya Government's long-run activities in the area of land consolidation and registration. However, these conditions are not too restrictive, as most small-holdings in Kenya have been registered and

are located in areas within this rainfall band. By 1972 some loans under the scheme had been made in all but five administrative districts in Kenya, all of which were served by other loan schemes. In addition to providing credit to smallholders, the project includes a segment which was budgeted to provide finance for 169 four-wheeled 60 hp tractors with disc plows, disc harrows and other attachments to be sold to machinery contractors operating in small-scale farming areas.

2.22 The total project was designed to reach, within a period not exceeding four years, 8,100 borrowers working 80,000 acres (including those serviced by contractors). Smallholders at whom the scheme was aimed were estimated to have net cash incomes per annum of approximately Sh 1,300. This flow was expected to increase to Sh 3,000 per annum by the time the enterprises financed by the project were fully developed. The gross value of production which would be financed by the loans was estimated to reach Sh 46.9 million, including value added of Sh 31.5 million. The incremental contribution to the economy from the production financed by the loans was estimated at Sh 21 million, and the net incremental foreign exchange earning (not including import substitution effects) would approximately Sh 700,000 annually. The economic rate of return over the life of the project was estimated at approximately 35 per cent.

2.23 Four model farm plans were developed as bases for lending decisions. The models apply to farming conditions in various parts of the country within the rainfall and other limitations specified above, and loan terms for each type reflect the variations in potential and need. The longest loan granted under the scheme is for ten years with

a grace period of up to three years. The shortest loan is for a three year term, with no grace period. Funds provided for the purchase by contractors of tractors and equipment are for five years, with no grace period. Loan sizes for the farm models ranged from Sh 2,350 to Sh 6,800. The loans were designed to assist farmers in diversifying and improving enterprises such as dairying, maize, potatoes, pineapples, groundnuts and cotton. Tractor units and attachments cost about Sh 33,000 per borrower, and AFC financed between 50 and 80 per cent of the purchase price, depending upon the collateral which the borrower could offer over and above the security of a charge against the items purchased with the loan. Although these loans are above the Sh 10,000 limit conventionally used to separate large-scale from small-scale borrowers, these amounts are considered as small-scale because of the fact that these contractors serve small-scale farmers.

2.24 As illustrated in Table 2.2, the IDA credit of Sh 25.2 million was provided to the Kenya Government on 50 year terms, including a 10 year grace period and a service charge of 0.75 of one per cent payable annually on amounts drawn and not repaid. (No interest is charged on IDA credits.) The Government provided the funds to AFC on 17½ year terms, with a four-year grace period and interest of 3.5 per cent payable annually, on the amount drawn and outstanding. Prior to the effectiveness of this project, the Government loaned funds to AFC at 6 per cent but a condition of the IDA credit was that the Government would not charge more than 3.5 per cent on any future loans to AFC made while AFC is indebted with respect to this project.[1] AFC loaned these funds to farmers

[1] The Government also has provided AFC with interest-free capital. At the time of the effectiveness of IDA-105, the blended cost to AFC of Government funds was approximately 3.2 per cent.

Table 2.2 IDA 105 KE PROJECT STRUCTURE (PHASE I)

Participants	Funds Provided by Each Participant (US$ million)*	(K Sh million)	Percent of Total Funds	Return to Participants	Grace Period	Installments
International Development Association	3.6	25.7	60%	0.75% annual service charge		
Kenya Treasury	-	-	-	3.5% interest	10 years	80 semi-annual
AFC & Ministry of Agriculture	1.4	10.2	23%	7.5% interest on amounts loaned	4 years	27 semi-annual
Small Scale Farmers & Contractors	1.0	7.0	17%	39-46% Estimated financial rate of return	0 - 3yrs	12-40 quarterly installments
Project Totals	6.0	42.9	100%			

on terms of from three to 10 years. Under three of the model farm plans, grace periods of two to three years on principal repayment are permitted. Interest is charged at a rate of 7.5 per cent per annum, computed quarterly, on loans approved prior to 1 January, 1973. An 8 per cent rate is applied to all loans approved after that date and on all arrears.

2.25 In addition to the hardening of terms at each level in the lending chain, which is designed to strengthen the financial position of the institution involved at each level, there is also a pyramid effect with regard to the size of the project. While IDA provided US$3.6 million (Sh 25.2 million), the Government provided Sh 10.2 million, the local equivalent of US$1.4 million, of its own and of AFC's funds for the project. AFC was empowered to draw IDA funds under the credit to the extent of 80 per cent of its loan disbursements and to the extent of 100 per cent of its payments for equipment purchased and for expatriate staff engaged under the project. The loans to farmers were designed to provide 80 per cent financing, requiring the borrowing farmers to supply the balance. The balance may include the labor contribution of the borrowers. Machinery contractors, however, were required to make down-payments of from 20 to 50 per cent of the purchase price of their units, the actual percentage depending upon the amount and type of security offered. The borrowers' stake in the project was estimated at the local equivalent of Sh 7 million. Thus, the total project size was Sh 42 million, financed 60 per cent by IDA, 23 per cent by local institutions, and 17 per cent by the ultimate borrowers.

2.26 Not all of the Sh 25.2 million provided by IDA was for on-lending to farmers. IDA credit contracts and projects are designed to ensure that borrowers will have sufficient manpower and equipment at the operational level to administer the project in question. Table 2.3 shows how the total project consists of various categories of outlays by purpose. Accordingly, Sh 3.5 million was earmarked for overhead items, many of which involve high proportions of foreign exchange in their prices, such as vehicles, office equipment and accounting machines.

2.27 The Ministry of Agriculture is involved in this program through its activities in extension and through its farm management section, which was established in conjunction with the project in order to provide training in farm management to Ministry field staff. The extension and veterinary services support AFC in the project by developing farm plans for applicants and assisting them with loan application formalities. Sixty-nine per cent of the total resources of the project were allocated for loans to farmers for farm enterprises such as dairy cattle and related investments, land preparation, and so forth. Thirteen per cent of the total project was earmarked for lending to machinery contractors for the purchase of tractors and attachments. Eight per cent was budgeted to cover the costs of equipment and of expatriate technical personnel and 10 per cent for additional AFC and Ministry of Agriculture operating expenses related to the project. The foreign exchange cost was estimated at about 50 per cent of the Sh 42 million total.

2.28 The foreign exchange risk, which arises from the fact that the loan from IDA is denominated and repayable in US dollars, while the

Table 2.3

IDS 105 SOURCES AND USES OF FUNDS (PHASE I)

Total Project Cost	K Shs	US$ Equivalent — (in millions)-	% of Total
On-farm development, crop & animal husbandry improvement			
Fertilizers and Pesticides	8.9	1.2	
Heifers (2,000 head)	2.0	0.3	
Fencing, water supplies, milksheds, etc	1.9	0.3	
Deep plowing (77,000 acres)	7.7	1.1	
Land clearing (28,000 acres)	1.1	0.2	
Potato & pineapple planting materials	2.7	0.4	
Sprayers, dusters, etc.	1.1	0.2	
Unallocated	4.3	0.6	
Sub-total	29.7	4.1	69%
Tractors and attachments	5.6	0.8	13%
Total Direct project costs	35.3	4.9	82%
Equipment, vehicles and expatriate technical staff			
AFC	1.7	0.3	
Ministry of Agriculture	1.5	0.2	
Unallocated	0.1	-	
Sub-total	3.3	0.5	8%
Additional AFC & Government expenses	4.3	0.6	10%
Total Project Size	42.9	6.0	100%

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Table 2.3 (cont.)

Total Project Cost	K Shs	US$ Equivalent (in millions)	% of Total
Sources of Finance			
Farmers' & Contractors' Contributions	7.0	1.0	17
AFC & Government	10.2	1.4	23
Proposed IDA credit	25.7	3.6	60
Total Project Size	42.9	6.0	100

repayments due from the ultimate borrowers, farmers and contractors are, of course, in Kenya shillings, is carried by the Kenya Government, which borrows from IDA and on-lends to AFC. Any change in parity between the US dollar and the Kenya shilling will result in a gain or loss for the Government. However, the project was designed to pay for itself with respect to foreign exchange through financing enterprises with export market potential and import substitution possibilities. The project involved only the first round of lending by AFC. As noted above, the terms for which funds were provided to AFC exceeded the term for which credit was extended to ultimate borrowers. AFC is free to use the funds recovered from borrowers for bans for any purpose related to agriculture.

2.29 Project Performance. The project was slow in starting, mainly due to staffing and accounting problems in AFC. For example, for several months AFC was without a General Manager, and gaps, vacancies, and high staff turnover have been experienced at lower levels. As noted previously, accounts are not up to date. Shortages of grade cattle and the time consumed by the legal formalities of obtaining security also contributed to the lag. The closing date, originally 30 June, 1971, was extended to 31 March, 1973. After which AFC's right to draw funds under the credit ceases. However, AFC has managed to lend at a more rapid rate towards the closing date and full disbursement was achieved by the end of 1972, involving a few hundred more borrowers than originally planned. The progress of loan approvals and disbursements is shown in Table 2.4.

2.30 The composition of the project departed significantly from the original budget estimates. About 75 per cent of total loans were

Table 2.4 IDS 105 LOAN APPROVALS AND DISBURSEMENTS, 1967 - 1972

Period	Approvals		Disbursements	
	Annual	Cumulative	Annual	Cumulative
April 1967-March 1968	594	594	-	-
April 1968 - March 1969	6,102	6,696	1,925	1,925
April 1969 - March 1970	6,731	13,427	4,948	6,873
April 1970 - March 1971	7,973	21,400	7,137	14,010
April 1971 - March 1972	9,931	31,331	8,501	22,511
April - September 1972	3,119	34,450	4,182	26,693

SOURCE: AFC. These figures should be regarded as approximations.

for livestock and complementary facilities. Dairy cattle alone accounted for almost 40 per cent of loan disbursements. The budgeted amounts were approximately 11 per cent and 61 per cent respectively. Loans for about 18,500 heads of grade cattle had been approved by September 30, 1972 - the number budgeted in the project was 2,000. The reasons for this departure are not clear, but the relatively high gross margin and regular income from this enterprise and the compatibility of its labor demands with labor availability, plus promotion of dairying among smallholders by extension personnel are no doubt important contributing factors. It is notable that there has been a shortage of grade cattle in Kenya for several years. It is probable that AFC discouraged loans for crops and tractors due to the greater collection difficulties and security risks which may be involved with these enterprises relative to dairying which generates a cash income from which repayments can be readily deducted. Also, some of the crops proposed in the project encountered difficulties of various sorts which limited profitable lending opportunities. The market projected for pineapples failed to materialize. Groundnuts proved more difficult to harvest than envisaged at the time the project was drawn up. Cotton is produced mainly in areas in which land is not registered, which bars AFC from using IDA funds. There was also a shortage of seed potatoes. Lending for maize was not considered attractive because of considerations of profitability at the farm level.

2.31 Commitments as of the end of September 1972 for dairy and crop enterprise loans were about Sh 33 million. The budgeted amount, Sh 29.7 million, was increased by some Sh 2.1 million from the tractors

and attachment allocation which could not be used because of a shortfall in effective demand. AFC had overcommitted itself on this project, but disbursements to September 30, 1972, amounted to only Sh 25.7 million, reflecting the shortage of grade cattle and also the length of time it takes a farmer to arrange for purchases and for AFC to make payment against suppliers' invoices (frequently three to four months because of accounting problems). Given this lag between commitments and disbursements and also the expectation that the project would be renewed by a second phase funded largely by IDA, overcommitment constitutes a logical response to the continued availability of credit-worthy applicants. The total number of applications processed during the life of the scheme was 11,777 of which 9,846 had been approved. The average loan size was thus about Sh 3,340. Approvals covered all of the main crop enterprises found in Kenya.

2.32 Of the Sh 3.5 million budgeted for AFC lending to machinery contractors, only Sh 1.8 million had been approved by the end of September 1972. The primary reason for this was the difficulty in finding borrowers who appeared to be capable of maintaining their machinery in good working order. AFC has insisted that borrowers themselves or their operators attend a training course prior to obtaining the loan, the cost of the course being covered by a discount on the tractor purchase price accorded by distributors for cash payment. The courses have been given at the Narosurra Tractor Drivers Training Center. This operation was taken over by the Government in June 1972, and delays in resuming training activities at the Center slowed AFC disbursements for tractors during the

latter half of 1972. The total number of tractor loan applications considered since the start of the project was 121, of which 81 were approved. Disbursements totaling Sh 1.0 million had been made on 48 loans by September 30, 1972.

2.33 AFC's collection record with respect to the IDA 105 project has approximated 80 per cent. Collection ratios, defined as collections as percentages of billings, were 77.3 per cent in 1969/70 and 74 per cent in 1970/71 according to a report prepared early in 1972.[1] The repayment record with respect to tractor loans was slightly higher than that for livestock and crop loans. An ageing of arrears as of the end of December 1971 showed that about 20 per cent of amounts overdue had been outstanding for more than one year.

2.34 Phase II. In 1972 an agreement was made for the addition of a second phase, involving a Sh 42 million IDA credit and a total project size of Sh 64.4 million, scheduled to begin March 1973. Phase II has the same outline as the original project, and is summarized in the following three tables which show sources and uses of project funds, loan terms and four investment models.

2.35 Table 2.5 indicates that the second phase comprises 83 per cent (Sh 55.0 million) for lending to farmers and machinery contractors. Of this, 65 per cent (Sh 36.0 million) is for livestock development. This is intended for the purchase of about 12,000 grade heifers by about 4,000 borrowers, and the improvement of about 16,000 acres of pasture on

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[1] Lars Birgegard and Ralph Campbell, "The Agricultural Finance Corporation."

Table 2.5 IDA 105 SMALLHOLDER CREDIT PROJECT PHASE II
SOURCES AND USES OF FUNDS

Investments	K Sh million	US$ million	% of total lending program	% of total project
I. Crops	12.6	1.8	23%	19%
II. Livestock Development	36.0	5.0	65%	54%
III. Poultry Development	1.9	0.3	4%	3%
IV. Farm Machinery & Equipment	4.5	0.6	8%	7%
Total Lending Program	55.0	7.7	100%	83%
Technical Assistance	11.0	1.5		17
TOTAL PHASE II	66.0	9.2		100

(K Sh million)

Sources of Funds	Farmers	AFC & Government	I D A	Total
I. Crops	2.5	2.5	7.6	12.6
II. Livestock Development	7.2	7.2	21.6	36.0
III. Poultry Development	0.4	0.4	1.1	1.9
IV. Farm Machinery & Equipment	0.9	0.9	2.7	4.5
Total Lending Program	11.0	11.0	33.0	55.0
(Percent of Total by Source)	(20%)	(20%)	(60%)	(100%)
Technical Assistance	-	2.0	9.0	11.0
TOTAL PHASE II	11.0	13.0	42.0	66.0

borrowers' farms. The second largest lending category is for crops, which comprises 23 per cent of the total lending program (Sh. 12.6 million). A wide variety of crops are eligible for finance, and it is expected that this segment of the program will reach about 3,000 borrowers and cover about 15,000 acres. The project also includes a small poultry development element aimed at serving urban markets and a farm machinery and equipment category by which 100 contractors may receive loans for tractors and implements. A technical assistance element in Phase II includes provision for an agricultural credit survey in Kenya, plus equipment and expatriate personnel for AFC and the Ministry of Agriculture.

2.36 The funding of the Phase II project is made up of: (i) an IDA contribution of 60 per cent, (ii) an AFC and Kenya Government element of 20 per cent, with (iii) the remaining 20 per cent contributed by borrowers, in the form of labor as well as cash. Sh 9.0 million of the Sh 11.0 million budgeted for the technical assistance will be provided by IDA, and the remainder locally funded.

2.37 Table 2.6 shows the terms on which AFC will lend for the various enterprises included in the project. Livestock is the slowest-yielding enterprise as far as cash generation for repayment is concerned, and hence the total loan term is longest for livestock development credit. No grace period is permitted on loans for machinery because these assets should be immediately productive.

Table 2.6. Loan Terms for Ultimate Borrowers, IDA 105 Phase II

Investment	Grace Period Years	Prepayment Period Years	Total Term Years
1. Crops	2	3	5
2. Livestock Development	3	5	8
3. Poultry Development	1	3	4
4. Farm Machinery and equipment	-	5	5

2.38 The investment models on which the second phase of the project is based, as summarized in Table 2.7, are for: (i) five acres of selected crops, (ii) three grade cows, (iii) 100 laying hens, and (iv) one 60 hp tractor with attachments. The table gives the sizes of the investment envisaged on the average borrower's farm, and also the proportion of the investment which is to be financed by an AFC loan. The Net Income "before development" refers to the income which it is assumed the farmer would get from his five acres, his cattle or his poultry activities before the investment is undertaken. For example, it is assumed that the five acres is the state in which they were found before improvement under the loan would provide a cash income of Sh 1,414 per annum, that a borrower buying three grade cows would obtain Sh 250 from his native cattle or alternative activities prior to their replacement with three grade cows. Income and expenses and the incremental net income created by the investment is estimated for each model at full production. The financial rate of return is the internal rate of return for the project, computed to

Table 2.7

INVESTMENT MODELS FOR IDA 105 LOANS TO ULTIMATE BORROWERS
(Shillings)

MODEL	I	II	III	IV
Type of Investment Units	Crops 5 acres	Dairy 3 Grade Cows	Poultry 100 Laying Hens	Farm Machinery
Total Investment	4,200	9,000	3,000	45,000
Local	3,360	7,200	2,400	36,000
INCOME AND COST ESTIMATES				
Net Income Before Development	1,414	250	50	-
Gross Income Per Annum at Full Development	4,608	5,200	6,500	26,000
Annual Production Cost	1,300	1,200	4,700	13,000
Net Income Service Before Debt	3,308	4,000	1,800	13,000
Annual Debt Service	864	1,851	617	9,255
Net Income After Debt Service	2,444	2,149	1,183	3,745
Increment in Net Income after Debt Service	1,030	1,899	1,133	3,745
Financial Rate of Return	45%	44%	46%	39%

indicate the rate of interest on the initial investment outlay which would provide a flow of income equal to the incremental net income (after debt service during the life of the loan) generated by each investment over the period of its "useful life." The useful life is ten years for the crops, poultry and machinery models, and 20 years for the livestock model. The rates of return derived for the models indicate that there are very attractive investment opportunities in small-scale agriculture in Kenya. The rate of return analysis raises many questions about the reality of small-scale agricultural credit which are beyond the scope of the present discussion, requiring field surveys for full exploration. Two questions raised by the results include: (i) the need to allow for risk such as a bad year for crops, or the death of a grade cow while calving, and (ii) the extent to which this projected return may be reconciled with collection ratios of around 75 per cent on the AFC loans involved in financing these investments.

2.39 It has been agreed that the AFC lending rate will be raised from 7½ to 8 per cent. This rate applies to all loans under all projects (excluding those handled by AFC on an agency basis) made after 1 January, 1973, and also applies to interest charged on all amounts overdue after that date. The rate increase was advised by the World Bank for economic and financial reasons. One economic reason relates to the role of the rate of interest as a tool for ensuring the rational allocation of resources. The "poor farmer" argument is often used by those opposed to "high" rates of interest on agricultural lending, but the lending models

constructed for the project show internal rate of return of as much as 39 per cent and above after debt service, indicating that there ought to be substantial room for rate increases before rendering the investments unattractive for most borrowers. A second arises from the relative rate of inflation which may reduce the interest actually paid to very low and even negative levels. Though Kenya has not experienced high levels of inflation in the past, it has reached as much as 7 per cent in some recent years. Financial reasons include the fact that commercial interest rates charged by banks and AFC's counterpart in the business sector, the Industrial and Commercial Development Corporation, are 8 per cent and above.[1] Another compelling reason for an increase in the lending rate is that AFC has been unable to break even at the 7½ per cent rate.

(ii) KFW Smallholder Credit Project

2.40 The other smallholder credit project involving an external donor which is administered by AFC as principal is funded by the Kreditanstalt fur Wiederaufbau (KFW), the financial arm of the foreign assistance program of the Federal Republic of Germany. This project is confined to the districts of Kisii and Kericho in western Kenya which are also receiving agricultural extension assistance provided by the Government of the Federal Republic of Germany. The extension services in Kenya play an important role in identifying prospective borrowers, assisting farmers with loan application formalities, and furnishing technical guidance to borrowers, thus providing the basis for the connection between these two aspects of German assistance.

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[1] The commercial bank prime rate is 7 per cent, but most borrowers are charged 8-9 per cent. The Graziers Scheme run by the banks for large-scale beef fattening operations involves a 9 per cent rate.

2.41 Except that the donor provides funds only for on-lending, making no contribution to project overhead, the program has many features in common with the IDA 105 Smallholder Credit Project. The project was begun in February 1969, and it was expected that Sh 2.85 million probided by the donor would be fully disbursed by March 1973. Late in 1972, when commitments were running ahead of schedule and amounted to about Sh 3.4 million, a second phase was introduced involving a further contribution of Sh 8 million to extend the project to March 1976. The initial phase was designed to provide credit to 850 subsistence farmers to enable them to achieve a commercial scale of operation. The second phase is designed to expand the program to an additional 2,750 farmers. Four farm plans served as lending models in the first phase, but as these did not adequately reflect the diversity of ecological environments and opportunities for farmers in these districts, the second phase project design includes seven enterprise rather than farm models. These enterprise models include tea, passion fruit and potato development through acreage expansion and increased intensity of input usage, upgrading of pyrethrum plots, improved maize adoption, replacement of native cattle with grade cattle and establishment of poultry production. Repayment periods range from two years for maize to six years for grade cattle to eight years for tea.

2.42 Phase I funds were provided by KFW to the Government of Kenya at 3½ per cent interest per annum for 30 years, with a ten year grace period, and Phase II at 2 per cent interest per annum for 30 years, with a ten year grace period. The Kenya Government on-lends to AFC on the same terms and conditions under which it receives the funds from KFW.

The total Phase II project is expected to be financed by KFW, the Kenya Government and the borrowers in the proportion shown in Table 2.8.

2.43 Credit standards applied to borrowers under the second phase are as follows: (i) the borrower should be of suitable personal and moral character; (ii) the farmer should be able to utilize the loan to generate enough cash income, after meeting subsistence requirements, and paying taxes and school fees, to cover loan servicing obligations twice; (iii) borrowers must be at least 21 years of age; and (iv) preference is given to applicants who are members of cooperative societies and who have completed courses at Farmers' Training Centers. Loans are disbursed only against suppliers' invoices. Prior to January 1, 1973, the KFW's lending rate was 7½ per cent per annum on amounts outstanding, but has subsequently been raised to 8 per cent in parallel with the agreement reached with the World Bank at the time of the Phase II IDA 105 Smallholder Credit Project.

2.44 Aimed at subsistence farmers with cash incomes of Sh 500 per year in Kisii and Sh 1,200 annually in Kericho, the initial phase consisted largely of loans rather than commitments of borrowers' own funds. Farmers were expected to provide only Sh 350,000 as a contribution towards the purchase of grade cattle, while the loan portion, entirely funded by KFW, was Sh 2.85 million; i.e., 12 and 88 per cent respectively. The range of loan sizes permitted is from Sh 1,000 to Sh 10,000 with an average of Sh 2,515 in Kisii and Sh 4,294 in Kericho. Repayment was over two to five annual installments beginning 14 months after loan approval in the case of dairying loans or to coincide with harvests or

Table 2.8 KFW SMALLHOLDER CREDIT PROJECT - TOTAL PROJECT COST AND PROPOSED FINANCING (Sh '000)

	Farmers' Contribution	Government Contribution	KFW Credit	Total Project Cost
On-Farm investment	1,925		8,000	9,925
Technical Services (provided by Government)		1,534		1,534
Loan Administration (provided by AGC)'		1,028		1,028
Total Cost	1,925	2,562	8,000	12,487
Per cent distribution	15.4%	20.5%	64.1%	100%

Of the sh 9,925 budgeted for on farm development, the distribution between enterprises is expected to follow a pattern similar to that established by phase I. The planned distribution by purpose is shown in Table II.

Table II. Phase II Project Breakdown Budget (sh '000)

Purpose	Loan	Farmers' Contribution	Total Project
Crop Development:			
Tea	960	348	1,308
Pyrethrum	860	28	888
Passion Fruit	80	19	99
Potatoes	160	14	174
Maize	80	7	87
Sub-total	1,840	416	2,256
Livestock Development:			
Dairy	6,080	1,510	7,590
Poultry	80	10	90
Sub-total	6,160	1,520	7,680
TOTAL	8,000	1,936	9,936

The foreign exchange requirement of the project is estimated at less than sh 2 million.

income peaks in the case of crop development loans. Most loans, i.e. those for grade cattle, have been granted for a term of five years. Average cash incomes of a sample of the 850 borrowers increased to Sh 2,000 per year in Kisii and Sh 3,600 annually in Kericho, suggesting that the borrowers had attained a much higher level of commercial activity as a consequence of their borrowing.

2.45 Loans were granted under Phase I for the acquisition of grade cattle and materials needed for grade cattle enterprises such as fencing, sprays, and for water supply and storage facilities, for the procurement of improved seeds and planting materials for initial cultivation of high-yielding varieties, and for deep-plowing of fields. As in the case of the IDA 105 project, a preponderance (77 per cent) of the first phase was devoted to dairying. The project did not have any sub-limits budgeted for various loan purposes, but it was assumed at the outset by AFC and KFW that the project would not be so devoted to a single enterprise. AFC justifies this departure from expectations by noting that dairying improves family income and diet rapidly, provides a regular source of income, and is less subject to labor constraints and requires less attention, once established, than annual crop enterprises. It is no doubt for these reasons that applicants, too, are relatively more enthusiastic about using credit for dairy development than for crop development.

2.46 Loan approvals by district and purpose through the end of September 1972 are shown in Table 2.9. The total number of borrowers as of that date numbered 1,077, of which 75 had more than one loan under

Table 2.9

DISTRIBUTION OF APPROVED LOANS BY PURPOSE IN KISII AND KERICHO

UP TO 30 SEPTEMBER 1972

ITEM	KISII					KERICHO					
	1969	1970	1971	1972+	Sub-total	1969	1970	1971	1972+	Sub-total	TOTAL
Number of loans approved	62	117	275	244	698	25	44	194	116	379	1,077
Number of dairy cattle financed	95	187	325	301	908	65	141	594	282	1,082	1,990
Distribution by purpose of funds loaned: cattle (Kr '000) as % of total	84.4 66.9%	168.3 64.8%	305.2 43.1%	301.0 45.6%	858.9 48.9%	58.5 82.4%	127.3 72.2%	566.1 64.4%	281.7 58.9%	1,033.6 63.5%	1,892.5 56.0%
Dairy development § (Kr 000) As % of total	28.9 22.7%	57.0 21.9%	141.1 19.9%	99.8 15.1%	326.8 15.6%	31.8 34.0%	48.4 26.3%	209.3 23.7%	110.3 23.1%	387.8 24.5%	724.6 21.4%
Poultry (Kr '000) As % of total	- -	1.3 0.5%	18.3 2.6%	3.6 0.5%	23.2 1.3%	- -	- -	- -	- -	- -	23.2 0.7%
Beans, maize, passion fruit, potatoes, pyrethrum, tea, and plowing and clearing (Kr 000) As % of total	13.5 10.5%	32.4 12.5%	223.2 31.8%	207.2 31.3%	476.3 27.1%	1.5 1.6%	1.4 0.8%	94.0 10.7%	67.2 14.2%	164.1 10.2%	640.4 18.9%
Other purposes (Kr 000) As % of total	0.8 0.6%	1.0 0.3%	19.9 2.8%	48.7 7.4%	70.4 4.1%	2.0 2.0%	1.2 0.7%	9.7 1.2%	19.0 3.8%	31.9 1.8%	102.3 3.0%
Total (Kr 000) " %	127.6 100.0%	260.0 100.0%	707.7 100.0%	660.3 100.0%	1755.6 100.0%	98.8 100.0%	176.3 100.0%	879.1 100.0%	478.2 100.0%	1,627.4 100.0%	3,383.0 100.0%
Approvals per period as a % of total approvals by district	7.3%	14.8%	40.3%	37.6%	100.0%	6.8%	10.8%	54.0%	29.4%	100.0%	

Source: AFC

+ 1972 data are for the first 9 months of the year.

§ water development, fencing, spray pumps, dairy equipment, pasture improvement.

the program. A total of Sh 3.38 million was devoted largely to the acquisition by borrowers of about 2,000 grade cattle, or an average of more than one cow per borrower in Kisii and more than two cows in Kericho. For each shilling loaned for the acquisition of cattle, an additional 38 cents was spent on fencing and other improvements to support dairying enterprises. The balance of the project was devoted largely to contract ploughing, maize and potatoes and cash crops and poultry. Cattle figure more prominently in the lending program in Kericho than in Kisii. This greater specialization may reflect the fact that Kericho is an area more favorable to dairy production than Kisii. Kericho is closer to marketing and processing facilities, allowing a higher farm-gate price, and cooperative societies through which milk is delivered are relatively well organized in Kericho. The difference in the numbers of loans approved in each district also reflects to some extent the intensity of extension effort and related staffing. There are no district lending quotas under the program, but the scope of the program has at times been limited by the lack of land registration in certain parts of the two districts.

2.47 The repayment rates shown in Table 2.10 were 56 per cent in Kisii and 78 per cent in Kericho, or 48 and 67 per cent respectively when prepayments are subtracted. Prepayments seem unexpectedly high, at about 10 per cent of the amounts due. This is largely the result of AFC's efforts to persuade farmers to make monthly repayments in anticipation of annual installments. Collections result entirely from billings - AFC has no arrangements under this scheme with cooperatives or other marketing or processing organizations for stop orders against borrowers' deliveries.

Table 2.10

REPAYMENT RECORD AND AGEING OF ARREARS AS OF 30TH JUNE 1972

	Kisii		Kericho		Total	
A. Amount due and billed	Shs 155,988		Shs 108,409		Shs 264,397	
B. Less: total amount received	86,547		84,143		170,693	
C. Net arrears	69,441		24,266		93,704	
D Plus: Prepayments	15,308		12,030		27,338	
E. Total arrears	84,749		36,293		121,041	
F. Cumulative Collection Ratios including prepayments % (B+A)	55.5%		77.3%		64.5%	
G. Comulative collection Ratios excluding prepayments % (B-D)/A	45.7%		66.5%		54.7%	
Ageing of Arrears	Shs	% of A	Shs	% of A	Shs	% of A
H. 0 - 3 months overdue	35,539	22.7%	25,026	23.1%	60,565	22.9%
I. 4 - 6 months overdue	22,705	14.6%	5,327	4.9%	28,033	10.6%
J. 7 - 9 months overdue	10,509	6.7%	2,288	2.1%	12,797	4.8%
K. 10-12 months overdue	2,573	1.6%	2,195	2.0%	4,768	1.8%
L. Over 12 months overdue	13,422	8.3%	1,457	1.3%	14,879	5.6%
M. TOTAL ARREARS	84,749	54.2%	36,293	33.4	121,042	45.8%

A high level of prepayments may also indicate that the repayment terms are not as rigorous as they might be, given the borrowers' ability to repay, though this is difficult to assess without comparable data on the arrears position. The overall low collection ratio suggests, on the other hand, that terms may be too rigorous, though it may simply reflect too low a level of loan supervision, or differences in individual behavior or circumstances.

2.48 The arrears position is worse in Kisii than in Kericho. A possible factor causing this variation may be the relative degree of risk associated with smallholder agriculture in each area. In Kisii the farms of borrowers are smaller than in Kericho, and hence the margin of borrowers' income, above subsistence requirements may be more secure in Kericho than in Kisii. Indeed, this is also implied by the greater cash income enjoyed by borrowers in Kericho than in Kisii, as mentioned earlier. The enterprises financed under the project involve varying degrees of risk, too, and it may well be that the higher proportion of the portfolio devoted to dairying in Kericho than in Kisii may result in a lower portfolio risk position in the former district than in the latter. Political and ethnic factors may also contribute to the differences in repayment records. Kisii traditionally has a poor repayment record, as reflected in the experiences of commercial banks in that area. Another interesting aspect of the arrears position in both districts is the high proportion that are six months or less overdue. This suggests that there may be a six months payment lag among most farmers who do not pay by the due date. In Kericho the lag appears to be limited to three

months after billing. When this is added to the lag in billing by AFC, the total lag approximates 9 or 10 months. To the extent that this combined lag occurs on initial instalments, some farmers may not be repaying for up to two years following approval of their loan.

(iii) AFC Small-Scale Loans

2.49 The AFC operates a small-scale lending scheme from its own resources, in addition to that supported by external donors. These funds, as with the large-scale land purchase and development loans, stem from capital provided by the Government and from the gap in AFC's favor between the terms on which it extends loans and the terms on which it borrows funds for the operation of programs funded by external donors.

2.50 The AFC small-scale scheme was begun in 1965, approximately one year after it commenced operations. As part of its initial capital, AFC was given a small-scale loan portfolio funded by a grant from the International Cooperation Administration (ICA), Now the United States Agency for International Development). This ICA scheme had been under the direction of the Board of Agriculture (Non-Scheduled Areas). The level of performance experienced on ICA loans in the years immediately preceeding its transfer to AFC caused AFC to discontinue lending under this program at that time. Thus the current AFC small-scale loan program represents a fresh attempt to provide credit to small-scale African farmers, and provided the bulk of such advances until the IDA 105 Smallholder Project began to operate on a significant scale in 1969. Subsequently, it has been supplemented and displaced to a significant degree by the IDA and KFW schemes.

2.51 The AFC program differs from these, however, in being directed predominantly toward areas as yet without registered land title. Using land mortgages to secure loans under the externally supported schemes restricts their operation to areas where land is registered. But, this form of security diminishes the lender's risk, and attracting external resources for programs in these prime areas has enabled AFC to devote more of its own resources to the less favored districts in which land registration has not yet been completed. Loans here are more risky perhaps because of the inferior security available to the lender, but mainly because the unregistered areas as a whole tend to be more marginal and generally less prosperous agriculturally than the others.

2.52 Since 1969 most AFC small-scale loans have accordingly been granted to farmers not having title deeds to their land. In unregistered areas AFC obtains two documents which provide it with a degree of security. One is a legal undertaking concerning the borrowers' rights to the land on which the loan proceeds will be invested. The second is a power of attorney in which the borrower authorizes AFC to register a charge against his land at the time the land is registered. (Land registration is continuing steadily in Kenya). Infrequently since 1969, AFC has also made loans under this program in registered areas. In these instances it has been deemed preferable not to use IDA or KFW funds for the advances in question. Such circumstances include lending decisions made in response to political influence rather than to perceived agricultural opportunity. Further, AFC small-scale loan funds have also been used for advances to the Horticultural Crops Development Authority for on-lending to smallholder growers of passion fruit.

2.53 AFC small-scale loans are presently outstanding in all districts except Naivasha and Uasin Gishu. The number of borrowers on the books is approximately 3,200. Loans are given for a wide variety of crops including maize, potatoes, bananas, tea, coffee, cotton, and for livestock enterprises. Credit is extended on five year terms, repayable in quarterly instalments. No special credit standards apply to this scheme, and loans are made and collected in the same manner as under other programs. Prior to 1967, however, disbursements were made in cash, but have subsequently been made against suppliers' invoices. Portfolio performance data as shown in Table 2.11 indicate that loan approvals continued at a moderate level in 1969/70 and 1970/71, while closing balances outstanding peaked in 1971 or 1972 and arrears have mounted steadily. However, the collection ratio seems to have improved over the three years to 1970/71. (These figures must be regarded as approximations, however, in view of AFC's accounting problems.)

2.54 Collection experience has probably been inferior to that of the IDA and KFW projects, no doubt reflecting a number of factors. Disbursements in kind prior to 1967 probably resulted in a significant portion of the funds being used for purposes not directly related to agricultural productivity. Estimated collection ratios appear to improve over the period under review, corresponding to the increasing proportion of the total portfolio which was disbursed in kind (against invoices). AFC's accumulation of experience over the course of the program may also contribute to the improved collection ratios. On the other hand, it would seem reasonable to expect that the shift of the program from being

Table 2.11

AFC SMALL SCALE LOAN PORTFOLIO PERFORMANCE, 1966/67 - 1972

(Sh millions)

	1966/67	1967/69	1969/70	1970/71	August 31, 1972
Loans approved	n.a.	2.750	1.314	1.314	
Disbursements	n.a.	n.a.	n.a.	1.754	
Outstanding at end of period*	4.074	6.408	6.680	7.468	7.166
Installments falling due	n.a.	1.408	1.734	2.236	
Collections	n.a.	.538	.900	1.424	
Collection ratio (%)	n.a.	38.2	51.9	63.7	
Arrears at end of period	.870	1.372	2.204	3.016	3.678

SOURCE: AFC Annual Reports and internal documents; Lars Birgegard and Ralph Campbell, The Agricultural Finance Corporation, February 1972, Tables 1, 2 and 9. It should be noted that these figures are in many cases approximate, hence the Table is not mathematically consistent.

* Amounts outstanding at end of period include loans approved but not disbursed of Sh 794,160 for 1969/70, and Sh 401,040 for 1970/71. The situation for earlier periods is not known.

the only major smallholder scheme operating on a national scale (as the AFC scheme was before the IDA 105 and the KFW small-scale projects) to one devoted largely to high risk loans would have the effect of decreasing collection ratios. In fact, this has not happened. Assuming that the figures in the table reliably reflect the situation, it would appear that the factors mentioned above have outweighed the increasing risk which the logic of security would suggest has been added to the portfolio. However, the collection ratios for the most recent years for which audited information is available, 1969/70 and 1970/71, are 51.9 per cent and 63.7 per cent, which is below those recorded for IDA 105 (77.3 and 74.7 per cent); and this may reflect a relatively higher risk composition of the AFC scheme portfolio.

(iv) Large-Scale Lending by AFC

2.55 The AFC has a large-scale lending operation which is not part of any project receiving assistance from multilateral or bilateral donors, which provides both land purchase and development loans. These are granted from AFC's own resources, generated in the same way as those used for the small-scale program; i.e., surpluses on cash flows generated from different borrowing and lending terms on the external donor schemes. These funds supplement those provided by the British Land Transfer Program, for large-scale land purchase and development. With respect to terms and conditions on borrowers, loans from the two sources do not vary.

2.56 No breakdown of large-scale loans by purpose is available for recent years before 1972, but the data for the 192 large-scale loans made

in 1972 are given in Table 2.12. (The statistics include British Land Transfer Program Loans but exclude loans made under the KFW large-scale scheme, also described later in this report.) Table 2.12 indicates that land purchase loans, which are secured by mortgages on the land in question, account for the largest element amounting to 61 per cent of the total of large-scale loans made by AFC from its own and British resources. The balance is devoted to on-farm development. The largest single portion of tnese are for livestock (mainly dairy cattle) and supporting facilities, accounting for 52 per cent of all development loans disbursed in 1972.

2.57 Another significant portion is used for the repayment of outstanding debts. These are granted to enable AFC to obtain a charge over the farmer's assets, which may already be encumbered, in order to support lending for the development required to make investment worthwhile. Where a farmer has fallen into debt through crop failures or through poor management, a debt clearance loan from AFC is intended to clear his debts and provide earning assets which will enable the farm to operate above the break-even point. The loan from AFC may also be at a slightly lower interest rate than that charged by suppliers or other debtors, thus lessening the borrower's relative burden. In addition, the AFC loan is accompanied by farm planning and supervision. These debt consolidation loans comprised 19 per cent of development loans made by AFC in 1972 (excluding KFW loans).

2.58 An additional 19 per cent of large-scale development loans were used for the purchase and repair of farm machinery, with tractors accounting

Table 2.12 LARGE SCALE LOANS MADE BY AFC IN 1972

Purpose of Loans	Disbursements (K shs 000)
Development Loans:	
Purchase of livestock and steers	6,480
Water development, fencing and other livestock-associated purposes	820
Repayment of non-AFC loans	2,745
Agricultural machinery purchase and repairs	2,732
Sugar cane	329
Farm building construction and repairs	139
Working capital	130
Other purposes	787
Total Development Loans	14,162
Land Purchase Loans	22,081
Total Large Scale Loans	36,243

Total number of borrowers = 192
Average disbursement per borrower = shs 189,000

Source: Agricultural Finance Corporation

Excludes loans made under the KFW large scale program.

for a major portion of these. The remaining 10 per cent of these types of disbursements in 1972 were devoted to sugar cane development, farm buildings, working capital and miscellaneous purposes. The total number of loans in 1972 was 192, and the mean loan size was Sh 189,000. The number of large-scale borrowers may be viewed in relation to the 3,100 farms which are classified as large-scale by the Government for statistical purposes. Statistics relating to portfolio performance are included in the following section on the British Land Transfer Program.

(v) AFC Loans Under the British Land Transfer Program

2.59 The British Land Transfer Program was begun in 1961 when the United Kingdom first provided loans and grants to the Kenya Government for the purpose of effecting the transfer of agricultural land from European to African ownership. The bulk of these transfers was undertaken by the Ministry of Lands and Settlement and sub-divided into small-holdings as described in a separate section of this report. This program was supplemented by the Stamp Purchase Plan which provided for the transfer intact of some 120 large European farms to State and private African ownership under the auspices of the Agricultural Development Corporation (ADC), also described separately in this report. The third branch of the British Land Transfer Program involved the provision of funds for the purpose of assisting Africans to purchase large European mixed farms through private transactions conducted on a "willing-buyer willing-seller" basis (a fundamental principle of the British Land Transfer Program). AFC hires land valuers to ensure that transaction prices are not out of line with prevailing market levels. The AFC scheme began in July 1966, by which

time most farms in areas designated for settlement schemes had already been transferred. The AFC loans were available for the purchase of farms outside the settlement areas which had not been included in any of the other operations of the Land Transfer Program.

2.60 To finance its lending operations under the scheme AFC received funds between July 1, 1966 and March 31, 1967 on 25 year terms and at an interest rate of 8 per cent per annum. When the IDA 105 credit became effective on April 1, 1967, the rate of interest was reduced to 3½ per cent per annum on all funds supplied after that date. AFC is reimbursed from the Treasury for 100 per cent of loans qualifying under the scheme. The program contains no additional elements to contribute to AFC's overhead expenses.

2.61 Loan terms to African borrowers were originally 20 years on land purchase loans and from 5 to 15 years on development loans. The terms of which AFC borrows and on which it lends under the program specify repayments of principal and interest in equal annual instalments, with no grace period. Interest was charged at the usual AFC rate of 7½ per cent per annum prior to January 1973, after which any new loans under the scheme and all arrears incur an 8 per cent per annum interest obligation. Borrowers under the scheme are frequently groups formed for the purpose of buying a large farm, who are required to deposit with AFC as down payment for the farm. AFC's approval of borrowers' loan applications are conditional pending receipt of the deposit, which is held by AFC until the legal formalities of transfer are completed, a process which frequently requires three or more months. These deposits, which

constitute a convenient source of funds for AFC, earn interest at the rate of 3 per cent per annum. (Land Purchase Deposits on hand at March 31, 1970 and 1971 were Sh 2.07 million and Sh 2.08 million respectively.) In March, 1969 the terms of the scheme were altered significantly by the Agricultural Finance Corporation Act, which permitted more liberal terms. The down payment was reduced to 20 per cent of the purchase price of the farm, and the final maturity of land purchase loans was extended from 20 to 30 years. These changes were not retroactive. AFC's own funds will be used to finance any gaps which may result from making 30 year loans funded by its own 25 year obligations. Loans made under the scheme amounted to Sh 28.14 million for land purchase and Sh 7.70 million for land development as of the end of September 1972. The transfer of 232,000 acres had been financed by the land purchase loans as of that date.

2.62 No precise data on portfolio performance is available on this program because these loans are included in AFC's total large-scale land purchase and land development portfolio. However, between July 1966 and the close of the 1970/71 accounting year loans made under the British Land Transfer Program accounted for something less than half of the land purchase and development loans made by AFC during the period. The other operations stem from the activities of the Land and Agricultural Bank of Kenya, AFC's predecessor corporation which had begun providing this type of finance in 1931.[1] Detailed data for the overall program are not available for all years either, but the information which has been gathered from AFC records is outlined in Table 2.13. There is no reason

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[1] The Land and Agricultural Bank and the AFC were run virtually as one organization after 1965. For convenience their separate roles with respect to the program are not specified in this discussion, which treats both operations as being one, involving only AFC.

Table 2.13 AFC LAND PURCHASE AND DEVELOPMENT LOAN STATISTICS 1967 - 1971

	27 months to March 31, 1969	12 months to March 1970	12 months to March 31, 1971
Loans Disbursed:			
Land Purchase Loans	586.7	637.5	650.2
Development Loans	390.4	341.2	282.6
Principal Falling Due:			
Land Purchase Loans	300.0	(627.6	(556.6
Development Loans	691.9	(	(
Principal and Interest Falling Due:			
Land Purchase Loans	971.4	(1,029.5	(1,071.5
Development Loans	916.1	(	(
Collections:			
Land Purchase Loans	(1,452.7	n.a.	(866.9
Development Loans	(	n.a.	(
Collection Ratio for all AFC large loans**	77.0%	78.0%	74.3%

SOURCE: Lars Birgegard and Ralph Campbell, The Agricultural Finance Corporation, February 1972, Tables 2 and 7.

** Collection ratio = collections (excluding prepayments) as a percentage of installments of principal and interest falling due, plus interest on arrears.

why the performance record for land purchase and development loans funded by the British Land Transfer Program should vary significantly from other large-scale loans made during the same period by AFC, as the conditions of the program do not specify special credit standards to be applied to applicants for these funds. AFC grants these loans on the same basis as it grants other loans for similar purposes, so that in operational terms the program is simply a source of funds, not a separate credit scheme.

(vi) KFW Large-Scale Loan Project

2.63 Arrangements were made in 1967 with the Kreditanstalt fur Wiederaufbau, (KFW), the overseas development finance institution of the Federal Republic of Germany to provide funds to Kenya for the establishment of state-owned animal breeding farms and for the rationalization of large-scale African farms in the Trans-Nzoia District. The total loan was for DM 2.5 million, DM 1.3 million of which was used by the Agricultural Development Corporation for the purchase of breeding cattle, movable assets, and improvement of land and buildings on three of its breeding farms. The remainder, with which this discussion is concerned, amounted to DM 1.2 million, and was made available to AFC for on-lending to large-scale African farmers in the Kitale area whose farms could benefit from injections of capital. An agricultural team provided under West German foreign assistance is operating in this area, and the loan funds were provided to support their extension activities.

2.64 Implementation of the project was delayed until 1969 because of disagreements between Kenya and Germany regarding the rate of interest to be charged by KFW. Under the original plans, disbursements were to

have been completed by the end of 1971; but because of the initial delay, the closing date was extended to December 31, 1972. With the revaluation of the German Mark, the local equivalent available to AFC amounted to about Sh 2.6 million. By the end of June 1972, commitments approximated Sh 2.5 million, on 67 loans for an average of about Sh 37,000 per borrower. The distribution of approvals was as follows:

Dairy cattle	Sh. 902,500
Beef cattle	74,500
Improvements related to cattle and dairying	211,900
Tractors and machinery	1,261,120
Other	23,300
Total	2,479,320

2.65 The pattern of approvals differed from that envisaged when the loan was negotiated, as no provision was made for the purchase of cattle with loan proceeds. The purposes specified in loan documents were:

(a) enlargement of fields suitable for cash crop production,

(b) clearing scrub land to create pastures,

(c) modernization and purchase of additional agricultural equipment and machines,

(d) subdivision of pastures by fencing,

(e) establishment of permanent fodder areas,

(f) improvement of old and establishment of new watering troughs,

(g) soil conservation measures,

(h) instruction in pig-keeping.

2.66 AFC's collection experience as of December 31, 1971, the date of the latest report carrying repayment data, showed that collections amounted to only 19.7 per cent of amounts due.

	Shillings
Amount due and billed	622,312
Total amount received	122,865
Net arrears	499,447
Plus prepayments	5,685
Total arrears	505,132
Ageing of arrears:	
0 - 3 months overdue	346,965
4 - 6 months overdue	15,356
7 - 9 months overdue	29,189
10 - 12 months overdue	-
more than 12 months overdue	113,622
	505,132

This ratio is distorted somewhat by the fact that quarterly instalments fall due on the closing date of the quarter at which time the report was compiled. If the amount in arrears which fell due on the previous due date, Sh 346,965, is added to the amount received, the hypothetical adjusted collection rate would be 75.4 per cent. The bulk of the payments received by AFC under the program comes from the harvest in January and February, which would also contribute to particularly low collection rates as of the end of December. However, AFC is making a greater effort to secure recoveries through automatic deductions from borrowers' milk deliveries to cooperative organizations.

(vii) World Bank Group Swedish Livestock Development Project

2.67 One of the most ambitious credit projects, from the conceptual point of view, to be undertaken in Kenya is the livestock development project funded in 1969 by the International Development Association (IDA), part of the World Bank Group; the Swedish Government's International Development Agency (SIDA); and local sources. The project attempted in part to involve traditional pastoral societies in commercial production of beef for local consumption and export. The project was designed to assist in the development of 60 ranches covering about two million acres in semi-arid areas. Items to be supplied to ranches under the lending program included stock watering, spraying, dipping and handling facilities, firebreaks, fencing, improved breeding stock and machinery and equipment. In addition, the project also involved the establishment and improvement of technical services for the ranching sector plus investment in livestock movement and marketing facilities. The project was designed to assist four different types of ranching organizations: group, company, individual and commercial ranching enterprises, which were defined in the project prospectus as follows.

2.68 Group ranches are operated by aggregations of up to 30 families who have collective title to the land, but who continue to hold livestock as individuals under traditional concepts of ownership. Herding is done on a communal basis determined by customary forms of organization. This type of enterprise is designed for traditional pastoralists who were considered not willing to sacrifice their customary attachments to livestock for an entirely commercial approach. However, group ranches

participating in the project would be expected to observe agreed stocking levels, which implies a change from traditional orientations.

2.69 The legal basis for group ranching is contained in the Land Titles Adjudication Act of 1968 and the Land (Group Representatives) Act of 1968, which provides for the registration of groups as legal entities and for the issue of negotiable land titles to such groups. Each member would be expected to contribute to loan repayments on a per-head-of-cattle-owned basis, and the net income of the group would be distributed to members in proportion to their own sales of cattle.

2.70 Loans for group ranches under the scheme were to be restricted to the Kaputiei Section of the Kajiado Masai District, as the inhabitants of this area were the only traditional pastoralists which appeared ready to embrace the degree of change inherent in the group ranching operation. Because of the experimental nature of this aspect of the project, the Government agreed to underwrite directly any losses which might accrue to AFC as the ultimate lender. The project budget included provision for financing 20 group ranches, averaging 35,000 acres in size and already stocked with 2,000 animal units. The project was designed to increase the stock level to 3,000 units.

2.71 Company ranches are owned by shareholders who purchase their shares by subscribing either cash or assets in kind (mainly cattle). Ranching companies are expected to operate in the normal corporate manner, having a board of directors responsible for policy, a paid management responsible for operations, and agreed-upon methods of profit distribution. The ten ranching companies to be formed under the project

were expected to operate on lands leased from the Government at the foot of the Taita Hills. These ranches were expected to contain about 64,000 acres each. The ranching companies would be obliged to furnish trained management, basic breeding stock, 20 per cent of development capital needs and small contributions towards working capital requirements.

2.72 Individual ranches were envisaged in the project design as catalytic development agents, and were based on precendents in Kajiado and Narok Masai Districts. Individuals, with community consent and Local Council approval, were expected to register communal lands in their own names as private property and use this land for marketing-oriented livestock operations. The project budget provided for 10 ranches of this sort of about 2,000 acres each in Kajiado Masai District. Each ranch was expected to have the capacity to support about 200 animals. Capital inputs such as watering and dipping and spraying and stock handling facilities were to be shared between several ranches. Each individual was expected to provide basic breeding stock plus 20 per cent of development requirements. The intention behind this type of operation was that advanced pastoralists as individual owners, serving as their own managers, would provide a demonstration effect for the rest of the community, which would result in a greater orientation towards commercialization of productive activities. The project prospectus acknowledges, however, that the validity of this model is limited by the extent to which there is an insufficiency of land available for widespread replication.

2.73 Commercial ranching enterprises to be financed under the project consist of established, marketed-oriented concerns which were founded by European settlers after World War II. The project was designed to provide

development and working capital for about 20 operations of this type owned in most cases by Africans who had acquired their ranches by purchase after Independence. The average ranch size envisaged was about 30,000 acres, capable of supporting 3,000 animal units.

2.74 The distribution of project financing of on-ranch investments over the different types of organizations is shown in Table 2.14. A further breakdown of on-ranch investment costs per head of cattle and per acre of land provides some indication of the relative degrees of intensity of capital usage envisaged in the project design. The differences in investment per animal unit and in investment per acre reflect variations in the value of capital improvements on hand at the outset in each case and in the carrying capacity of the land. The differences in average investment per ranch are notable, however, and suggest that the required levels of management skills and also of risk may vary greatly between individual ranches and the other forms of organization. Land availability in project areas is also a contributing factor.

2.75 For each type of organization to be financed, there was no selection of specific borrowers in the project design. However, the limited geographical areas in which each type was deemed feasible in fact provided a high degree of selection, were the proposed types of borrowers forthcoming. The project was aimed at a very fundamental level and was viewed to some extent as a pilot activity. Pasture establishment and improvement was not included in the project, for example. However, each entity to be financed was to be managed as a combined ranching operation including breeding, growing, and fattening of beef cattle.

Table 2.14 SIDA/IDA RANGE DEVELOPMENT PROPOSED SOURCES AND USES OF FUNDS BUDGET

USES OF FUNDS

Investment Categories	Total Cost (US$ '000)	(K.sh Millions)
Ranch Development		
Watering Facilities	1,379	9.7
Bush Clearing	1,232	8.6
Improved Bulls	341	2.4
Fencing Buildings, Dips/Sprays, Machinery, etc.	722	5.0
Contingencies	326	2.3
Sub-Total of On-Ranch Investments	4,000	28.0
Working Capital	2,400	16.8
Sub-Total	6,400	44.8
Technical Services	600	4.2
Total Cost of Ranch Development	7,000	49.0
Facilities for Livestock Movement and Marketing	2,000	14.0
Range Water Survey and Development	1,500	10.5
Ancillary Technical Services	900	6.3
Total Project Cost	11,400	79.8

SOURCES OF FUNDS

Category	Ranching Enterprises (Amount)		Government (Amount)	(%)	IDA/S and SIDA (Amount)	%	Total (Amount)
			(US$ '000 Equivalent)				
On-Ranch Investments	600	15%	1,000	25%	2,400	60%	4,000
Working Capital	-	-	960	40%	1,440	60%	2,400
Supporting Technical Services	-	-	240	40%	360	60%	600
Livestock Marketing	-	-	800	40%	1,200	60%	2,000
Range Water Development	-	-	600	40%	900	60%	1,500
Ancillary Technical Services	-	-	-	-	900	100%	900
Total Project Cost	600	5	3,600	32%	7,200	63%	11,400

2.76 Sources and Uses of Project Funds. The project design also included provision for improving livestock marketing and movement so that the cattle produced on the ranches would reach the market. Veterinary facilities, including vaccination centers and quarantine arrangements were to be established in the north-eastern part of the country, which is a net supplier of cattle to the rest of Kenya. Watering sites were to be established in the north-eastern part of the country, which is a net supplier of cattle to the rest of Kenya. Watering sites were to be developed to increase the rate of off-take from the north-east and also to permit the movement of cattle during the dry season. Stock routes and water facilities were to be developed in harmony with traditional ethnic spheres of influence.

2.77 The distribution of project resources listed in the prospectus is shown in Table 2.1. Approximately 35 per cent of the project was to be devoted to on-ranch investments, supplemented by another 21 per cent made available for working capital purposes and 5 per cent for technical services to be provided specifically at the ranch level. Facilities to improve the flow of cattle to ranches from the north-east and to promote more efficient marketing were budgeted at about 18 per cent of the project's resources, with the remainder, another 21 per cent provided for range water surveys and development and for strengthening ancillary technical services in the form of ranch management and veterinary services administered by the Ministry of Agriculture. The foreign exchange requirement in the plan is estimated at about US$ 4,300,000 or 38 per cent of the total project budget.

2.78 The project budget included funding from four sources. The farmers receiving loans were expected to provide their own funds for 15 per cent of the on-ranch investments financed by the project. As noted above, this proportion varied between the different types of ranch organization receiving loans. Kenya Government sources were budgeted to provide 25 per cent of the funds required for on-ranch investments, and 40 per cent of other project components, excluding ancillary technical services which were budgeted to furnish 60 per cent of the funds for each category of outlay, with the exception of ancillary technical services. IDA and SIDA share equally in the provision of funds. In relation to the total project, ranches were budgeted to provide 5 per cent of total resources, the Kenya Government 32 per cent and the external donors 63 per cent. The budget was altered slightly while negotiations were underway between Kenya and the external donors, and provisions have been made as the project developed for the reallocation of funds between categories as disbursements under certain headings moved ahead more rapidly than others. The closing date for the project, by which time all funds are scheduled for commitment, is December 31, 1973.

2.79 Project Performance. Disbursements of loans under the project, which became effective on May 1, 1969, started slowly. Some explanation for this lies in misunderstandings between AFC and commercial ranch applicants concerning lending criteria, which discouraged applications from this segment of the ranch sector. In addition, AFC attempted to restrict lending to Kenya citizens only, while during negotiations with the donors it had been agreed that citizenship would not be among

eligibility criteria. Farm plans for ranch development were required to show a 15 per cent rate of return in order for applications to be considered further, and much effort was devoted to this speculative aspect of evaluation. AFC was also beset by its endemic staff turnover problem, which probably affects large-scale lending more than small-scale lending because of the greater length of time and the more intensive effort required in vetting proposals for large-scale loans. In the field, the rate of loan approval and disbursement was constricted by the difficulties encountered in the formulation of group and company ranching enterprises. Adjudication of occupancy rights and allocation of land title consumed more time than expected, and securing consensus among participants in these types of firms with regard to members' rights and privileges and in planning exercises proved to be difficult.

Table 2.15 Progress of SIDA/IDA 129 Project Lending to Ranchers, 1969-1971. (Measured in Terms of AFC Commitments Eligible for Reimbursement by SIDA AND IDA

Ranch Type	SIDA/IDA Allocation*		AFC Commitments Eligible for Reimbursement 1st Sept '70		31st Dec. '71	
	No.	Amount (US $)	No.	Amount (US $)	No.	Amount (US $)
Commercial	20	940,000	1	5,390	31	646,400
Individual	10	54,000	5	13,963	30	151,200
Company	10	392,000	1	50,411	4	390,000
Group	20	840,000	3	75,087	7	340,500
Sub-Total	60	2,200,000	10	144,851	72	1,528,100
Working Capital		1,260,000		67,813		3,015,600
Total		3,460,000		212,664		4,543,700

*The allocation shown is the revised budget in use as of 31st December 1971.

2.80 Table 2.2 shows the progress of commitments, as of September 1, 1970 and December 31, 1971, that were eligible for reimbursement by the external donors, and it is evident that a rapid increase in loan commitments by AFC occurred during the intervening period. (The external donors' contribution to these outlays was budgeted at 60 per cent of total AFC disbursements. The table shows the share of AFC commitments which, when disbursed would qualify for full reimbursement.) By the end of 1971, however, disbursements were running ahead of the amount originally budgeted and Kenya was preparing a request for an expansion of the project in a Sh 560 million second phase. The shortfall was financed by reallocations from other parts of the project which were running under budget. It is clear from the 1971 figures that the actual distribution of loans departed substantially from the budgeted distribution. Within the categories of ranches, approvals of loans for on-ranch development were concentrated under the commercial and individual ranch headings, with relatively few approvals for company and group ranching.

2.81 The mean size of loan (as reflected in the portion eligible for reimbursement) also appears to have varied substantially from the budget. The mean budgeted size of the reimbursable portion of loans to commercial ranches was Sh 329,000, while the actual size was Sh 145,950, suggesting that commercial ranches were not capable of absorbing the budgeted amounts, either through limitations of equity capital, management expertise, range size and carrying capacity, or shortages of cattle available for purchase. Reimbursable portions of loans for on-ranch development on individual ranches averaged just over Sh 35,000, practically equal to the budgeted

mean of Sh 37,800. However, by the end of 1971, AFC had granted three times the number of these loans budgeted by the project planners, suggesting that this form of organization may be more attractive than originally foreseen. The number of loans to company ranches reached only 40 per cent of budget by the end of 1971, although the total amount committed nearly equalled the budgeted amount, indicating that the mean loans was two and one-half times larger than the budgeted mean. This may be the result of the companies' being much larger in terms of capitalization and size of operations than contemplated under the budget, resulting in greater borrowing capacities. Loans to groups were fewer than planned, and were slightly larger, on the whole, than budgeted.

2.82 The most significant departure from budget, though, was the relationship between lending for on-ranch development and lending for working capital purposes. The overall budgeted ratio was Sh 0.57 for working capital for every Sh 1.00 invested in on-ranch development. The actual pattern was almost Sh 2.00 of working capital to each Sh 1.00 in on-ranch investment. This departure from expectations suggests that the borrowers were perhaps more developed than those at whom the project was aimed, or that on-farm investment was at an adequate level to support the activity envisaged, and shortages of working capital were in fact the main constraint. A larger factor behind this change, however, was the extent to which enterprises being financed departed from the plan. Of the total loaned for working capital at the end of 1971, slightly more than 70 per cent was devoted to steers held for fattening. Without further data no judgement can be made concerning the relative merits

of this type of activity and whether investments in beef fattening will make the same contribution to the long-run viability of the ranching sector as would a greater amount of on-ranch investment.

2.83 It would appear that the departures from the budget robbed the project of a degree of uniqueness envisaged in the prospectus. The traditional pastoralists who were to comprise the groups and companies benefitting from loans under the project were passed over in favor of established commercial operators and individuals who were property owners and capable of expressing their creativity in non-traditional forms of economic organization and orientation.

3. SHORT-TERM FARM CREDIT

(i) Guaranteed Minimum Return Advances for Wheat and Hybrid Maize Production

3.1 The Guaranteed Minimum Return (GMR) program provides seasonal production credit for growers with more than 15 acres under wheat and hybrid maize. The program is named for the crop insurance element in the scheme which guarantees compensation in the event of crop failure. This scheme, formerly called the Minimum Financial Return program, was begun in 1942 as a wartime measure to encourage crop production in the large-scale sector by underwriting production risks. Crops included in the early scheme were wheat, maize, rye, barley, oats, flax, rice, potatoes, vegetable seed, grass, linseed, and sunflower. During the post-war era until 1966, the scheme applied only to plots of at least 100 acres under specified crops. The program has gradually been reduced in scope with regard to the variety of crops covered, but has been modified and expanded through lowering the minimum size of holding eligible for participation.

3.2 The GMR scheme is presently funded by the Cereals and Sugar Finance Corporation, a statutory board established in 1955 with responsibility for this program, for Cereals Finance Advances which provide funds to large farmers for crops in storage, and also for financing overseas purchases of sugar and cereals. The Agricultural Finance Corporation acts as agent for the Cereals and Sugar Finance Corporation in disbursing and collecting GMR funds, and the Kenya Farmers Association (KFA) participates as buying agent for the Wheat Board throughout Kenya and for the Maize and Produce Board in Rift Valley Province. The majority of GMR turnover thus passes through the accounts of KFA. Advances are often

credited to KFA's members' and non-members' accounts, and repayments are deducted by KFA from payments made to participants for crop deliveries.

3.3 Advances under the GMR program are given up to specified maxima in terms of shillings per acre and for specified purposes as itemized in the application form. In the planting seasons of 1971 and 1972 the maximum advance was Sh 180 per acre for both hybrid maize and wheat. Advances may be used to pay for seeds, fertilizers, pesticides, contract cultivation, fuel, machinery repairs and spare parts, bags, and harvesting and transport services. Payments are made by AFC against suppliers' invoices (mainly KFA) countersigned by the borrower, so that no cash is advanced and the borrowers' use of credit is controlled. Invoices for contract work are paid only after the work has been checked by an official of the Ministry of Agriculture.

3.4 The crop insurance premium, introduced in 1969, has in the past been paid from the advance; but this has recently been revised by AFC and henceforth the borrower will have to pay cash for crop insurance. The rate for the 1973 season is Sh 3.00 per acre for hybrid maize and Sh 4.00 per acre for wheat. This is the first step towards the separation of production finance from crop insurance, as proposed by the AFC. This simplifies bookkeeping since some farmers participate in GMR only to obtain crop insurance and not credit. No one may obtain GMR credit, however, who is not covered by crop insurance. Farmers having crop failures for two successive years are excluded from further participation in the program, whether or not they submit insurance claims. A crop failure is defined as a yield below that which is sufficient to repay the

maximum advance allowable. The main purpose of this provision is to exclude from the program incompetent farmers as well as farmers in marginal wheat and maize areas who would be better advised to grow other crops. In this way an attempt is made to limit the economic distortions created by the program. The price risk is not carried by the farmer because of the marketing board system of price control applied to major crops in Kenya. Since marketing boards fix prices for their respective crops each season before planting, there is limited price risk confronting the farmer.

3.5 In many cases in the past, farmers were able to evade the GMR requirement concerning crop failures either by using different names on each year's application, by AFC's failure to verify applications with land registry files and by AFC's issuing new GMR account numbers each year. These practices are now being changed and GMR accounts are being computerized, which should limit this flouting of regulations.

3.6 The mechanics of the GMR system are closely tied to a schedule rel related to crop seasons. In August the program design is reviewed by the Ministry of Agriculture and other parties involved. In September the credit maxima per crop per acre are announced. As noted above, these credit limits are also the amount for which each crop may be insured. In October GMR application forms are distributed to eligible prior participants and are available at AFC branches for others. These four-page forms must be completed and returned to AFC branches by a specified date, so that District Loan Committees can consider applications in December. A separate application must be submitted for each plot for which coverage is sought. Invoices for payment with respect to seeds, fertilizer,

pesticides and contract cultivation must be submitted to AFC by harvest dates specified in each district, and invoices with respect to harvest costs and transport within six weeks following the harvest date. Farmers must plant by a certain date to be eligible for advances. In fact, farmers may already have incurred certain obligations with respect to their crops before the status of their GMR applications is known, and farmers often simply hold any invoices received prior to notification that their GMR applications have been approved or rejected.

3.7 The mechanics of GMR operation involve many different parties and several steps. The first applications screened are those submitted by cooperative farms and farmers in settlement areas, which must be approved by the District Cooperative Officer and the Local Farm Settlement Officer, respectively. Responsibility for verifying that applicants are eligible for participation and that the information given on applications is accurate rests with the Agricultural Sub-committee (ASC) of each District Agricultural Committee (DAC). The DAC's are part of a hierarchy headed by the Central Agricultural Board, the role of which is outlined later in this discussion. Each District Agricultural Committee is chaired by the District Commissioner and composed of the senior officers at the district level of the relevant ministries plus citizens representing local interests. The Agricultural Sub-committee in each District is chaired by a representative of the District Commissioner and is composed of extension officers, cooperative and settlement officers and local citizens. Each ASC reviews applications forwarded by District Cooperative Officers, by the Local Farm Settlement Officers, and by the AFC. At this stage, the

AFC branch acts merely as a channel through which individuals and company farms submit their applications.

3.8 After approval by the ASC the local AFC branch checks the application forms for correctness. Then they are considered by the District Loans Committee, an advisory body serving the local AFC branch. The District Agricultural Officer is supposed to act as chairman of the District Loans Committee and the manager of the local AFC branch usually serves as secretary. The members include the senior agricultural extension officer, the District Cooperative Officer, the Local Farm Settlement Officer, the Chairman of the Agricultural Sub-committee, and private citizens. The District Loans Committee recommends to AFC the action which should be taken with respect to each application. AFC officials, usually branch managers or higher, who make the final credit decision must be gazetted by the Central Agricultural Board as Crop Production Officers. AFC area supervisors are empowered to approve loans above the limits allowed to branch managers. This system of decentralized decision-making authority is a recent development by AFC. Applicants are informed immediately if their application is rejected or deferred and when final approval is given. The borrower makes his own arrangements with suppliers or contractors to obtain the goods and services agreed, or submits any invoices on hand for eligible expenses already incurred.

3.9 Interest Charges, Loan Security and Risk Assumption. Interest is charged on GMR advances at 8.5 per cent per annum. This charge is recovered from deliveries or from the insurance payments in the event of partial or total crop failure. Of this, the Cereals and Sugar Finance

Corporation receives 5 per cent, the AFC 3 per cent as a commission, and 0.5 per cent is credited to a Crop Inspection Account. The Cereals and Sugar Finance Corporation and AFC receive their return only on collections, while the Crop Inspection Account is credited on the basis of advances issued. The Cereals and Sugar Finance Corporation obtains funds for the GMR program by accepting deposits from financial institutions, government bodies and private businesses or individuals, and by issuing bills which are discounted by the Central Bank. All obligations of the Corporation are guaranteed by the Government.

3.10 GMR advances are secured by a lien (mortgage) on the crop concerned, which is registered with the Registrar of Chattels in the district where the borrower is located. Insurance claims resulting from crop failures are paid through the Central Agricultural Board which also reimburses the Cereals and Sugar Finance Corporation for advances not recovered. The Board is funded directly from the Government budget.

3.11 Crop Insurance Claims. Farmers participating in the GMR scheme inform their District Agricultural Sub-committee when a crop failure is expected. An inspection committee visits the farm and determines whether the farmer may claim compensation. The expenses of the committee are met from the Crop Inspection Account. Claims are approved or rejected by the District Agricultural Committee based on the recommendation of the inspection team. Unanimity of the three inspectors is required for a claim to be authorized by the DAC. Farmers whose claims are rejected may appeal to their Provincial Agricultural Board and ultimately to the Central Agricultural Board.

3.12 The inspection team recommends whether or not the crop should be harvested, on the basis of whether the proceeds expected from the harvest will exceed the expenses of harvesting. Under the GMR scheme a farmer may currently obtain up to Sh 20 per acre to meet harvesting expenses. The costs of harvesting frequently amount to at least Sh 50 per acre, as reaping costs at least Sh 20 per acre and bags cost Sh 3 each. Since the cost of harvesting the crop in the event of failure cannot be met in full from the GMR advance, on the recommendation of the inspection team another Sh 30 per acre may be advanced to farmers to meet harvesting costs. This is done to ensure that the crop is harvested, which minimizes the extent of crop insurance claims to be paid.

3.13 Operational Problems on the GMR Scheme. The GMR system is not working smoothly at present due to administrative problems. The loopholes under which ineligible farmers have continued to receive advances have been already noted. The time which elapses between farmers' deliveries and their receipt of payment may exceed three months. KFA must submit records of all wheat and maize deliveries to AFC so that those from GMR participants may be sorted out and the necessary deductions made. KFA submits these records, on computer print-outs, to AFC around the 15th of the month following that in which deliveries were received. AFC may take up to three months to inform KFA of the deductions to be made, and KFA requires an additional two or three weeks to pay the farmer.

3.14 The situation with regard to claims is even more serious. The Government consistently fails to budget enough funds to keep the compensation program current. As claims are approved, AFC records the amounts

due, and as funds are provided to meet these claims, settlement is ostensibly made on the oldest items first. There is evidence to suggest, however, that a strict order is not always observed. As of the end of November 1972, claims for 1970 were still being settled. Farmers are charged interest on all amounts outstanding, and hence, interest accumulates on outstandings covered by claims approved but not paid. Interest is not included in the expenses covered by the GMR. However, a farmer with amounts outstanding which are covered by approved claims is not barred from further participation in GMR, as would be the case for borrowers otherwise in arrears.

3.15 The present repayment record suggests that some farmers who are not eligible for further participation because they fail to repay in full when due drop out of the program from time to time. A study of AFC finances conducted in 1971 indicated that the ultimate recovery ratio for GMR advances is above 95 per cent, but that this level takes about four years to achieve.[1] The repayment pattern at the end of March 31, 1971, was as follows:

t = year in which loan is granted

z = amount loaned

Collections of principal:	66.2% of x in year t+1
	18.6% of x in year t+2
	9.6% of x in year t+3
	1.2% of x in year t+4
	95.6%

[1] Rirgegard and Campbell, op. cit., p. 7.

The extent to which the Government is behind in paying claims, of course, contributes to the lag in collections. The reasons for this failure to repay when due include unreported crop failures and diversion of deliveries through friends or non-participants. Farmers may fail to report crop failures in order not to jeopardize their future eligibility for participation in the program. However, the program should receive an administrative jolt when AFC gets its records computerized. It should then be possible to identify ineligible participants who are still receiving credit because of administrative oversights, and also to follow up on a systematic basis those debtors who are in arrears. There are presently over 7,000 GMR accounts.

3.16 Table 3.1 provides data on the operations of the GMR scheme between 1963 and 1972. Average prices received by producers (Item 1) have shown a fluctuating pattern over the period, with a general decline between 1966 or 1967 and 1970. GMR advances allowed per acre (Item 2), however, have remained constant between 1966 and 1972 with respect to hybrid maize, but have undergone two changes with respect to wheat. These changes in GMR rates per acre reflect judgements concerning crop production economies and Government budgeting considerations, including national wheat policy. Acreage eligible for GMR coverage (Item 3) refers to acreage for which applications were received and for which the technical eligibility requirements pertaining to the land were fulfilled. Figures from 1966 on show a marked increase over previous levels because of the lowering of the minimum planting requirement. Alternations between periods

Table 3.1 GUARANTEED MINIMUM RETURN SCHEME OPERATIONS, 1963 - 1972

		1963	1964	1965	1966	1967	1968	1969	1970	1971	1972*
1.1	Average Prices to Producers (Shs. per 100 kg.)										
1.2	Maize	32.84	36.19	35.53	40.07	35.26	30.80	27.55	27.51		
1.3	Wheat	53.25	52.27	51.99	54.48	56.78	56.26	54.51	45.10		
2.1	G.M.R. Rates - Shs per acre										
2.2	Maize				100	100	100	-	-	-	-
2.3	Hybrid Maize				180	180	180	180	180	180	180
2.4	Wheat				170	170	170	150	150	150	180
3.1	Acreage Eligible for GMR Coverage ('000)										
3.2	Maize				63	21	4	-	-	-	-
3.3	Hybrid Maize				82	152	139	100	133	171	237
3.4	Wheat				344	383	406	403	320	275	222
3.5	TOTAL				489	556	549	503	453	452	459
4.1	Potential Authorizations (Shs million)										
4.2	Maize				6.30	2.10	.40	-	-	-	-
4.3	Hybrid Maize				14.76	27.30	25.02	18.00	23.94	30.78	42.66
4.4	Wheat				58.48	65.10	69.02	60.44	48.00	41.24	39.96
4.5	TOTAL				79.54	94.50	94.44	78.44	71.94	72.02	82.62
5.1	Actual Authorization (Shs million)										
5.2	Maize		)	)	)	)	)	)	)	)	)
5.3	Hybrid Maize		1.78)	5.00)	14.22)	22.48)	18.34)	12.64)	23.62)	30.72)	42.66)
5.4	Wheat		24.06	49.52	47.96	52.90	57.60	51.40	47.68	40.92	39.86
5.5	TOTAL	29.70	25.84	54.52	62.18	75.38	75.94	64.04	71.30	71.64	82.52
6.1	Advances - 12 mos. from 1 July (Shs million)	25.88	31.40	36.14	56.46	51.84	63.24	63.46	49.38	58.66	
6.2	Repayments Received from 1 July	25.82	24.04	30.14	48.20	53.24	50.22	54.84	50.72	45.42	
6.3	Balance not Paid	.06	7.36	6.00	8.26	(1.40)	13.02	8.62	(1.34)	13.24	
6.4	Insurance Claims Paid	1.12	1.10	6.44	3.46	2.50	1.94	1.96	3.10	n.a.	
6.5	Gross Losses Absorbed by Govt.	1.18	8.46	12.44	11.72	1.10	14.96	10.58	1.76	n.a.	
6.6	Insurance Premiums Earned+	-	-	-	-	-	-	1.48	1.34	1.38	
6.7	Net Losses Absorbed by Govt.	1.18	8.46	12.44	11.72	1.10	14.96	9.10	.42	n.a.	
6.8	Losses as a Per Cent of Advances	5	27	34	21	2	24	14	1		
7.1	Insurance Claims Approved (Shs million)			4.26	4.02	1.10	2.86	7.66	2.06		
8.1	Arrears of Principal at least 12 months overdue as of December 31 (Shs million)		.56	.28	.46	2.10				42.36**	

SOURCE: Ministry of Agriculture, Agricultural Finance Corporation, Statistical Abstract 1971.

NOTE: Years refer to calendar years except for Items 6.1 - 6.8.

* Data for 1972 relate to the first four months of the year only.

\+ Insurance premiums earned are estimates based on premium rates, acreage eligible for coverage, and adjustments for withdrawals and transposition of calendar year data to a financial year basis.

** Arrears as of March 31, 1971 relating to advances made before July 1, 1970.

reflect (i) switches from one crop to the other by farmers, (ii) switches into or out of these crops entirely, and (iii) farmers failing to submit applications for other reasons. Potential authorizations (Item 4) are computed by multiplying the eligible acreage by GMR rates per acre. Actual authorizations (Item 5) differ from potential authorizations by the number of acres (times the rate per acre) disqualified from coverage because of failure to conduct accounts properly in previous years; i.e., by the extent to which eligibility requirement pertaining to the applicant were not met. Advances (Item 6.1) refer to the sums actually loaned, and are consistently below authorizations because some participants avail themselves of the crop insurance portion of the program only, while others have not drawn the full amount to which they are entitled under the various sub-limits. Exact comparisons of advances with authorizations is obscured by the different reporting periods used.

3.17 In most years considered repayments (Item 6.2) have been below the advances issued. Repayments include recoveries from borrowers' deliveries as well as crop insurance claims paid by the Board of Agriculture. In years in which the level of advances increases significantly it may be expected that balances not paid (Item 6.3) will increase, since the Board's lag in meeting claims means that claims paid in any given year will relate to the advance level and crop failure situation of a preceeding period, and because recoveries from defaulting borrowers will also relate to a prior period in which the level of activity was lower. The amounts not paid, as shown in Table 1, for the years starting in 1966, 1968, and 1971 illustrate this effect. The opposite occurs in years in

which the amount of advances issued declines significantly, as in the periods starting in 1967 and 1970 when repayments exceeded advances issued.

3.18 The gross losses absorbed by the Government appear to be substantial, averaging over Sh 7.5 million annually between 1963 and 1971. Insurance premiums began to be collected for GMR coverage in 1969, and estimates of this income (which accrues to the Treasury) are included in the Table for the years beginning in 1969. It appears that the crop insurance element of the program is not actuarially sound. Insurance claims paid in most years exceed the amount of premium income which might have been received had the premium rates charged after 1969 been levied on participants. However, because of the different reporting periods, it is not possible to compare insurance claims paid with insurance claims approved in any given period, since there is a lag of about two years in paying claims. Arrears have mounted, both as a result of delay in the payment of claims and also because of defaults by borrowers. The level of arrears should decrease over time as the new procedures being implemented by AFC plug loopholes presently exploited by borrowers.

3.19 The losses carried by the Treasury with respect to the GMR scheme, together with the hidden costs associated with the participation of many and various officials in the program administration, constitute a considerable subsidy for large-scale wheat and maize production. This subsidy is often discussed in relation to Kenya's policy of self-sufficiency in maize and wheat, but its effect should not be discussed in that context without examination of the pricing policies of the Wheat Board and the Maize and Produce Board, a subject far beyond the scope of this paper.

(ii) Commercial Bank Lending to Agriculture

3.20 Agricultural Lenders in the Banking System. Four of the nine commercial banks in Kenya are significantly involved in agricultural lending, while the other five, whose offices are almost entirely confined to the larger towns, do very little direct lending to farmers or the agricultural sector. The four which are involved in agricultural lending are the Kenya Commercial Bank, Barclays Bank International, Standard Bank, and the Cooperative Bank of Kenya. The first three of these have been established in Kenya for many years, and are linked with British overseas banking groups headquartered in London. They comprise over 70 per cent of the banking sector and have branches and sub-branches in more than 25 rural centers.[1] Those which do little lending to farmers are the National Bank of Kenya (which has recently opened a branch in Nakuru - an exception to the Nairobi-Mombasa concentration of this portion of the banking sector), the Commercial Bank of Africa, the Bank of Baroda, the Bank of India, and the Algemene Bank Nederland. With the exception of the Government-owned National Bank, these institutions are also tied to banking companies with their Headquarters outside Kenya.

3.21 The Cooperative Bank of Kenya is a special case. It began operations in 1969 and has only one office, located in Nairobi. It is registered as a commercial bank and also as a cooperative organization. It does not operate a full range of banking services and has no individual depositors, but serves as the financial organization in the cooperative movement and offers its clientele, which is limited to cooperative societies,

[1] Barclays Bank International and Standard Bank are not incorporated in Kenya, so their offices in the country are from an organizational point of view branches of British banking groups. Standard Bank is in turn owned by Chase Manhattan Bank of New York. Kenya Commercial Bank is owned by the Government (60 per cent) and by the National and Grindlays Group (40 per cent).

a selected range of banking services designed specifically to meet their needs and to support the government's efforts to strengthen cooperation in Kenya. One strategy underlying its establishment and operations is to pool funds which are generated by cooperatives and to keep these funds available to meet the financial requirements of the cooperative movement. The Bank was formed because it was felt that cooperatives' deposits in the commercial banking system were disproportionately large in relation to the credit and other services extended to cooperatives by commercial banks, and that the volume of cooperative transactions was sufficient to justify the existence of a specialized bank. In addition, the commercial banks divide the country into several districts, and banking transactions between districts incur commission of a fraction of one per cent.[1] This system worked to the disadvantage of rural cooperatives which deal with main trading centers such as Nairobi or Mombasa. Although, the Cooperative Bank does not follow this system, it works closely with the large banks and uses their network to service its members. Societies generally maintain accounts at a commercial bank branch in the nearest commercial center for day-to-day convenience. The Cooperative Bank lends to societies under the Cooperative Production Credit Scheme (described in the next section) for crop finance, and also provides a limited amount of medium-term finance for coffee factories, cotton ginneries and other investments undertaken by cooperatives.

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[1] Internal transfer commissions were established in several British colonies in Africa by British overseas banks, and have frequently been retained through the present.

3.22 Trends in Commercial Bank Agricultural Lending. Data on the individual lending activities of the three large commercial banks is not available on a uniform or consistent basis; but, due to the relative consistency of their experience and behavior with respect to the agricultural sector to date, the aggregate figures which are available provide some indication of the extent of their activities. Table 3.2 shows commercial bank lending to various classes of borrowers based on monthly returns submitted by the commercial banks to the Central Bank of Kenya. In summary, Table 3.2 shows that commercial bank credit has more than doubled since the end of 1965, and that since 1967 credit to the public sector has grown slightly more rapidly than total credit, although it accounts for less than 10 per cent of their total outstandings. About 11 per cent of total bank lending to the private sector is to agricultural enterprises, and credit outstanding to this class of borrower since the end of 1967 has grown at about the same rate as total bank credit.

3.23 Commercial bank lending to Africans in the private sector has moved ahead at a much higher rate than has overall lending. Loans outstanding to cooperatives have increased almost five-fold over the period, reflecting the vitality of the Cooperative Bank. Loans by banks to African farmers still account for a very small proportion of total bank credit, although this type of lending has also grown rapidly, though not as rapidly as lending to Africans in other segments of the private sector.

3.24 Item 1 in Table 3.2 lists the total commercial bank credit outstanding in the form of bills discounted and loans and advances on the

Table 3.2

COMMERCIAL BANK LENDING TO SELECTED CATEGORIES OF BORROWERS, 1965-1972

(Sh millions)

ITEM	Year ending 31 December								
	Old Series			New Series					
	1965	1966	1967	1967	1968	1969	1970	1971	1972
1. Total Bills Discounted, Loans and Advances Outstanding	1151.72	1110.24	1136.04	1136.04	1335.76	1400.50	1738.86	2402.46	2420.94
(a) Annual Rate of Increase		-3.6	22.5	22.4	-1.8	4.8	24.2	38.2	3.1
2. Total Bills Discounted, Loans and Advances Outstanding to the Private Sector				1296.00	1274.40	1366.08	1637.06	2226.74	2247.08
(a) Annual Rate of Increase					-1.7	7.2	19.8	36.0	3.6
(b) As a % of Total Private Sector Credit Outstanding (1)				95	95	98	94	93	93
3. Credit Outstanding to Private Agricultural Enterprises*	139.90	125.52	186.50	132.96	155.48	172.38	185.74	251.48	257.00
(a) Annual Rate of Increase		-10.3	48.6		16.9	10.9	10.8	35.4	8.8
(b) As a % of Total Private Sector Credit Outstanding (2)				10.3	12.2	12.6	11.3	11.3	11.4
4. Estimated Highpoint for the Period of Commercial Bank Credit Outstanding to the African Private Sector*				48.00	80.00	100.00	156.00	312.00	336.00
(a) Annual Rate of Increase					66.7	25.0	56.0	100.0	30.8
(b) As a % of Total Private Sector Credit Outstanding (2)				3.7	6.3	7.3	9.5	14.0	15.0
4.1 Estimated Highpoint for the Period of Commercial Bank Credit Outstanding to Cooperatives +				12.00	22.00	20.00	22.00	39.00	58.00
(a) Annual Rate of Increase					83.3	-9.1	10.0	77.1	194.8
(b) As a % of Total Private Sector Credit Outstanding (2)				0.9	1.7	1.5	1.3	1.8	2.6
(c) As a % of Total Credit Outstanding to Private Agricultural Enterprise (3)				9.0	14.1	11.6	11.8	15.5	22.6
(d) As a % of the Highpoint of Credit Outstanding to the African Private Sector (4)				25.0	27.5	20.0	14.1	12.5	17.3
4.2 Estimated Highpoint for the Period of Commercial Bank Credit Outstanding to African Farmers				12.52	18.00	33.50	34.00	60.00	53.00
(a) Annual Rate of Increase					44.0	86.1	1.5	76.5	-11.7
(b) As a % of Total Private Sector Credit Outstanding (2)				1.0	1.4	2.5	2.1	2.7	2.4
(c) As a % of Total Credit Outstanding to Private Agricultural Enterprises (3)				9.4	11.6	19.4	18.3	23.9	20.6
(d) As a % of the Highpoint Credit Outstanding to the African Private Sector (4)				26.0	22.5	33.5	21.8	19.2	15.8
5. Credit Outstanding to Commercial Statutory Boards and other Public Sector Entities (excl. Central and Local Govt. and East African Community)				40.26	39.92	22.30	48.42	55.82	57.04

SOURCE: Derived from Central Bank of Kenya data and the Statistical Abstract.

Excludes Cooperative Bank Credit.

dates specified. Of the total credit outstanding, over 90 per cent is borrowed by the private sector, as indicated by Item 2. Commercial bank credit outstanding to the public sector includes lending to the institutions of the East African Community, the Government of Kenya, local government bodies, and commercial statutory boards and other public entities. With the exception of statutory boards which conduct commercial operations and financial institutions owned by the Government, the Government is not a majority shareholder in many enterprises. In the classification system specified by the Central Bank, companies having Government participation but in which private interests hold the majority of shares are classified as private sector enterprises.

3.25 Of commercial bank credit outstanding to the private sector, approximately 11 per cent is devoted to agricultural enterprises as shown by Item 3. Agricultural enterprises include individuals and groups such as partnerships, corporations and cooperatives involved in the production of crops and livestock and in dairying. The classification is somewhat arbitrary with regard to operations which involve more than simply production; but when compiling their returns to the Central Bank, the commercial banks attempt to apportion their credit to vertically integrated borrowers among the various relevant reporting headings, e.g. Agriculture, Food Manufacturing, Export Trading, in relation to the purposes for which credit is actually used. Lending to this group of borrowers increased at a rate of 18 per cent annually, between the end of 1967 and the end of 1971. Lending to the entire private sector grew at an annual rate of slightly less than 15 per cent over the same

period, indicating that bank lending to agricultural enterprises is expanding at a slightly faster rate than to other economic units.

3.26 This relative growth in agricultural lending by banks reflects several factors. Banks have to a limited extent participated in providing funds to Africans who have bought out European farmers through private transactions, but there has been some expansion in the large-scale plantation or industrial type of agriculture in which the banks are involved. The increase may also reflect an increase in the indebtedness of the commercial agricultural sector, although insufficient data is available to verify this speculation. The banks have certainly become more interested in agricultural lending, as manifested by the appointment of several specialized agricultural banking officers.

3.27 Item 4 lists estimates of the largest amounts of credit outstanding during each period to the African private sector, which is composed of private individuals and of organizations controlled by Africans, such as cooperatives, corporations, partnerships, and non-commercial organizations. The estimated highpoint is used for purposes of comparison, rather than year-end figures as in Items 1-3 because this series shows considerable seasonal variation. Between the end of 1967 and the end of 1971 lending to the African private sector increased by more than 600 per cent, or about 60 per cent annually. The increase in lending to the African private sector reflects the growth of this sector from internal expansion and the acquisition by Africans of farms and businesses previously owned by non-Africans. Since Independence there has also been pressure on the banks to provide more finance to Africans. One manifestation of this

pressure was the purchase by the Government of 60 per cent of the commercial banking operations of National and Grindlays, which was reconstituted as the Kenya Commercial Bank. The initiative for this transaction originated with National and Grindlays, however.

3.28 The almost complete Africanization of management at the branch level of all banks would appear, a priori, to contribute to the ability of the banks to lend to Africans through providing more insight and sensitivity in the lending relationship. However, there is no readily available evidence to support this assumption, and the observations of senior management are frequently that new African managers are more adverse to risk than their European or Asian predecessors. This characteristic may be common to managers of any race feeling their way in a new position of responsibility, however.

3.29 Of this lending, the portion devoted to cooperatives, Item 4.1, has shown a greater than three-fold increase. Lending to the cooperative movement has grown as a percentage of total credit outstanding to the private sector and also as a percentage of total credit to private agricultural enterprises, although this growth has not been steady. Since the mid-1960's when the Government became committed to direct control of the cooperative structure as a method of securing sound growth and continuity, the performance of societies and the volume of their turnover has increased significantly.

3.30 Commercial bank lending to African farmers, Item 4.2, has grown by more than 37 per cent annually during 1968-1971, but still accounts for less than three per cent of total credit extended to the private sector

and less than 25 per cent of total credit outstanding to private agricultural enterprises. The commercial banks have assisted a few farmers in purchasing farms from non-Africans, though most of the funds used for such purposes have been supplied not by the banks but by public sector programs funded by the British Government. However, these purchase programs were restricted to land owned by UK citizens. Some non-UK citizen European farmers have also sold their farms to Africans, and commercial banks have been involved with a few of these transactions. The transfer of the large farms has brought into the sector a type of African who is frequently creditworthy under normal commercial banking standards. Many such individuals are civil servants, political personalities, and other recipients of a regular non-farm income which serves as a source of repayment for the loan. The number of large farms shown in census data approximates 3,100. Bank loans to African farmers number about 9,000, however, suggesting that the banks also provide credit to a select group of smallholders and other farmers outside the official large farm category. The proportion of African private sector credit which has gone to farmers appears to be erratic and declining since 1969, indicating that the growth in lending to other parts of the African private sector has been relatively greater.

3.31 The banks also play an important role in providing credit to commercial statutory boards which are involved in the processing and marketing of agricultural produce. Unfortunately, statistics collected by the Central Bank do not separate credit to statutory boards in the agricultural sector from those involved in non-agricultural activities,

so no exact assessment of the role of the commercial banks is possible based on published data. Some indication of the magnitude of this lending, however, is provided by data for the close of 1967 as given in Table3.2. The Old Series includes loans to statutory boards in the agricultural sector under loans to agricultural enterprises, while the New Series classifies these public enterprises separately. The difference under the agricultural enterprises heading between the two series was Sh 54 million at the close of 1967. Lending to commercial statutory boards provides the commercial banks with a traditional and an attractive avenue for the employment of funds.

3.32 Commercial banks' involvement with the agricultural sector is not limited to the headings shown in Table 3.2. Much of Kenya's export trade consists of agricultural produce, and the banks are involved in the traditional commercial banking activity of financing exports. The banks also finance domestic or internal trade, which includes some agricultural produce. Data for these classes of borrowers are not given in the Table because the aggregations involved obscure the position of agricultural produce, and also because these types of activities are generally several steps removed from the farmer, with the exception of some plantation enterprises. Commercial bank credit outstanding to private households probably includes a few loans to farm households, too, but the level is probably insignificant in relation to the magnitudes shown in the table.

3.33 Table 3.3 compares commercial bank credit to agricultural enterprises with certain indicators of the size of the total farm sector,

Table 3.3

AGRICULTURAL OUTPUT AND SELECTED CATEGORIES OF COMMERCIAL BANK LENDING, 1965-1971

(Sh millions)

Item	Year ending 31 December							
	Old Series			New Series				
	1965	1966	1967	1967	1968	1969	1970	1971
1. Contribution of the Monetized Agricultural Sector to GDP*	886.00	1105.40	1090.40	1090.40	1154.60	1275.60	1453.60	1390.20
2. Gross Marketed Production from Large and Small Farms	1156.00	1336.00	1338.00	1338.00	1404.00	1524.00	1734.00	1672.00
3. Gross Marketed Production from Large Farms	666.00	720.00	658.00	658.00	688.00	758.00	824.00	822.00
As a Per Cent of Item 2	58	54	49	49	49	50	48	49
4. Commercial Bank Credit Outstanding to Agricultural Enterprises **	139.90	125.52	186.50	132.96	155.48	172.20	185.74	251.48
As a Per Cent of Item 1	16	11	17	12	13	13	13	18
As a Per Cent of Item 2	12	9	14	10	11	11	11	15
As a Per Cent of Item 3	21	17	28	20	23	23	23	31

SOURCE: Central Bank of Kenya and Economic Survey 1972.

* Factor cost basis at current prices.

** Total bills discounted, loans and advances to agricultural enterprises. Old Series data include credit to government bodies in the agricultural sector, but new series data relate only to the private agricultural sector.

the large farm subsector, and the contribution of monetized agriculture to GDP. The table indicates that the contribution of agriculture to monetary GDP (in current prices) has increased by more than 50 per cent between 1965 and 1971. Large farms have accounted for about half of total marketed production over the period. The share of the large farms has declined slightly, however, due to the breaking up of some of these farms for settlement purposes and possibly by managerial and financial problems in the sector. This process was largely completed by the mid-1960's, after which the share has not altered significantly or consistently. Commercial bank credit to agricultural enterprises, measured in terms of year-end outstandings, has remained constant relative to monetized agricultural GDP, gross marketed farm production and gross marketed large-farm production, with the exception of an increase in 1971. This increase reflects a poor farm year shown by a decrease in production, due to weather conditions, which also has the effect of increasing loans outstanding to agriculture because of the rise in the number of farmers unable to meet their loan obligations or clear their overdrafts from their diminished income.

3.34 Limitations of the Data Relating to Commercial Bank Credit. Table 3.2 and Table 3.3 should be interpreted with some caution. Since credit outstanding to various classes of borrowers may not adequately portray the role played by commercial banks in the economic life of a country or in a country's agricultural sector. The reasons are: first, such statistics are static; second, they do not reveal the secondary effects of banking services; and third, they are subject to inconsistencies in classification and accounting. Those statistics which show credit outstanding at the

close of business on a single day each year take no account of seasonal peaks and ebbs which are reflected in the financial requirements of businesses. Table 3.2 attempts to minimize distortions of this type by providing estimated highpoints for agricultural series showing seasonal variation and using year-end figures for aggregate and non-agricultural series which have tended to increase monthly and appear to be unrelated to crop cycles in Kenya. The figures presented in Table 3.2 also fail to provide an indication of the flow of funds between banks and enterprises and do not show how bank credit may have supported several stages in the production cycle. For example, the supplier of inputs, the farmer, the processor and the exporter, or wholesaler and retailer may all rely on bank credit to buy the output of the proceeding stage in the production cycle.

3.35 In terms of the secondary effects of banking services, an input-output matrix of an economy provides a useful point of reference. Linkages between different economic units in an economy spread the utility of banking services to transactions in which banks or credit is not directly involved. Bank credit provided to a common carrier, for example, may indirectly benefit farmers who have no access to bank credit themselves but who rely on the common carrier for the transport of supplies, produce and labor. However, if bank services are offered with due regard for the security of the depositors' funds which constitute a major portion of their resources, bank lending will vary greatly between sectors and industries. It would be fallacious to expect that bank credit to each industry or sector would be in proportion to the

industry's or sector's contribution to GDP, share of the labor force, or similar measures. Within each sector or industry, the extent to which banks can make a useful contribution to various firms also varies widely.

3.36 The third obstacle to accurate interpretation takes the form of inconsistencies in data provision and collection. Accounting standards may alter from year to year. For example, a bank may increase its credit outstanding to agriculture simply by omitting to write off bad loans. There is no evidence that juggling of this type has occurred in Kenyan banking statistics, however. Consistent accounting standards may in fact allow for the accumulation of slow debt in poor agricultural years because the amount outstanding may be regarded as ultimately collectable when production conditions improve. Reporting standards may also vary over time and between banks at any point in time. Allocation of lending to categories involves judgment, which may not be consistent throughout the banking industry. In addition, overdrafts constitute an important form of bank borrowing in Kenya, and banks have very little control over how such facilities are used. Banks may try to restrict their lending to the farmers' production needs, but when loans are well secured and borrowers known to be creditworthy, such restrictions may be relaxed.

3.37 Terms and Conditions of Commercial Bank Agricultural Credit. Most commercial bank lending to the private sector in Kenya is on a secured basis, with land the most common form of asset pledged. This situation has prevailed since the arrival of large-scale farmers and commercial banks in Kenya earlier in this century, and has been

reinforced by the land adjudication, consolidation and registration programs of the last decade. Land is the only acceptable security for most lenders to the agricultural sector because of its importance in relation to the total assets of many farms and because of institutional gaps which diminish the attractiveness of alternative forms of security. But, however attractive they may be, mortgages on agricultural land present many problems to commercial banks lending to farmers. Seizure involves complicated procedures which take time and involve substantial costs to the creditor. Eviction of a farmer from his land has public relations and political repercussions which may make a commercial bank extremely unwilling to resort to seizure. To many Kenyans, land is of utmost importance as a form of social security and as a status symbol. In a farming economy, land is obviously extremely important as a productive asset and may be an individual's largest single financial asset. It may also be impossible to sell the land once it is seized, due to social pressure.

3.38 The main alternatives to land as security are movable assets and standing crops. Charges against movable assets are used but are not attractive to lenders because of problems of control. Cattle in particular tend to disappear if a farmer feels the lender may try to seize them, and may be sold if the farmer sees financial difficulties ahead. Charges against growing crops are also very difficult to realize, since farmers in Kenya can readily sell produce through their friends, through alternative marketing channels outside the arrangements agreed upon with the lender, or under names other than the one used when obtaining credit. However,

they are used for example in the Cooperative Production Credit Scheme. Cooperative societies lend to credit-worthy smallholder members who have delivered their crop to the society for at least three years. The loans are provided mainly in the form of agricultural inputs. The scheme works satisfactorily, and benefits from the linking of credit with marketing and also from the borrowers' need for renewed credit each season.

3.39 The unwillingness of lenders to accept these types of security as alternatives to mortgages on land can be expected to diminish as the commercial orientation and size and management skill of the borrower increases, and also where it is difficult for the borrower to dispose of pledged assets through irregular channels. Security seems to be regarded as especially important at this stage of the development of agricultural credit in Kenya because of the poor "loan morality" evidenced with respect to schemes financed by the Agricultural Finance Corporation and the Agricultural Settlement Fund which are characterized by loan collection ratios of 75 per cent and below. The tradition of non-payment is well established among farmers - at times the result of unrealistic repayment terms expected by the lender, and at times by the unwillingness of borrowers to repay if the penalties for not repaying are remote. However, since security provides the lender with only partial protection against losses, it is feasible that improvements in agricultural portfolios in the future will result from more creative approaches to lending and from higher agricultural productivity rather than from the removal of obstacles to the seizure and realization of pledged assets.

3.40 Other conditions and terms attached to agricultural credit extended by commercial banks do not differ greatly from those which apply to other sectors. Loans are available only to applicants who maintain bank accounts or who have had some prior relationship with banks. The minimum size of loans is generally Sh 2,000. Interest rates vary from 8 to 9.5 per cent per annum, payable on amounts outstanding. There are generally no non-interest fees or charges levied by lenders in connection with the extension of credit, although stamp duties must be paid and valuation fees may be involved with respect to assets pledged as security. Commercial banks prefer short-term borrowers, which in agriculture restricts bank credit at the farm level to financing seasonal inputs and the establishment of some enterprises, such as dairy cattle, with a longer cycle. Some agricultural loans are granted for periods longer than 18 months, and some overdrafts may not be cleaned up periodically, but these types of arrangements are intended to be exceptional and would almost always involve the most preferable borrowers. In most cases, commercial banks are prepared to grant extensions to repayment schedules or maturity dates when circumstances beyond the farmer's control, such as adverse weather conditions or sharp drops in market prices, result in default. However, during the liquidity squeeze of 1971, which coincided with a bad year for agriculture, commercial banks applied pressure to some agricultural borrowers with overdrafts outstanding.

3.41 The Limitation of Commercial Banks as Agricultural Lenders. For a country at its current stage of development, Kenya is exceptionally well endowed with commercial banking facilities; but, in spite of this,

commercial banks deal directly with only a small portion of Kenyan farmers - perhaps 9,000 of the country's 1.25 million farmers. The 3,500 large-scale farmers generally have bank accounts and access to bank credit, so expansion of banks' roles as direct lenders to agriculture will be closely related to the provision of credit to smaller farmers. As previously noted, smaller farmers may have access to bank credit if they have sophisticated commercial operations or if they are part-time or absentee farmers who have other ties with the modern financial sector through non-farm activities and sources of income. Practically all borrowers from the commercial banks also have deposits of some sort at the bank from which they receive credit. The three large banks have minimum limits on the size of savings accounts, which range upwards from Sh 300. The eligibility requirements for the establishment of current accounts are even further beyond the reach of many in the agricultural sector. Thus, the general limitation posed by the fact that bank credit is available mainly to those who already have some type of relationship with a bank is quite restrictive.

3.42 The commercial banks are best equipped to deal with large farmers or processors in the agricultural sector, and least well equipped to deal with small farmers. The large units operate on a commercial basis and depend for their survival upon the market for their produce. Small farmers tend to have a lower stake in the market and can readily revert to pure subsistence without modern sector links. Thus, a bank has greater control over its more highly commercial borrowers. Similarly, the reluctance and inability of small farmers and businessmen to keep meaningful records makes the banker's task more difficult, and no doubt

restricts the amount of credit which banks provide to these classes of borrowers. In addition, a bank's cost structure also favors larger borrowers, which provides scope for economies of scale in account management; supervision is simpler, the number of accounts fewer, and the logistics of account servicing are less complicated. But, another limitation is the relatively low degree of specialization in agricultural lending found in the banks. Of the three large commercial banks in Kenya, one has an agricultural officer at its head office in London who makes occasional visits to East Africa, another has one agricultural specialist in Nairobi, and the third has a small agricultural field staff in the Mt. Kenya area.

3.43 Nevertheless, each of the three large banks has experimented with smallholder loans pilot projects during the period since Independence. No published data exists on these schemes, which were located in three different smallholder areas. Each bank continued its experiment for at least a year, and each incurred losses which were substantial in relation to the amount of credit extended. Although still interested in lending more to small farmers, spokesmen articulating this desire also mention the need for more supporting services for increasing agricultural productivity and for better institutional arrangements to expedite the flow and recovery of funds. It is probable that under existing circumstances, credit to African farmers will continue to expand at about the same rate as total bank credit to the private sector as a whole over the next several years, eventually to decline as the industrial sector grows in relation to agriculture, but that any significant long-run deviation involving more credit to farmers will occur only when factors beyond the control of commercial banks are more conducive to such lending.

(iii) Cooperative Production Credit Scheme

3.43 The Cooperative Production Credit Scheme (CPCS) was initiated within the Cooperative Movement in 1970. Although primarily a credit program, it is also seen as a mechanism for encouraging better management of cooperative societies and their unions, stimulating rural savings, retaining such funds in the sector for the benefit of cooperators, providing the cooperative movement with greater liquidity, encouraging membership loyalty, and increasing the productivity of cooperators by enabling them to obtain purchased inputs on credit. The operation of the scheme involves virtually every level in the cooperative structure, with overall responsibility for implementation and control shared by the Cooperative Bank and the Department of Cooperative Development. The principal activity of most of Kenya's 1,000 viable cooperative societies is the marketing of agricultural produce, and the CPCS is geared to this activity.

3.44 The scheme was introduced at a time when credit transactions between societies and members were chaotic. Members were heavily indebted to societies, with debts estimated to approximate Sh 5.4 million. In many instances there were no records of debts, inadequate recovery mechanisms, and most importantly, no uniform procedure under which societies extended credit to members. These difficulties reflected poor management, and themselves created an obstacle to building strong societies in which members or prospective members could have confidence. The CPCS was designed to overcome these difficulties on a step-by-step basis, and resulted from recommendations proposed in 1967 by Mr. Sven Lindquist, a cooperative credit specialist serving with the Nordic Project for Cooperative Assistance to Kenya.

3.45 The CPCS, when mature, will involve a flow of funds up and down the cooperative structure through the accounts maintained by cooperators with primary societies, societies' accounts with unions, and unions' (and some societies') accounts with the Cooperative Bank. Participation at each level is subject to the fulfillment of certain requirements specified and policied by the Department for Cooperative Development. Cooperators may receive credit only if they are qualified members of qualified societies which are affiliated with qualified unions which are members of the Cooperative Bank. Membership in the Cooperative Bank is open to all types of cooperatives registered with the Ministry of Cooperatives and Social Services. The membership fee for primary societies is Sh 5.00 per member, rounded up to the next Sh 100, as the Bank's shares are in Sh 100 units. Cooperative Unions must purchase 40 shares and country-wide cooperative organizations must purchase 100 shares to obtain membership. Non-member societies may not use the services provided by the Bank.

3.46 Eligibility Standard for Unions. Unions wishing to participate in the CPS must satisfy the Department of Cooperative Development that seven requirements have been met. District Cooperative Officers and the Nordic advisors on the union and District level play key roles in implementation and evaluation. To qualify, unions must: (i) formalize any debts outstanding by either securing immediate repayment, or ensuring obligations are properly documented, repayment arrangements made, and interest being charged, or writing off amounts which are deemed uncollectable; (ii) Appoint a qualified Credit Secretary as a full-time employee of the Union. This officer must have completed the ABM II examination or

equivalent on a full-time basis. ABM II is a qualification in administration, bookkeeping and management awarded by the Cooperative College of Kenya; (iii) establish a Banking Section within the union; (iv) operate centralized banking services for affiliated societies, and (v) appoint a Banking Committee. These three related requirements ensure that the union has the mechanism through which it and its affiliated societies may participate in the CPCS and that the operations of the mechanism are under the surveillance of a committee of Members' representatives in accordance with normal cooperative practice; (vi) be prepared to provide funds for lending. These funds include the union's own resources and also those obtained by the union from outside sources such as the Cooperative Bank; (vii) pass enabling resolutions in the Banking Committee and in the General Meeting of the union. These resolutions relate to the first six requirements, fix the union's debt limit under the scheme (on the basis of funds likely to be required for programmed projects and activities) and provide that the interest charged on the loans to member societies will bear interest at between 8 and 12 per cent per annum. As of November 1972, 180 of the 1,100 active cooperative unions in Kenya had received the approval of the Department of Cooperative Development participation in the CPCS, most of which are primarily involved in coffee processing and marketing.

3.47 Eligibility Standards for Primary Societies. At the primary society level, a number of requirements must also be met. The society must: (i) have formalized all debts owing to it, (ii) be affiliated with a union which participates in the scheme, (iii) been in operation for at least three years, (iv) have its accounts in order for the three years

preceding the date of its application to participate in the scheme, (v) have a Secretary who has passed the ABM I exam or who has equivalent qualifications, (vi) satisfy the Department of Cooperative Development that the Society is financially viable and have a capable managing committee and a competent staff, (vii) obtain funds for lending either from internal sources or from external sources such as its union, (viii) pass enabling resolutions by the Managing Committee and by a General Meeting. As of November 1972, 83 societies of the 104 affiliated with qualifying unions had received the Department's approval for participation in the scheme.

3.48 Eligibility Standards for Cooperators. In order to receive credit under the CPCS, members of primary societies must also meet certain standards of eligibility. The member must: (i) be at least 21 years old, (ii) have been a member of the society for not less than three years, (iii) have marketed produce through the society for each of the three years preceeding his application, (iv) (a) be the owner or recognized holder of the shamba he cultivates, or (b) obtain the agreement of the owner of the shamba he cultivates to act as a guarantor, (v) agree to have included in the loan for which he is applying any debts due the society which will not be covered by the next payout due to him, and (vi) be considered honest, hardworking and trustworthy by the Managing Committee of the society. These requirements seek to ensure that only members in good standing have access to CPCS credit, and are designed to provide an inducement for active or loyal participation by members. To the extent that the cooperative structure operates on democratic lines from the botton up, the desire of members for CPCS funds should animate the entire system, resulting in primary societies' and unions' meeting their respective eligibility requirements.

3.49 The conditions outlined above attempt to ensure the viability of the scheme. Credit is granted only for specific purposes related to agricultural productivity which are contained in a list of loan priorities drawn up and agreed upon in each case by the District Agricultural Officer, the cooperative union chairman and manager, the District Cooperative Officer, and the Nordic cooperative advisors concerned with promotion and credit activities. The priorities for the district also specifies the term for which credit may be granted for each purpose. The term is limited to 18 months at present, but may be extended to three years at a later stage for the acquisition of grade cattle. Payouts are to be made in kind wherever possible, and only as needed. A member may not borrow less than Sh 100 and not more than two-thirds of the average value of his deliveries to the society over the preceding three years, up to a limit imposed by the regulation that no member shall be allowed to borrow more than 10 per cent of the total amount available for loans to members. The latter proscription is designed to ensure that benefits are not monopolized by "bif men" who figure prominently in many primary societies. No cooperator may receive further CPCS credit until any previous loans have been repaid. Applications from those who have borrowed before must be accompanied by a copy of the receipt for the final instalment of the previous loan. A borrower may of course prepay and then apply for a new loan, but his application will be considered only if at least half of the loan had been repaid prior to liquidation and at least two scheduled repayments were made on schedule.

3.50 Loan Application Procedure. The loan application form includes 13 categories of questions, which include the loan purpose, the value of

the member's produce marketed through the society for the last three years, the security offered (primarily his estimated production during the repayment period), the names of two guarantors, a proposed repayment schedule, personal data relating to the applicant and his family, lands operated by the applicant, other real estate, movable property, investments, debts outstanding, non-farm income, and the extension officer's statement. Data relating to the member's deliveries for the past three years and the member's borrowing limit based on these deliveries are filled in by the society secretary together with the amount of any outstanding debts to the society. The member then takes the form to the Agricultural Officer responsible for the area in which his farm is located, and together they supply the necessary information about the inputs required for the proposed loan project. The extension officer adds his recommendations and returns the application to the society secretary. The society secretary adds the application to the agenda of a meeting of the committee of the society. He also prepares for the meeting a statement showing the amount of funds available for lending to members. Invitations to attend the meeting must be sent to the District Cooperative Officer, the District Agricultural Officer and to the Credit Secretary of the Union with which the society is affiliated. The District Agricultural Officer informs the Nordic Credit Advisor who operates on the provincial level, and who may from time to time attend such meetings. All of these invited officials attend the committee meeting on an advisory basis. The committee considers applications in the order in which they were received, and each must be considered individually. The committee is expected to be guided by the

regulations of the scheme. If any committee member has a personal interest in the application or is closely related to the applicant, he may give information relevant to the application but must leave the meeting room while the application is being considered. Special arrangements are provided under the scheme for loans to committee members and to employees of cooperatives.

3.51 Following the meeting, the successful applicants plus two guarantors must sign or mark the loan agreement. These guarantors must be society members, and the amount of the loans a member guarantees plus the amount of any loan he may have from the society is not to exceed the estimated value of his deliveries for the period during which these obligations are outstanding. The guarantors may be called upon to repay the loan if the borrower fails to pay, and are advised to inform the committee if the loan funds are misused in a manner which might jeopardise the borrower's repayment capacity. The loan agreement must also be witnessed by at least two persons who are familiar with the borrower and the guarantors and who know the language used by these parties so that they can certify that the other signers have an understanding of their obligations. No one can serve in a dual capacity with regard to any single loan, and committee members and the society secretary are barred from acting as witnesses. Loans are paid out in three different ways, according to their purpose. Members may draw against their credit facilities by obtaining goods on credit from the store operated by the society. A "loans in kind notification" form is used when the goods are to be obtained from a union store or from a private merchant. Loans

may in certain instances be given in cash, as for the payment of labor on the member's farm. Cash advances are given only at the time they are needed, according to the purpose stated in the application.

3.52 Cooperative Thrift Scheme. The Cooperative Thrift Scheme, which is intended as a second phase of the credit program, involves the establishment of savings accounts for all members of societies participating in CPCS. Societies which have proved that they are capable of handling the managerial aspect of CPCS are selected by the Department of Cooperative Development for participation in CTS. Societies so selected must pass enabling legislation, their officials must take training courses, and the society must have a safe or cash box which is bricked or cemented to the floor. As with CPCS, the scheme operates through members' accounts. While CPCS involves the establishment of loan accounts for borrowers, CTS simply functions through the members' operating accounts which the society maintains as channels for payment for deliveries and for record keeping purposes. Members agree to leave funds in this account rather than drawing each payout for deliveries in full, and these deposits are the savings involved in the scheme. The minimum balance required is Sh 50, which may be accumulated in Sh 10 units from each payout. Interest at 3 per cent per annum is paid on deposits.

3.53 The CTS is proving attractive to small farmers. The minimum deposit by the commercial banks in rural areas is between Sh 300 and Sh 500, and the interest rate on savings accounts with commercial banks is also 3 per cent. The Kenya Post Office Savings Bank, which has had a stagnant level of deposits for many years, also pays only 3 per cent interest on

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savings deposits. The fact that payments for deliveries are automatically credited to the cooperators' accounts provides an easy and convenient way of saving. The CTS provides no guarantee to depositors that defaults will not occur. It seems probable that resources would be available to a well-managed society hit by a 'run' caused by rumors or fallacious assumptions. Members' vigilance, the scheme's entrance requirements, and the supervision provided by the Department for Cooperative Development and the Nordic Advisors constitute the only real safeguards of members' deposits.

3.54 The CTS assists in strengthening the cooperative structure by providing a closer relationship between cooperators' cash savings and their ability to use these savings. If the minimum commercial bank savings deposit balance is Sh 500, this amount of a depositor's funds is in effect frozen.[1] If these funds are to be used, the account must be closed. Also, it is unlikely that a smallholder with only Sh 500 in cash assets would be an attractive loan prospect for a commercial bank, since the banks rarely grant loans of less than Sh 2. The complementary nature of CTS and CPCS are illustrated by the extent to which one can provide resources for the other, the fact that both operate on a level which is meaningful to the economics of smallholder farming (minimum loan, Sh 100; minimum deposit balance Sh 50), and the fact that having a well-run CTS account no doubt increases a cooperator's credit worthiness.

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[1] The average agricultural wage of Sh 3 per day which prevails in certain smallholder areas provides a standard for comparison with the minimum deposit requirements of the large commercial banks.

3.55 Flows of Cooperative Funds. The potential impact of these two related schemes on cooperative primary societies and unions in Kenya can be illustrated by an examination of the flows of funds within the cooperative structure. Primary cooperative societies maintain accounts with three different types of institutions: (i) societies in the Nairobi area may keep accounts at the Cooperative Bank, but most of these societies are not involved in the marketing of agricultural produce, and hence do not participate in CPCS, (ii) societies maintain accounts with local commercial bank branches to meet day-to-day cash needs and for payment purposes, and (iii) the potentially most important financial link of primary societies is the accounts they maintain with the union to which they are affiliated, since it is this link which is used for the operation of the CPCS.

3.56 On the society level, members' savings will provide funds which may be used towards lending under CPCS. Balances will accumulate in society accounts at the union level, and will be available for distribution within the union. Unions, of course, will keep their balances at the Cooperative Bank, which lends only to cooperative organizations (except for money market transactions). Thus, at each level a pooling occurs which helps to economize resources within the cooperative structure. Savings account balances, working balances on current account, and "float" (i.e., uncleared effects) within the system provide funds for loans and investments. Of course, such balances may at times be insufficient to fund advances, and this situation is especially prevalent during the

phasing-in period when more organizations participate in CPCS than in CTS. This need for funds is met by advances from the Cooperative Bank.

3.57 Funds are provided to societies by unions in the form of overdraft facilities. Applications to the union must specify a withdrawal and repayment plan for CPCS advances. Unions, in turn, submit CPCS applications to the Cooperative Bank based on their net requirements. Special CPCS checks are used for drawings against the accounts created for CPCS loans. Unions are encouraged to do their financial planning carefully by a Sh 50,000 limit on the CPCS withdrawals during any one month in excess of the amount specified on the CPCS applications form. If the original plan proves unworkable within these limits, 30 days notice must be given to the Cooperative Bank for any unforeseen requirements. Any withdrawals in excess of these limits will be provided by the Cooperative Bank whenever possible, but a 3 per cent per annum interest premium will be charged for the remaining days of the 30 day notice period.

3.58 The interest rate structure is also designed to facilitate the functions of each level of cooperative organization. Three per cent per annum is given on members' CTS deposits at the society level. Fixed and short-term deposits at the union level earn approximately the same rate, and union deposits at the Cooperative Bank for fixed or short-term earn from 3 to 5 per cent. The rates offered by the Cooperative Bank are as follows:

Type of Account	Amounts	Period	Rate of Interest
Current Account	no limit	not fixed	nil
Savings Account	Sh 150,000 max.	not fixed	3%
Short-term Deposits	Sh 100,000 min.	30 days min.	3%
	Sh 300,000 min.	"	3 1/8%
Fixed Deposit	Sh 1,000 min.	3 mos. min., but less than 6 mos.	3 1/2%
	"	6 - 9 mos.	3 1/4%
	"	9 - 18 mos.	4 1/2%
	"	18 - 24 mos.	5%

3.59 The interest rate structure with regard to CPCS is even more structured. The Corporation charges 8 per cent per annum on advances made to unions, which will be reduced to 7 per cent in 1973. Interest is charged on the amount outstanding on a two-weekly basis. Unions are allowed to make temporary deposits; e.i., outside the repayment [illegible] of Sh 50,000 or above in their CPCS loan accounts, which presents an opportunity for these borrowers to save interest charges. Unions on-lend to societies generally at 9 per cent and societies often on-lend to farmers at 10 per cent per annum. Unions and societies are free to set these interest rates at whatever level they choose, subject to the 8 - 12 per cent band specified for admittance to the scheme. It is not certain to what extent the reduction from 8 to 7 per cent at the Cooperative Bank level will be passed on to cooperators.

3.60 CPCS Performance. To date, most CPCS lending has been for coffee picking and husbandry improvements, reflecting the importance of the coffee societies in the cooperative structure in Kenya. Data concerning the extent of Cooperative Bank activity is shown in Table 3.4.

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The main reasons for the decrease in lending in 1971/72 were organizational problems in some societies. The Cooperative Bank has experienced no losses to date on its CPCS loans. Data from the Kiambu Coffee Growers Cooperative Union, a major participant, indicates that for the period 1969-1971 repayments by members of nine affiliated societies ranged from 94 to 100 per cent of amounts due. It is probable at this stage that the Cooperative Bank has been the major source of CPCS funds advanced to cooperators. However, the exact position is not known as no analyses have yet been undertaken by the Cooperative Bank or the Department of Cooperative Development. Likewise, little exact data is available on the aggregate level for CTS.

Table 3.4 Cooperative Bank Advances under the Cooperative Production Credit Scheme

Financial Year Ending June 30	Amount Disbursed (KSh '000)	Closing Balance Outstanding (KSh '000)	Number of Loans Made	Average Loan (KSh '000)
1970	500	500	12	41
1971	6,200	5,800	28	222
1972	2,600	3,660	17	154

3.61 Table 3.5 presents a successful example of funding CPCS with CTS in the Machakos District Cooperative Union, which consists of 34 societies. All twelve societies participating in CPCS also participate in CTS. Total membership of participating societies is 16,321 and of these individuals, 3,609 are receiving CPCS credit. Of Sh 1 million allocated to the Union by the Cooperative Bank, Sh 558,918 were drawn as of September 30, 1972, supplemented by Sh 332,820 of Union funds. The use

Table 3.5 MACHAKOS DISTRICT COOPERATIVE UNION
CPCS AND CTS PERFORMANCE AS OF 30 SEPTEMBER 1972 (K Shs.)

MEMBER	Society			COOPERATIVE PRODUCTION CREDIT SCHEME			COOPERATIVE THRIFT SCHEME					
			Borrowers	Loan Amount		Amount	Transactions March 1 to Sept.30		Sept.30	Balance		Excess of CPCS Loans outstanding
Society	Membership	Borrowers	As % of Membership	Allocated	Outstanding	Allocated per Borrower	Deposits	Withdrawals	Balance	As % of Deposits	Balance per Member	Over CTS Balances
IVETI	2819	473	17%	123,000	121,850	260	494,757	394,579	100,178	20%	35	21,672
KAKUYUNI	758	192	25%	60,000	55,850	312	103,958	59,141	44,817	23%	59	1,033
KIKIMA	1441	256	18%	44,500	34,900	174	131,566	85,441	46,125	28%	32	11,225
KILALANI	875	172	20%	81,000	71,445	471	492,664	363,531	129,133	26%	148	(57,688)
KITHANGATHINI	1462	78	5%	48,600	14,010	623	53,171	36,820	16,351	31%	11	(2,341)
KITHUMANI	220	-	?	12,000	-	?	4,462	3,068	1,394	31%	6	(1,394)
KITUTI	907	319	35%	48,600	41,300	152	133,427	106,992	26,435	20%	29	14,865
MATUNGULU	4232	1237	29%	340,000	340,000	275	95,640	73,117	22,523	24%	5	317,477
MBILINI	1526	430	28%	96,300	88,300	224	259,645	212,312	47,333	18%	31	40,967
MITABENI	905	177	20%	60,000	40,800	340	51,582	34,387	17,195	33%	19	23,605
MUSUNI	888	248	28%	74,000	75,000	298	186,458	152,431	34,027	18%	38	40,973
MUPUTI	288	27	9%	12,000	8,283	444	28,004	16,358	11,646	42%	40	(3,363)
TOTAL	16,321	3,609	22%	1,000,000	891,738	247	2,035,334	1,538,177	497,157	25%	30	394,581

CPCS FACILITY AT COOPERATIVE BANK 1,000,000
LOAN AMOUNT ALLOCATED
CPCS CREDIT OUTSTANDING 891,738
FUNDED FROM UNION RESOURCES 332,820 @ 3% Interest P.A.
FUNDED BY COOP BANK FACILITY 558,918 @ 8% Interest P.A. } BLENDED INTEREST COST TO UNION 6.1%

Note: The difference between CPCS and CTS balances (shs.394,581) is not necessarily equal to CPCS outstandings funded from Union resources (shs.332,820) because these balances represent only a portion of total Union financial activity.

of Union funds, at a cost of about 3 per cent in conjunction with Cooperative Bank credit at 8 per cent, lowers the blended cost of funds to just over 6 per cent, allowing the Union a greater spread than if it relied solely on funds from the Bank. The Union began CTS operations in March 1972, and by September 30, 1972, balances of almost Sh 500,000 were on hand. These balances were accumulated almost entirely by members not withdrawing the entire amount of delivery payments credited to their accounts. Interestingly, balances on account equal slightly less than one-quarter of total payments credits to members' accounts, representing a savings rate in the range of 18 to 42 per cent among the twelve societies. No definitive conclusions can be drawn from the data until a longer time series is available, and no pattern is readily apparent from the relative performance of the twelve societies. However, the rapid accumulation of balances augers well for the future of the scheme.

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(iv) Kenya Tea Development Authority Credit Schemes

3.62 The Kenya Tea Development Authority (KTDA) is the statutory body serving the smallholder tea industry in Kenya. KTDA's functions include licensing smallholder growers; supplying planting materials, fertilizers and extension services; and purchasing, processing and marketing the smallholder crop. The smallholder portion of the industry consists of approximately 60,000 growers cultivating about 25,000 hectares of tea. The quantity of land under smallholder tea has been expanding at an annual rate of between 15 and 30 per cent since the early 1960's. Smallholder tea provides more than 25 per cent of Kenya's total tea production, and currently has an annual gross marketed value of about Sh 60 million per year.

3.63 (a) KTDA Fertilizer Credit Scheme. KTDA provides fertilizer on credit for tea stands which are four or more years old. Because of certain economic and technical aspects of the crop, KTDA does not recommend fertilizer application prior to this stage (except as a use for any surplus fraction of a bag remaining after the application specified for mature stands). The type of fertilizer supplied under KTDA's credit scheme is NPK 25-5-5, distributed in 50 kg bags which sold for approximately Sh 40 during the 1971/72 season. The price will rise significantly in the 1972/73 season due to increases in world prices and a reduction in the fertilizer subsidy provided by the Government of Kenya. The price varied from approximately Sh 38 to Sh 42 depending upon the location of the distribution point, reflecting transport cost differentials. Applications of fertilizer should increase yields by at least 15 per cent, and about half of the growers with stands at least four

years old obtain fertilizer on credit from KTDA. Participation in the scheme is absolutely voluntary.

3.64 Recommended applications are based on the number of stumps which are at least four years old, as shown in Table 3.6. The recommended planting density is approximately 8,750 stands per hectare (3,500 per acre). Smallholder tea is labor intensive, and roughly two-thirds of KTDA licensees have fewer than 4,000 stands. Fertilizer distribution thus involves a large number of orders for four or fewer bags. Farmers may order less, but are not allowed to order more fertilizer than specified by the limits of the recommended dosage. The economic usefulness of 25-5-5 fertilizer is largely limited to tea and coffee in any case. In order to control distribution, Tea Officers check requests for fertilizer against the number of bushes registered under the applicant's name in the district tea register. The aggregate requirement for the smallholder industry is computed from the application forms. A tender is let every three years for the estimated aggregate required for the period. Mackenzie Dalgety has been the successful bidder for recent contracts.

Table 3.6 KTDA RECOMMENDATIONS FOR FERTILIZER

Number of bushes at least 4 years old	Recommended Number of 50 kg. bags of NPK 25-5-5
Fewer than 250 bushes	Nil
251 - 1,110 "	1 bag
1,110 - 2,100 "	2 bags
2,101 - 3,100 "	3 bags
3,101 - 4,100 "	4 bags
4,101 - 5,100 "	5 bags

3.65 Distribution takes place through a number of local stockists which are appointed as agents by Mackenzie Dalgety and which receive a small commission on the turnover. The price of the fertilizer to the farmers participating in the scheme is slightly lower than the usual retail price, reflecting the economies of bulk ordering and the high degree of certainty that these stocks will be cleared. The fertilizer loan application forms filled in by the Tea Officer and signed or marked by the farmers are distributed to the stockists, and the farmer or the family member who picks up the fertilizer is asked to sign the application a second time upon receipt of the supply to confirm liability for any bags received. Distribution takes place in August and September, as the optimum time for application of fertilizer to the crop is immediately after the rains.

3.66 Borrowers under the program must agree to make deliveries of green leaf at least monthly to KTDA agents. However, more frequent deliveries are normal, reflecting the rate of growth of the crop, the perishable nature of plucked leaf, and the extent to which frequent plucking involves a preferred pattern of labor input. KTDA obtains repayments on the fertilizer loans it grants by making deductions from growers' delivery proceeds beginning with payouts for green leaf deliveries made in October. Payouts are distributed monthly by Tea Officers. Growers have been paid in cash, but KTDA is switching to a system of payment by cheque in 1973. During the 1971/72 season, KTDA paid 88 cents gross per kilogram of green leaf delivered. Eleven cents per kilo was deducted from each borrowing grower's deliveries until his

fertilizer loan was repaid. This type of arrangement ensures that virtually all accounts are cleared within twelve months, when the cycle is repeated. No interest is charged on fertilizer loans, but a service charge of about 4 per cent of the value of the fertilizer is included in the retail price of the commodity to cover the costs of the program.

3.67 The quantity of fertilizer distributed under the scheme has doubled over the last three seasons, and the amount of credit extended annually has increased over the period from about Sh 900 thousand to Sh 2.1 million, as shown in Table 3.7. The average amount uncollectable is less than 1 per cent of the amounts disbursed, which is an extremely satisfactory record.

Table 3.7 KTDA FERTILIZER CREDIT PROGRAM 1971-1973

Period	Fertilizer Distributed Metric Tons	Credit Extended KSh '000	Number of Loans Made	Closing Balance Outstanding KSh '000
1970/71	1,300	894	12,346	16.94
1971/72	1,700	1,191	15,229	23.90
1972/73	2,700	2,089	21,385	n.a.

3.68 Probable Reasons for Non-Participation by Growers. The fact that only half the eligible farmers presently participate in the fertilizer credit program no doubt reflects a number of factors. KTDA officials indicate that the pattern tends to be one of hard-core users and hard-core non-users, rather than one of occasional or irregular participation by a large number of eligible growers. Some non-participants may choose to purchase fertilizer privately in order to avoid the formality of the

program or because they have satisfactory alternative credit arrangements. This number is probably quite small. There is no doubt also a group of non-participants in the fertilizer credit program whose cash preference structure in a given season prompts them to opt out of the program. The farmer may perceive alternative cash requirements which appear to entail greater utility than expenditures on fertilizer. Growers who for one reason or another, such as absence from their shamba, are not contacted by tea development officers or who do not meet an officer at a buying center at the time applications are being solicited also constitute another small group of non-participants.

3.69 The distribution of fertilizer in 50 kg bags may discourage certain growers from participating who are located in areas where the bags have to be carried by hand for some distance because of poor roads or lack of mechanical or animal transport facilities at an attractive price. KTDA and the Ministry of Works have been involved in large projects for the construction of "tea roads," however, which increase the accessibility of smallholders to tea buying centers and to input suppliers. The World Bank has provided support for this and other aspects of tea development in Kenya. The size of the bags in relation to the size of holdings is

involve diminishing returns which are not attractive. KTDA recommends

that fractions of bags left over from the recommended application be applied to immature plants, which yield little or no immediate return.

3.70 Some farmers with holdings of average size may also feel that the rate of return from fertilizer application does not warrant the investment. This concern may be valid in areas of marginal responses to NPK 25-5-5 or where unsatisfactory husbandry practices are used. Excessive weed growth, for example, reduces the response of tea to 25-5-5. The following example attempts to illustrate the situation of the farmer who obtains only the minimum expected fertilizer response, but the calculations are biased by the assumption that such a farmer obtains the average yield. In fact, the yields of marginal growers may be significantly lower.

3.71 Costs and benefits of fertilizer application in a situation of marginal yield response. For purposes of illustration, assume a grower has one hectare containing the recommended 8,750 plants of mature tea yielding the average 0.75 kg green leaf per plant per annum, and that the yield response to fertilizer is only 15 per cent, the minimum expected by KTDA. For reasons of simplicity, also assume that the farmer incurs no expense in transporting fertilizer from the stockist's shop to his field and that the labor involved in fertilizer application is not costed by the farmer. The gross price paid by KTDA for green leaf deliveries is 88 cents per kilo, and cesses of 33 cents per kilo are automatically deducted from the gross to cover its KTDA costs. This example assumes that fertilizer application increases the yield for only one year, which approximates the reality of the response of tea to nitrogen, the principal nutrient in 25-5-5.

Incremental cost of fertilizer

8,750 plants require 9 bags of fertilizer @ Sh 40, or Sh 360 incremental cost per hectare.

Incremental revenue from fertilizer application

Without fertilizer (Sh)		With fertilizer (Sh)
8,750	plants	8,750
0.75	yield (kg per plant)	0.86
6,563	harvest (kg)	7,547
	incremental output with fertilizer (kg)	984
	incremental income @ Sh 0.55 per kg	541
	fertilizer loan repayment	360
	net incremental revenue	181

3.72 The typical smallholder has much less than one hectare of tea, as noted previously. For a farmer having 0.25 hectare of mature tea, the incremental revenue in the situation illustrated above would be Sh 45. If the plants did not yield the standard 0.75 kg green leaf per annum and the 15 per cent response assumption remains valid, as could be the case on poorly kept plots or with plants either immature or very old, the increment could be even less. Some farmers in these situations may conclude that (a) the additional labor involved in obtaining and applying fertilizer, plus (b) the inconvenience of having income from deliveries reduced from 55 cents to 44 cents per kilo until the loan is cleared, does not warrant the investment.

3.73 (b) KTDA Stump Purchase Program. In 1959, when smallholders began to enter the tea industry in significant numbers following the removal of certain licensing requirements, KTDA introduced a stump purchase credit program. Stumps cost 30 cents each, and the recommended planting

was 3,500 stumps per acre. KTDA provided licensed growers with 3,000 stumps under the purchase program on receipt of 12 cents down payment per stump, extending 18 cents credit. Smallholders who wished to obtain more than 3,000 stumps had to pay the full price of 30 cents in cash for each stump above the limit. These crop establishment loans were to be repaid in approximately 15 years by deductions from the proceeds of green leaf deliveries. The repayment record was satisfactory during the operation of the scheme.

3.74 This credit program was discontinued in 1966 with the change from propagation through stumps supplied by nurseries to vegatative propagation. Cuttings are now supplied on a cash basis. All growers in the smallholder sector had availed themselves of stump loans totalling more than Sh 10 million during the life of the scheme. With the complete adoption of vegatative propagation in 1969, the debts of individual growers were cancelled and aggregated for accounting convenience. The KTDA is obtaining repayment through a levy on all deliveries, although a rebate is accorded growers who held licenses prior to the commencement of the stump purchase credit program. This levy is included as an element in the capital and revenue cesses which totalled 17 cents per pound, and which with metrication have been decreased to 33 cents per kilogram in 1972/73.

(v) Pyrethrum Board of Kenya Credit for Planting Materials

3.75 Pyrethrum is a major smallholder cash crop in Kenya. The sole buyer of the crop is the Pyrethrum Marketing Board; and, in the 1971/72 season, Board payments to growers approximated Sh 740 million. The number of individual growers is not known, but estimates range from 85,000 to 95,000, suggesting a mean payout of about Sh 800 per grower. With the exception of some 450 individual license holders who account for 9 per cent of total production, pyrethrum is sold to the Pyrethrum Marketing Board by about 160 licensed primary cooperative marketing societies whose members are smallholder growers. In 1970/71, about 60 per cent of total deliveries originated from 25 societies in Kisii District. About 100 licensed cooperatives are located in settlement areas, and they account for between one-quarter and one-third of the total crop. A wholly-owned subsidiary of the Pyrethrum Marketing Board owns and operates the only processing plant, and over 99 per cent of Kenya's production of pyrethrum is exported after processing. Kenya is the world's largest producer of pyrethrins, the insecticides extracted from the pyrethrum flower.

3.76 Licenses, which also specify delivery quotas, are not administered on a strict basis, although no unlicensed growers, if any indeed exist, may deliver to the Board. As the sold processor, the Board is the sole buyer. Production in excess of quotas is normally accepted by the Board at the same price as deliveries within quotas. In most instances, however, licensees fail to produce the amount specified in their quota. Quotas of the licensed societies are not disaggregated among members. Each cooperator may grow as much as he wishes, but the labor intensive nature of the crop and the land constraints typically limit smallholder production to less than an acre per family.

3.77 Credit Provision and Loan Collection. The allocation of planting materials (plants and fertilizers) is managed by field officers of the Board which operate at an "area" level within administrative districts. Approximately one-half of all pyrethrum cooperatives have obtained planting materials on credit for their members. All planting materials provided by the Board are supplied on credit - there are no cash sales of inputs by the Board. No interest is charged by the Board on these loans. Societies obtaining materials from the Board aggregate the requirements of individual members. Distribution takes place on a specific date when a Board field officer is on hand at the distribution point in order to supervise the process. Planting is done during the rains, and hence April and May and October and November are peak planting periods. The Board's supplies come mainly from its own nurseries and also from certain private nurseries.

3.78 Credit extended by the Board is recovered through deductions from the proceeds of deliveries. Deductions are made during months seven through twelve following the extension of credit, the initial six months' moratorium reflecting the maximum period before the planting materials are mature enough to produce a crop for delivery. Approximately 95 per cent of advances for planting materials are recovered by the Board within the twelve month period for which they are granted. Although no analysis has been conducted by the Board, individual licensees, i.e., large-scale farmers, are thought to have a better repayment record than cooperative licensees. Credit is extended to licensees, and thus borrowing cooperatives are liable as single entities. A society's

deliveries to the Board are also treated in bulk - the lots of individual growers are identifiable and recorded only at the society level. Little aggregated data is presently available on the relationships between societies and their members, although the Pyrethrum Marketing Board hopes to gather information of this nature in the future.

3.79 Payouts for deliveries are made on a monthly cycle, the accounts of approximately half of the licensees being operated on a calendar month basis and the balance on a mid-month basis. (It is interesting to note that one of the reasons for the Board's changing in 1972 to this alternating cycle system from a uniform calendar month cycle is that growers tend to make their heaviest deliveries towards the close of the cycle.) An interim or first payout for each period's deliveries is made within 15 days of the close of the period, usually in the form of a deposit made by the Board directly to the commercial bank account of the licensee. The gross amount of the first payout is about 90 per cent of the expected value of the crop and is based on chemical analysis of pyrethrin content. In 1971/72 licensees were paid Sh 5.62ℰ per kilo of standard (1.5 per cent) pyrethrin content flowers delivered. From this payout is deducted any loan repayments due until 1972/73 and a levy of 6.6 cents per kilo of standard content flowers was also deducted and returned to license holders in the form of Board shares at the close of the year. Beginning in 1972/73, the levy is deducted from the final rather than the interim payout. Under the Pyrethrum Act the Board must pay a dividend of at least 4 per cent on its shares at the close of the calendar year and distribute any surplus in a second and final payout to license holders in proportion to their deliveries, measured in kilograms of pyrethrins extracted.

3.80 Determinants of Credit Usage by Growers. During the financial year ended September 30, 1971, the value of plants supplied on credit was Sh 700 thousand, and in the following year the amount was only Sh 600 thousand. The value of fertilizers supplied on credit amounted to only Sh 20 thousand in each year. In relation to interim payouts to growers of over Sh 40 million in 1970/71 and over Sh 60 million in 1971/72, it may be inferred that credit for planting materials plays a somewhat restricted role in financial terms. Credit for planting materials also plays a minor role in terms of acreage. Materials obtained by growers from the Board in recent years have been sufficient for the planting of about 1,000 acres annually.

3.81 Biological considerations. The pyrethrum plant has a three year optimum yield cycle, after which yields fall significantly. Thus the maximum number of borrowers for planting materials each year could approximate one-third of all pyrethrum farmers, or about 30,000. There are several reasons for the actual number being so much smaller. One is that the plant can be rejuvinated by splitting. The Board encourages growers to do their own splitting, replanting or planting new acreage from the division of existing plants, thus beginning a new three-year cycle. There are also some private nurseries which sell plants directly to growers, and there is no doubt considerable trade in plants among members of licensed societies. These materials are probably available at prices below the Board price of Sh 20 (plus Sh 5 for transport costs) per 100 plant lot. The Board's planting materials are selected for high pyretharin content; and, while some smallholder growers have developed

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high-content stocks through local selection, there may be others who prefer not to use high-content materials. Paradoxically, high-content plants tend to produce fewer flowers than lower-content varieties, and some growers may believe that the best long-run strategy is the quest for quantity rather than quality. Many growers probably replant on a biological or other cycle longer than the trienniel renewal recommended by the Board.

3.82 Probable Effects of the Payment Mechanism. The payment system, determined partly by the complexity of the process by which the pyrethrum content of flowers is determined, may also discourage growers from using high-content Board planting materials. As noted earlier, the lots delivered by individual cooperators are identifiable only at the level of the cooperative society, where they are aggregated for delivery to the processing factory. Payments for deliveries to the factory are computed on the basis of pyrethrin content per unit of weight of flowers of a specified moisture content. Samples are taken from each delivery, and the average content of the samples is used to compute the payment for that delivery. Thus, those cooperative members harvesting flowers having a higher content than the average produced by members of their cooperative society are not rewarded for their quality production except to the extent that their individual deliveries serve to increase the average content of the deliveries of their societies. Any differential that exists between the cost of high content Board planting materials and the cost of alternative supplies of lower content available locally may serve to discourage individual cooperators from investing in Board materials.

3.83 Probable Effects of Loan Terms. In addition, there is fragmentary evidence to suggest that the economics of pyrethrum production and the loan terms granted by the Board are incompatible. The explanation advanced below involves a computation of the costs and returns per acre to the grower for Board planting materials, and a comparison of the loan repayment period with crop production performance. Labor costs and the time value of money are not included in these calculations.

(i) Cost per Acre of Planting Materials.

Recommended density: 5,000 plants per acre = 22,000 splits

Cost of planting materials:

Sh 25	per 100 plants purchased from the Board
x (50)	lots of 100 plants = 5,000 plants
Sh 1,250	cost of plants
Sh 60	for 150 kg single super phosphate or 75 kg double super phosphate
Sh 1,310	total cost per acre of planting materials = loan in kind provided by the Board

(ii) Gross Return per Acre to the Grower.

150 kg	dried flowers average yield per acre per year.
Sh 5	paid by the Board (net of cesses but before loan repayment) to the licensee per kg of 1.3 per cent content flowers delivered.
Sh 750	received by the grower's coop.
0.8	80 per cent paid to the grower, 20 per cent deducted for coop overhead.
Sh 600	Annual revenue per acre received by the grower (before loan repayment).

(iii) Computation of Payback Period on Grower's Investment.

Assumptions: The entire cost of planting materials is met by credit extended by the Board. The loan is repaid in six equal installments deducted from delivery proceeds in months 7 through 12 following issue of the planting materials to the licensee. The grower plants one acre of pyrethrum at the recommended density, and harvests 150 kg of dried flowers per year once plants start flowering in the fourth month after planting. The grower makes deliveries at least monthly to his cooperative society, which in turn delivers to the Board at least monthly.

Sh 1,310 planting materials loan

Sh 600 annual revenue per acre received by the grower (before loan repayments)

Sh 300 revenue received by the grower in months 7-12 after planting (before loan repayments)

Payback period computation:

$$\text{Payback Period} = \frac{\text{grower's investment per acre}}{\text{annual revenue per acre}} + \text{3 months lag between planting and flowering}$$

$$= \frac{\text{Sh } 1.310}{\text{Sh } 600} + 3 \text{ months}$$

$$= 2.18 \text{ years} + 3 \text{ months}$$

$$= 2 \text{ years, } 5 \text{ months} = 29 \text{ months}$$

(iv) Fertilizer Usage Break-Even Calculation.

Cost per acre of fertilizer used at planting = sh 60

Annual revenue per acre received by the grower for the delivery of 150 kg of 1.3 per cent content dried flowers = sh 600

$$\text{Percentage increase in yield required} = \frac{\text{Sh } 60}{\text{Sh } 600} = 10 \text{ per cent in year 1, or } 3.3 \text{ per cent annually over the three-year cycle}$$

3.84 These computations provide only broad indications of the magnitude involved. However, given the payback period of 29 months, it would appear that the assumptions used would have to be altered greatly in order to make it possible for a grower to repay the Board for planting materials from the proceeds of the crop produced by the materials between months 7 and 12 following planting. Yield would have to increase more than four-fold, for example, in order to condense the 26 month period after flowering into 6 months.

3.85 If the 150 kg yield per year is achieved without fertilizer, which is the assumption made by Board officials providing this estimate, it is interesting to note that relatively small increase in yield which is sufficient to cover the cost of the fertilizer. Assuming away the time value of money - a sophistication not warranted in view of the lack of hard data on yields, the most important variable - a 10 per cent yield increase in the first year or 3.3 per cent annually over the cycle would recoup the cost of the fertilizer. Fertilizer trials conducted at Marindas in 1957/60 and at Molo in 1958/61 obtained a 46 per cent and a 34 per cent yield response, respectively, over the three-year cycle to superphosphate applied at planting. These responses are between 10 and 14 times the break-even requirement.

3.86 In spite of the disparity between the payback period on the investment in planting materials and the loan installment schedule, the Board has enjoyed an excellent portfolio performance record. The Board has written off less than 2 per cent of planting material advances each year, and inactive accounts are not allowed to accumulate. Clearly the terms on which planting materials are made available to the Board act as a constraint to their widespread usage by growers. Smallholders are faced with major barriers to entry into pyrethrum production unless they buy planting materials from other growers, or have considerable income, savings or access to other sources of credit.

3.87 An interesting opportunity to test the hypothesis that the loan terms of the Board are incompatible with the economics of the crop may occur in 1973. The Board has been and is currently engaged in a vigorous

expansion program to introduce pyrethrum into areas, such as the Bungoma and Mt. Kenya regions, where the crop is not presently grown. New growers may obtain planting materials from the Board through District Agricultural Officers, who perform certain promotional and supervisory functions prior to the formation of cooperative societies. Board planting materials are being reserved for these areas, so that a very large share of Board materials will be distributed to new growers. Credit is extended on the usual terms. Thus, the Board's planting materials loan portfolio will consist almost entirely of credit extended to new growers. If the growers are unable to repay on schedule out of deliveries, the Board will face a substantial deterioration in portfolio quality. In this circumstance, the Board would have several alternative courses of action open to it:

(i) Live with the situation and make deductions from payouts over a longer period. This may set back its promotional efforts since growers may not be content to forego all cash income from pyrethrum while loans are outstanding. But smallholder growers of tea and coffee do not receive any income from these crops for some time after planting, of course. In the case of coffee, payment is frequently delayed for up to a year after delivery because of institutional arrangements. Thus, smallholders might be willing to endure a similar lacunae between pyrethrum deliveries and receipt of income from these deliveries.

(ii) Alter the installment schedule and collect smaller amounts per month over a period longer than the six months period presently in

force. If the Board makes this change only with respect to new growers, established growers may feel that the Board is acting in a discriminatory manner.

(iii) Lower the price of planting materials. This action would lessen the debt burden and increase borrowers' relative capacity to repay their loans. However, this alternative is probably not available in reality because of the repercussions it would have on the financial operations of the Board's nurseries and the extent to which it might alter the value of the assets of private nurseries and smallholder growers.

(iv) Raise the price paid for dried flowers delivered to the Board. The Board has a reasonable degree of freedom of action in this respect because Kenya is the largest single producer of pyrethrins. However, the Board attempts to avoid making large changes in prices in an attempt to ensure stability in the industry. This alternative is also not attractive in reality because the magnitude of the portfolio problem is hardly significant enough to be a sufficient cause for price changes.

(v) Find alternative sources of finance for new growers. Those who are members of cooperative societies may be able to obtain credit from their societies to cover the cost of their planting materials, with repayments to the society being deducted from the proceeds of whatever crop the member customarily delivers. If the growers who are among the first to adopt pyrethrum in new areas are among the larger farmers in their areas, they may also have access to credit from the AFC or commercial banks.

(vi) Allow growers the option of purchasing planting materials for cash rather than insisting on credit sales. If orders for planting

materials were to be paid for on the day on which planting materials were distributed, the Board might find that not all orders are taken up, due to changes in farmers' liquidity or priorities between the time the order was placed and the delivery date. Cash purchases are, however, more difficult to administer than credit sales, and would place added responsibilities on Board officers handling cash.

3.88 All of these options have financial implications, in that each requires the employment of additional funds at some level in the production and processing chain. The burden of providing the funds falls upon the Board, the cooperatives or the farmers, depending upon which option is chosen. If the Board experiences the portfolio problem envisaged in this discussion, the financial requirements behind the various options it considers should be studied carefully in the decision-making process.

3.89 Other Credit Operations of the Board. Credit for three other purposes is also commonly granted by the Board:

(i) Flowers must be dried before the Board will accept delivery. Sun drying is practiced in parts of the country having suitable climatic conditions, but in other areas mechanical driers are advantageous. The Board provides driers to licensed cooperative societies, with repayment terms extending up to two years. These loans are repaid out of deductions made from the proceeds due borrowing societies for their deliveries. In 1970/71 and 1971/72, the Board supplied societies about Sh 130 thousand worth of equipment annually.

(ii) A licensed grower may obtain empty bags from the Board in which to deliver the crop. Each bag can contain up to about 50 kg of dried flowers. A licensee may purchase bags on account at Sh 2.50 per

bag. The amount due is deducted by the Board from the next payout made to the licensee. A licensee's account is credited with Sh 2.50 for each bag he delivers to the Board. The Board does not engage in cash transactions for bags.

(iii) Annual licenses cost Sh 50, and this fee is charged to the licensee's account, to be deducted from the first payout. In the case of new licensees this fee may be the first entry on the account. The Board writes off about Sh 10,000 on growers' accounts each year, and most of the losses result from licenses issued to parties who fail to make any deliveries.

(vi) Kenya Farmers Association Credit Accounts

3.90 The Kenya Farmers Association (KFA) was founded in 1915 by 100 British farmers as a cooperative for the purchase of farm inputs. Until 1969 its membership was restricted to farmers having more than 100 acres of land, and throughout its history until then the KFA was closely associated with the operations and interests of the large-scale farmers. The minimum acreage requirement for individual membership has since been lowered to 20 acres, and cooperative societies and unions have also become members of KFA. Total membership approximates 2,500 of which approximately 10 per cent are cooperative organizations. More than 1,700 individual members are Kenya citizens. KFA is adjusting its policies and operations to provide more services to the smaller farmers who comprise the majority of cultivators, although control of the organization is exercised by large-scale farming interests.

3.91 The KFA is a country-wide cooperative organization which sells several thousand items used by farmers, from household items to small tools to heavy pieces of machinery, as well as fertilizers, seeds and other seasonal inputs. The KFA also purchases maize and wheat in its role as buying agent for the Maize and Produce Board in Rift Valley Province and for the Wheat Board throughout Kenya. In connection with these activities KFA serves as an agent in the operation of the Guaranteed Minimum Return (GMR) program under which seasonal advances are disbursed by the Agricultural Finance Corporation (AFC) to eligible wheat and hybrid maize growers with more than 15 acres under either crop.

3.92 K.F.A. Credit Operations. Credit for the purchase of supplies is provided by KFA to over 9,000 farms and cooperatives, and computerized statements of accounts are rendered monthly. Of this total, the number of members' accounts exceeds 2,000. The balance are accounts for non-members who receive GMR advances on wheat and maize and sold through KFA, and for non-members who purchase inputs with the proceeds of development loans from the AFC. The operations of these accounts are central to the functions of KFA. Debits arise from credit sales to account holders. Credits include payments of bills by members or by those from whom account holders have obtained loans, plus KFA payments to account holders for crops purchased by KFA as agents for commodity boards.

3.93 Members are expected to pay for purchases within 90 days of the end of the month in which purchases are made. Many members have access to commercial bank credit, and may be able to settle their accounts with KFA by using bank overdraft facilities if they have insufficient cash when amounts falling due do not coincide with realization of proceeds from the sale of crops. Interest may be levied by KFA on overdue balances. Credits to members' accounts include advances received under the Guaranteed Minimum Return Scheme and Cereals Finance Advances to wheat growers for their crops in storage. Members receive a share of KFA profits; and these annual distributions, which amounted to Sh 600,000 in 1971, are credited to members' accounts. In certain instances, members who deliver to the Kenya Cooperative Creameries may have arrangements under which portions of the proceeds from these deliveries are transferred directly to their KFA accounts; and, on the strength of an irrevocable order to KCC by creditworthy individuals, terms of longer than 90 days may be

arranged. Credit balances on Members' accounts receive interest at rates varying from 5 per cent to 6½ per cent per annum, depending on the length of time for which balances are left on deposit.

3.94 Payment for goods purchased by non-members is ostensibly to be received within 30 days following the end of the month in which the inputs were supplied. This requirement has little practical significance, however, as credits to non-member accounts rarely originate from the debtors themselves. These accounts are opened for farmers who wish to make purchases from KFA for goods to be paid for out of development loans granted by AFC, and for farmers who make purchases from KFA of seeds, insecticides, machinery spares, and other items financed by GMR advances. AFC provides both types of borrowers with credit in kind, making payments only against suppliers' invoices and not in cash given to the borrower. KFA only rarely receives payment from AFC within 30 days of the date on which it forwards invoices for payment, since AFC often takes three months to process these claims. KFA makes no effort to collect directly from the non-member account holder in these cases unless there appear to have been irregularities in the use of loan proceeds which may cause the AFC to refuse payment.

3.95 All account holders are issued with account cards which specify their credit limit. Credit account cards are issued to members by the Credit Controller on the basis of past experience, where available, and with reference to the judgement of one KFA field representative who tours the country to inspect applicants' farms. This officer is in contact with local officials of the Department of Cooperative Development,

District Agricultural Officers, and the branch managers of commercial banks for the purpose of obtaining indications of an individual's credit worthiness. At one time, members could obtain all their inputs on credit and settle their accounts with KFA once a year following harvest. A rule of thumb of Sh 20 per acre of wheat or maize was used as late as the 1950's to determine the credit limit of members who were not poor payers. Today, however, no rule of thumb is applied, and the credit limit assigned a member is the result of many considerations. Account cards are issued to non-members on the basis of information supplied by AFC, and restrict the non-member's credit purchase to items agreed by AFC.

3.96 K.F.A. Terms for Traders. KFA deals with approximately 1,200 stockists of agricultural inputs. These stockists are all African traders who are vested by KFA with the assistance of local agricultural and cooperative officers. As regular clients of KFA, these stockists receive goods at wholesale prices, but all transactions are strictly on a cash basis. The majority of these traders probably do not keep records, and the largest would have a total turnover of perhaps Sh 25,000 annually.

3.97 At the request of the Government, KFA initiated a pilot stockists credit scheme in 1968. One hundred African traders were selected from throughout the country to participate in the experiment. These traders operated away from the centers of trade, and in only few instances was more than one stockist selected within a single village. Thirty-day terms were extended to these traders for inputs purchased from and delivered by KFA. However, KFA did not apply pressure for repayment if the stockist was unsuccessful in selling his supplies. Supplies not sold

were taken back by KFA after the season had passed during which they were required. The scheme was discontinued in 1970 and Sh 600 shillings of bad debts owing from these traders was written off. These stockists did not keep records and it appears that they often tended to use the proceeds from sales of KFA supplies to increase their inventory of faster moving items. They did not generally extend credit to customers.

3.98 The magnitude of the loss KFA incurred in this experiment, an average of Sh 6,000 per trader, in comparison with the turnover of the stockists on which KFA deals on a cash basis, i.e., up to Sh 25,000 per year, suggests that the scheme may have overloaded the management capacity of the borrowers. It may also be that, if the traders were aware of the government initiative behind the experiment, they may have felt that repayment of obligations incurred under the project was less than mandatory, as noted by some observers with reference to the collection records of public sector lenders.

3.99 Credit and KFA Finances. The importance of credit accounts in the financial structure of KFA may be illustrated by some balance sheet comparisons. Analysis of this type of data may be misleading because it ignores seasonal variations in the flows involved. No interim statements are published, however, so the annual statements drawn up as of March each year provide the only published data available for analysis. Members' Accounts and Trade and Sundry Debtors constitute the largest single item on the asset side of the balance sheet, exceeding the value of stocks. The rearrangement of asset accounts in Table 3.8 illustrates the situation.

Table 3.8

CREDIT ACCOUNTS OF KFA

(Sh millions)

Assets	Year Ending 31 March					
	1966	1967	1968	1969	1970	1971
Members' Accounts	22.70	25.68	24.96	20.82	19.12	16.16
Trade and Sundry Debtors	18.26	22.52	19.74	26.34	24.74	32.82
Gross Receivables	40.96	48.20	44.70	47.16	43.86	48.98
less: Provision for Doubtful Debts	(2.36)	(2.28)	(2.58)	(3.20)	(3.04)	(3.26)
Net Receivables	38.60	45.92	42.12	43.96	40.82	45.72
Stocks	18.84	22.76	25.38	22.80	25.98	28.76
Other Current Assets	.08	.10	.06	.10	.34	.34
Total Current Assets	57.52	68.78	67.56	66.86	67.14	74.82
Fixed Assets	14.64	14.36	14.60	14.76	14.70	14.24
Interest in Subsidiary and Trade Investment	1.34	1.48	2.64	2.12	3.02	2.84
Total Assets	73.50	84.62	84.80	83.74	84.86	91.90
Net Receivables as a Per Cent of Total Assets	52	54	50	52	48	50

3.100 It is tempting to speculate that many KFA members do not, in fact, settle their accounts within 90 days following the end of the month in which purchase occurs. Such speculation may be based on year and balance sheet data, but these calculations are especially subject to error because of seasonal differences in farmers' purchases and deliveries and because of assumptions which must be made in constructing the model. However, although exact information is not available, the following is presented as an approximation. With estimated total credit sales per annum of between Sh 70 million and Sh 80 million, and gross receivables of about Sh 48 million as shown on the 1970/71 balance sheet, it appears that receivables' turnover may be about 1.6 times per year, representing about 225 days' sales - far in excess of the 90-day terms allowed to members and also of the 90 to 120 days taken by AFC to remit to KFA.

3.101 An interesting consequence of the credit situation at KFA is its relation to the commercial banking system. In fact, the commercial banking system probably provides a substantial part of the finance used by KFA members to obtain inputs on credit. KFA is heavily dependent on bank overdrafts to finance its operations. The overdraft level shown on the 1970/71 balance sheet was Sh 22 million, or about 25 per cent of total assets. To the extent that KFA's debtors settle their accounts by using bank overdrafts, as implied by the fact that repayment is expected within 90 days, a shorter cycle than required for the maturity of a crop, the commercial banks remain involved in the financing. As noted earlier, KFA also relies on deposits from members to finance its operations, and interest of up to 6 per cent is paid on credit balances on hand for one year. This source of funds for KFA is approximately 2 per cent cheaper

than recourse to bank overdraft. The levels of KFA credit to members, as reflected in debit balances in these accounts, and the relation of such credit to members' deposits, as shown by credit balances on members' accounts, from 1965/66 through 1970/71 is shown in Table 3.9. All data is from annual reports showing year-end positions.

Table 3.9 KFA - MEMBERS ACCOUNTS

	Year Ending 31 March (Sh '000)					
	1966	1967	1968	1969	1970	1971
Debit	22,700	25,680	24,960	20,820	19,080	16,160
Credit	4,200	4,520	3,920	6,300	5,180	5,960
Net Debit	18,500	21,120	21,060	14,520	13,900	6,200

3.102 The level of credit outstanding at March 31 between 1967 and 1971 decreased by one-third and members' deposits have increased erratically over the same period. KFA's net credit position with respect to members has also decreased since 1967. Some usually reliable local sources indicate that at times in the past KFA may have had some unfortunate experience with the credit it has extended. Since 1966/67, however, the record appears to have been satisfactory, as shown in Table 3.10. As Table 3.10 reveals, the annual reports of KFA show a declining amount of debit balances on members' accounts in recent years, and an increase of credit balances in members' accounts as of the annual closing of accounts on each March 31. The amounts due from trade and sundry debtors, which include the accounts of non-members, have tended to increase. Amounts

Table 3.10 KFA CREDIT STATISTICS 1966/67 - 1970/71

(Sh millions)

	Year Ending 31 March					
	1966	1967	1968	1969	1970	1971
Members' Accounts Gross amounts outstanding	22.70	25.68	24.96	20.82	19.08	16.16
Trade and Sundry Debtors Gross amounts outstanding	18.26	22.52	19.74	26.34	24.74	32.82
Total Debtors Gross of bad debt provision	40.96	48.20	44.70	47.16	43.82	48.98
Bad debt provision at year end	2.36	2.28	2.58	3.20	3.04	3.26
As per cent of total debtors	6	5	6	7	7	7
Annual provision for bad debts	.40	.54	.64	.94	.54	.52
Bad debts written off during the year	1.82	.62	.34	.34	.68	.30
Bad debts recovered during the year	-	.02	.02	.04	.02	-

If bad debt reserves are adequate and if amounts written off realistically reflect losses, it appears from the published information available that KFA's account portfolio has had reasonably good experience since 1966/67.

written off in the financial years since 1966 range from Sh 1.82 million to Sh 300 thousand. As noted previously, no turnover figures are included in the annual reports, but it is probable that credit turnover approximated Sh 80 million in 1971/72. The ~~level of~~ amounts written off are less than 1 per cent of this amount during most of the years under review. The provision for bad debts has varied between 5 per cent and 7 per cent of the total of members' accounts and sundry debtors since 1966/67.

4. EXPERIMENTAL SMALLHOLDER CREDIT PROJECTS

(i) FAO Pilot Schemes for Fertilizer Distribution

4.1 The Food and Agriculture Organization of the United Nations (FAO) has included Kenya among the countries in which it has implemented fertilizer demonstration programs. These include pilot schemes for fertilizer distribution. In Kenya the program consists of fertilizer trials, field demonstrations, and experimentation with alternative methods and channels of distribution. Trials and demonstrations have indicated that substantial yield responses may be obtained over a range of crops and in various locations in Kenya from the application of various amounts of nitrogen, phosphate and potash. During 1971, for example, more than 1,100 experiments were successfully carried out in Western, Nyanza, Central, Eastern and Coast Provinces and in Nairobi District. The crops included in these demonstrations were maize, soya beans, sunflowers, sorghum, potatoes, beans, fodder crops and cassava. Fertilizer for up to 2,000 demonstrations per annum is provided to the Governments free of charge at Mombasa by FAO. The Ministry of Agriculture extension service and FAO field staff conduct these experiments.

4.2 Trends in Fertilizer Usage by Kenyan Smallholders. One measure of response to different fertilizers is the cost-value ratio. This is computed by dividing the market value of the incremental yield by the price of the fertilizer which produced the incremental yield. The market value of produce used by the FAO and Ministry of Agriculture technicians in Kenya is the Maize and Produce Board buying price for crops, without any adjustments made for transport costs from the farm to the Board's or its agent's purchasing center. The incremental yield is the difference between the output of control and experimental plots which are located

side-by-side in each trial site. The price of the fertilizer is the average local price, net of transport costs from the point of sale to the field, as monitored by the Ministry of Agriculture's field staff. Cost value ratios in excess of 3.0 were obtained in the majority of demonstrations, and in a few instances ratios of 7.8 to 9.4 were reported. Net returns exceeding Sh 200 per acre were recorded in some cases. These results obviously have great significance for smallholder agriculture in Kenya. The farmer response to these benefits is reflected in the substantial increases in imports of fertilizer as shown in Table 4.1.

Table 4.1 NET IMPORTS OF FERTILIZERS IN SELECTED YEARS

	1962	1964	1966	1968	1970
Fertilizer Imports by Value (Sh '000)	15,620	26,600	40,880	37,500	60,820
Fertilizer Imports ('000 Metric Tons)					
Nitrogenous	17.4	32.2	31.2	38.3	50.2
Phosphatic	11.9	12.4	17.8	19.4	19.3
Other	4.4	10.5	19.0	14.4	48.9

Source: Statistical Abstract 1971. Slightly varying data is presented in the Report of the Working Party on Agricultural Inputs, published in 1971.

4.3 Industry and government officials expect that 1971 and 1972 volume data, which have not yet been published, will show further substantial increases. It is agreed that fertilizer usage in the large-scale farm sector has reached a plateau, and that the upsurge in imports in recent years reflects the increasing use of fertilizer by small-scale cultivators. Volume data for the five most important Kenya Farmers' Association (KFA) branches located in smallholder areas support this

contention. The number of 50 kg bags of fertilizer sold by these branches in recent years are:

	Bags
1968/69	24,190
1969/70	46,917
1970/71	57,271
1971/72	141,304

In view of this trend, the questions of distribution and credit for fertilizers are of some considerable interest, and the FAO pilot schemes of special significance.

4.4 The Fertilizer Distribution Schemes. The fertilizer distribution pilot schemes are financed by FAO through grants received from the fertilizer industry in various countries, notably in Western Europe and Japan. In many instances, bilateral donors support the program by providing technical personnel to assist with the implementation and administration of fertilizer demonstrations and other aspects of the scheme, such as fertilizer distribution pilot schemes. FAO associates and experts provided by Scandinavian countries are assisting the program in Kenya.

4.5 The distribution project in Kenya has involved funding to smallholders through grants in kind at the rate of 100 tons of NPK 20-20-0 compound fertilizer annually, beginning in 1969. Each 100 ton lot is expected to supply about 1,000 acres belonging to 1,000 farmers. Each participant uses approximately two 50 kg bags of fertilizer at about Sh 35 per bag; and those growing hybrid maize are advised to use 10 kg of seed per acre, at a cost of approximately Sh 20. A new pilot scheme has been started each year beginning with the 1970 planting season. Credit is involved in the schemes, but not in a uniform manner. Pilot projects have been established in Special Rural Development Program areas, in

keeping with their experimental nature and the requirement that they be monitored. However, the performance of the credit element of each project is unfortunately not monitored on an identifiable basis, being included in the ordinary operations of the banks or suppliers involved. Hence, no published data are available. The program in Kenya may be criticized for the relative lack of available data on organizational performance, although the technical aspects of fertilizer demonstrations have been well documented.

4.6 The description of each of the three major schemes is given below. In addition to these three pilot activities, a small amount of inputs was distributed to the cooperative union in Machakos in 1972, but crop failures resulting from drought rendered the experiment fruitless. It is intended to expand the pilot scheme to Machakos and Taita Districts in the future.

4.7 (a) Vihiga Division Pilot Scheme. The pilot scheme in Vihiga Division, an area of small farms and intensive cultivation, began in 1970 and involves the distribution of both fertilizer and hybrid maize seed to about 1,000 farmers annually. In order to secure economies of scale, an attempt was made to organize participating farmers into groups so that minimum deliveries of 3-5 tons (one lorry load) could be made to a single delivery point. Group leaders selected by group members were responsible for certain administrative tasks, such as drawing up a list of participants, aggregating their input requirements, and keeping track of payments. Payments for the inputs during the first year were made

to a mobile banking unit operated by Standard Bank. Copies of payment receipts were forwarded to the Kenya Farmers' Association, which arranged for physical distribution of the inputs to delivery points. In a few exceptional instances, credit was provided from the scheme's resources to participants who had regular salaries.

4.8 It proved very difficult to organize farmers into groups for the purposes of the projects. The reason given by FAO officials for this failure is simply that the farmers are too individualistic to accept this type of regimentation. An alternative channel was developed to replace the groups, and this alternative, which had more in common with institutions familiar to farmers, enjoyed acceptance by participants. Chiefs were used to perform the functions of group leaders, and chiefs' administrative compounds were used as delivery points at which farmers paid cash for their inputs.

4.9 Based on local experience and on the results of other schemes, the distribution function will be transferred to local stockists in the 1973 planting season. Participating stockists will be provided credit by the Kenya Commercial Bank to enable them to have the inputs on hand at the time and in the volume required. Some farmers will pay cash upon taking delivery of their supplies, and others may pay with vouchers obtained under a pilot credit scheme that the Agricultural Finance Corporation plans to establish in Vihiga. Use of stockists should allow the program to continue and expand on a commercial basis, whereas use of the chiefs as distribution channels did not offer such scope for expansion

unless new support arrangements were developed. Fertilizer application in Vihiga has increased significantly, and the FAO program now accounts for only a fraction of total sales of fertilizer in the area. The program has involved a turnover of about Sh 20,000 per annum and collections of 98 per cent have been achieved, but at the cost of rather intensive collection efforts directed at certain slow payers.

4.10 (b) Tetu Division Pilot Scheme. Tetu Division is a coffee-growing area in which the farms are small, with two-thirds being less than two hectares. Most farmers belong to cooperative societies which process and market their coffee production. Prior to the establishment of the pilot scheme in 1971, fertilizer was available through cooperative channels for coffee only. The FAO scheme involves the provision of fertilizer and hybrid seed for maize. In order to promote fertilizer usage and to obtain an idea of the quantities which would be required in each area, field staff of the Ministry of Agriculture and FAO organized meetings at coffee factories owned by cooperative societies. The coffee factories are also used as delivery points for fertilizer and seed distribution. Fertilizer and seed are provided through Mackenzie Dalgety to the Nyeri District Cooperative Union on Credit, which in turn provided the supplies to the Tetu Coffee Growers Cooperative Society on credit for on-lending to members. This society has 9,000 members and is well organized. The coffee crop serves as security at each stage in the cooperative structure, with letters of intent to deliver and registered charges used as documentation. Collections are made from the proceeds of coffee sales to the Kenya Coffee Producers Union. Terms are dictated

to some extent by the peculiarities of the payments system for coffee which has been operating in Kenya and which involves substantial delays in payment of farmers for their crop. The original terms allowed by Mackenzie Dalgety to the Union were a schedule of installments which began nine months after delivery of the supplies. However, these terms have been shortened, and the project is now self-sustaining. The size of the scheme and the fund has been increased from an initial supply of 100 tons to 200 tons of 20-20-0 fertilizer provided by FAO, plus several hundred tons obtained through normal commercial channels.

4.11 (c) Migori Division Pilot Scheme. In Migori Division the pilot scheme involves the use of stockists in the distribution and promotion of fertilizer usage. At the time the scheme began in 1972, practically no fertilizer was used in the District. The area has high potential for cotton, groundnut and maize production, and land is available for the expansion of existing farms. Credit is provided by the Kenya Commercial Bank to eight stockists selected on the basis of their credit-worthiness from a list of about fifteen compiled by Ministry of Agriculture and FAO field staff. Most of those selected already had relationships with the Bank, which is the only one in the Migori area. One of these stockists is, in fact, a cooperative union. An assumption of this approach is that credit will enable and encourage stockists to have adequate supplies of inputs on hand at the time they are required by the farmers. Field staff also organize meetings of farmers and traders for the purpose of promoting the program and ensuring that farmers are aware of the nearest points at which they can buy fertilizer. (The project did not include provisions for farmers to obtain supplies on credit from participating stockists.)

4.12 The loans vary in size from Sh 3,000 to Sh 5,000 and are granted for six months to enable the stockists to purchase from five to eight tons of fertilizer. The trader does not receive his loan in the form of cash. Rather, the Bank pays the Kenya Farmers' Association store in Kisumu for fertilizers provided under the scheme. The interest rate on the loans to stockists is 9 per cent per annum, and these facilities are secured by mortgages on registered land and/or pledges on stocks. The land used as security is frequently not the land on which the business is located, but other property belonging to the trader. The Bank seeks to obtain a margin of at least 35 per cent between the amount of the loan and the estimated value of the land pledged as security. Pledges on stocks are less attractive to the Bank because of the greater difficulties in control and also because only stocks which have been fully paid for by the trader constitute good security, which frequently implies rather small amounts in monetary terms. However, Kenya Commercial Bank had experienced no bad debts through January 1973 with respect to these loans.

4.13 The Migori and Vihiga schemes are in fact funded from the same revolving fund administered by KFA, and the size of the fund is now the equivalent of 200 tons of 20-20-0 at prices prevailing when these quantities were sold. A total of 250 tons has been distributed under these two schemes, of which approximately 50 tons has been used in Migori.

(ii) Farm Input Supply Scheme

4.14 This second pilot scheme, as yet in the preliminary stages, is designed to finance the stocking of farm inputs at the retail distribution level. The primary aim of the scheme is to ensure that stocks of seed, fertilizer and pesticides are readily available and physically accessible to smallholders. The underlying consideration is that large numbers of farmers are unable to obtain adequate and timely supplies of crop inputs. The main reasons seen for this are that village stockists and cooperative societies, who are the main suppliers of inputs to smallholders, do not possess either (i) the working capital required to hold adequate stocks, or (ii) the storage capacity for holding such stocks. While this clearly implies that the need for credit is at an intermediate level rather than at a user level, a supplementary goal of the scheme is to encourage the stockist to pass on seasonal credit to his farmer customers.

4.15 The scheme is based on the evidence provided by the 2,000 demonstration plots set up by the FAO Fertilizer Program and the Ministry of Agriculture. These demonstrated that small-scale farmers could obtain significant financial benefits from the use of fertilizer, improved seed and pesticides on a wide range of crops. The FAO pilot scheme also demonstrated, through small test operations, that when stockists are able to obtain input supplies on credit, they pass on part of that credit to their customers. Similarly, the cooperative societies have shown they can extend seasonal credit to their members if the inputs are available. The mode of operation of the Farm Input Supply Scheme is to expand upon the experimental operations of the FAO Pilot Program. The scheme will

emphasize production of food crops, especially maize, since the promotion of cash crops (including tea, coffee and pyrethrum) is taken care of by specialized institutions with their own programs.

4.16 Program Details. For the initial two-year trial period, the scheme will be funded by assistance from DANIDA, the Danish development aid agency. Of the total project cost of Sh 10 million, DANIDA has agreed to contribute Sh 8 million. The proposed composition of the project includes the following:

"(a) extension of credit to 400 rural stockists (20 districts with an average of 20 stockists each) for financing:

(i) their seasonal purchases of fertilizer, seed and insecticides (on short-term loans); and

(ii) construction of storage facilities for these inputs (on medium-term loans);

(b) extension of credit to 8 cooperative unions (Nyeri, Meru, Embu, Muranga, Machakos, Bungoma, Kisii and Kericho) for financing:

(i) the seasonal requirements of fertilizer, seed, and insecticides for their cooperative societies (on short-term loans); and

(ii) construction of additional storage facilities at union headquarters (on medium-term loans);

(c) construction of fertilizer storage depots (to be owned by the Maize and Produce Board and rented out to suppliers) at the following strategic centers: 5,000 ton storage at each

of Kakamega, Kericho, and Kisii; and 2,500 ton storage at each of Embu, Meru, Karatina, Machakos, and Taita.

(d) strengthening FFP staff and administration through:

(i) recruiting two additional staff members;

(ii) purchasing four vehicles for the additional and existing staff."[1]

4.17 The 20 districts in which the scheme will operate are all included in the FAO Fertilizer Program (FFP) which started in 1968. Each stockist will on average be supplied (on credit): six tons of fertilizers per season, which is sufficient to fertilize about 60 acres of maize; the respective amounts of seed; and small amounts of insecticides. In addition to working capital the stockists will also receive medium-term credit for constructing simple storage facilities. This is intended to encourage them to stock their supplies well in advance of the planting season. Supplying a number of stockists with inputs on credit is expected to increase competition among them, and therefore to strengthen their willingness to pass on part of the credit to their smallholder customers. The extent to which this occurs, and with what results, will provide valuable information in the search to find a workable means of providing seasonal credit to small-scale farms.

4.18 Estimated Costs. The total estimated cost of the pilot scheme is as shown in Table 4.2. The major item is working capital for the

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[1] Ministry of Agriculture, Republic of Kenya, Farm Input Supply Scheme, draft proposal, November 1972.

Table 4.2 FARM INPUT SUPPLY SCHEME
TOTAL COSTS

	Local	Foreign	Total
Loans to Stockists			
working capital	500	1620	2120
storage facilities	800	400	1200
Loans to cooperatives			
working capital	500	1620	2120
storage facilities	400	200	600
Storage Depots	1842	908	2750
Administration			
staff and travel	40	400	440
vehicles	6	54	60
vehicle O & M	20	60	80
Fertilizer Subsidies	648	-	648
Total	4756	5262	10018

purchase of fertilizer, seeds, and insecticides which, together with fertilizer subsidies paid by Government, accounts for Sh 4.9 million, or 49 per cent of total project costs.

4.19 Lending Arrangements. According to the proposal, DANIDA will reimburse the Kenya Government for 90 per cent of funds placed on deposit with the Kenya Commercial Bank for on-lending to stockists and cooperative unions respectively. DANIDA will also reimburse the Ministry of Agriculture and Maize and Produce Board for 90 per cent of the expenditure on vehicles and eight storage depots. The proposed financing for the scheme is summarized in Table 4.3

4.20 The Kenya Commercial Bank and Cooperative Bank will pay the Government 3.5 per cent interest on outstanding balances with principal due in 1984/85. The inputs part of the project will be continued for five years, with interest changed to retailers (stockists and cooperatives) at 9 per cent per year. Funds for storage loans will also bear interest to the Government of 3.5 per cent up to 1977/78, followed by seven equal annual installments of interest plus principal. Interest to retailers may also be up to 9 per cent.

4.21 Organization and Management. The Ministry of Agriculture, assisted by the FAO Fertilizer Program, will assume overall responsibility for managing the scheme. The existing administrative framework of the Fertilizer Program (with the additional staff to be recruited) are to be used for this purpose with only slight modifications. However, to ensure close cooperation between the entities involved in the scheme, a coordinating committee would be established which would include representatives of the Ministry of Agriculture, Ministry of Finance and Planning, FAO Fertilizer Program (FFP), Kenya Commercial Bank (KCB), Cooperative Department, Cooperative Bank and Agriculture Finance Corporation (AFC). The extension staff of the Ministry of Agriculture, assisted by FFP staff, will select suitable stockists and recommend these to KCB for financing. KCB loan officers will check the stockists' creditworthiness and assist them in preparing their credit applications. Loans will be made in kind through delivery of inputs from suppliers of the stockists' choice and KCB will directly pay the suppliers. Stockists will also be assisted by

agricultural extension and FFP staff in estimating farmers' demand for fertilizers and other inputs. In addition, short training courses will be arranged for stockists to familiarize them with the various types of fertilizers and other inputs.

4.22 The main benefit of the scheme is not seen to be its direct contribution to the economy, but rather the establishment of an efficient system of inputs supply to small farmers. When expanded on a larger scale, with such modifications as considered necessary as a result of the pilot operation, it should provide much larger economic benefits in the future. The intensification of food crops would not only increase small farmers' incomes and remove the present shortage in food supplies, but it would also - as soon as self-sufficiency is achieved - free food crop acreages for the growing of cash crops which would create additional employment opportunities.

(iii) Vihiga Maize Credit Scheme

4.23 This scheme was initiated as part of the Special Rural Development Program in the Vihiga area in 1971. Vihiga is an area characterized by a dense rural population with very small "shambas", most of which are less than two hectares. The credit scheme was one component of a larger program in the area, and the Vihiga SRDP is one of six separate programs located throughout Kenya.

4.24 The credit scheme provided maize crop inputs to some 70 farmers in the first year and was extended to 383 farmers in the second year. The program was administered by the AFC and loans were made essentially on the basis of AFC credit-worthiness criteria. Credit is provided in kind and borrowers are supported by special attention from the Ministry of Agriculture extension staff. It is planned to extend the scheme to between 400 and 600 farmers in 1973.

4.25 A major merit of the Vihiga Maize Credit Scheme is that it has been subject to continuing and detailed evaluation.[1] Otherwise the scheme is not of major importance. In scale it has been limited to Sh 30,000 in 1971 and Sh 100,000 in 1972. In some respects its experimental features have been lost by use of seemingly inappropriate criteria and use of excessive support services. However, a major argument in defense is that a primary aim has been to build up the institutional capacity and develop the procedures necessary for the successful operation of a smallholder credit program. Full details of the scheme are readily available in the evaluation reports mentioned.

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[1] See Hay, F.G. and Heyer, J., "Vihiga Maize Credit Package," in An Overall Evaluation of the Special Rural Development Programme, Institute of Development Studies, University of Nairobi, 1972; and Weisel, P. and Hauralan, M., "The Vihiga Maize Program," USAID Spring Review of Small Farmer Credit, Nairobi, 1973.

COUNTRY PROGRAM

THE VIHIGA

MAIZE CREDIT PROGRAM

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by:
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USAID/Kenya

Nairobi
December, 1972

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*The introduction has been deleted since it is largely repetitive of material presented in the IBRD Country Paper

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II. Program Characteristics

A. Background

1. Historical Summary - The Vihiga Maize Credit Scheme was initiated in 1971 and continued during the 1972 maize production cycle. During 1971 some 76 farmers signed loan agreements to receive inputs in kind (fertilizer, hybrid seed and insecticide), of which 63 utilized the loan. In 1972 the program was expanded to include 383 farmers and, according to data collected in July, 1972, 320 had drawn on the credit.

The authorized loans, Shs.30,000/- in 1971 and Shs. Shs.100,000/- in 1972, were made available through the AFC. In 1971, due largely to the shortness of time between the decision to proceed with the loan program and its commencement (a period of approximately 2-3 weeks), the procedure for selecting farmers was not as thoroughly developed as would have been liked. In essence a committee composed of various local government officials was established, prospective loan applicants were chosen from a random sample of 600 Vihiga farmers who had been included in a previous farm survey, approved applicants were given a written"authority to incurr expenditure" for the amount of the loans, and this "authority" could be presented to local stockists for designated inputs. While this basic system was carried from the 1971 program into 1972, attempts were made to rectify certain problems encountered the first year, e.g. select applicants in a more orderly and thorough manner, select more carefully the stockists to handle the inputs and provide better instruction to them re the proper use of the inputs, and provide additional AFC personnel to the project in order to facilitate handling of the loans.

Along with this loan package a system was devised to disseminate to the farmers technical information concerning the inputs. It utilized the existing Government agricultural extension service, focusing in 1971 on individual instruction to the loanees by extension agents and attempting to modify this approach slightly in 1972 to utilize methods of group instruction (primarily through farmer field days).

Plans for 1973 and onward envision building on this basic system. In 1973 it is hoped that between 400-600 loans will be authorized. Such, it is hoped, will be made possible by a broader role assumed by the AFC (from approving loan applications through collections of individual loans) and through a greater utilization of group extension techniques.

Note: the bulk of the above points are elaborated on in the sections which follow.

2. Relation to National Credit System - As is noted above, this credit program is administered through the AFC. It has no organizational links to other agricultural lending institutions. The program is yet so small that it constitutes a miniscule proportion of the total credit portfolio of lending institutions to Kenyan farmers.

3. Other Program Activities - The maize credit effort is but one component of the larger Special Rural Development Program (SRDP) focused in Vihiga. This Program is aimed at more than just the agricultural sector, but rather cuts through any number of sectors related to rural development. Those activities within the Program which are most directly related to and supportive of the maize credit scheme include the above mentioned extension work of the Ministry of Agriculture personnel in providing information to farmers on the proper use of farm inputs, training of extension workers through specialized short courses as well as longer more comprehensive courses at local agricultural training institutes (Egerton and Embu), and the projected development of cooperatives

which would play a role in input distribution and information dissemination to local farmers.

In addition to these activities the SRDP is presently involved in or has plans for the following:

- loans to allow farmers to upgrade their livestock
- construction of cattle dips for the prevention of tick-borne diseases in cattle
- the promotion of vegetable production
- the encouragement of smallholder tea production through a credit and planting program
- the promotion of pig and poultry production
- a farm-to-market road construction program
- improving rural health through a maternal child health program (which includes family planning)
- a community development program aimed largely at developing social services through self-help efforts
- the provision of electricity and telephones in Vihiga
- adjudication of land whereby ownership rights will be established for all land in Vihiga
- a rural water scheme to provide water to the more populated areas in Vihiga
- the promotion of rural industries and village polytechniques

4. Relation to Pre-existing Local Institutions - The maize credit program is administered through a previously existing institution (the AFC), and to this extent it does not superimpose a new institutional structure on the area. On the other hand , the utilization of local stockists as distribution agents for the loaned farm inputs is new, as are the loan collection procedures already in existence and proposed for the future.

In addition, from the standpoint of the relatively small farmer the credit scheme represents a new institutional form, for there was no previously existing government promoted institution through which he could obtain credit. The credit program does not attempt to build on any prior existing local credit arrangements which have evolved traditionally among various groups of farmers in Vihiga (in fact, little attention has been paid to determining what traditional credit systems might be utilized in an expanded maize credit program).

5. Agricultural Patterns and Potential - Vihiga Division is located in the Western Province of Kenya, bordered by the Rift Valley to the east and Nyanza to the south and west. Vihiga is one of the most densely populated agricultural areas of Kenya,[1] a characteristic which, in combination with its restricted land area, presents an active land constraint to the bulk of the farmers. The geography of Vihiga does not lend itself to large - scale, mechanized farming, due primarily to the frequency of rock outcrops. This presence of rocks, along with severe gradients in the terrain, render a significant portion of the land uncultivable, and most of the remainder unsuitable for anything but hand cultivation. The average rainfall has been estimated at 65 inches a year, with two peak rainy seasons, the long rains (approx. February-June) and the short rains (Aug. - Oct). The average

[1] According to the Kenya Population Census, 1969, Vol.1 population density in Vihiga ranges from 1170 to 1596 people per square mile.

altitude of the Division is approximately 5000 feet above sea level, and no place in the Division falls below 4500 feet.

A survey of the Division administered in the final quarter of 1970 estimates the average (medium) farm size to be slightly above two acres.[2] The principal crop produced is maize, the staple food of the area's population. In addition, farmers commonly produce, largely for their own consumption, small amounts of cassava, potatoes, peas, a variety of beans, and bananas, and normally have 1-2 cows and several chickens. Coffee and tea exist as cash crops, but these on only a minority of farms.

On a"typical" Vihiga farm, approximately 40% of the land area is employed in maize production.[3] Of the remainder a portion is used by the homestead, part is not fit for productive use (too rocky, or perhaps too steep) and the little remaining (if any) is utilized in the production of other crops.

While for most of the crops grown production data are not available, estimates have been made of average maize yields. Table 1 below is taken from Table 37, IDS Discussion Paper 111, June, 1971, by Peter Moock and Table 2 from Table 3.1.2. in Vihiga Special Rural Development Programme. The 1971 Smallholder Maize Credit Programme, A Final Report, by Michael Hanrahan.

Table 1

Vihiga Maize Yields, 1970 Long Rains

Bags Produced	Percentage of Total Farmers Samples
0	4
1-3	45
4-6	22
7-9	10
10-12	5
13-15	4
10-18	2
14 & over	8
Total Percent	100

Note: Total sample: 386 farmers

From this table Hanrahan has, by interpolation, estimated the following:

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2 This estimate is based on a random sample of 386 farms and has been deflated to account for an observed tendency of both farmers and interviewers to overstate acreages. See Peter Moock, The Vihiga SRDP Farm Level Survey: A Preliminary Report of Findings (IDS Discussion Paper 111, June, 1971), tables 12-13 and attached comments.

3 This estimate is based on the 1970 long rains and is obtained by dividing the median maize acreage by the median farm size. Ibid, tables 12-13 and 32-34.

Table 2

Vihiga Maize Yields, 1970 Long Rains: an Interpolation

(1) Percentage of Farmers by Category*	(2) Estimated Number of Farmers	(3) Estimated Bags Harvested per Farmer	(4) Total Yield for Category of Farmer (Column 2 x Column 3)
4	15.44	0	0
45	173.70	2	347.4
22	84.92	5	424.6
11	38.60	8	308.8
5	19.30	11	212.3
4	15.44	14	216.16
2	7.72	17	131.24
8	30.88	21	648.48
Totals 100	386		2288.98

Percentage Base: 386

*The farmers are grouped according to the categories detailed in Table 1 above.

The estimated average yield per farmer equals 2288.98 total bags harvested divided by 386 farmers:

2288.98/386 = 5.93 bags per acre.

As Hanrahan points out, the accuracy of this estimate is open to question, for the yield of each farmer was obtained by asking him to estimate his production. Since farmers commonly do not bag their maize, the estimated number of bags is subject to possibly wide error. In a later report Moock indicates that this average figure may be far too low. (Note: for a detailed discussion of maize yields as possibly affected by the credit scheme, see Section III below, Evaluation of the Program).

Contrary to the implication of this estimated low average maize yield, the adoption of a technology of maize production which results in substantial yields (through use of hybrid seed, fertilizer and a reasonable plant population) appears to have gone some ways in Vihiga. Available data, although spare, show that many farmers (both farmers involved in the maize credit program and those outside of it) utilize hybrid seed and some fertilizer.

Future agricultural potential in Vihiga lies in more intensive cultivation of the already scarce land, and thus the adoption by the farmers of new technologies. In addition to increased maize production, there appears to be a possible future potential for the production of various vegetables and the raising of livestock.

B. Objectives

1. General Objectives

a. Announced Objectives. The most often stated objective of the loan program is as follows: to assist the smallholder in attaining self-sufficiency in maize through the widespread adoption of hybrid seed, and to

release land for alternative uses.

The primary constraints which have been identified by the project to attaining this objective are two:

a) lack of finance to purchase material inputs for hybrid maize production, and

b) lack of knowledge and skills on the part of the smallholder in hybrid maize cultivation.

In order to overcome these constraints the project has focussed, as indicated previously, on two activities, the provision of credit to farmers for the purchase of material farm inputs and the supervision of their use by extension personnel.

b. Apparent Objectives: It has been suggested[4] that, among a number of smallholders in Vihiga, labor, rather than seed, fertilizer, and insecticide may be a primary factor limiting increased maize yields. Should this be the case, the loan program would not assist such farmers but rather would benefit those who have a surplus of labor but insufficient resources to purchase material farm inputs. While data are not available with regard to the numbers of smallholders who are facing a labor constraint, to the extent that some do exist the narrowly defined use of the loan (for material inputs as opposed to labor) excludes smallholders who, according to the objective stated above, the loan program was intended to benefit.

Further, Moock suggests[5] that the selection criteria used for granting the loans may be diverting the program from helping the smallholders who the objective indicates are to be the beneficiaries. The two primary criteria used in farmer selection in 1971 were:

a) a minimum of two acres of maize planted, and

b) a reputation for managerial ability and "good character" on the part of the farmer.

Moock's analysis of 56 of the 1971 loanees whows that

a) 44 farmers, or 79%, had already adopted hybrid seed (compared with an estimated 59% in Vihiga as a whole)

b) 34 farmers, or 61%, grew hybrid maize in the 1970 long rains (compared with 47% in Vihiga as a whole)

c) 28 farmers, or 50%, were already using DDT on hybrid maize (compared to 12% in Vihiga)

Note: Hanrahan also presents data on the use of these inputs by loanees prior to 1971.

These indicators may suggest that the 1971 loanees are above average in wealth among farmers in Vihiga, and that many, had they not had the loan available, would likely have purchased hybrid seed and fertilizer on their own (an analysis of this point is given in Section III). Thus, it is indicated, the loan did not reach the smallholder for whom it was intended who faces a financial constraint re the purchase of seed, fertilizer and insecticide.

[4] See "A Report on the SRDP Smallholder Credit Scheme...", a report by Peter Moock to Jectone A. Omungo, 8 September, 1971, p.i.

[5] Ibid, p.2

To the extent that the above data are valid, it can be inferred that the stated objective was not necessarily primary in influencing the course of the loan program.

2. Terms of Loan

a. Purpose. The loan program, as mentioned baove, provides credit in kind for the purchase of hybrid maize seed, fertilizers and insecticide. Thus, the loans are tied to the purchase of a particular category of inputs. There have been suggestions, yet to be implemented, that the loans be further restricted to a particular analysis of seed, fertilizer, and insecticide. This suggestion results from past confusion on the part of both farmers and stockists due to the availability of many different kinds of fertilizers, each one averaging a different price per kg. and requiring a different dosage per acre (in order to achieve the same application of P_2O_5 and nitrogen). Standardization would rectify this problem.

b. Period of the Loans. The loans are made only for the duration of the maize production cycle, i.e., they are granted just prior to planting and are required to be paid in full shortly after harvest. If a farmer wishes to obtain credit for inputs for the next season, it is necessary for him to apply for a new loan.

C. Organization

Structure - The loan scheme is one of several loan programs administered by AFC. The AFC participates in selecting loanees, disbursing funds to the stockists (upon the presentation of a voucher for payment from the stockist to AFC), and accepting collections from the farmers (although in 1971 the AFC was active in actually collecting loans to only a limited extent).

To date the AFC personnel involved consist of the AFC Branch Manager who acts as chairman of the loan committee organized for selection of loanees, clerical personnel assigned to the program, and, in 1972, an additional AFC loan officer posted in the local AFC office near Vihiga.

Several proposals which have been made aimed at more effective implementation of the program would add additional AFC staff:

a) Twenty local people from throughout Vihiga be selected by AFC to act as part-time loan men. Their functions would include assisting farmers prepare loan applications and collecting loans when they are due.

b) Three individuals be recruited and trained to act as AFC representatives. Each would be responsible for a given geographical area in Vihiga, and their duties would be roughly the same as in a) above.

c) One full time employee be hired to be responsible for problems of implementing the scheme. He would be stationed in Vihiga.

To date no action has been taken on any of the above.

D. Beneficiaries

1. Selection Criteria - The criteria for selection of farmers for the 1971 loan were stated above and include:

a) a minimum of two acres of maize planted, and

b) the farmers have a reputation for managerial ability and "good character".

For the 1972 program the criteria were essentially the same, with the modification of a) above to state that farmers must grow at least two acres of maize and not more than four, and that for those who had a loan in 1971 and wished to reapply full payment must have been made. There has been some discussion of lowering the minimum acreage required for the 1973 loan, but to date no decision has been reached.

The choice of the two acre minimum appears to have been based on the perceived ability of the smallholder to repay the loan rather than on an assessment of the needs of the farmer, i.e., a farmer with less than two acres was thought to be less able to repay than one with more acreage.

Criterion b) above, that the farmers have some management ability and exhibit "good character" is, by definition, subjective and is thus more difficult to apply. In practice, during the first two years of the loan program the committee analyzing loan applicants based its judgment of the credit worthiness of individual farmers on the opinion of those local individuals who purport to have some knowledge of the applicant's management skills and general character.

2. Graduation Policy - successful borrowers, i.e., those who have taken out loans and have subsequently repaid them, are eligible for additional credit (given that they continue to qualify and the other criteria).

3. Number and Types of Farmers in the Program - Available data concerning the farmers is given in Appendix I attached as well as in Section III, Evaluation of the Program. These data are also applicable to Section E below.

Note: total farm size for 1971 loan recipients is not available; for 1972 loanees' farm size is presented in Appendix I.

4. Other Sources of Credit - Information concerning previous indebtedness is not available. The only other source of credit presently available to the smallholder is for grade cattle (referred to previously), although likely those involved in this loan program would have larger farm operations than the farmers at whome the maize credit scheme is intended to be aimed. An additional credit scheme aimed at encouraging increased tea production among smallholders is scheduled to begin soon.

5. Profile of Farm Community - What information is available is given in Section II. A.5. above, Agric. Patterns and Potential.

E. Lending Policies and Procedures

1. Portfolio - Available data on the number and value of loans are given in Appendix I. Information concerning the number of loans outstanding per farmer is not available. Data on repeaters from 1971 to 1972 are presented in Table 3 below:

Table 3[6]

Repeat Loanees from 1971 to 1972

14 - 1971 loanees repaid all of their 1971 loans, and applied for and were authorized loans in 1971.

4 of these 1972 loanees did not implement their approved loans. Of these 4:

1 stockist deferred outright;

2 stockists unduly delayed supplying the inputs, causing the farmers to plant on their own;

$\frac{1}{4}$ loanee was sick.

10 of the fourteen 1972 loanees implemented the loan for the second year. Of these 10:

[6] This information is taken from Hanrahan, op.cit.

Table 3 (continued)

2 increased their loan acreage over 1971;

5 maintained the same acreage as in 1971;

3 decreased their 1971 loan acreage.
10

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14 total returnees

It is instructive to note that, while 14 loanees under the 1971 program applied for and received loans in 1972, an additional 22 1971 loan recipients were eligible for credit in 1972 but did not apply. Probable reasons for their decisions not to be involved in 1972 are discussed in Section III below.

With regard to the magnitude of credit available per loanee, under this program a single farmer who qualifies has available inputs valued at Shs.105/- per acre of maize planted. Given the restriction that only farmers are qualified who grow between 2-4 acres of maize, the range of possible credit per farmer is Shs. 210/- to 420/-.

2. Interest Rates - During 1971 no interest was charged; in 1972 the loanees paid interest of 1% per month. The change in policy reflected the need for the AFC to cover both the costs of administering the program as well as a certain percentage of inevitable loan defaults. The returns from the interest charge, however, will likely cover only a portion of these costs.

3. Collateral - No collateral is required to obtain a loan. The criteria are as previously stated.

4. Other Subsides - None.

5. Appraisal Techniques - The procedure whereby loan recipients are chosen is still evolving. As is mentioned in the historical summary, in 1971 the choice of applicants was of necessity done hurriedly, with the result that choices were somewhat arbitrary. At that time no procedure had been developed for farmers to apply for the loans; rather, an ad hoc committee chose farmers from a previously completed sample survey of 600 farmers. From the survey the committee could estimate roughly the area each farmer planted in maize, and it depended largely on some knowledge on the part of committee members to make a judgment with regard to the farmer's credit worthiness. Farmers initially chosen for the loan were subsequently informed by local chiefs, some perspective applicants accepting and some refusing since the available loan capital exceeded that credited to this initial group, additional farmers were recruited by project personnel through visits to specific locations.

For the 1972 loan an attempt was made to establish a considerably more orderly procedure. An official selection committee was chosen and sometime prior to the due date for applications agricultural staff and local chiefs were instructed to publicly announce the availability of credit to the farmers. The selection committee subsequently informed local authorities that it would be in a given location on a specific date, and requested that interested farmers be asked to come. This procedure proved less than successful, in that far fewer farmers than had been hoped appeared to request loans.

Subsequent dates were established and announced for farmers to appear at the Vihiga headquarters to apply for credit. In the end fewer farmers applied than the available loan capital could accommodate.

The most often stated explanation for the lack of farmer response revolves around the inadequacy of the procedures to communicate information concerning the program to the farmers. There is, in addition, the yet unanswered question concerning the extent to which farmers are actually interested in the program (as well as the question of which farmers).

Discussion is presently underway on the most appropriate ways to strengthen the procedure.

F. Collection

1. Repayment Record, Collection Methods, and Enforcement Procedures - Detailed data on loan repayment are presently available only for the 1971 loanees. Table 1 in Appendix I presents the status of each loan recipient. Of the 63 farmers who utilized the 1971 loan,

8 repaid none of the money,

19 repaid a portion,

36 repaid the entire amount

Collection procedures were not well developed for the 1971 loan. In early September, shortly before maize harvest, a letter was sent to all loan recipients notifying them of the repayment deadline of September 30. When loan repayments were slow in coming, an additional announcement was made concerning specific dates when a loan officer would be available at the Vihiga headquarters to accept payments, and subsequently the AFC sought the assistances of Government agricultural personnel and of local chiefs in collecting delinquent payments. Whereas the end of September had been the original repayment deadline, it was pushed forward to November 30.

Problems in collecting payments appear to have evolved, at least partially, around the following:

a) A number of farmers claimed not to have understood that repayment was due as early as September, and as a result resented pressure to pay the loan that early.

b) In 1971 the maize harvest in some parts of Vihiga was unusually late (the latter part of September and into October). This delayed harvest made it impossible for some to pay by the first deadline (September 30).

c) At the time of harvest the price of maize typically reaches its lowest level (as low as Shs.30-35/- per bag), whereas just prior to harvest when maize is scarce the price can rise upwards of Shs.70/- per bag. There is thus a distinct economic disincentive for the farmer to sell his maize in order to repay his debt immediately after harvest.

d) There appears to have been inadequate communication between the AFC and the farmers concerning both the timing of repayment and the methods of collection.

The AFC is attempting to improve collections in 1972 by developing a more orderly procedure of informing loanees of the repayment deadline and instructing them concerning payment procedures. At present notices are being distributed to loan recipients through local chiefs detailing due dates and collection methods. An AFC staff member has been designated to be in charge of collections. Should loanees not make payment by the November 30th deadline, AFC has indicated that it will begin court proceedings against such farmers.

2. Rescheduling - A procedure of formal rescheduling of delinquent debt has not yet been addressed by the AFC.

G. Costs of Finance

Available data in this category are spotty; what is available is presented below (the breakdown in the proposed outline is not adhered to in this discussion).

The credit program has been in existence for a sufficiently short time that little can be concluded from an examination of the size and value of the portfolio. Information concerning the 1971 loan is summarized as follows:[7]

Table 4[8]

Summary of 1971 Statistics on Smallholder Credit, September, 1972

Total Authorized Outlay	Shs.18060[9]
Average Size of Authorized Loan	Shs. 286.66
Total Funds Drawn	Shs.17246.85
Total Funds Repaid	Shs.13917.50
Percent Drawn Against Total Authorized Outlay	95.5%
Percent Repaid of Funds Drawn	80.7%

With regard to administrative costs, no accurate/complete data have been compiled, although AFC is currently making such a compilation. The direct costs to this credit scheme fall roughly into two categories, the cost of AFC personnel and the cost of Ministry of Agriculture staff involved in extension activity and in administrative/planning aspects of the program.

The entire financing for the scheme comes from the Government of Kenya (which is in turn reimbursed by USAID); the Treasury releases funds to the AFC on the authority of the President's Office.

H. Complementary Factors

1. Technology

a. Directing, Tying and Packaging - Refer to II.B.2 above.

b. Program Extension and Supervision - As was mentioned previously, the provision of credit for farm inputs is accompanied by a system for the dissemination of information concerning proper input use. During both 1971 and 1972 extension agents visited individual farmers in the program to assist them in implementing proper farm practices, e.g., planting the appropriate number of plants per acre and properly applying fertilizer and insecticide. The number of visits to each farmer varied by area and by year, but in both 1971 and 1972 each farmer was visited a minimum of once, and many several times.

Because it is anticipated that this credit scheme will, in the years ahead, reach considerably more farmers than is currently the case, there is interest in finding ways to carry out extension work by group methods. Since the extension staff will increase only slightly in the foreseeable future, it will be impossible to expand the number of farmers in the program

[7]Only partial data are available for 1972; see Table 11, Appendix I.

[8]These data have been compiled by Hanrahan, op.cit.

[9]This amount is that authorized for the 63 farmers who actually drew on the loan. The Shs.30,000/- mentioned in Section II.A refers to the amount originally authorized by AFC for the 1971 loan.

and continue extension services on a one-to-one basis.[10] In 1972 a start was made in this direction by organizing field days in various localities at which information was available and demonstrations given. In addition, there is the intention of developing cinema productions of farm procedures which would be shown throughout the area.

c. Other Arrangements for Technical Transfer - Not applicable.

d. Nature of Technology - The package (hybrid seed, insecticide and fertilizer) available under the loan program represents a change in production technology of the bulk, if not all, of the farmers involved. For some the change is greater than for others, i.e., as is indicated in Section III.A.1.b, a number of the farmers, prior to the inception of the program, used hybrid seed and fertilizer. For these the change in technology would have been less than for those who had never used these farm inputs. Nevertheless, information concerning various aspects of their proper use (such as appropriate plant population) likely modified the technology of all.

Available data on yields, while fragmented, indicates the potential when improved seed and fertilizer are used. Hanrahan summarizes the yields of all loanees in the program in 1971, the average being 20.3 bags per acre.[11] This compares with the average of 12 bags/acre calculated by Moock for the 12 farmers he sampled in his 1971 maize survey who used neither fertilizer nor improved seed.[12] While Moock's sample was not representative, there can be little doubt that the technology represented by the loan package will result in greater yields than would be the case should the improved inputs not be used.

With regard to the quality of the extension input into the program, while certainly there is room for improvement re training of extension personnel, there has been some effective extension work done during the first two years.

2. Supplies and Sales

a. Program Supplies - Loanees present to local stockists their "authority to incur expenditure" (the document given them by the AFC) and receive the requested inputs. The system thus depends on already established commercial distribution channels and no commodities are supplied through public institutions, e.g., through the Ministry of Agriculture.

The price paid by the loanees for a given quantity of inputs is specified on the "authority to incur expenditure" and in this sense it is regulated. There have, nevertheless, been cases reported of stockists charging prices different from those specified, although this does not appear to be a serious problem.

b. Program Infrastructure - The program does include, as mentioned previously, a whole series of supportive elements (see the listing in II.A.3.) A number of these could be viewed as program infrastructure.

c. General Access and Availability - From all indications there has been a relatively good availability of hybrid seed, fertilizer

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[10] It is also the case that as the number of farmers in the credit program increases the proportion of time spent by extension staff working with farmers outside of the scheme decreases; in essence this latter group absorbs a portion of the cost of the extension assistance being given to those in the program.

[11] Hanrahan, op.cit.

[12] See Peter Moock, "Smallholder Credit Scheme for Improved Maize Production, Special Rural Development Programme, Vihiga Division, 1971: Estimates of Yields and other Information Concerning the 76 loan Recipients," November, 1971, p.5.

and insecticide from the stocklsts even prior to the inception of the program. Rather than substantively adding to the system of input distribution, the credit scheme is utilizing the existing structure.

There is no indication that limitations re access to suppliers have appreciably reduced the program's impact on production.

d. Guaranteed Sales - The market for the sale of the farmer's maize is not regulated or subsidized. The Maize and Produce Board provides for the farmer a sure market at Shs. 35/-, but the bulk of the farmers in Vihiga sell their produce to local commercial buyers. The price he receives varies widely, depending on the time of the maize production cycle (see Section II.F.1.).

e. Insurance - None

f. Other Program Marketing Arrangements - None

g. General Marketing Conditions - While there has been no market study for maize undertaken, there is no record of the market acting as a constraint with regard to maize production. Further, there is no indication that the inability to find buyers (paying current price levels) will be a problem re future increased levels of production, although lack of storage facilities could cause considerable difficulty.

h. Profits - While, again, hard data are sparse, an idea of the magnitude of profitability per acre can be calculated as follows: if the average yield of a farmer using the loan package is 21 bags of maize per acre, if the cost of seed, fertilizer and insecticide is taken to be Shs.105/- per acre (the specified value under the loan package), and if maize is valued at Shs.35/- per bag (the Maize and Produce Board's official purchasing price), then the loanee is left with Shs.630/- worth of maize after repaying the loan. There are additional production costs not included in such a calculation, e.g., the cost of labor and the opportunity cost of land. Nevertheless, Shs.630/- likely would be sufficient to cover such costs and leave the farmer with a fair margin of pure profit.[13]

III. Evaluation of the Program

In this section the suggested format is not followed. Rather, given the nature of the data available and the kinds of questions which an evaluation ought to attempt to answer, an alternative organization was thought more appropriate. Note that the analysis is based largely on data relating to the 1971 experience, due to the present unavailability of 1972 data.

A. Impact of the Program and Some Conclusions re Smallholder Credit.

Along with certain of the information presented in Section II above, the data and analysis given below are designed to allow various tentative conclusions to be drawn concerning the impact and appropriateness of the credit scheme.[14]

1. Agronomic and Economic Information Relevant to the Analysis.

a. Yield, Plant Population, and Acres Covered. Tables 1 and 2 in Section II give estimated yield data for Vihiga as a whole. Tables 5-8 below present information on yield, plant population and acres covered for the 1971 loanees. Table 5 shows data for all loanees, while Tables 6-8 give the same data broken into classes of a) returnees (repeat customers in 1972) b) eligible non-returnees, and c) ineligible non-returnees.

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[13] This analysis is taken from Moock, Ibid., p.4.

[14] This section is drawn almost exclusively (and verbatim) from Hanrahan, op. cit.

It should be noted that the acreages shown were estimated by the farmers themselves. They are likely to be very rough and inaccurate. Statistical results should be interpreted with this in mind.

On the other hand, maize samples from 65 of the 1971 loanees' farms were actually weighed, and thus yield data are considerably more accurate than for the 600 farmer survey (referred to previously). However, maize samples were not corrected to a standard average moisture content (all samples were sun-dried and then weighed).

Table 5

Yield, Plant Population, and Acres Covered
All Loanees

Yield (bags/ acre)	Plant Population (plants/ acre 000)	Acres covered	Yield (bags/ acre)	Plant Population (plants/ Acre)	Acres Covered
12	9	2	17	12	2
16	14	2	33	13	3
18	9	2	25	9	2
20	13	2	21	11	2
12	9	3	20	12	2
16	9	4	25	12	2
13	13	3	16	11	2
27	12	4	20	9	4
28	12	2	18	9	2
34	14	4	18	11	2
14	11	2	24	13	2
22	12	3	26	13	4
23	11	4	19	9	2
22	12	4	29	8	3
15	9	4	25	12	3
14	9	2	26	12	2
19	10	4	26	12	2
18	7	3	18	10	3
22	15	3	24	12	4
17	12	2	24	11	2
12	9	3	22	7	2
17	9	3	14	8	4
17	10	2	20	11	4
24	14	3	16	11	4
21	9	4	18	10	4
22	13	2	15	?	2
24	10	2	?	?	2
14	9	3	?	?	?
21	13	2	?	?	3
25	13	3	?	?	?
21	13	3	?	?	?
23	9	2	?	?	?
28	8	2	?	?	?

Table 6

Yield, Plant Population, and Acres Covered
Returnees (Repeat Customers in 1972)

Yield (bags per acre)	Plant Population (pants/acre)	Acres Covered
29	8	3
25	12	3
26	12	2
18	10	3
26	12	2
24	12	4
24	11	2
22	7	2
14	8	4
20	11	4
18	11	4
18	10	4
?	?	2
?	?	2

These loanees repaid all of their 1971 loans and were eligible for the 1972 program. They then applied for and were authorized 1972 loans.

Table 7

Yield, Plant Population, and Acres Covered
Eligible Non-Returnees

Yield (Bags/acre)	Plant Population (plants per acre)	Acres Covered
21	9	4
22	13	2
24	10	2
14	9	3
21	13	2
25	13	3
21	13	3
23	9	2
28	8	2
17	12	2
33	13	3
25	9	2
21	11	2
20	12	2
25	12	2
16	11	2
20	9	4
18	9	2
18	11	2
24	13	2
26	13	4
19	9	2

These loanees repaid all of their 1971 loans and were eligible for the 1972 program. They did not apply for 1972 loans.

Table 8

Yield, Plant Population, and Acres Covered
Ineligible Non-Returnees

Yield (Bags/acre)	Plant Population (Plants per acre)	Acres Covered
12	9	2
16	14	2
18	9	2
20	13	2
12	9	3
16	9	4
13	13	3
27	12	4
28	12	2
24	14	4
14	11	2
22	12	3
23	11	4
22	12	4
15	9	4
14	9	2
19	10	4
18	7	3
22	15	3
17	12	2
12	9	3
17	9	3
17	10	2
24	14	3
15	?	2
?	?	2
?	?	3

These loanees did not repay all of their 1971 loans. Under AFC rules, they were ineligible for 1972 loans.

Certain straightforward statistical analyses were performed on these data. Results are shown in Tables 9 - 11.

Table 9

Mean Yields and Plant Populations, by Class

	All	Returnees (R)	Elig. Non-Ret. (ENR)	Inelg. Non-Ret. (INR)	Estimated Division Average
Mean Yield (bags per acre)	$20.38^{(59)}$	$21.29^{(12)}$	$22.01^{(22)}$	$18.69^{(25)}$	5.93
Mena Plant Population (plants per acre)	$10830^{(58)}$	$10320^{(12)}$	$10960^{(22)}$	$11000^{(24)}$	

Note: The parenthetical numbers above refer to the number of observations upon which each mean is based.

Table 10

Ranges of Yields and Plant Populations Observed, by Class

	All	R	ENR	INR
Highest yield observed (bags per acre	33	29	33	28
Lowest yield observed (bags per acre)	12	14	14	12
Highest population observed (plants per acre)	15000	12000	13000	15000
Lowest population observed (plants per acre)	7000	7000	8000	7000

Table 11

Variances and Standard Deviations of Mean Yields, by Class

	All	R	ENR	INR
Yield variance (bags)	22.277	19.222	19.075	21.492
Yield standard deviation (bags)	4.7199	4.3844	4.3675	4.636

Note: Table 11 shows a pleasant homoskedasticity of variances, indicating that further tests based on standard normal assumptions would be valid.

The mean yield of all 1971 loanees was 20.38 bags per acre. The mean yields of returnees, 21.29 bags, and of eligible non-returnees, 22.01 bags, were a bit higher than that of ineligible non-returnees, 18.69 bags per acre.

The loanees' overall mean yield of 20.38 bags per acre is 14.45 bags greater than the estimated Vihiga average of 5.93 bags. Even if the estimated Vihiga average is 33% too low, the loanees' overall mean is still 11.49 bags greater.

The overall range in observed yields is from 12 bags to 33 bags. In other words, no 1971 loanee harvested less than 12, nor more than 33, bags of maize per acre.

The overall mean plant population is 10,830 plants per acre. The range in plant populations observed is 7,000 to 15,000 plants per acre.

Planting at the recommended rate of 2.5 feet by one foot yields a plant population of 17,400 plants per acre. It is instructive to note that Vihiga farmers plant thousands too few plants per acre. An interesting question is what mean yields might result if farmers used correct planting rates.

b. Prior Use of Hybrid Seed and Fertilizer by 1971 Loanees. Table 12 shows the number of 1971 loanees who used the recommended inputs in selected prior years.

Table 12

Number of 1971 Loanees Using Hybrid Seed and Fertilizer in the Years Shown

	Number Who Used Hybrid Seed	Number Who Used Fertilizer
1966	7	6
1967	11	11
1968	15	16
1969	32	31
1970	40	39
1971	63	63

There was a steady increase in the number of 1971 loanees using the recommended inputs, although some loanees skipped years. In other words, some loanees used the inputs in one year, skipped the next year, and used the inputs again during the third year.

Table 13 presents the loanees' use of hybrid seed and fertilizer prior to 1971.

Table 13

Loanees' Use of Hybrid Seed and Fertilizer Prior to 1971

	Number Using Hybrid Seed	Number Using Fertilizer
Five or more times	4	5
Four times	6	4
Three times	7	11
Two times	20	13
Once	9	9
No use prior to 1971	17	21
Totals	63	63

In other words, only 17 of 63 loanees had never used hybrid seed prior to 1971, while only 21 of 63 had never used fertilizer. Four loanees had used hybrid seed five or more times before, and so on.

Table 14 shows mean yields of 1971 loanees as a function of experience using the recommended inputs together. This table excludes instances where one input, e.g. hybrid seed, was used without the second input, e.g. fertilizer.

Table 14

Average Yield of 1971 Loanees as a Function of Experience Using Hybrid Seed and Fertilizer Together (excludes use of one input without the other)

Used Hybrid Seed and Fertilizer	Number of Farmers	Mean 1971 Yield (bags per acre)
1971 only	22	21.04
Two times	8	19.12
Three times	16	20.31
Four times	6	20.66
Five or more times	7	19.57
1971 Yield Unknown	4	-

The 22 loanees who used hybrid seed and fertilizer together

for the first time in 1971 had an average acre yield of 21.04 bags. The eight loanees who had used these inputs together twice, including 1971, had an average acre yield of 19.12 bags, and so on.

Table 14 shows very little variation in average yield as a function of experience using the inputs. Further, if there is any correlation between these two variables, it may be a negative correlation.

c. Additional Data re Repeat and Non-Repeat Loanees.

Table 3 in Section 2 presents the disposition of 1972 applications from 1971 loanees. From this breakdown one can see that three loanees out of fourteen, or 21%, who tried to deal a second time with stockists under the credit program found their stockists unwilling to extend credit a second time.

As was indicated previously, for the returnees

21.29 bags was the 1971 mean yield;
29 bags was the highest 1971 yield observed;
14 bags was the lowest 1971 yield observed;
4.38 bags was the standard deviation of the 1971 mean.

Further,

9 returnees held at least some wage employment;
5 returnees held no wage employment at all.

With regard to non-returnees (non-repeat customers), the following data are relevant:

Table 15

Actions Taken by Approved 1971 Loanees
as of March 4, 1972

49 farmers implemented the 1971 loan but did not re-apply for a 1972 loan;
8 of these non-returnees repaid zero of their 1971 loans;

19 of these non-returnees repaid part but not all of their 1971 loans;

22 of these non-returnees repaid all of their 1971 loans, but did not re-apply in 1972;

Twenty-two of these 49 were eligible non-returnees, while 27 were ineligible non-returnees.

Table 16 shows the reasons given for not returning to the 1972 program by the 22 eligible 1971 non-returnees.

Table 16

Reasons Given for Non-Returning by the 22 Eligible Non-Returnees

Number Giving Reason	Reason
11	Able to buy own seed and fertilizer, and in fact bought either or both
4	No money to employ workers in land preparation
2	After repaying, no money left for other expenditures
2	Loan too small
2	Sickness
1	Difficult to repay loan
1	Was asked to repay before harvesting
1	Repayment time too short
1	Afraid of being fined if repayment not on time
1	Would have taken if money were included for land preparation
1	No money left for land preparation after paying school fees
1	Inputs delayed too long
1	Government should give cash, not inputs
1	Did not like idea of paying interest
1	Asked to produce "Kipande," did not have it

Eleven eligible non-returnees felt no further need for credit to purchase inputs. Ten indicated, in one way or another, that expenses in land preparation precluded them taking the loan. Other reasons varied.

Table 17 shows the number and percent of the 22 eligible non-returnees who used hybrid seed and fertilizer in 1972

Table 17

Use of Hybrid Seed and Fertilizer in 1972 by Eligible Non-Returnees

	Number	Percent (of 22)
Used hybrid seed	20	90.0
Used fertilizer	17	77.3

Twenty of twenty-two planted hybrid seed on their own, while seventeen of twenty-two applied fertilizer on their own.

For the eligible non-returnees,

22.01 bags was the 1971 mean yield;

33 bags was the highest 1971 yield observed;

14 bags was the lowest 1971 yield observed;

4.36 bags was the standard deviation of the 1971 mean.

Further,

9 eligible non-returnees held at least some wage employment;

13 eligible non-returnees held no wage employment at all

(b) Ineligible Non-Returnees

Table 18 shows the reasons given for not returning to the 1972 program by the 27 ineligible 1971 non-returnees.

Table 18

Reasons Given for not Returning by the 27 Ineligible Non-Returnees

Number Giving Reason	Reason
17	Non-repayment of 1971 loan
4	Poor harvest
3	Able to buy own seed and fertilizer, and in fact bought either or both
3	Sickness or death in family
2	Dispute over land title
2	Shortage of money for land preparation
1	Repaying loan too difficult
1	Repayment period too short
1	Not enough advance notice of application date

Seventeen of 27 ineligible non-returnees indicated non-repayment as a factor in their decision not to reapply. This reason actually applied to all 27. Four indicated a poor harvest, although, compared to the estimated Division mean, the facts do not bear this out. Other reasons varied.

Table 19 shows the number and percent of the 27 ineligible non-returnees who used hybrid seed and fertilizer in 1972.

Table 19

Use of Hybrid Seed and Fertilizer in 1972 by Ineligible Non-Returnees

	Number	Percent (of 27)
Used hybrid seed	17	62.9
Used fertilizer	16	59.2

Seventeen of twenty-seven planted hybrid seed on their own, while sixteen of twenty-seven applied fertilizer on their own.

For the ineligible non-returnees:

18.69 bags was the 1971 mean yield;

28 bags was the highest 1971 yield observed;

12 bags was the lowest 1971 yield observed;

4.63 bags was the standard deviation of the 1971 mean.

Further,

14 Ineligible non-returnees held at least some wage employment;

13 Ineligible non-returnees held no wage employment at all.

A summary of the data given above is as follows:

Table 20

Yield Parameters: Means, Ranges, Variances, and Standard Deviations of 1971 Loanees, by Groups

	R	ENR	INR
Mean Yield (bags/acre)	21.29	22.01	18.69
Yield Range: High (bags/acre)	29	33	28
Low	14	14	12
Yield Variance (bags)	19.222	19.075	21.492
Yield Standard Deviation (bags)	4.384	4.367	4.636

Table 21

Use of Hybrid Seed and Fertilizer in 1972 by 1971 Loanees, by Groups

	R		ENR		INR		TOTAL	
	No.	%	No.	%	No.	%	No.	%
Using hybrid seed	14	100	20	90.0	17	62.9	51	80.9
Using Fertilizer	14	100	17	77.3	16	59.2	47	74.6

Table 22

Wage Employment Among 1971 Loanees, by Groups

	R	ENR	INR	TOTAL
No. with some wage employment	9	9	14	32
No. with no wage employment at all	5	13	13	31
Total	14	22	27	63

2. Analysis of Available Data

The data presented above suggest several hypothesis which can be statistically tested as well as some observations concerning several critical aspects of the program.

Hypotheses considered are as follows:

Hypothesis 1 - 1971 SRDP maize loanees' maize yields are correlated with prior experience using recommended inputs.

Hypothesis 2 - There is no significant statistical difference between mean acre yields of groups R, ENR and INR. This hypothesis is intended to be an indirect test of the hypothesis, "repeat business is a function of yield".

Hypothesis 3 - Repeat business is a function of wage employment.

Hypothesis 1 This hypothesis was tested using a standard variance technique. Results are shown in Table 23.

Table 23

Values from Comparison of Group Means and Experience Using Recommended Inputs

	1 yr.	2 yr.	3 yr.	4 yr.	5 yr.
1 year					
2 years	.996				
3 years	.459	.514			
4 years	.194	.621	.148		
5 years	.715	.158	.299	.412	

There are no significant values in Table 23. In other words, there is no relation, in the statistical sense, between prior experience using hybrid seed and fertilizer and maize yields. Hypothesis 1 is therefore rejected.

Hypothesis 2 Mean yields upon which the test of this hypothesis is based are found in tables 9 and 20. The data generating the means is found in Tables 6, 7 and 8.

Hypothesis 2 was tested using the same variance technique used for Hypothesis 1, namely, a test of pooled variances from groups of unequal sizes.

Results are shown in table 24.

Table 24

Values from Comparison of Group Means

	R	ENR	INR
R			
ENR	771		
INR	2.823	4.077	

There is no significant statistical difference between mean yields of returnees and eligible non-returnees. There is a highly significant statistical difference between the mean yield of ineligible non-roturnees and the yields of both returnees and eligible non-returnees.

In other words, differences as large as those observed between mean yields of R's and INR's and between ENR's and INR's would occur by chance less than one time in one hundred. Hypothesis 2 is therefore rejected.

However, evidence is inconclusive as to whether "repeat business is a function of yield." In fact, the group of 1971 loa es with the greatest mean yield is the group of eligible non-returnees. Thus, one cannot conclude that repeat business is entirely a function of yield. Our hypothesis is perhaps a better test of the proposition, "ability to repay the loan is a function of yield," which is obvious anyway.

Hypothesis 3: This hypothesis tests a dependent variable of categorical distribution. Chi-square is the appropriate statistical test. In this case, repeat business is the dependent variable and we are attempting to show evidence of a functional relationship between repeat business and wage employment.

Data used to calculate the chi-square are found in Table 22. The calculated chi-square is: $X^2 = 1.300$, $n = 1$.

This value is statistically insignificant. The hypothesis, that repeat business is a function of wage employment is, therefore, rejected. We are unable to show statistically significant relationship between wage employment and repeat business.

In addition to the above analysis, the data suggest the following:

a) There can be little doubt but what the proper use of improved inputs will result in yields substantially higher than would be the case in the absence of such inputs. For an evaluation of the credit scheme, however, this information is not critical. Rather, the important questions revolve around whether credit for the purchase of farm inputs is a limiting factor, and if not, what are such constraints?

b) A cursory comparison of average yields reported above might imply that, if the average yield for the Division is but 5.93 bags per acre (see Tables 1 and 2) and that for laonees 20.3 bags, the impact of the program is a primary factor explaining the difference (and that, indeed, resources to purchase farm inputs likely are an active constraint). A closer look at the data, however, brings such a conclusion into question.

There is, to begin with, the question of the accuracy of the 5.93 figure. As has been suggested previously, this estimate may be excessively low. In addition, data in Tables 12, 13, 17, and 19 imply a considerable use of both hybrid seed and fertilizer by farmers prior to the inception of the maize credit scheme and by farmers not in the program in 1972. These data, along with the response by a substantial number of ineligible non-returnees that they did not apply in 1972 because they were able to buy their own seed and fertilizer, suggest that a number of farmers in Vihiga (irrespective of the credit program) are using improved inputs, that resources to buy material inputs may be less of a limiting factor than has been supposed, and, by implication, that likely the 5.93 estimate is too low.

The data do not allow one to be conclusive with regard to these points; it would, for instance, be instructive to know the income levels of the farmers who in prior years purchased maize inputs and who found, in 1972, that they had sufficiet money to purchase their own inputs (were they just the wealthiest farmers?)

c) Accurate information concerning farm size would be useful

in that it would allow one to determine whrther maize yields are correlated with farm size. There has been speculation that this correlation may be high, and that farm size may be important explanatory variable in the discrepancy between the 5.93 bag per acre Division average and the 20.3 average for loanees. It is suggested that on balance loanees have larger farms than the average and thus larger per acre maize yields.

d) If one should conclude that the shortage of cash for the purchase of maize inputs is not in itself a constraint to increasing maize yields, then it might be concluded that the loan program should not receive the priority which it is presently given, or, alternatively, that the target should be specified more narrowly. The target might be, for instance, the provision of loans for only the poorest farmers.

B. Problems and Possible Improvements[15]

The central problems associated with the credit program fall into two distinct categories. On the one hand there is the fundamental question raized above as to whether the credit is actually needed by the smallholder. As was suggested, if the answer to this question is negative, there would be good reason to change the whole direction of the schemes. On the other hand, if the conclusion is that credit is an active constraint of the smallholder and thus that the thrust of the program is essentially correct, then a number of largely implementation problems arise which need to be addressed.

In order to adequately answer the former question the following types of additional data are needed:

a) An analysis of what are in fact the active constraints to increased maize production in Vihiga, e.g., credit for the purchase of material farm inputs, resources for land clearing etc. This analysis needs to categorize farmers according to certain criteria, as, for instance, varying income levels.

b) From a random sample of farmers throughout Vihiga (farmers both in the credit program and those outside of it) analyze yields, farm size and the history of the use of improved maize inputs.

c) An analysis of the maize market. One assumption which has influenced the high priority given to increased maize production is that Vihiga exhibits a substantial maize deficit. There have been suggestions that such may not be the case. A look at maize consumption, output, and flows into and out of Vihiga would be useful.

Problems which fall into the second category identified above can be delineated as follows:

1. Loan Repayment - Section II.F.1 above discusses various problems related to loan collection. There appears to be a real need for better communication to the farmers, well in advance and repeated a number of times, of collection deadlines and procedures for loan repayment. In addition, in order to make allowance for the possibility of late maize harvests (as occurred in 1971) as well as the disadvantage to the farmer if he is forced to sell maize immediately after harvest (due to the wide fluctuations in maize prices), the repayment dealine could be advanced well past Nov. 30 (the 1972 deadline). Such a change could make the credit program more attractive to a greater number of farmers and may well cause a decrease in the default rate.

2. Selection Process, Loan Criteria, and Loan Implementation - In 1972, while the procedure was much improved over that in 1971, there appears to have been limited communication to farmers generally concerning the availability of credit. Information concerning forthcoming loans

[15]The bulk of the problems which are identified and the suggested improvements given below are not new, but appear in several earlier reports (see evaluation reports listed in Appendix II).

needs to be publicized far in advance and the appropriate official(s) (e.g. an official of AFC) needs to go into the locations several times on pre-announced days to sign-up applicants.

Likewise, it might be fruitful to examine critically the present selection criteria. It was suggested previously that the criteria may be influencing the direction of the program toward assisting more wealthy farmers than was initially intended. Should this be the case, an argument could be made to reduce the acreage required in order to qualify and to modify the subjective criterion with regard to the known creditworthiness of the applicant.

Finally, because in the past some farmers were unable to get authority to credit inputs in sufficient time prior to planting, a concerted effort needs to be made to issue such authority early, i.e., in January.

3. Expansion of the program - It is intended that the structure of the credit program as developed over the initial years would be such that the scheme could accommodate large numbers of farmers (several thousand) in the future. There are several obvious obstacles to such expansion which have been identified, namely, the possible inability of extension personnel to service large numbers, a parallel possible inability of AFC to handle a large loan program, and the capability/willingness of stockists to handle extensive credit sales.

All of these problems have been touched on earlier in this report. It has become apparent that, given the limited number of extension personnel, extension work based on individual instruction cannot be applied to large numbers, and thus various group techniques are being considered (and some already adopted). Further, the AFC has made proposals with regard to expansion of its staff so that a much expanded program can be handled, and is presently discussing possible program modifications designed to allow stockists to accommodate a greater number of credit sales.

4. Coops - Considerably more information is needed before cooperatives are adopted which are designed to handle various aspects of the production, storage, and sales of maize and the distribution of farm inputs. There is, throughout much of Africa, a history of cooperative failures in areas where farmers have no history of institutional cooperation and/or where unacceptable forms have been tried.

P. Moock suggests that there may be reason to think that commercial maize storage facilities would be successful. He notes that "because of the recurrent need for ready cash and because of social pressures which belie the obvious advantages of home storage facilities, people commonly sell maize in the period which follows harvest and buy it back later in the year at considerable loss. Since the Maize and Produce Board is unwilling to build its stores away from the Railways, it may be possible in Vihiga to build quite local, communal stores for handling internal consumption requirements. The communal store could act as a kind of bank, serving members, all within easy walking distance. It would pay a fair price for maize, reflecting increasing scarcity as the season progressed, and it would charge a fair price, devoid of high transportation costs, when members needed to repurchase maize. The difference between buying and selling prices would take into account real storage costs, including some loss to pests, although in a well-built store and with proper treatment this loss would be minimal. Moreover, good management would be essential, as it is to the success of any cooperative effort of this sort, and management is not a free good (the community may need to be convinced that they should pay someone a reasonable salary), but the [illegible]sonable profits now available to maize speculators could be eliminated. Although these profits would be lost to the speculators/shopkeepers in the short run, they would flow back to them as increased purchases are made of other commodities."[16]

[16] See a letter from Peter Moock to Clinton Doggett which discusses various aspects of the credit program, dated 11 February, 1972, pp.4-5.

5. The Maize Credit Package - It has been pointed out by several observers that the types of fertilizer and their application as recommended in the package designated under the credit program is based on too little information. Researchers at Kitale have indicated that the designated application of both P_2O_5 and nitrogen may fall far short of the most economic application. A closer look at this question seems warranted.

C. Evaluation Procedures of the Program

A deficiency of the program which has been recognized and for which some adjustment has been made relates to the inadequacy of procedures for evaluation of the program as it progresses. In the initial planning of the scheme too little use was made of existing data, and much baseline data needed to make decisions concerning the appropriate emphasis and form of the program were not available and not collected. In addition, there was no effective, ongoing evaluation built into the program. Recently personnel have been added who will be concerned with developing procedures for continuing program assessment and collecting data essential to future planning.

IV. Role of Technical Assistance

A. A.I.D. Inputs

1. Agricultural Credit Overall

An AID regional representative for East Africa was assigned to Nairobi in 1958, and the AID Mission to Kenya opened in 1960 while Kenya was still under colonial rule. One can distinguish two separate periods of AID interest in agricultural credit activities, one in the late 1950's and early '60's and one in the early '70's. During the first and unsuccessful attempt to launch a program, agricultural credit assistance was coupled with assistance to the development of cooperatives. In the more recent attempt tecnical assistance support of credit activities has been aimed at the level of the principal agricultural credit institution. In neither case has AID provided major loan funds for agricultural credit; Kenya has relied primarily on the IBRD, Sweden, Germany, and Great Britain for such funds.

In 1959, prior to the formal opening of the AID Mission to Kenya, a grant of $280,000 in local currency was made to the Government of Kenya Ministry of Agriculture for use in a small farmer credit program. At this time, the only agricultural financial institution was the Land and Agricultural Bank, which did not lend to small farmers. In the same year, an AID consultant, M. H. Williams of the U.S. Farmers' Home Administration, made a survey of agricultural credit needs in Kenya and suggested lending policies which might be appropriate for an expanded program. In 1960, another consultant, Chester J. Tyson (who had just completed agricultural credit surveys in Uganda and Tanganyika), spent a short time in Kenya discussing supervised credit. When the mission opened in 1961, an Agricultural Cooperatives and Credit Project (see nos. 14-AC and 103) was proposed as one of several AID activities which would be part of a long-run strategy to increase African agricultural production. This project called for the establishment of a new agricultural credit instution and a supervised credit program for small farmer crop and livestock production. A cooperative advisor (Reuben Simmons, March 1964 - March 1965) spent some time working with the GOK in setting up a cooperatives bank, and in 1965 the Cooperative Bank of Kenya was established, although operations did not begin until 1968. Otherwise, the AID program did not materialize; and the Ag Coop & Credit Project was phased out as assistance to cooperatives from the Nordic countries increased.

In the late 1960's, interest in giving some assistance to the development of agricultural credit activities reemerged. In 1969 Robert Tootell, former Governor of the Farmers' Home Administration, carried out a reconnaissance survey of agricultual credit needs in Kenya at AID's request; and in early 1970 Tootell returned-- with two other consultants (Harold A. Miles and James E. Pitts)-- to do a further in-depth study. There are several institutions providing agriucltural credit in Kenya-including the Kenya Tea Development Authority, the Land Settlement Department, the Kenya Farmers' Association and commercial banks-but the Tootell Mission concentrated on the activities of the Agricultural Finance Corporation (AFC). The AFC was established in 1963 and is the major public body administering agriucltural credit; it was reconstituted in 1969, taking over the responsibilities of the Land and Agricultural Bank. Reforms called for by the Tootell Mission included increased availability of short-term production credit and decentralized lending activities. In 1970 two senior USDA FASA agricultural credit technicians, Henry Lowe and Sheldon Ward, were assigned to work with the AFC. Lowe has been serving as General Manager and Ward as Ranch Loan Section Head. Lowe and Ward were originally funded under Agricultural Support (Project No. 121) but were transferred to the new Agricultural Credit Project (No. 148) whose purpose is to strengthen credit management at the distribution and production level and to supervise a special small-holder credit scheme which is part of a larger AID effort to promote rural development in Vihiga (western Kenya). In October, 1972 three more AID technicians (Wallace Slotten, B. Behren, and P. Bergland) arrived to assume their responsibilities as AFC area supervisors. Slotten, who was formerly stationed in nearby Uganda and acted as a credit consultant to the Vihiga project in 1971-2, will head up the region encompassing Vihiga.

Two other AID programs in Kenya involving agricultural credit might be mentioned here. In FY 67 a $140,000 grant was made available for loans to local grazing associations in connection with the establishment of the Range Management Division in the Ministry of Agriculture (see project no. 100), and it is anticipated that part of a $10 million loan to the livestock subsector in FY 74 will be used for credit. (The proposed AID loan is only a fraction of planned IBRD assistance to livestock development.) An East African Rural Credit Union Development Project, headquartered in Tanganyika in the mid 1960's, was never strongly supported by the Kenya AID mission; but in the late 1960's the African Confederation of Savings and Credit Associations (AFOSCA) was formed with headquarters in Nairobi. AFOSCA is one of seven regional confederations which are members of the World Council of Credit Union, and AID has financed the services of the principal advisor (Mark Moriarty) to the General Manager since November 1970.

AID's initial efforts to support credit cooperatives arising from ministries would have largely benefited small farmers; however, support of the AFC is less likely to benefit this group primarily. The majority of AFC borrowers are small farmers, but almost ninety percent of total loan funds have gone to large-scale farmers. The Guaranteed Minimum Return program, handled by the AFC, also goes primarily to medium and large-scale farmers.

2. Vihiga SRDP

Seven persons are being provided in U. S. technical assistance support to the Kenyan Social Rural Development Program (SRDP) while none of these is working full time on the Vihiga Maize Credit project, they all make rather important cotributions to if from time to time. The tittles, dates, past experience, and chief duties of the seven advisors are as follows:

1. USAID Project Officers (January 1971-June 1976), and AID employee since 1948 with experience largely in overall AID programming. Performs liaison and coordinating functions in Nairobi with SRDP Headquarters in the Ministry of Finance and Planning, monitors and supports AID-financed field personnel, and communicates with and provides project documentation to AID/Washington. This officer has spent quite a bit of time on the Maize Credit project as it has been the first and major element of SRDP in Vihiga.

2. Rural Development Advisor (December 1971-June 1976), a specialist in agricultural eduction and agricultural engineering with eight years of previous experience in AID programs in East Africa. Supervises AID-financed personnel in the field and serves as counterpart to the Area Coordinator (i.e. the Kenyan officer responsible for Vihiga SRDP at field level), seeking in every way possible to build up the operational role of the latter and his Kenyan colleagues, and generally to make the Kenyan program a success. The Maize Credit program has been one of his major concerns.

3. Extension/Farm Management Advisor (February 1972-June 1976), a trencher and field worker in agricultural extension in the U.S. south. Supports Kenyan agricultural personnel and programs in Vihiga with a view to building an effective field organization and carrying out successful experiments leading to accelarated agricultural development. This officer has been directly involved with the Maize Credit project on the ground and has spent well over half of his time on it.

4. Marketing Advisor (May 1972-June 1976), an agricultural economist with overseas experience in marketing projects. Contributes economic perspective to the project that will make it possible to make major programming decisions relating to the relative profitability and marketability of alternative Vihiga production potentials in maize, vegetables, tea, livestock and other possible items. He has contributed some significant analysis of the Maize Credit program.

5. Roads Engineer (January 1973-December 1974), a civil engineer with a variaty of engineering experience, including road construction. Designs and supervises the labor-intensive construction of seven farms to market feeder roads totaling 41 miles. There are important interrelationships between the programs for roads and maize.

6. Program Analyst (October 1972-June 1976), a Ph.d economist with a

primary interest in economic anthropology and several years of experience in West Africa. Establishes benchmarks for measuring program progress and replicability potential in the Maize Credit and other Vihiga programs, sets up and implements systems for gathering relevant data, and prepares analytical reports leading to program redesign and improvement.

7. Ministry of Agriculture Program Economist (June 1972-June 1976). Enhances the Ministry of Agriculture's role in support of SRDP. Upgrades planning personnel and techniques in Vihiga and other Division-level pilot areas.

Vihiga SRDP has included staff training directly focused on current action programs, e.g. a specialized two-week course in November 1970 to prepare a selected group of extension workers to advise the 63 farmers involved in the 1971 Maize Credit programs. Five additional SRDP-financed two-week courses of this nature were mounted during 1971. Similar efforts are continuing as appropriate. Recently considerable attention has also been given to training programs for the farmers.

Overall AID inputs into Vihiga SRDP are estimated at $2.4 million over the life of the project from July 1970 through June 1976. They are tabulated in Table.

B. Other Donor Inputs

Other donors are providing inputs alongside the U. S. in Vihiga and also in other SRDP pilot areas and in Nairobi. These inputs are tabulated in table.

The FAO programs in Vihiga have in particular been closely related to the U. S.-supported Maize Credit program. FAO conducted fertilizer demonstrations on 100 maize farms in FY 1972 and is continuing the experiment on another group of 100 farms in FY 1973. One-third of the demonstration plot is planted without fertilizer, one-third with P205 only, and one-third with compound clear-cut results have been achieved and there has been a significant impact on local farmers. SRDP/FAO collaboration, has been close with beneficial results for both programs. The FAO Stockist Inputs Credit program introduces an additional level of support for the maize program and adds effectively to the collaborative process. The idea is to provide commercial bank overdraft credit to selected stockists, thus enhancing their capability in turn to provide inputs on credit terms to farmers. The program has started with ten stockists and will work up to twenty by FY 1975.

TABLE

Budget of U. S. Costs for Vihiga SRDP
(in thousands of dollars)

	FY 71	FY 72	FY 73	FY 74	FY 75	FY 76	TOTAL
TECHNICIANS	257	68	440	362	302	118	1,547
COMMODITIES	18	49	5	0	0	0	72
Roads Program	-	38	-	-	-	-	38
Vehicles	18	11	5	-	-	-	34
OTHER (LOCAL) COSTS	14	94	202	169	148	150	777
Kenyan Staff	6	12	12	12	12	12	66
Gasoline	2	4	4	4	4	4	22
Maize Program	-	15	22	50	73	97	257
Cattle Dips	4	4	8	4	-	-	20
Vegetables	-	-	17	14	3	-	34
Tea	-	-	8	23	23	14	68
Training	2	6	2	3	3	3	19
Roads	-	13	59	-	-	-	72
Rural Industries	-	40	40	30	30	20	160
Family Planning	-	-	30	29	-	-	59
TOTAL	289	211	647	531	450	268	2,396

TABLE

Other Donor Inputs
(in thousands of dollars)

	FY 71	FY 72	FY 73	FY 74	FY 75	FY 76	TOTAL
VIHIGA	65	299	227	226	172	183	1,172
Rockefeller Resident Evaluator	8	8	-	-	-	-	16
FAO Fertilizer Advisor	-	26	26	26	26	26	130
FAO Fertilizer Program	-	15	16	15	16	15	77
FAO Stockist Credit Program	-	-	4	9	13	14	40
SIDA Grade Cattle	11	12	8	9	8	9	57
SIDA Artificial	4	11	6	9	7	7	44
SIDA Rural Water	42	28	73	56	-	-	199
UNICEF Environmental Water	-	104	2	-	-	-	106
Partnership for Productivity Rural Industries	-	95	92	102	102	112	503
MIGORI (SIDA)	70	305	297	403	403	403	1,881
KAPENGURIA	22	198	235	303	302	303	1,363
Netherlands	-	176	235	303	302	303	1,319
UK	22	22	-	-	-	-	44
MOERE (NORAD)	84	336	790	252	252	252	1,966
KWALE (UK)	0	92	181	299	300	300	1,172
NAIROBI TECHNICIANS	50	75	75	75	75	75	425
Ford Foundation	25	25	-	-	-	-	50
UK	25	25	25	25	25	25	150
UNDP	-	25	25	25	25	25	125
IBRD	-	-	25	25	25	25	100
PARTICIPANTS	0	9	0	0	0	0	9
Canada	-	5	-	-	-	-	5
Israel	-	4	-	-	-	-	4
TOTAL	291	1314	1805	1558	1504	1516	7988

C. Effects

The Kenyans have consistently made it clear that SRDP is their own program and that all elements of it, including Maize Credit, are to be implemented within the existing structure of the Kenyan Government. Yet our technical assistance has played a significant role. At the very beginning of the SRDP program in July 1970 an AID advisor was instrumental in the initial decision to stress maize in Vihiga and in shaping the project design. A second short term advisor did a great deal to assure that the Maize Credit experiment actually got started in February 1971 at the start of the growing season corresponding with the long rains. Otherwise a year might have been lost to the program. Since then, as indicated above, each of the seven AID funded personnel associated with SRDP have been substantially involved in the Maize Credit program and have had considerable impact upon it.

An additional very important factor in the Kenyan situation is that AID is financing an overall technical assistance program in support of the Agricultural Finance Corporation, including provision of the operational head of that organization. This has greatly facilitated AFC collaboration in the Vihiga program. Indeed AFC is looking to Vihiga as the experimental area in which to try out smallholder credit techniques for later application throughout the rural areas of Kenya.

D. Recommendation

AID-financed personnel should continue to do what they can to assure that the Viniga Maize Credit program is well and innovatively planned, effectively implemented, properly evaluated, and appropriately replicated.

Appendix 1

Table 1

1971 Smallholder Credit Program
Loan Data on Individual Recipients

1971 loan number	Authorized Outlay-Shs.	Authorized Acreage	Funds Drawn-Shs.	Funds Repaid-Shs.
1	210	2	210	210
2	210	2	111.5	111.5
4	210	2	210	210
10	315	3	315	85
11	420	4	420	420
12	210	2	210	210
13	315	3	315	315
15	315	3	315	315
16	315	3	215	315
17	210	2	210	50
21	315	3	315	315
22	420	4	420	420
23	210	2	210	210
24	210	2	210	100
25	210	2	210	210
26	420	4	420	420
27	210	2	210	210
28	420	4	420	300
29	315	3	315	315
30	315	3	315	315
31	210	2	210	210
32	315	3	315	195
33	420	4	420	420
34	420	4	420	420
35	420	4	268	-
36	210	2	210	210
37	210	2	210	210
38	210	2	210	-
39	420	4	420	250
40	420	4	420	420
41	210	2	210	210
42	315	3	315	315
43	210	2	210	210
44	210	2	193.25	193.25
45	315	3	315	315
46	315	3	314.65	40
47	315	3	210	160
48	210	2	210	210
52	210	2	210	210
53	315	3	315	315
54	210	2	210	210
55	210	2	157	-
56	210	2	110	-
57	420	4	199.2	199.2
58	210	2	210	180
59	210	2	210	210
60	420	4	420	420
61	210	2	210	210
62	420	4	420	-
63	210	2	210	190
64	420	4	420	420
65	210	2	420	420

1971 Loan Number	Authorized Outlay-Shs.	Authorized Acreage	Funds Drawn-Shs.	Funds Repaid-Shs.
66	210	2	210	210
67	210	2	210	-
68	210	2	210	210
69	210	2	210	210
71	210	2	210	210
72	315	3	315	315
73	420	4	403.2	403.2
74	420	4	338.15	338.15
75	315	3	315	200
76	315	3	315	-

Table II

1972 Smallholder Credit Program
Loan Data on Individual Recipients

1972 Loan Number	Authorized Outlay-Shs.	Total Farm Size - Acres	Authorized Acreage	Funds Drawn -Shs.
1	315	8	3	133
2	315	6	3	314.10
3	210	7	2	102
4	315	5	3	-
5	210	3	2	104
6	315	6	3	-
7	210	8	2	92
8	210	8	2	210
9	315	7	3	292
10	210	3	2	210
11	420	8	4	194
12	315	8	3	315
13	210	3.2	2	210
14	210	2.75	2	206.4
15	210	3	2	-
16	315	11	3	315
17	315	4	3	315
18	315	4	3	139.75
19	210	4	2	85.50
20	210	-	2	187.5
21	420	7	4	-
22	315	5	3	315
23	315	5	3	-
24	210	4	2	181.2
25	420	10	4	196
26	210	10	2	-
27	420	10	4	362.4
28	210	7	2	210
29	420	7	4	-
30	315	6	3	252.8
31	210	6	2	176.7
32	210	3	2	98
33	210	3.5	2	-
34	420	14	4	420
35	420	8	4	420
36	315	-	3	315
37	315	10	3	214.8
38	210	4	2	210
39	210	3	2	197.25
40	210	8	2	181.2
41	210	4	2	197.25
42	210	5	2	-
43	420	-	4	-
44	210	5	2	-
45	315	5	3	271.80
46	210	5	2	195.10
47	315	6	3	-
48	210	5.5	2	118.00
49	420	16.7	4	-
50	210	4	2	195.10
51	315	6	3	-
52	315	8.5	3	214.80
53	420	7.0	4	-
54	210	6	2	-
55	315	8	3	315.00
56	420	10	4	196.00
57	210	5	2	-
58	315	7.8	3	294.00
59	210	3.5	2	-
60	210	6	2	-

1972 Loan Number	Authorized Outlay-Shs.	Total Farm Size - Acres	Authorized Acreage	Funds Drawn - Shs.
61	210	6	2	-
62	315	8	3	303.50
63	420	10	4	-
64	210	10	2	108.50
65	210	6	2	-
66	210	5.5	2	210
67	210	3.5	2	-
68	420	8.8	4	415
69	210	4	2	210
70	315	7	3	248
71	210	6	2	210
72	210	18	2	210
73	210	3	2	210
74	210	3	2	210
75	210	4	2	210
76	210	5.5	2	210
77	420	8	4	415
78	210	3	2	207
79	210	5	2	208
80	210	3	2	210
81	210	4	2	208
82	315	4	3	294
83	210	4	2	106
84	420	12	4	-
85	210	6	2	198
86	210	6	2	208
87	210	5.4	2	198
88	210	4	2	210
89	210	4	2	207.50
90	210	6	2	209.45
91	315	5	3	315
92	420	10.9	4	396
93	210	5	2	210
94	420	22	4	0
95	210	4	2	210
96	210	5	2	-
97	315	9	3	312
98	210	45	2	-
99	210	5	2	208
100	210	4	2	208
101	210	4	2	198
102	210	4	2	210
103	210	5	2	210
104	420	14.8	4	244.9
105	315	4.2	3	315
106	210	5	2	210
107	420	12	4	420
108	210	4	2	208
109	420	-	4	420
110	210	4	2	210
111	210	6.6	2	181.2
112	210	4	2	-
113	210	7	2	-
114	210	2.5	2	197.25
115	210	5	2	-
116	210	8	2	-
117	210	4	2	118
118	420	10	4	362.4
119	315	7	3	214.8
120	420	9	4	362.4
121	420	-	4	420
122	420	9	4	420
123	315	5	3	315
124	210	4	2	206.5
125	210	5	2	181.2
126	210	6	2	181.2
127	210	4	2	

1972 Loan Number	Authorized Outlay-Shs.	Total Farm Size - Acres	Authorized Acreage	Funds Drawn - Shs.
128	210	4	2	108.5
129	420	20	4	-
120	210	6	2	98
131	210	3	2	209.5
132	210	4	2	104
133	210	4	2	210
134	210	4.5	2	193.5
135	315	4	3	315
136	210	7	2	104
137	210	4	2	104
138	315	6	3	177
139	210	4	2	210
140	210	6	2	210
141	420	6	2	415
142	315	4	3	311.25
143	210	6	2	118
144	210	5	2	210
145	210	5	2	209.75
146	210	4	2	210
147	210	5	2	104
148	210	8.6	2	198
149	210	3	2	103.10
150	210	2	2	-
151	210	3	2	104
152	210	4	2	210
153	210	4	2	208
154	210	5	2	210
155	210	3	2	-
156	210	4	2	208
157	210	5	2	210
158	420	8	4	212
159	210	7.8	2	-
160	210	4	2	208
161	210	7	2	-
162	315	5	3	312
163	210	2	2	210
164	210	3	2	210
165	210	3	2	210
166	210	5	2	210
167	210	4	2	208
168	210	3.5	2	208
169	210	4	2	210
170	210	4	2	208
171	210	9	2	210
172	210	3	2	210
173	315	4	3	315
174	210	7	2	208
175	210	4	2	210
176	210	3	2	208
177	210	2.5	2	106
178	210	4	2	208
179	210	2.5	2	208
180	210	3	2	-
181	210	6	2	208
182	210	3	2	208
183	210	7.5	2	210
184	210	4	2	208
185	210	3.5	2	208
186	210	4	2	196
187	210	4	2	210
188	210	3	2	-
189	210	7.5	2	210
190	420	10	4	420
191	315	6	3	265.05

1972 Loan Number	Authorized Outlay-Shs.	Total Farm Size - Acres	Authorized Acreage	Funds Drawn - Shs.
192	315	5	3	289.8
193	210	8	2	193.2
194	420	9	4	420
195	315	3	3	265.05
196	315	5.5	3	265.05
197	210	3.5	2	210
198	210	3.5	2	193.2
199	210	3	2	210
200	210	4	2	176.7
201	210	5	2	193.2
202	210	3	2	176.7
203	210	3	2	209.5
204	210	4	2	193.2
205	420	6	4	353.4
206	420	7	4	386.4
207	210	5	2	194.2
208	420	6	4	386.4
209	210	8	2	-
210	315	5	3	303.5
211	210	3	2	k18
212	420	6.5	4	420
213	210	8	2	196
214	210	6	2	208
215	210	3	2	209.5
216	315	3	3	315
217	210	6	2	176.7
218	210	3	2	193.2
219	210	3	2	-
220	210	9	2	210
221	210	3	2	101
222	315	4	3	289.8
223	315	5	3	-
224	315	6	3	315
225	210	2.8	2	210
226	210	9	2	193.2
227	210	8	2	209.5
228	210	7	2	186.5
229	210	3	2	-
230	420	6	4	420
231	315	7	3	313.65
232	420	5	4	353.4
233	420	10	4	387.4
234	210	3	2	176.7
235	210	2.5	2	210
236	210	1.9	2	209.5
237	315	4	3	-
238	210	5	2	210
239	315	7	3	314.25
240	420	6	4	353.4
241	210	5	2	193.2
242	315	8	3	289.8
243	315	5.5	3	314.25
244	210	3.5	2	176.7
245	420	12	4	415
246	210	4	2	176.7
247	210	4	2	176.7
248	420	8	4	415
249	210	4.5	2	101
250	210	-	2	210
251	210	10.5	2	176.7
252	210	9	2	143.2
253	315	10	3	292.4
254	210	4	2	197.25

1972 Loan Number	Authorized Outlay-Shs.	Total Farm Size - Acres	Authorized Acreage	Funda Drawn - Shs.
255	210	7	2	181.2
256	420	9.5	4	409.75
257	210	5	2	197.25
258	420	10	4	-
259	315	7	3	303.5
260	210	6	2	197.25
261	420	6	4	353.4
262	315	5	3	265.05
263	420	9	4	353.4
264	315	8	3	-
265	210	5	2	-
266	210	4	2	210
267	420	11	4	353.4
268	210	9	2	181.2
269	315	5.5	3	147
270	315	15	3	66.70
271	210	5	2	-
272	210	5	2	-
273	315	6	3	-
274	420	20	4	420
275	210	3.5	2	210
276	210	3.5	2	193
277	210	5	2	-
278	420	16	4	420
279	210	3	2	193.5
280	420	13	4	409.75
281	210	3	2	164
282	210	4.7	2	-
283	210	3	2	118
284	210	8	2	208.5
285	210	9.5	2	210
286	210	8	2	181.2
287	210	5	2	194.7
288	210	5	2	197.25
289	210	5	2	181.2
290	420	7	4	420
291	315	6	3	315
292	315	4	3	303.5
293	210	5	2	210
294	315	7.5	3	307.5
295	210	3	2	-
296	210	4	2	104
297	315	7	3	214.8
298	315	7	3	156
299	420	2.4	4	-
300	210	4.5	2	104
301	315	6.5	3	156
302	210	4.5	2	104
303	210	4	2	104
304	315	7.5	3	-
305	210	3	2	104
306	420	7.2	4	208
307	315	7	3	315
308	315	5	3	315
309	420	-	4	208
310	315	6.5	3	307.35
311	210	4	2	210
312	210	5	2	210
313	210	5	2	104
314	210	5	2	210
315	210	3	2	207.5
316	210	4	2	198

1972 Loan Number	Authorized Outlay-Shs.	Total Farm Size - Acres	Authorized Acreage	Funds Drawn - Shs.
317	420	6	4	420
318	315	[illegible]	3	312
319	315	9	3	315
320	210	5	2	106
321	210	3	2	198
322	420	5	4	420
323	315	6	3	315
324	210	5	2	118
325	420	11	4	236
326	210	6	2	118
327	210	6	2	210
328	210	3	2	210
329	315	4	3	156
330	210	9	2	210
331	210	5	2	308
332	210	4.5	2	187
333	210	7.4	2	210
334	210	6	2	210
335	210	5	2	85
336	210	6	2	102
337	210	9	2	168
338	210	5.5	2	-
339	210	10	2	-
340	210	7	2	210
341	315	15	3	315
342	210	8	2	194
343	210	5	2	102
344	210	6	2	148
345	315	8	3	-
346	315	12	3	277
347	315	7	3	315
348	210	[illegible]	2	[illegible]
349	210	3	3	210
350	210	3.5	2	210
351	210	5	2	104
352	210	6.5	2	210
353	210	4	2	102
354	210	7	2	104
355	210	6	2	104
356	210	4	2	104
357	210	5	2	210
358	210	4	2	-
359	210	-	2	122
360	210	9	2	210
361	210	8	2	176.7
362	210	6	2	101
363	210	4.5	2	159.7
364	210	6	2	193.2
365	210	-	2	143.2
366	210	4	2	193.2
367	210	-	2	193.2
368	210	4	2	210
369	210	4	2	210
370	210	7	2	-
371	210	7	2	-
372	210	5	2	210
373	210	8	2	118
374	210	8	2	210
375	210	6	2	209.75
376	420	10	4	420
377	210	3.5	2	-
378	210	15	2	209.75

1972 Loan Number	Authorized Outlay-Shs.	Total Farm Size - Acres	Authorized Acreage	Funds Drawn - Shs.
379	315	9	3	315
380	420	6	4	411
381	210	4	2	205.5
382	210	5	2	210
383	315	6	3	315

Appendix II

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