Finafrica Bulletin

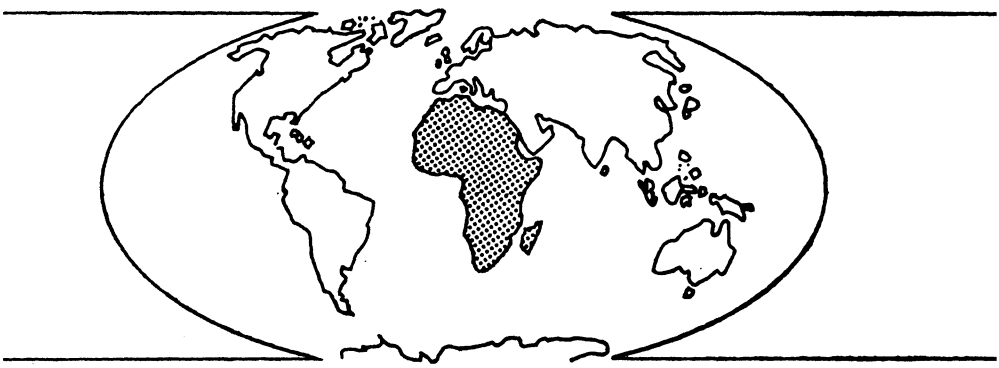


CASSA DI RISPARMIO DELLE PROVINCIE LOMBARDE

2 - 1975 - II

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 10:58:58 UTC
All use subject to https://about.jstor.org/terms

Finafrica Bulletin



CASSA DI RISPARMIO DELLE PROVINCIE LOMBARDE

2 - 1975 - II

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 10:58:58 UTC
All use subject to https://about.jstor.org/terms

BOARD OF EDITORS **CONSEIL DE REDACTION**

MANAGING EDITOR DIRECTEUR

Arnaldo Mauri
(Università di Milano)

Francesco Arcucci (Università di Parma), Sergio Bortolani (Università di Urbino), Paolo Mottura (Università di Parma), Roberto Ruozi (Università « L. Bocconi »)

ASSISTANT EDITOR ASSISTANT DE REDACTION

Mario Masini
(Università di Genova)

Contents

THE ROLE OF CREDIT IN FARM DEVELOPMENT: FIELD WORK CARRIED OUT IN ZAMBIA IN 1967-69 AND 1974 *by Richard A.J. Roberts* 39

MONEY AND CREDIT IN AFRICA 66

ITALIAN SURVEY 69

AFRICAN SURVEY 77

BOOK REVIEWS 82

Sommaire

LE ROLE DU CREDIT DANS LE DEVELOPPEMENT DE L'EXPLOITATION AGRICOLE: ETUDE EFFECTUEE DANS DEUX REGIONS DE LA ZAMBIE EN 1967-69 ET 1974 *par Richard A.J. Roberts* 64

MONNAIE ET CREDIT EN AFRIQUE 66

NOUVELLES ITALIENNES 69

NOUVELLES AFRICAINES 77

REVUE BIBLIOGRAPHIQUE 82

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 10:58:58 UTC
All use subject to https://about.jstor.org/terms

Finafrica Bulletin

THE ROLE OF CREDIT IN FARM DEVELOPMENT: field work carried out in Zambia in 1967-69 and 1974*.

1. Introduction

The research project on which this report is based was undertaken initially to examine the effects of major crop-price increases on the credit-related farm production decisions of a sample of farmers in two of the chief agricultural areas of Zambia, that is, Mumbwa and Katete (1).
In particular it provides:

a) Details of the farming development which has taken place over the five year period 1969-1974.
b) Information on the investment associated with this development.
c) The means by which the investment has been financed and, in particular, the role of institutional and non-institutional credit in farm investment.
d) An example of the feasibility and methodology of using farmer-borrower data to assist in formulating agricultural credit policies.

Data were collected in 1969 and 1974: the crop prices increases took place between these dates.
The main body of this report has been kept brief, in order that the results and conclusions can be easily and quickly read. Additional data and information are given in the appendixes, to which references are made at appropriate points.

2. Development during the period 1969 to 1974

The development that took place between 1969 and 1974 (2) in the sample of 178 small farmers is illustrated by the following figures:
Cultivated area: increased from 755 ha. to 966 ha. (+ 28 percent) an average increase per farm of 1.2 ha.
Annual farm production (1969-1973) (crops plus eggs, milk and poultry): in-

(*) Acknowledgement is made of the substantial assistance given in the project, of which this document is the report, by Dr. G. Forestieri, FINAFRICA, Milan (fieldwork and analysis) and Dr. J. E. Bessell, University of Nottingham (analysis).

(1) Details of related research and of the sample are given in Appendix 1, whilst Appendix 2 contains time-series data relating to farm gate prices for major agricultural commodities.

(2) The crop year in Zambia extends, approximately, from November/December (planting) until May/July (harvest). The years stated in this section, and elsewhere in this report refer to the year in which the harvest took place.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

creased from 891 tonnes, maize equivalent, to 1455 tonnes (+ 63 percent), an average increase per farm of 3.2 tonnes (3).
Gross annual farm income (1969-1973) (excluding changes in livestock valuations): increased from $ 38,313 to $ 89,276 (+ 133 percent), an average increase per farm of $ 286.
These aggregate and average figures hide the fact that, as is usual with these types of data concerning small farmers, the distribution of values is wide and is, moreover, skewed. More details of changes associated with the development summarized here are given in Appendixes 3 and 4.

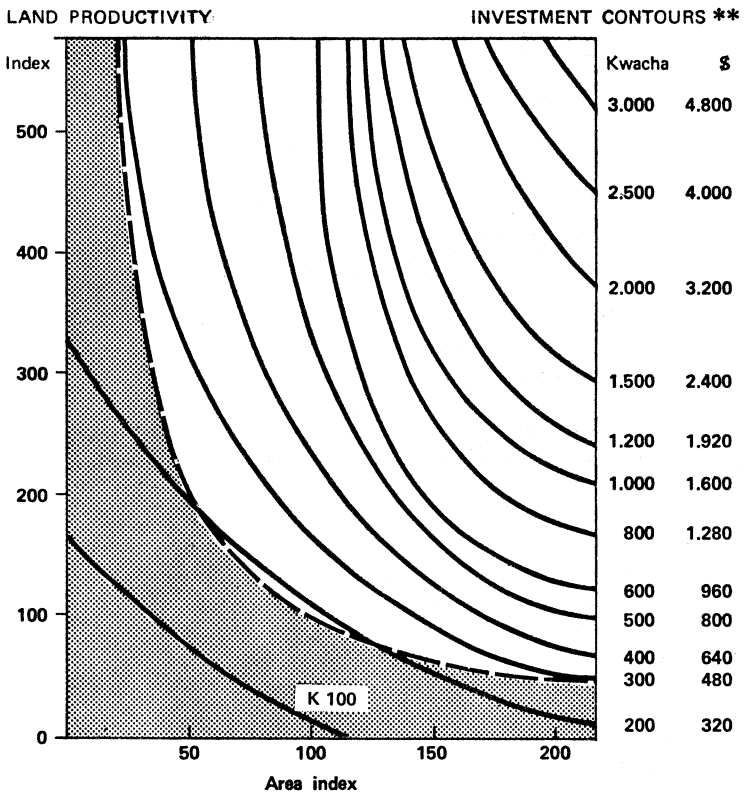
3. Investment associated with this development

Some of the factors making possible the increases noted above are illustrated by comparing the value of capital and seasonal items respectively, associated with this development.
Capital valuation: increased from $ 56,640 to $ 125,120 (+ 121 percent), an average per farm of $ 385.
Seasonal expenditure: increased from $ 6,675 to $ 13,497 (+ 102 percent), an average per farm of $ 38.
These are of course overall investment figures. The influence of investment on land productivity and area, in Mumbwa, is indicated in the chart, where investment contours are associated with indexes for land productivity (yield per unit area) and land area. In each case the 1969 situation is given by an index of 100.
Combinations of area and productivity falling within the shaded area in the chart constitute a fall in output in terms of 'maize equivalents'. Thus, a farmer investing only $ 320 had little chance of increasing output through investment unless he was extremely skilful. The steepness of the contours for land productivity index values higher than about 200 reflects the wide variation in productivity which is possible no matter what the investment, due to the differing farming environmental conditions and managerial capability of the farmers — mainly the latter. Table 1 (last column) shows that the farmers making no investment just failed, on the evidence of the average from aggregates, to maintain output levels on their land with a performance of 98 percent of that

(3) 'Maize equivalent' provides a means by which farm production is expressed in terms of the major crop, maize, by valuing each item in maize at 1969 farm gate prices. The figures given, therefore, indicate changes in real output.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

INVESTMENT CONTOURS ASSOCIATED WITH CHANGES IN AREA AND LAND PRODUCTIVITY (Mumbwa)*



* These data are presented in tabular form in Table A 19.

** The investment here relates to the increase in fixed farm capital over the five-year period plus the change in seasonal expenditure in the 1973/74 season compared with 1968/69.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE 1
AVERAGE AREA AND PRODUCTIVITY INDEXES FOR MUMBWA FARMERS, 1974
(1969 = 100)

Type of farmers	Number	Average Index Values		
		Area (A)	Land Productivity (P)	(A x P)
Farmers with mixed investment, no change in labour	45	132	224	296
Farmers hiring oxen or tractors only, no change in labour	34	108	122	132
Farmers with no investment, no change in labour	19	79	124	98

Note: Differences between means
Area: 132 and 108 t = 1.96 significantly different at P = 0.05
132 and 79 t = 3.91 significantly different at P = 0.001
108 and 79 t = 2.08 significantly different at P = 0.05
Productivity: differences are not statistically significant due to very large variances.

of five years ago. But there was wide variation amongst these farmers in both area and productivity changes, underlining the important role of the efficiency of the farmer. Returning to the chart, farmers maintaining their acreage tended not to invest more than $ 960. Farmers investing more than this did so not only to increase their productivity but their acreage also.

This chart shows that a certain threshold for investment existed, a threshold, in this case of K200 ($ 320), beyond which a farmer had to go if he was to have used his funds productively. This points to the need for 'back-up' or 'reinforcement' loans — but more of this later, when policy regarding the targetting of agricultural credit is discussed.

The investment pattern mentioned above is best shown in tabular form (see Table 2). Here the farmers are ranked in deciles on the basis of the size of their investment. With increasing investment levels the following changes take place with respect to investment in motive power.

Hire of motive power (low investment) ⟶ Oxen purchase (medium investment) ⟶ Tractor purchase (high investment)

The pattern in Table 2 also clearly indicates that some expenditure on seasonal inputs is typical of most of those who make motive power investments. In fact the final column of Table 1 shows the importance of investment in motive power being accompanied by expenditure on seasonal inputs. Thus

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

row 1, referring to farmers who make both types of investment, with an area yield index of 296, far outstrips row 2 (investment only in motive power) at 132, whilst, as already pointed out, those farmers who made no investment dipped below their 1969 performance with rating of 98.

What has been the change between 1969 and 1974 in investment? The big increase in capital value has been noted already. Of the total increase of $ 68460, $ 30256 is accounted for by cattle, a good part of which could have been caused by natural herd increases. But the balance represents cash investment in equipment and machinery. Investment in seasonal items shows one very striking feature, the very much greater popularity of expenditure on hybrid seed than on fertilizer. The figures are:

Hybrid seed: number of users increased from 17 to 63, total value of purchases from $ 1524 to $ 7456.

Fertilizer: number of users increased slightly from 26 to 32, whilst total value of purchase dipped from $ 2576 to $ 2288.

The financing of this expenditure is covered in the following section. Suffice it to say here that loans for the purchase of both hybrid seed and fertilizer were not easy to get, and that most of the investment in seed was financed from the farmers' own resources.

At high levels of development, under Zambian conditions, one would expect expenditure on fertilizer per unit area of maize to be between three and four times that on hybrid seed. Why then have the sample farmers spent so much more on seed than on fertilizer? In attempting to answer this one must realize that since credit was largely not available and farmers' own resources were limited, clear cut investment priorities had to be worked out. Apparently under local conditions the first priority went to hybrid seed. For a long time farmers in the area had been told by agriculturalists that in order to draw out the superior yield potential of hybrid as opposed to local seed, fertilizer must be used. But the farmers knew better. They realized, from the empirical evidence at their disposal, that local soils are sufficiently fertile to give hybrid seed a very big productivity advantage over local, unimproved seed, even without fertilizer. The important fact to note here is that investment priorities. in a limited-funds situation, were worked out by the farmers themselves and were contrary to 'expert' advice.

The situation with respect to investment in motive power is similar in that no hard and fast rules can be laid down for the manner in which farmers should

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE 2
INVESTMENT PATTERN - MUMBWA GROUP

Group (1)	Typical investment in:			
	Machinery & equipment $	Oxen Number	Hire of tractor or oxen	Hybrid or improved seed
1	4960	—	—	yes
2	1410	—	—	yes
3	370	1	—	yes
4	160	1	—	yes
5	70	1	—	yes
6	25	1	yes	yes
7	2	2	yes	yes
8	—	—	yes	yes

(1) The 80 farmers are ranked into group of ten farmers each. The ranking is based on farm investment in the 1969/74 period.

invest, beyond noting that a general pattern exists. This pattern, already evident from Table 2, means that at the lowest levels of investment farmers only hire, then, with increasing levels, move into ownership of oxen, ox implements and, at higher levels, still, into ownership of tractors and related equipment. This graduation is not surprising. What is important is the variety of motive power investments. Farmers, when investing their own funds, direct them very much according to their personal circumstances — farm managerial ability (in this case, ability to make profitable use of the investment) and mechanical knowledge.

Considerable evidence that farmers are making rational motive power investment is afforded by a comparison of tractor ownership in 1969 and 1974 (See Appendix 5 and, in particular, Table A15). First, the current value of tractors in use has increased markedly, from an average of $ 1200 in 1969 to $ 2080 in 1974. Second, the average value of implements for use with these tractors has increased from $ 480 to $ 880 per machine. Some of the increases in value are due to the influence of the increased cost of new machinery, but it is considered that this influence is less important than the fact that the higher values in 1974 reflect real physical improvements in the quality and hence reliability of tractors, and in the number and range of implements with which the tractors are associated.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

These changes were badly needed. As in other developing countries, many farmers rushed prematurely into tractor ownership in Zambia. Their farm managerial ability was frequently too poor to utilize the machines effectively and their mechanical knowledge insufficient to operate them without considerable trouble. Compounding these problems, the farmers' slim financial resources frequently meant that machines purchased were old and nearly worn out.

But in the last five years a process of consolidation has taken place in that those who were tractor owners in 1969 have nearly all purchased better machines. The fact that surprisingly few additional farmers have bought tractors means that a very healthy wariness has been introduced into the scene.

Thus, as with expenditure in seasonal inputs, farmers investing in machinery do so in accordance with their personal circumstances and abilities, circumstances and abilities which they are in the best position to assess. None of the sample formed part of a settlement scheme or other project in which investment was closely scheduled. Nevertheless the farmers have achieved an impressive rate of development, indicating the basic soundness of their investment decisions.

4. Financing the investment

The previous sections have indicated that considerable sums of money are being invested in farming. Over the whole sample since 1969 the capital value of farms has risen by some $ 68500. Some of this is of course due to natural increases in cattle numbers, but actual cash investment remains large. In addition to this, for the 1973/74 cropping year, $ 9758 or $ 55 per farmer, was invested in fertilizer and seed, and a further $ 3739 or $ 21 per farmer in the hire of motive power. How have these transactions been financed?

Table 3 shows that very little of the investment in capital items since 1969 has in fact been financed by credit. This could be a result of the current Agricultural Finance Company policy of placing severe limitations on the extension of medium-term loans. In fact, as noted on the table, a sizeable proportion of the credit for the purchase of capital items was accounted for by one private loan. Table 4 indicates that the financing of seed and fertilizer purchase by loans is very much more important. The total amount of credit for these purposes has increased, but less rapidly than total expenditure on these items, with the consequence that the proportion of seasonal expenditure

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE 3

FINANCING THE PURCHASE OF FARM CAPITAL ITEMS - MUMBWA AND KATETE

Purchase	Value of capital items ($)		Incremental Value ($)	Proportion of increment financed by credit %
	1969	1974		
Cattle (1)	35584	65840	30256	—
Ox implements	3331	5066	1734	3
Tractors & tractor implements	15304	41594	26290	10 (2)
Miscellaneous equipment	2501	12681	10180	1
Total	56720	125180	68461	2.8

(1) Some increase in value has of course resulted from natural increases in stock numbers.

(2) Of the total $ 2733 credit for these purchases, $ 1453 was accounted for by one private loan. This was the only example of non-institutional lending reported from the sample.

TABLE 4

FINANCING SEASONAL INPUTS - MUMBWA AND KATETE

Items	1969		1974	
	Total expenditure $	Credit %	Total expenditure $	Credit %
Seed	1525	33.5	7470	9.2
Fertilizer	2576	30.7	2288	55.0
Hire of motive power	2574	2.2	3739	—
Total	6675	20.8	13498	14.4

financed by loans has fallen over the five-year period from 21 to 14 per cent. Since credit both institutional and non-institutional has been relatively meagre, then clearly self-financing has been of vital importance in the investment programme leading to the development outlined at the start of this report. In view of the very small part played by credit, two questions are pertinent:

— How does the amount of credit received by farmers compare with that for which they applied?

— What would be the likely direction of credit-financed investment, that is, would the availability of loans alter the size or direction of farm investment?

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

(i) Loans approved versus loans applied:

Two five-year periods are compared when examining this, i.e., 1965/69 and 1970/74. The figures are as follows:

1965/69: 197 loan applications for a total of $ 52571, of which 113 were granted, totalling $ 23806.

1970/74: 55 loan applications for a total of $ 24985, of which 33 were granted for a total of $ 7142.
(For details see Appendix 6).

Probably the chief reason for the very much smaller scale of credit in the latter time period is the fact that the Agricultural Finance Company has, in recent years, operated on a much tougher policy on loans than was hitherto the case. This new policy line was well known and contributed to the very much smaller 'applied' figures for the 1970/74 period. Many farmers have recently felt that it is a waste of time and effort to apply for credit.

(ii) Interactions between credit availability and investment patterns:

The investment pattern under conditions where self-financing is of great importance has been outlined above. When credit, or more credit is made available then the following possibilities exist:

a) The farmer reinforces his existing investment pattern, that is, he buys more of the inputs or equipment which already form part of his farming programme.

b) He moves into new fields of investment. He may be prepared to do this with credit, but not with his own money because of uncertainties concerning the productivity and profitability under his management, and in his personal circumstances, of what for him are new techniques or inputs.

c) There may be a combination of a) and b), that is the new credit financed investment pattern may be partly a reinforcement of previous investment and partly an excursion into new fields.

Clearly the nearer the new investment pattern is to a) the more satisfactory for the lender, for the investment is more likely to be profitable and the loan repaid. For the same reason the borrower too is more likely to benefit, for previous research in Zambia has shown that unless very intensive extension assistance is given, then credit is an unsatisfactory means for introducing

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

farmers to what for them are new inputs (4). This is because credit availability has all too often meant that the farmer/borrower starts using a new input or technique on too large a scale for his current managerial ability. Reliance on self-finance at this initial stage generally means a more prudent size of investment at the initial stages with a consequently lighter managerial load. As experience is gained and managerial ability improves then farmers become able to operate the new technology on a larger scale, involving sums of investment money such that credit will be required.

On the basis of the foregoing it is possible to set down a likely trend for credit demand should loans become more readily available.

The popularity of investment in hybrid seed and machinery is clear from the data given above. One would expect demand for loans for investment in these areas. The position regarding the third big investment possibility, that is, fertilizer, is not quite so straightforward. As stated above, farmers have found that investing a Kwacha in hybrid seed is more worthwhile than investing it in fertilizer. Nevertheless fertilizer does have clear investment potential as higher levels of investment are contemplated (as would be the case if seasonal credit became readily available). The present situation is that only 32 out of 178 farmers purchased fertilizer in the 1973/74 crop season. All but 5 of these 32 used less than what would be regarded generally as a minimum application, indeed many apply between five and ten percent of this minimum amount. An examination of farmers' cash savings levels (see Appendix 7 and, in particular, Roberts, *op. cit.*, pp. 173-191) indicates that these funds, whilst sufficient to enable a modest amount of farm investment to take place, cannot be relied upon to finance the developing managerial potential of the farmers whilst still maintaining necessary funds for contingency expenditure. Therefore, when available, credit can best be targetted in such a way as to reinforce or back-up farmers who have already begun investing in given inputs and who, moreover, have become sufficiently experienced to handle these inputs on a scale beyond that permitted by their own financial resources. In the case of Mumbwa and Katete the specific result of this policy would be to make loans for seed, for machinery and, above all, for fertilizer, depending, in each case, on the experience of the borrower.

(4) R.A.J. Roberts (1972) *The role of money in the development of farming in the Mumbwa and Katete areas of Zambia*. University of Nottingham, Farm Management Bulletin No. 1, pp. 220-228, 242-244.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

5. Conclusions and recommendations

5.1. Agricultural Credit Policy:

A basic theme which is very apparent from the previous sections is that a great deal of very successful development has taken place based on investments decided upon by farmers themselves. Extension advice has been available, but this has not been accepted uncritically by farmers, that is they have not used standard packages of inputs or followed standard investment policies. Rather there has been a recognition on the part of farmers that circumstances of land availability, labour supply and, perhaps above all, of managerial ability differ widely, thus necessitating an individual investment pattern with which an optimal level of production can be achieved by the farmer on his farm. In practically every case the farmer/borrower is in a better position than any other person to formulate this investment pattern (5). This observation suggests a policy which is completely opposite to that currently in force in most developing countries of Africa and elsewhere. Present policy is that the lending institution sets standard packages of inputs. Borrowers are expected to follow these standard sets of inputs regardless of the very wide range of managerial ability and other differences in personal circumstances which are involved. The Zambian data show clearly that farmers are well able to achieve very satisfactory rates of development in conditions where they have the opportunity to obtain good inputs, to have satisfactory markets and where above all, they are responsible for their own investment decisions, using of course the best advice they can obtain, but advice which is strictly advisory, not authoritative.

In concrete terms, then, the policy now being suggested is as follows: credit institutions should not seek to establish standard packages which would then form the basis for any lending programme, rather they should set out *to understand as much as possible about the farming situation already existing in the area in which they wish to lend, and, having done that, seek to reinforce farmers' own investment operations.* Thus, a farmer who is already using hybrid maize seed and a small amount of fertilizer, bought under his own

(5) Virtually the only exception is the farmer/borrower on a settlement scheme where there is very intense supervision by highly able extension staff. There are few farmers in these circumstances in developing countries.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

resources, could be enabled to put the whole of his maize area in hybrid seed, together with a satisfactory level of fertilizer input, if this is what he requires. Similarly, a man who has already made a success of tractor ownership could be enabled to purchase more machinery to go with the tractor, to enable it to be used even more effectively.

This study set out to examine the effects of the big change in crop prices which took place in the 1970/71 period. The results indicate that, even for small farmers, prices are major economic signals. When these signals are right then farmers in this sector make farm production decisions, including decisions on investment, accordingly. It is the role of the credit institution to support farmers' own investment plans, when these are clearly sound, rather than to attempt to force investment along lines which farmers themselves know to be unsuitable for them. *Neither credit institutions, nor those directing their policies, are as well placed as the farmer to make a decision on his individual investment strategy.*

The substantial overall increase in area was due chiefly to 57 and 59 farmers in Mumbwa and Katete respectively. Table A4 shows clearly that these farmers accounted, in 1974 and in both areas, for more than 80 per cent of the total cultivated area. This is hardly surprising, for the rural areas of Zambia contain many elderly people, or people in wage employment, who either do not wish to increase their farm production or who are not able to do so. *There is no reason therefore for development strategies aimed at increasing farm production to attempt to directly involve all rural people.*

5.2. Demand for agricultural credit:

This is basically dependent on profitable investment opportunities in farming, but this study has also shown the importance of distinguishing between visible demand for loans and invisible or latent demand. In Mumbwa and Katete the visible demand for credit dropped after 1970 quite significantly, at the same time as profitable investment opportunities were growing. In other words, there was a large latent credit demand because many farmers did not feel that there was any likelihood of getting loans.

Thus it is important to note that loan demand cannot be gauged from actual applications. In certain circumstances the latent demand may be considerable.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

5.3. Efficiency, and when to lend:

The Zambian data indicate a pattern in the response to favourable price signals. First there is a well-defined tendency to increase the efficiency with which current factors of production are used. Once this has been done then investment is undertaken, with farmers using their own financial resources. There is reason to believe that farmers are less anxious to improve their farming efficiency and standard of husbandry as a prelude to credit financed investment than they are when investment is self-financed. Yet there are clearly advantages in encouraging farmers to improve their efficiency before undertaking the increased managerial task which farm investment inevitably brings. *Credit institutions can best ensure that their farmer/clients are making the most of opportunities to increase production through increases in efficiency by issuing loans which permit farmers to further the developmental activities upon which they have already embarked.*

Richard A.J. Roberts

APPENDIX 1

Related research and changes in the sample

The project of Food and Agriculture Organization of the United Nations and Cassa di Risparmio delle Provincie Lombarde (the FAO/CARIPLO project) depended heavily on research the Universities of Nottingham and Zambia Agricultural Labour Productivity Investigation (UNZALPI) carried out in the period commencing 1966. Field data of a very comprehensive nature were collected between this date and 1969 from a sample of farmers in the Mumbwa and Katete areas of Zambia. The FAO/CARIPLO project collected data from these same farmers. In 1970/71 major crop-price increases for the main agricultural commodities were introduced by the Zambia Government. Thus data exist for the same group of farmers both before and after the price changes. The data relate to:

— crop areas
— cropping technology, including the use of improved inputs
— investment in farm capital items
— use of farm credit
— crop sales
— family composition.

The original (1966) UNZALPI sample contained approximately 160 and 140 farmers in Mumbwa and Katete respectively. The Katete sub-sample was randomly drawn, whilst that in Mumbwa (an area with much variation in farm type) was purposive. During

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE A 1

REASON FOR LEAVING SAMPLE BETWEEN OCTOBER 1969 AND JANUARY 1974

Reason	Number of farmers		
	Mumbwa	Katete	Total
Death or serious illness on part of family head	13	18	31
Moved to other rural areas for:			
— better farming or markets	6	—	6
— social reasons	8 (1)	5	13
— employment	1	—	1
Moved to urban area for:			
— social reasons	3	1	4
— employment	2	4	6
Totals	33	28	61

(1) Four of these were from one village where the death of the headman caused a partial break-up of that village.

the period 1966-1969 the sample became reduced, either by emigration or by death of the head of the household. The final UNZALPI analyses related to 239 farmers, 135 in Mumbwa and 104 in Katete. The reasons for the changes between this (1969) sample and that of the FAO/CARIPLO project are summarized in Table A1. The FAO/CARIPLO sample contained 178 farmers. An interesting feature of the data presented in Table A1 is the relatively small number of heads of households who have moved to urban areas.

APPENDIX 2

Input/output price changes

The prices received by farmers for major crops over the period 1969-74 are set out below in Table A2. The price increases for maize were by far the most significant, both because of the magnitude of the increase (especially in Katete where the farm-gate price nearly doubled) and because maize was the most important crop grown in both areas, even before the price increased.

Prices for seasonal inputs (fertilizer and seed) showed little change between 1969 and 1974, although fertilizer price levels dropped in the 1970-71 period due to the application of a temporary subsidy. On the other hand, the price of farm machinery has risen substantially over the period, so that the more common are now (1974) 30-50% more expensive than they were in 1969.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE A 2

PRICES RECEIVED BY FARMERS FOR FARM PRODUCE 1969/1974

Item	Area	1969	1970	1971	1972	1973	1974
Maize	Mumbwa	3.1	3.8	4.4	4.8	4.8	4.8
	Katete	2.4	3.0	3.6	3.9	4.4	4.4
Groundnuts	Mumbwa	11.5	11.5	12.8	12.8	15.8	20.5
	Katete	9.8	11.2	12.8	12.8	15.0	20.5
Cotton	Mumbwa	15.4	16.5	17.6	17.6	17.7	18.0
	Katete	12.1	13.2	14.7	16.0	16.0	18.0
Sorghum	Mumbwa	5.2	5.2	5.2	5.2	5.2	5.6
Tobacco (Barley)	Katete	50.6	51.7	56.1	57.6	56.8	88.0
Beans	Katete	8.8	12.0	12.8	12.8	12.8	12.8
Milk (ngwee per gallon)	Mumbwa	37.0	38.2	39.4	44.4	44.4	44.4
	Katete	37.0	38.2	39.4	44.4	44.4	44.4
Eggs (ngwee dozen)	Mumbwa	35	35	35	37	38	42
	Katete	30	30	33	35	40	48
Chickens (ngwee/bird)	Mumbwa	100	100	120	150	150	180
	Katete	80	80	100	100	100	120

Notes

- These prices are those received at the markets most commonly utilised by sample farmers in Mumbwa and Katete respectively.
- Whilst every effort has been made to ensure the accuracy of the information given in this table, no guarantee can be given that all entries are correct. Its inclusion in this report is basically to illustrate the upward trend in farm gate prices for certain agricultural products, notably maize.
- Prices are quoted as ngwee per Kg., unless otherwise stated. One ngwee is equivalent to 1.6 US cents.

APPENDIX 3

Cultivated area and cropping pattern changes

There was an increase in area between 1969 and 1974 of 28 per cent. Detailed figures for Mumbwa and Katete are given in Table A3.

The changes in crop mix over the period 1969-74 have been marked in both areas. In Mumbwa maize has increased in area in absolute terms (see Table A5), but its share of the total has not increased significantly (see Table A6). On the other hand, groundnuts, sorghum and millets have all lost ground heavily to cotton and to the newcomer, sunflower. Most of the 13 growers of the latter crop were not yet convinced of its profitability; they were growing it on a trial basis, sometimes because they had been given the seeds. Tables A7 and A8 indicate that a large number of growers have started cotton cultivation since 1969. The picture is quite different in Katete. The virtual doubling of the maize price since 1969 has resulted in most farmers increasing

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE A 3

TOTAL CULTIVATED AREA

Farmers	1969			1974		
	Number of farmers	Total area ha.	Average area per farmer ha.	Total area ha.	Average area per farmer ha.	Change in area %
Mumbwa	102	572.3	5.6	697.3	6.8	+ 22%
Katete	76	182.9	2.4	268.6	3.5	+ 47%
Both	178	755.2	4.2	966.0	5.4	+ 28%

TABLE A 4

CULTIVATED AREA: INCREASES AND DECREASES

Items	MUMBWA						KATETE					
	No. of farmers	%	ha.		Share of total area %		No. of farmers	%	ha.		Share of total area %	
			1969	1974	1969	1974			1969	1974	1969	1974
Increases	57	55.9	394.0	565.2	68.8	81.1	59	77.6	1343.7	2298.7	73.4	85.6
Decreases	37	36.3	132.6	85.8	23.2	12.3	12	15.8	336.5	242.1	18.4	9.0
Not changed more than 5%	8	7.8	45.6	46.2	8.0	6.6	5	6.6	149.0	145.8	8.2	5.4

TABLE A 5

AREAS OF INDIVIDUAL CROPS (HECTARES)

Crops	MUMBWA		KATETE	
	1969	1974	1969	1974
Maize	405.1	517.0	127.2	243.6
Cotton	7.8	84.5	1.0	—
Groundnuts	57.9	37.6	37.2	19.6
Sorghum	61.2	26.3	—	—
Sunflower	—	22.8	—	—
Beans	5.3	2.9	10.2	0.7
Millets	31.8	2.8	—	—
Tobacco	—	—	2.1	4.4
Others	2.8	3.0	5.0	1.6
Total	571.9	696.9	182.7	269.9

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE A 6

CROP CHANGES (AREA PERCENTAGES OF TOTAL)

Crops	MUMBWA		KATETE	
	1969	1974	1969	1974
Maize	70.8	74.1	69.5	90.6
Cotton	1.4	12.1	0.4	—
Groundnuts	10.0	5.4	20.3	7.3
Sorghum	10.7	3.8	—	—
Sunflower	—	3.3	—	—
Beans	0.9	0.4	5.5	0.3
Millets	5.6	0.4	—	—
Tobacco	—	—	1.2	1.1
Others	0.5	0.4	2.8	0.6
Total	100	100	100	100

TABLE A 7

CROPS GROWN (FREQUENCIES OF FARMERS)

Crops	MUMBWA		KATETE	
	1969	1974	1969	1974
Maize	102	102	76	76
Cotton	3	31	3	—
Groundnuts	72	60	66	55
Sorghum	65	40	—	—
Sunflower	0	13	—	—
Beans	14	3	56	1 (1)
Millets	27	5	—	—
Tobacco	—	—	5	6
Others	17	14	30	6

(1) In recent seasons heavy snail damage to beans has reduced the popularity of this crop.

their area of this crop. In fact the increase in maize area accounts for most of the total increase in crop area and, in addition, has been at the expense of groundnuts, beans and cotton.

In both areas then the move has been to plant greater areas of those crops which are sold in the national market (maize, cotton, sunflower) rather than crops which are consumed at home or, when sold, are largely consumed locally (sorghum, millets, beans). The big decrease in bean acreage probably does not mean less protein in the diet since the livestock production data given in Appendix 4 show big increases in the consumption of animal protein.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE A 8

CROP CHANGES (FREQUENCIES OF FARMERS)

Crops	MUMBWA			KATETE		
	Number increasing area (1)	Number decreasing area (2)	Number same area (3)	Number increasing area (1)	Number decreasing area (2)	Number area same (3)
Maize	68	30	4	66	7	3
Cotton	31	—	—	—	3	—
Groundnuts	22	49	6	23	45	3
Sorghum	18	49	1	—	—	—
Sunflower	13	—	—	—	—	—
Beans	2	12	—	—	56	—
Tobacco	—	—	—	4	4	—
Millets	1	26	—	—	—	—

(1) Includes new growers.
(2) Includes farmers who no longer grow the crop.
(3) Includes those whose area changes were less than five per cent either way.

APPENDIX 4

Crop and livestock production changes

Fieldwork for the FAO/CARIPLO research project was carried out before the crops for the 1973/74 farming year had been harvested. Therefore crop production data for 1974 are not available. However, these data are given, in Tables A9 and A10, for the harvest years 1969-1973 inclusive.

TABLE A 9

CROP PRODUCTION 1969-1973, MUMBWA

Crops	1969		1970		1971		1972		1973	
	f (1)	Kg.	f	Kg.	f	Kg.	f	Kg.	f	Kg.
Maize	100	340497	94	586760	94	550370	96	820475	99	611320
Groundnuts	79	18317	51	10876	43	12900	42	7670	42	7325
Sorghum	52	16470	27	10590	29	11340	29	12255	26	13290
Cotton	2	5325	9	9960	16	21280	24	23799	25	16780
Beans	4	205	1	90	1	90	1	180	1	90
Millets	19	18606	2	909	—	—	1	270	1	90
Potatoes	35	1977	—	—	—	—	—	—	—	—

(1) The frequency (f) indicates the number of growers of this particular crop in the given year.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE A 10

CROP PRODUCTION 1969-1973, KATETE

Crops	1969		1970		1971		1972		1973	
	f	Kg.	f	Kg.	f	Kg.	f	Kg.	f	Kg.
Maize	74	130372	72	92834	73	131920	73	160636	73	176960
Groundnuts	69	21887	31	5860	36	9685	34	7850	37	5430
Tobacco	4	1069	3	1300	4	1817	7	3287	7	3760
Beans	29	2451	1	480	1	640	1	960	1	1280
Potatoes	33	3941	—	—	—	—	—	—	—	—
Cotton	3	1142	2	396	—	—	—	—	—	—

TABLE A 11

LIVESTOCK PRODUCTION

Items		MUMBWA		KATETE	
		1969	1974	1969	1974
Milk (litres)	consumed	700 (9) (1)	17300 (12)	50 (3)	900 (5)
	sold	3100 (2)	9200 (4)	—	100 (1)
Eggs (each)	consumed	900 (23)	6600 (44)	600 (38)	2200 (32)
	sold	20500 (15)	23000 (23)	100 (4)	700 (8)
Cattle	consumed	1 (1)	6 (2)	—	3 (1)
	sold (2)	5 (2)	8 (3)	—	2 (2)
Goats	consumed	2 (2)	—	17 (13)	44 (23)
	sold (2)	69 (14)	15 (6)	6 (4)	25 (11)
Pigs	consumed	—	—	27 (20)	75 (31)
	sold (2)	10 (2)	6 (2)	30 (18)	18 (14)
Poultry	consumed	260 (47)	1351 (61)	143 (45)	551 (48)
	sold (2)	129 (30)	1565 (56)	82 (22)	257 (24)

(1) Frequencies are given in brackets.
(2) Sales may be for consumption, for breeding or, in the case of cattle, for draught purposes.

In reading these time series data it should be remembered that in Zambian rainfed agriculture considerable production fluctuations occur due to seasonal differences in climate.

Alongside the spectacular increases in crop production there has been a corresponding increase in that of livestock. Particularly notable is the increase in quantities of livestock product consumed, reflecting an increase in the intake of animal protein. Details are given in Table A11 for 1969 and 1974.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

APPENDIX 5

Investment patterns

A Zambian farmer's non-human production capital consists of:

— capital items purchased for cash or for which there is a well-defined place in the cash economy, e.g., tractors, cattle, implements;

— working capital used for the purchase of seasonal inputs such as seed and fertilizer, and for the hire of motive power;

— land, which is rarely exchanged for money and, when this type of transaction does occur, the usufruct is 'bought' for a price based on the cost of hiring labour to clear the land of bush.

The data presented in this Appendix relate to the first two categories of capital, that is, 'cash-purchased' capital items and working capital. Details of these valuations are given in Tables A12 to A17.

Table A12 indicates that the bulk of the increase in the value of capital items in Katete is accounted for by cattle. Cattle are still important in Mumbwa, but, in value terms, less so than tractors and tractor implements. Table A13 shows that the increased value of cattle in Mumbwa is largely due to larger numbers of breeding stock. On the other hand in Katete there is a fairly even balance between the increased value of breeding and draught animals. This difference is understandable. The more progressive farmer in Katete relies on ox motive power. His counterpart in Mumbwa looks to tractors.

The UNZALPI study indicated that the peak time for labour was in the planting/weeding period. Thus it is not surprising (see Table A14) that Mumbwa farmers have invested relatively heavily in ox planters and ox cultivators. In Katete much greater quantities of crop produce are now being marketed; hence the investment in Scotch carts in that area (Table A14).

Two features of the process of tractorization in Mumbwa are immediately noticeable from the data given in Table A15. First, the current value of tractors in use has increased markedly, from an average of $ 1200 in 1969 to $ 2080 in 1974. Second, the average value of implements for use with each of these tractors has increased from $ 480 to $ 880. Some of the increases in value are due to the influence of the increased cost of new machinery, but it is considered that this influence is less important than the fact that the higher values in 1974 reflect physical improvements in the quality of tractors and the quantity of machinery associated with these. Nevertheless, it is likely that tractors could be used still more effectively if more

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE A 12

CHANGES IN CAPITAL VALUE BETWEEN 1969 AND 1974

Items	MUMBWA		KATETE	
	$	% of total change	$	% of total change
Cattle	+ 23216	38	+ 7040	85
Ox implements	+ 1314	2	+ 421	5
Tractors and tractor implements	+ 26370	44	— 80	—
Miscellaneous	+ 9365	16	+ 816	10
Total	+ 60265	100	+ 8357	100

TABLE A 13

CATTLE VALUATION

Items	MUMBWA				KATETE			
	No. of farmers		Dollars (1)		No. of farmers		Dollars (1)	
	1969	1974	1969	1974	1969	1974	1969	1974
Oxen	25	31	14400	18080	11	15	3328	6272
Bulls	6	9	2496	2112	3	6	544	1376
Cows	14	23	9920	27200	10	12	2944	5760
Young cattle (2)	10	18	1536	4176	6	10	416	864
Totals	26	33	28352	51568	15	20	7232	14272

(1) Values are estimates of present value. Standard values, based on recent transactions were taken. These were, in Dollars per animal:

Farmers	Ox	Bull	Cow	Young
Mumbwa	160	192	160	48
Katete	128	160	128	32

(2) These are defined as those which are not yet of breeding age.

Note: Some 'investment' is of course due to natural increases.

cultivators, planters and other implements were to be available. Table A15 indicates that only a small proportion of current tractor owners have these items.

The biggest increase in the value of miscellaneous items (Table A16) is in motor vehicles. As stated in a footnote to the table these vehicles are used for marketing

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE A 14

INVESTMENT IN OX IMPLEMENTS

Implements	MUMBWA				KATETE			
	No. of farmers		Dollars (1)		No. of farmers		Dollars (1)	
	1969	1974	1969	1974	1969	1974	1969	1974
Ox plough	31	29	474	533	15	15	312	309
Ox ridger	1	1	24	27	9	10	203	184
Scotch	10	14	1299	1317	3	5	384	835
Ox harrow	12	17	270	302	1	1	24	18
Ox wagon	1	—	—	—	2	2	6	5
Ox planter	1	9	24	872	—	—	—	—
Ox cultivator	16	22	310	664	—	—	—	—
Totals	32	32	2402	3715	16	17	929	1351

(1) Values are estimates of present values.

TABLE A 15

INVESTMENT IN TRACTORS AND TRACTOR IMPLEMENTS

Items	MUMBWA				KATETE			
	No. of farmers		Dollars (1)		No. of farmers		Dollars (1)	
	1969	1974	1969	1974	1969	1974	1969	1974
Tractors	9	14	10896	29200	1 (2)	—	80	—
Tractor ploughs	7	12	1779	5536	—	—	—	—
Tractor planters	1	5	480	992	—	—	—	—
Tractor cultivators	4	4	774	544	—	—	—	—
Tractor harrow	3	5	560	627	—	—	—	—
Trailers	5	6	734	4694	—	—	—	—
Totals	9	14	15223	41593	1	—	80	—

(1) Values are estimates of present values.

(2) This tractor, already in very poor condition in 1969, was completely non-operational in 1974 and virtually worthless.

farm produce, but their owners also use them for social and pleasure purposes. Two of the farmer/owners have two cars each, reflecting in part the relative unreliability of their vehicles. The increase in cotton spraying equipment is to be expected, given the entry of so many farmers into this activity (Table A7). Nevertheless, only 9 out of the 31 cotton growers own their own sprayer.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE A 16
INVESTMENT IN MISCELLANEOUS EQUIPMENT

Equipment	MUMBWA				KATETE			
	No. of farmers		Dollars [1]		No. of farmers		Dollars [1]	
	1969	1974	1969	1974	1969	1974	1969	1974
Station wagons [2]	—	3	—	7920	—	—	—	—
Motorbike	4	1	320	800	—	—	—	—
Cotton sprayer	3	9	61	475	—	—	—	—
Grinding mill engine	1	3	1120	893	1	1	640	1536
Maize sheller	—	1	—	480	1	—	80	—
Irrigation equipment	1	3	280	514	—	—	—	—
Scale	—	1	—	64	—	—	—	—
Totals	3	13	1781	11146	2	1	720	1536

(1) Values are estimates of present values.
(2) These vehicles are used for marketing purposes, especially for vegetables and, in one case, for eggs.

TABLE A 17
HIRE OF MOTIVE POWER: MUMBWA AND KATETE

Items	1969	1974
Number of farmers hiring	39	55
Value (Dollars)	2574	3739

TABLE A 18
INVESTMENT IN SEASONAL ITEMS (SEEDS AND FERTILIZER) [1]

Items	MUMBWA		KATETE	
	1969	1974	1969	1974
SEED				
No. of. farmers	16	48	1	15
Value (Dollars)	1515	6686	10	784
FERTILIZER				
No. of farmers	22	15	4	17
Value (Dollars)	1550	1195 [2]	1026	1093

(1) Expenditure on seed relates to improved types. The value of seed retained from previous local crops has not been included.
(2) This fall is partly due (as explained in the text) to investment in seed being more profitable, and partly to the fact that the price of fertilizer was subsidized in 1971 and then the subsidy was removed, resulting in a price rise of the order of 30 per cent. This action may have had the psychological effect of making farmers reluctant to invest in fertilizer since following the removal of the subsidy it appeared to be expensive.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE A 19

ASSOCIATION BETWEEN CHANGES IN AREA AND PRODUCTIVITY WITH MIXED INVESTMENT, FOR MUMBWA FARMERS, 1969 TO 1974
(Figures in body of table, Investment, $)

Area Index	Land Productivity Index				
	550	240	130	70	30
210	5120	1920	960	560	320
150	2720	1280	720	400	240
115	1440	800	480	288	176
100	960	560	400	192	128
50	640	400	240	160	80

Note: Regression analysis gives an explained variance (R^2) value of 68.55%. This rises to 76.15% if one highly atypical farm (1513) is excluded.

Hire of motive power involves expenditure of a seasonal nature, but unlike investment in seeds and fertilizer it is designed to increase the cultivated area rather than the yield per unit area. In Katete there is virtually no hiring for ploughing, though some share-type arrangements for the transport of harvested crops were observed. No data were collected on the latter type of transaction.

Table A17 gives the frequency of and expenditure on hire of motive power (usually tractor). Virtually all of this is for ploughing/planting purposes. The trend is clearly upwards, but the increase is not very significant, because hire of motive power is an investment typical of the smaller-scale farmer. Larger farmers have their own. Expenditure data on improved seed and fertilizer are given in Table A18.

APPENDIX 6

Credit demand - supply

Tables A20 and A21 set out the position with respect to loans applied and received in two 4-year periods. In Mumbwa in 1970/74, loans granted for fertilizer purchase were less than 30 percent of the demand (as measured by the 'applied' column). In fact, these data considerably understate the true demand position, because large numbers of farmers do not bother to apply because they believe that their applications will be unsuccessful. The substantial decrease in the total 'applied' credit for the second time period (1970/74) helps to substantiate this belief.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

TABLE A 20

AGRICULTURAL CREDIT - MUMBWA - DOLLARS (loan frequencies in brackets)

Items	1965/1969		1970/1974	
	Applied	Received	Applied	Received
Fertilizer	3030 (24)	1864 (10)	9178 (16)	2616 (6)
Seed	906 (6)	218 (2)	1595 (10)	1130 (7)
Hire-tractor	1123 (17)	458 (11)	813 (5)	77 (1)
Tractor purchase	18437 (12)	8421 (7)	9280 (3)	640 (1)
Machinery & tractor implements	4072 (5)	2392 (3)	1805 (4)	1165 (3)
Grinding mill	640 (1)	—	—	—
Ox-drawn implements	1382 (8)	573 (4)	48 (1)	48 (1)
Oxen	7142 (20)	1734 (6)	800 (2)	—
Chickens & chicken houses	7386 (6)	2586 (4)	—	—
Land clearance	256 (2)	—	—	—
Cotton package	—	—	24 (1)	24 (1)
Totals	44374	18246	23543	5700

TABLE A 21

AGRICULTURAL CREDIT - KATETE - DOLLARS (loan frequencies in brackets)

Items	1965/1969		1970/1974	
	Applied	Received	Applied	Received
Fertilizer	653 (4)	654 (4)	1100 (9)	1100 (9)
Seed	283 (12)	245 (11)	19 (1)	19 (1)
Hire-tractor	715 (15)	291 (10)	—	—
Grinding Mill	—	—	86 [1] (1)	86 [1] (1)
Ox-drawn implements	1694 (16)	1021 (9)	—	—
Oxen	2656 (15)	1696 (10)	—	—
Chickens & chicken houses	224 (2)	—	—	—
Land clearance	1187 (8)	870 (8)	—	—
Tobacco package	661 (10)	661 (10)	237 (2)	237 (2)
Cotton package	123 (4)	123 (4)	—	—
Totals	8196	5561	1442	1442

(1) Private borrowing.

Note: Similarities between amount applied for and amounts received are due chiefly to the fact that farmers in Katete, when applying, tend not to specify quantities, so that the amount received is, in effect, the amount 'demanded'.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

APPENDIX 7

Cash savings

A summary of farmers' cash savings in 1969 and 1974 is given in Table A22. In 1974 it was not possible to do as good a job of collecting these rather sensitive data as was done in 1969, when much more was known about the farmers' monetary transactions, and when time was available to visit and re-visit farmers many times, in order to ensure that the data collected were as accurate as possible. Hence there are a substantial number of gaps in the number for whom 1974 cash savings value exist. For this reason averages per respondent have been expressed in Table A22, rather than averages based on the whole sample.

Since there is no reason to believe that the sample has been biased by this procedure, the cash savings levels have increased significantly in dollar terms — 20 percent in Mumbwa and over 90 percent in Katete. However, assuming an inflation rate of, say, 4 percent per year, this only represents a significant real increase for the Katete area. On the other hand, the greatly increased level of farmer-financed investment in capital items over the 1969-1974 period must not be forgotten. In view of this, a stand-still on cash savings levels is not surprising. Since farming, and therefore farm investment, is much more attractive now (1974) than in 1969,farmers are probably keeping cash on hand only to the extent they consider necessary for contingency expenditure problems. Any surplus is invested in farm capital, or spent on consumer items.

TABLE A 22

CASH SAVINGS ON HAND

Items	MUMBWA		KATETE	
	1969	1974	1969	1974
Total savings ($)	21021	17989	5376	6158
Numbers reporting	102	66	76	46
Average per respondent ($)	205	256	70	134

LE ROLE DU CREDIT DANS LE DEVELOPPEMENT DE L'EXPLOITATION AGRICOLE:

étude effectuée dans deux régions de la Zambie en 1967-69 et 1974.

RESUME

Les résultats obtenus à l'occasion de deux sondages effectués en deux régions agricoles de la Zambie en 1969 et en 1974 ont fourni le matériel de base de cette étude.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms

L'échantillon examiné était formé par 178 petits agriculteurs et les renseignements recueillis ont tout spécialement intéressés les techniques des cultures et de production; les investissements liés à l'emploi de ces techniques; les investissements de financement utilisés, surtout en provenance de sources institutionnelles ou non.

La hausse des prix des produits agricoles de 1970-71 a fait elle-aussi l'objet d'analyse et notamment pour ce qui a trait à son incidence sur les trois variables indiquées.

Les renseignements ainsi recueillis se sont révélés utiles en vue de formuler une politique de crédit en faveur du secteur agricole.

Il est cependant bon de signaler les conclusions les plus importantes auxquelles l'on est parvenu. Elles concernent notamment:

1) Le rôle de la demande de crédit agricole. *Il a été prouvé que le fait d'ignorer le quota de demande latente peut sous-évaluer le besoin financier des petits agriculteurs.*

2) Les différents modèles de comportement des agriculteurs vis-à-vis des variations des prix, notamment en ce qui a trait aux investissements. *Il a été remarqué qu'il existe parmi les agriculteurs une tendance vers une meilleure rentabilité des investissements. Cet aspect était encore plus évident lorsqu'il s'agissait de ressources propres. Il en découle que les établissements de crédit doivent en tout premier lieu vérifier que les clients potentiels soient capables de tirer le maximum de leurs fonds disponibles. Cela permettrait de canaliser le flux de ressources financières vers des activités en plein développement.*

3) Les modalités pour adopter une politique de crédit agricole efficace. *Il en est résulté que ce sont les agriculteurs qui peuvent effectuer de bons choix dans leurs investissements et non pas les établissements de crédit ou encore les autorités centrales.*

Il faudrait donc chercher une politique différente de celle adoptée jusqu'ici. Il faudrait notamment abandonner les critères d'évaluation de type « standard » et prendre en considération les caractéristiques personnelles de chaque agriculteur, ses capacités d'entrepreneur, les caractéristiques du milieu ambiant, etc.

This content downloaded from 193.204.248.149 on Mon, 19 Jan 2026 11:07:07 UTC
All use subject to https://about.jstor.org/terms