

THE UNIVERSITY OF ZAMBIA
SCHOOL OF HUMANITIES AND SOCIAL
SCIENCES

THE ROLE OF CO-OPERATIVES IN
RURAL DEVELOPMENT OF ZAMBIA


- A CASE STUDY -

DISSERTATION IN PARTIAL FULFILMENT
OF THE REQUIREMENTS FOR THE
DEGREE OF MASTER OF ARTS
IN SOCIOLOGY

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APPROVAL PAGE

This dissertation of Peter Matoka is
approved as fulfilling part of the requirements
for the award of Master of Arts in Sociology by
the University of Zambia.

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DECLARATION

The work of this dissertation was carried out in the School of Humanities and Social Sciences, at The University of Zambia, and has not been submitted for any other degree or diploma in any University. This is the original work of the author except where otherwise acknowledged in the text.


PETER MATOKA



DEDICATION


I dedicate this work to my youngest son
Mukeya as an inspiration for him to aspire to
greater academic heights.

ACKNOWLEDGEMENTS

I wish to record my thanks to people and institutions whose assistance and inspiration have made the completion of this work possible.

When I undertook to perform this task most of the encouragement came from my work-mates, in particular, Messrs A. B. Chikwanda, N. N. K. Kalala and F. M. Mulikita. At home, my wife Grace and my children Kutenga, Lukisa and Mukeya were more than fascinated with the idea of me nurturing a new hobby of late nights of reading, writing and tutorial discussions. I owe them a debt of gratitude for their patience and understanding. My work entailed giving occasional addresses to institutions of learning. On these occasions and on graduation days at UNZA, I derived much inspiration to persevere.

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ABSTRACT

This work presents an analysis of the impact the multipurpose cooperative movement has had on agricultural development, a source of income for the bulk of the rural people, and the social-economic consequences of their development.

To assess the effect of the cooperative movement, the study uses data gathered from Petauke District, Eastern Province of Zambia, from members of the cooperative societies, who are treated as an experimental group, and from non-members of the cooperative societies, who in the study, constitute a control group.

While the results are tentative the analysis strongly points to the important role that the Cooperative Society has played on agricultural development and this is clearly reflected in the differential performance in farming activities and the socio-economic attributes of members and non-members of the Cooperative Societies.

The results show a marked difference among the two categories in terms of access to agricultural inputs, knowledge, technology; acquisition of material resources, the quality of accountment and participation in democratic processes.

By and large, the findings support the claim that there is an advantage in the membership of the Cooperative Societies, suggesting the catalytic ability of the Cooperative Movement to boost agricultural development and, thereby, offering a viable channel to peasants to come out of the vicious cycle of rural poverty.

CHAPTER 1

INTRODUCTION

Problem:

The objective of this study is to examine the impact the multipurpose agrarian cooperatives have had on the peasants' agricultural development. Most of the peasants practice subsistence farming. To assess the impact the study looks specifically at the following issues:-

1. access to agricultural knowledge, extension services, capital and inputs that are essential to achieve improved farming;
2. involvement of the masses in decision making over developmental issues and in the choices of the cooperatives' leaders; and
3. ability to achieve increased crop production.

Assuming that cooperative members benefit from membership in the cooperative movement the study examines differences in the crop production, farm inputs and expenditure, the quality of accoutrement and accommodation, types of material property, farm sizes, income gained from the farm and children's education, in particular that of girls, among cooperative members and non-members.

Agriculture is the main occupation and source of livelihood for most of the rural inhabitants, who now make up about 57.0 percent of the population (CSO, 1980).

Much of the farming system remains subsistence in nature; and because of this the question of agricultural development has been a major concern among the policy makers. This concern aims at fostering increased agricultural production. Since independence cooperatives have been identified as one way in which to achieve increased production and raise rural standards of living. Improved crop production is intended not only to meet the needs of the rural people, but also to feed the fast growing urban population.

As early as 1969 President Kaunda (1969) declared that, "Rural development is a top priority in our future development projects. Cooperatives will play a key role in this exercise. A cooperative approach is most suited to rural development, both as a way of life and also as an instrument for accelerated development". This view is echoed by Aimley (1982:90) who writes: "Cooperatives remain the hope of the country by offering social and economic participation at the grassroot level".

Review of Literature

The concept of cooperatives as envisaged by the Rochdale Pioneers in England, a century ago, is new in Africa. However, in Zambia the practice of communal work; people working together to achieve a set of goals is not new. Many anthropologists such as Gluckman (1955);

Turner (1957); Richards (1960) have shown the widespread practice of group work in rural Zambia. On the other hand, cooperatives as tools of agricultural development, are new in Zambia, and differ markedly from traditional form of cooperation.

Unlike in Europe, cooperative movements in Zambia, and Africa as a whole, have been initiated not by members themselves but by governments. Widstrand (1972) commenting on this writes: "There are also differences in the way we look at cooperatives, from above or from below, from the government point of view or from the members' point of view. Those who look at the movement from above very often forget that they have seen the end result of a similar movement somewhere else, they know from experience what ultimate benefits can be reaped, whereas the peasant has a completely different picture of ideas of the new arrangements. European formulars have been exported unaltered."

Widstrand (1972) feels that because government sponsored cooperatives are usually not funded by farmers, they do not represent the interests of the farmers, and the whole essence of the concept is lost from the beginning.

However, in Zambia, as in many parts of Africa, it is not often easy for peasants on their own to

initiate and run agrarian cooperatives as they lack skills, knowledge and funds. This is the point that Professor Andreyer (1972:8) makes: "It is imperative that governments support the cooperative movement." Findings in Zambia, Chilivumbo (1983) and Musakanya (1983) show that despite cooperatives being initiated by governments, the cooperative members have greatly benefited, and that on the average their production is higher than that of non-members.

The social consequences of cooperatives in rural areas are not quite clear. Widstrand's (1976) study of cooperatives in East Africa shows that cooperative movements have been able to increase productivity and members' income at the price of widening social inequalities in the communities which these institutions serve. On the other hand the Zambian leadership has identified cooperatives as an instrument for reducing social inequalities in the rural areas. President Kaunda has constantly described cooperative societies as effective tools in removing bad seeds of economic exploitation of man by man. In his Chifubu speech President Kaunda (1965) saw cooperatives as a tool to "achieve the desired way of life which involved increased prosperity, coupled with an egalitarian distribution of income, political democracy, and a social atmosphere." Andreyev (1972) on the other hand argues that cooperatives can lead either to an increase or decrease in social inequalities depending on the nature of state's economic policies.

According to Andreyev (1972) in a capitalist state, cooperatives lead to increased inequalities but this is not so in a socialist state. In Zambia so far, no study has been conducted to investigate the social consequences of the cooperative movement.

Other writers see cooperatives as tools that promote grassroot-level participation in the running of the societies affairs. Widstrand's (1972) studies in East Africa point to this: "The character of the environment becomes particularly important in the case of cooperatives, as their democratic management structure legitimises a high degree of members' participation". There is an assumption that cooperatives offer the masses chances to be effectively involved in development processes". In rural Zambia there is need to look at the management of the societies in relation to how leaders are chosen and decisions made over issues relating to the society.

Writers such as Giles (1939) and Braumann (1963) have stressed the role that cooperatives play in financing agricultural development. Peasants on their own cannot easily raise capital needed to buy inputs, tools and hired labour necessary for improved farming. Musakanya (1983) and Chilivumbo (1983) suggest that cooperatives' agricultural financing to peasants has enabled members of cooperative societies to engage in improved farming. However, these findings are not conclusive and more research in the area is needed.

Extension services is another essential component for improved farming. Many writers on agricultural development in Zambia (Quick, 1975;1978, Elliot, 1971) point out the inadequacy of the extension services and how this has adversely affected the pace of agricultural development. The cooperative movement offers, as part of it's developmental package, extension services. In their studies Chilivumbo (1983) and Musakanya (1983) show though tentatively, how the cooperative movement is related to the promotion of extension services among the cooperative members. However, the Chilivumbo study was based on Credit Union members. So far, no study has been conducted on the multipurpose agrarian cooperative societies which this study investigates.

Hypothesis

From the descussion above the following hypotheses are raised:-

- (i) No difference exists between cooperative members and non-members in terms of receiving and acquisition of farming skills which are essential to agriculutural development, hence there is no difference in their agricultural performance.

- (ii) There is no difference between members of the cooperative societies and non-members in access to agricultural credit and inputs such as hybrid seeds, fertilizer, purchase of agricultural implements.
- (iii) Cooperative members are more likely than non-members to have higher production, higher farm income, expenditure, better housing and more property.
- (iv) Participation in the cooperative movement results in increasing involvement in democratic processes.

Agricultural extension services are to be quantified in terms of frequency of visits by extension workers and attending of farm training courses or seminars. Involvement in the democratic process is to be measured in terms of participation in electing committee members, decision making on issues and matters of concern to the society.

Methodology and Sample

The survey was conducted in one district of Eastern Province, Petauke District, which has had a long experience of cooperative movement. A hundred cooperative members in the district and a control group of one hundred non-members were randomly picked.

Cooperative members were picked using the district register of members. On the other hand the non-members were chosen using the village registers in the five Population Census Standard Enumeration Areas randomly selected. Within each Standard Enumeration Area twenty non-cooperative members were picked. Each Standard Enumeration Area has about 100 households, the data was collected using formal questionnaires.

Analysis

Since the data was collected using questionnaires, statistical analysis involving crosstabulations and marginals, was used. In order to show the developmental impact of cooperative movement and differences between cooperative members and non-members, use was made of frequency tables and crosstabulations and some tests of significance were used to establish the strength of relationships.

Rationale

Zambia's leadership is convinced that cooperatives can open up rural areas, reduce inequalities, raise standards of living, offer employment to both the young and the old and increase rural productivity. However, not much research has been done and little is known about cooperatives. There is very little literature on cooperatives and rural development in Zambia.

Data and findings of this research will add to the existing scanty literature and knowledge.

Social Characteristics of Respondents

Table 1
Sex of Respondents

SEX	PERCENTAGE
Males	67.2%
Females	32.8%
Total	100.0%

Most of the people interviewed, 67.2 percent were males and small proportion, 32.8 percent were females (table 1). As the unit of analysis is the household and the household head, this indicates that few households are female headed. However, the proportion, 32.8 percent, is much higher than the national proportion of female headed households which is about 20.0 percent (CSO, 1980).

Table 2
Age of Respondents

AGE	PERCENTAGE
20 - 29	20.9%
30 - 49	34.4%
50 - 59	17.4%
60 - 99	27.4%

The age distribution shows that a lot of people are in the active age groups (table 2). The majority of members are in the middle ages, 30 to 49 years and a quarter, 20.9 percent are relatively young, 20 - 29 years.

Table 3
EDUCATIONAL LEVEL OF RESPONDENTS

EDUCATION BY YEARS AT SCHOOL	PERCENTAGE
None	61.5%
One Year	2.6%
Two Years	7.7%
Three Years	4.6%
Four Years	3.1%
Five Years	2.1%
Six Years	8.2%
Eight and more Years	2.5%

The educational status of those in the sample shows that most of the people are not educated. Over 60.0 percent of the people had no education and of the few who had any education, only 2.5 percent ever went beyond primary school (table 3).

Table 4

Distribution of Respondents by Marital Status

MARRIAGES	PERCENTAGE
Never Married	5.6%
Currently Married	75.3%
Widowed	12.8%
Divorced	6.2%
Total	100.0%

As expected a very small proportion, 5.6 percent of the people in the sample have never married. Most of those who have never married remain members of their parents' household. The bulk of the people 75.3 percent are currently married while the rest are either widowed or divorced (table 4). The most predominant marriage type is monogamous, 80.5 percent households have only one wife and only about a quarter of the marriages are polygamous.

Table 5

Distribution of Respondents by Type of Marriage

NUMBER OF WIVES	PERCENTAGE
One	80.5%
Two	12.8%
Three	4.6%
Four	0.5%
Five and more	1.5%
Total	100.0%

Household sizes on the average seem to be large, almost half of the households have five and more members (table 6). However, there are very few households with very large household sizes of over eight and more members.

Table 6
Household Sizes

NUMBER OF RESIDENTS	PERCENTAGE
One Member	5.1%
Two Members	7.7%
Three Members	15.4%
Four Members	12.4%
Five Members	15.4%
Six Members	8.2%
Seven Members	8.7%
Eight or more Members	26.7%

CHAPTER 2

ACCESS TO AGRICULTURAL KNOWLEDGE AND SKILLS AMONG MEMBERS AND NON-MEMBERS OF COOPERATIVE SOCIETIES

This Chapter looks at data on extension services and compares the availability of these services among the members and non-members of the cooperative societies. Generally agricultural extension services throughout Zambia are provided as a matter of Government policy by the Ministry of Agriculture and Water Development through the Department of Agriculture. The impact of this service varies from province to province depending on the agricultural potentials of that particular province, number of extension workers, transport and communication net-work and transport availability. The services are largely provided by extension workers who personally visit farmers. However, dissemination of agricultural knowledge is supplemented by short term courses, seminars and discussion groups held either at the societies' headquarters or at the Agricultural Farm Institute.

The effectiveness of the diffusion of agricultural knowledge very much depends on the frequency of visits of extension workers to farmers, who assist through practical instructions to teach them proper methods of planting of crops such as hybrid maize, sunflower,

groundnuts, in terms of spacing, correct application of fertilizer, as regards to time, quantity and type of fertilizer applied. However, as table 7 shows only a very small proportion of farmers in the sample, 6.4 percent, were ever visited by extension workers within the period of twelve months preceding the research.

Table 7
Respondents by Extension Workers Visits

VISITED	PERCENTAGE
Never	83.6%
Every Month	2.1%
Two Months to Three Months	2.1%
Four to Five Months	4.1%
Twice a year	7.2%
Once a year	1.0%
Total	100.0%

As the table shows it is evident that the few that were visited were seen at very irregular intervals. Among those visited, even at such irregular occasions, cooperative members by far received more visits.

Table 8

Respondents by Visits of Extension Workers

EVER VISITED	MEMBER	NON-MEMBER
Yes	24.11%	10.0%
No	75.9%	90.0%
Total	100.0%	100.0%

CHI SQUARE = 5.50765 with 4 DEGREES OF FREEDOM
SIGNIFICANCE = 0.2391

A comparison of visits of extension workers to members and non-members of the cooperative societies shows that more members than non-members were visited (table 8). Within the 12 months prior to the study 24.11 percent of the members were visited by extension officials. The proportion of non-members who were visited by the extension workers was only 10.0 percent. Such findings as these point to the advantage that members of the cooperative societies have over non-members. This fact is further illustrated in table 9 in which a higher proportion of members than non-members found visits of the extension officers useful.

Table 10

Course Attendance on Farming by Members of
Cooperatives and Non-Members

EVER ATTENDED ANY COURSE	MEMBER	NON-MEMBER
Yes	84.5%	5.0%
No	15.5%	95.0%
Total	100.0%	100.0%

CHI SQUARE = 4.96326 WITH 2 DEGREES OF FREEDOM
SIGNIFICANCE = 0.0836

As indicated earlier on, the Department of Extension Studies mounts various training courses on farming skills at training institutes. These courses are open to all small scale farmers. However, as table 10 shows, cooperative members benefit more, 84.5 percent of the cooperative members reported having attended courses on farming compared to only 5.0 percent among non-members who attended any such courses. On the basis of this evidence, it is clear that membership in the cooperative societies gives more access to facilities of acquiring agricultural knowledge and skills.

Membership in the cooperative societies extends benefits to women who either are members or spouses of members. One such facility is the provision of classes on farming skills. Although these are open to all, women who are members of cooperative societies make more use of these classes than non-members (Table 11).

Table 11

Women's Attendance at the Cooperative Society's Classes

CLASSES	MEMBER	NON-MEMBER
Yes	81.5%	27.5%
No	18.5%	72.5%
Total	100.0%	100.0%

CHI SQUARE = 29.26890 WITH 4 DEGREES OF FREEDOM SIGNIFICANCE

In these classes women are taught modern technics of farming, such as soil conservation, correct time and method of planting, fertilising, weeding, storage of crops and correct method of harvesting and grading of cotton and groundnuts. It is important for women to learn these technics because it is them who do most

of weeding and harvesting. When poorly handled crops such as cotton or sunflower cannot fetch high prices on the market.

In addition to facilities intended to advance agricultural knowledge there are other facilities that the cooperatives offer to its members. These are catagorised in table 12.

Table 12

Services that are Offered by Cooperative Societies

ITEM	PERCENTAGE
Basic needs such as food and detergents	19.3%
Implements	17.0%
Inputs such as seeds and medicine	7.0%
Basic needs + implements	3.0%
Basic need + inputs	2.7%
Implements and inputs	8.3%
Basic needs, implements and inputs	16.3%
No idea	26.4%
Total	100.0%

These items serve a variety of purposes and include those aimed at the promotion of increased agricultural knowledge, skill and production.

The discussion presented in this Chapter provides relative evidence to support the hypothesis that membership in the cooperative society offers more access to means of acquiring agricultural knowledge and skills. Members of cooperative societies appear to have an obvious edge over non-members. The data also shows that the limited resources available are enjoyed more by members than non-members.

CHAPTER 3ACCESS TO AGRICULTURAL INPUTS AND QUALITY OF FARMING

Even in technologically advanced countries like Britain, Canada and America success in agriculture does not only depend on agricultural knowledge and skills, but also on the availability of agricultural inputs and use of improved farm technology. Acquisition of these require capital which may be borrowed or possessed. For the majority of the people in the rural areas of Zambia this needed capital is not within their easy reach. This leaves the people to farm with simple tools and often with no inputs table 13.

Table 13Farm Tools Used Last Season (1982 to 1983)

TOOLS	PERCENTAGE
Hoe/Axe	71.8%
Oxen-plough	18.2%

Table 13 presents the types of farm tools used in the season, 1982/1983 by the people interviewed. It is evident from the table that most widely used tools were the hoe and axe, 71.8 percent.

Table 14

Farm Tools Used by Members and Non-Members

TOOL	MEMBER	NON-MEMBER
Hoe	20.8%	66.0%
Oxen-plough	39.9%	7.5%
Hoe and Oxen plough	39.3%	27.5%

Only 18.2 percent of the farmers used oxen-ploughs. This low proportion of farmers using oxen-ploughs could be attributed to lack of cattle in the district.

The distribution of the various types of farm tools used is catagorised in table 14. It is evident from data presented in the table that membership in the cooperative union gives more access to improved means of farming. The percentage distribution of farmers using a combination of oxen-plough and hoe or plough alone is much higher among the cooperative members, 79.2 percent as compared to 35.0 percent among non-members of the cooperative societies. On the other hand, the proportion of non-members using hoes alone, as

Tractors for those who hired them, were provided by either the Eastern Cooperative Union or Petauke District Council. When the Eastern Cooperative Union provides tractors only its members are allowed to hire them through the Primary Cooperative Society. This rules out non-members even if they have the capital to hire tractors.

The cooperative society hires the tractors from the Eastern Cooperative Union and in turn the members of the society hire, on individual basis, from their society. Members pay the society and the society in turn pays the Eastern Cooperative Union. As a result of this arrangement it is not possible for non-members to hire a tractor from the Eastern Cooperative Union. This may explain why only a few non-members use tractors (table 15).

Table 16

Labour Used on the Farm in the 1982/1983 Season

TYPE OF LABOUR	MEMBER	NON-MEMBER
Household only	62.5%	77.8%
Household and wage labour	37.5%	22.2%
Total	100.0%	100.0%

Availability of labour is an important aspect of successful farming. The results presented in table 16 demonstrate that members in the cooperative society have a higher chance of supplementing household labour with wage labour. This in addition to improving one's farming provides employment to the wider society.

Table 17

Respondents who Received Agricultural Loan in
1982/1983 Season

RECEIVED LOAN	PERCENTAGE
Yes	36.2%
No	63.8%
Total	100.0%

Although loans are very essential, very few farmers in the sample received loans, 36.2 percent. The majority of farmers, 63.8 percent had no loans (table 17).

Table 18

Loan Receipients for 1982/3 Farming
Season

LOAN	MEMBERSHIP IN SOCIETY	
	MEMBER	NON-MEMBER
Received	50.8%	2.3%
Did not receive	49.2%	97.7%

Access to loans seems to be highly skewed in favour of cooperative membership. This is well illustrated in table 18. In this table about half of the members, 50.8 percent received loans. The inaccessibility of loans to non-members is dramatised by the findings in the table in which only 2.3 percent of the non-members received loans.

Since members have more access to loans they are in a better position than non-members to afford purchasing the needed inputs such as fertilizer. This assumption is confirmed by the data in table 19 which indicates that more members than non-members applied fertilizer in the 1982/83 season.

Table 19

Usage of Fertilizer by Membership Status in a
Cooperative Union

USED FERTILIZER	MEMBERSHIP	
	MEMBER	NON-MEMBER
Yes	75.4%	4.6%
No	24.6%	95.4%

In this season 75.4 percent society members used fertilizer as compared to only 4.6 percent of non-members. This finding is significant at 0.01 level. In the use of fertilizer there is a minimum number of bags per hector needed. It is generally recommended that 6 bags of fertilizer per hector is adequate. This research investigated not the types but the quantity of fertilizer used as measured in bags and the findings are reported in table 20.

Table 20

Amount of Fertilizer Used by Cooperative Society's
Membership

AMOUNT BY NUMBER OF BAGS	MEMBERSHIP	
	MEMBER	NON-MEMBER
1 to 5 bags	20.0%	33.3%
6 to 9 bags	25.6%	34.1%
10 to 19 bags	25.6%	22.0%
20 and more bags	28.8%	10.6%

It is assumed that the more fertilizer one has the more likely that he will have the needed amount to meet the recommended quantity. The trend in table 20 shows that members of the cooperatives on the average bought more bags and hence they were more likely to have adequate fertilizer to be able to apply the recommended quantities.

Table 21

Farmers by Use of Hybrid

HYBRID USED	MEMBER	NON-MEMBER
Yes	79.6%	20.0%
No	20.4%	80.0%
Total	100.0%	100.0%

CHI SQUARE = 37.66748 WITH 3 DEGREES OF FREEDOM
SIGNIFICANCE = 0.0000

Membership in the cooperative society enables farmers to have access to other inputs such as hybrid seeds, which are needed to achieve higher production. Hybrid seeds are expensive, and not many peasant farmers can afford to purchase them. Consequently many peasant farmers plant local maize. Results collected in the field which are shown in table 21 indicate very wide use of hybrid seeds among members of cooperative societies. In the 1982/83 season 79.6 percent of cooperative society members planted hybrid seeds in contrast to only 20.0 percent of non-members. These differences are significant at 0.01 level and this shows that the differences do not arise by chance.

Table 22

Farm Sizes by Membership of a
Cooperative Society

FARM SIZES IN HA	MEMBERSHIP	
	MEMBER	NON-MEMBER
1 - 2	17.5%	32.1%
3 - 4	15.0%	32.1%
5 - 9	42.5%	18.0%
10 - 14	10.0%	10.0%
20 and more	15.0%	7.1%
Total	100.0%	100.0%

CHI SQUARE = 26.3, DEGREES OF FREEDOM 24,
SIGNIFICANCE = 0.02410

Most of the peasants practice traditional farming, oriented to meet the food needs of the household. Consequently, the farm sizes among many farmers tend, therefore, to be small. A few farmers have managed to increase their farm sizes. Although the differences among the members and non-members, as shown in table 22 are not consistant, it is clear that members on the average

have a higher proportion of those who have increased their farm sizes. The difference is more pronounced among the very large farmers where 15.0 percent of members of a cooperative society have farms of 20 or more hectares compared to only 7.1 percent among the non-members.

Table 23

Expenditure on Farm by Membership in the Cooperative Society

AMOUNT IN KWACHA	MEMBER	NON-MEMBER
None	24.5%	65.0%
1 - 49	52.8%	35.0%
50 - 99	3.8%	0.0%
100 - 499	18.9%	0.0%

Improvement of production requires application of some inputs that need to be bought. Cooperative societies normally provide loans either in terms of cash or input to their members. As a result a lot of members in the cooperative societies are able to improve the quality of their production.

Statistics in table 23 showing amounts of expenditure on the farm show that a large proportion among non-members, 65.0 percent incurred no farm expenses, an indication that no input was ever used in farming. On the other hand among members of cooperative societies a higher proportion, 75.5 percent, had some farm expenditures reflecting that they bought farm inputs, tools, and even hired farm labour.

Table 24

Crops Grown by Membership in a
Cooperative Society

CROPS GROWN	MEMBERSHIP	
	MEMBER	NON-MEMBER
Not stated	0.8%	3.2%
Maize only	29.8%	52.4%
Sunflower	0.8%	0.0%
Maize, Tobacco, Groundnuts	20.6%	19.0%
Maize, Sunflower	29.0%	9.5%
Maize, Groundnuts, and Sunflower	18.3%	15.9%
Total	100.0%	100.0%

Mixed farming i.e. growing a number of crops, both food and cash crops indicates an improved level of farming. On the other hand monocrop farming, growing only maize is indicative of less improved farming. For instance although maize is a cash crop it is predominantly a food crop. In the study area, in addition to maize, other major cash crops grown are sunflower, tobacco and groundnuts. The pattern of farming in the study area is presented in table 24. The statistics presented suggest that there is a higher level of improved and cash oriented farming among members of the cooperative society than non-members. The statistics show that a higher proportion of members, 52.4 percent practice monocropping, a sign of wide-spread peasant farming among non-members. In contrast only 29.8 percent among members of the cooperative societies practiced monocropping.

Table 25

Distribution of Household by Quantity of Maize Harvesting in 90 Kg Bags and by Membership in the Cooperative Society

QUANTITY HARVESTED IN BAGS	MEMBER	NON-MEMBER
None	3.8%	42.5%
1 - 9	7.5%	27.5%
10 - 19	13.2%	5.0%
20 - 99	43.4%	25.0%
100 - 199	20.8%	0.0%
200 plus	11.3%	0.0%

The research investigated production of maize among members and non-members. Generally as a result of drought which affected yields in the area, production of maize on the average was low. However, the members of cooperative societies on the whole had higher yields than non-members, table 25 confirms this. Among the ~~non~~-members only 3.8 percent harvested no maize from the fields but the proportion was much higher among non-members, 42.5 percent. A few among members of the cooperative society, 11.3 percent, had yields of over 200 bags. This high production is reflective of the use of inputs such as fertilizer which are more widely used among members of the cooperative societies, than non-members.

Data on sales of farm crops among farmers was also collected for the season 1982/83. In addition farmers were asked to report sales in a good season when they have the normal yields. The results as submitted by farmers are reported in table 26. Although the trend of the incomes obtained from sales of farm crops among members and non-members is not very consistent, it appears on the whole that there is a higher proportion among members than among non-members who gain higher incomes from the sales of farm crops.

Table 26

Distribution of Members by Income From Crop Sales
in Kwacha

AMOUNT IN KWACHA	1982/83 SEASON		IN GOOD SEASON	
	MEMBER	NON-MEMBER	MEMBER	NON-MEMBER
None	20.8%	60.0%	39.6%	45.0%
1 - 49	39.5%	12.5%	5.7%	7.5%
50 - 99	5.7%	0.0%	1.9%	12.5%
100 - 499	15.1%	0.0%	22.6%	20.0%
500 plus	18.9%	27.5%	30.2%	15.0%
Total	100.0%	100.0%	100.0%	100.0%

This Chapter has presented data on farm inputs, loans production, farm expenditure, labour and income among members and non-members of cooperative societies. The analysis of this data presents evidence that tends to confirm that membership in the cooperative societies leads to better chances of getting agricultural loans to buy farm inputs and impliments which lead to higher production of crops and farm income.

CHAPTER 4

MATERIAL RESOURCES OF MEMBERS AND NON-MEMBERS

This Chapter looks at material benefits from farming, the major source of income in rural areas. Specifically the study looks at accoutrements, household items and property possessed by both members and non-members of a cooperative society. The study does not examine the monetary values of the property.

In rural areas most people live in wattle and daub houses. This is a simple type of house constructed out of local material and it generally takes the shape of a round hut with minimum ventilation. The house is normally constructed using household labour and involving no capital for material or labour.

In the sample, wattle and daub houses were the most widespread type of accommodation. Only a few people lived in houses made of bricks with corrugated roofs. Table 27 shows the type of houses owned by members and non-members of the cooperative society.

Table 27

Type of House Owned

TYPE OF HOUSE	MEMBER	NON-MEMBER
Wattle and Daub	75.9%	97.5%
Brick and Grass Roof	5.6%	0.0%
Brick and Corrugated Roof	18.5%	2.5%
Total	100.0%	100.0%

CHI SQUARE = 10.72148 WITH 4 DEGREES OF FREEDOM

SIGNIFICANT = 0.0299

This table confirms the hypothesis that many people live in wattle and daub houses. Comparison of the dwelling types between members and non-members of cooperative societies shows that the proportion of those who live in wattle and daub houses is much higher among the non-members, 97.5 percent, compared to 75.9 percent among members of the cooperative societies. In both categories the wattle and daub dwelling is the most common. Both among members and non-members only a very small proportion

have modern houses. Among the cooperative members about a fifth have modern houses, while only 2.5 percent have similar houses among non-members.

The modern houses, built of brick walls, corrugated or grass roofs with cemented floors do not have water flush toilets as there are no pipes for piped water in the area. Instead they have pit latrines outside. Most of these houses have several rooms, with glass windows. Some have kitchens built indoors but others do not.

The construction of improved houses requires capital to pay for material and labour. Although there are various sources of income such as business, pension benefits and gainful employment, farming provides the major source of income and capital needed to build a modern house. This is confirmed by the statistics presented in table 28 in which farming provided the largest single source of capital used in building modern houses. Further, the data show that farm income is the most significant source of capital among members of cooperative society. More than 40.7 percent of the cooperative society members reported to have built houses using capital from farm income alone, on the other hand the proportion among non-members was only 15.0 percent.

Table 28Sources of Capital for Building a House Among Members and Non-Members of Cooperative Societies

CAPITAL	MEMBER	NON-MEMBER
Pension	1.9%	0.0%
Farm Income	40.7%	15.0%
Wage	1.9%	5.0%
Farm, Business	1.9%	7.5%
Most of the above	33.3%	45.0%
Not Stated	20.4%	27.5%
Total	100.0%	100.0%

CHI SQUARE = 9.60412 WITH 5 DEGREES OF FREEDOM
SIGNIFICANCE = 0.0873

The research also looked at other aspects of accoutrements, kitchen, number of bedrooms, fittings and furniture. Table 29 lists the household items owned by both cooperative society members and non-members. The items listed include chairs, tables, bedding such as blankets, mattresses, bed-sheets and chairs, both dinning and sitting room chairs.

Table 29

Ownership of Domestic Items Owned by Members and
Non-Members

PROPERTY	MEMBERS	NON-MEMBERS
Chairs	9.3%	2.5%
Bedding	11.1%	12.5%
Beds	9.3%	15.0%
Chairs, Table and Bedding	5.6%	15.0%
Chairs, Tables, Beds and Bedding	38.9%	17.5%
Chairs, Table and Beds	0.0%	5.0%
Bedding and Beds	3.7%	0.0%
Nothing	22.2%	32.5%
Total	100.0%	100.0%

CHI SQUARE = 13.09383 WITH 7 DEGREES OF FREEDOM
SIGNIFICANCE = 0.0699

From the statistics in the table the trend emerges which indicates that the members of the cooperative societies are much better-off than non-members. This is highlighted by the fact that about a third, 32.5 percent, of the non-members could not even afford to buy a chair. The proportion of those who could not own any household items among the cooperative members is much lower, 22.2 percent. These differences are real and are significant at 0.01 level.

The research was only able to get correct responses on whether or not a respondent owns an item. It was difficult to assess the quality and the number of items a person owned. The respondents were not willing to offer such information.

The research investigated some aspects of rural wealth using as indices the following items: bicycles, chairs, radios, record players, motor cycles and cars. The research was not able in this respect to assess the conditions and quality of the property owned. Findings from the sample indicated that there is a relative degree of poverty. However, amidst this abject poverty, membership in the cooperative society offers some opportunity to accumulate some limited amount of wealth. Table 30 gives support to this hypothesis.

Table 30Property Owned by Members and Non-Members

PROPERTY	MEMBER	NON-MEMBER
None	27.8%	57.5%
Bicycle	31.5%	27.5%
Radio, Player	5.6%	0.0%
Car	1.9%	0.0%
Bike, Radio and Player	31.5%	15.0%
Motor Cycle, Radio and Player	1.9%	0.0%
Total	100.0%	100.0%

Among the non-members 57.5 percent possessed none of these items as compared to only 27.8 percent among cooperative members. The most widely owned single item is the bicycle. A bicycle is an important means of transport in the rural areas where there are no other transport facilities. Radios and record players are the next widely owned items, and a few among members of the cooperatives owned a car or a motor cycle. None of the Non-members

of the cooperative society owned either a car or a motor cycle. In all the categories of items listed in table 30 there is a higher proportion of owners among the members than non-members of cooperative society.

Farming is a major source of income in the rural areas, ownership of oxen, oxen ploughs and tractors is crucial as these are not only valuable assets but vital to improved farming methods. The research solicited information from the respondents on the ownership of oxen-ploughs or tractors. The results of the findings as reported in table 31 show ownership of oxen-ploughs is highly skewed in favour of members of the cooperatives.

Table 31

Respondents by Ownership of Oxen-ploughs and Tractors

OWN TRACTOR OR OXEN-PLOUGH	MEMBERS OF COOPERATIVE SOCIETIES	NON-MEMBERS OF COOPERATIVE SOCIETIES
Yes	69.8%	30.0%
No	30.2%	70.0%
Total	100.0%	100.0%

CHI SQUARE = 16.26048 DEGREES OF FREEDOM = 3

SIGNIFICANT = 0.0010

While 69.8 percent of the cooperative members owned oxen-ploughs, the proportion among the non-members is much less than half, 30.0 percent. In the whole sample only one person owned a tractor, and this was a member of a cooperative society. These differences are significant at 0.01 level. These findings underscore the fact that the cooperative movement provides means through which the members can obtain capital to buy the needed properties, including farm tools.

This Chapter has used data on accoutrement, household items, ownership of certain property such as cars, bicycles, radios, record players and farm tools to assess if differences exist between the two groups in the sample; members and non-members of cooperative societies. The analysis of the data strongly indicates that differences exist and that despite widespread rural poverty cooperative members are better off. Cooperatives offer opportunities to rural inhabitants as a means of coming out of the vicious circle of poverty.

CHAPTER 5DEMOCRATIC PROCESSES AND THE COOPERATIVE MOVEMENT

It is often stated in literature on cooperative movements that membership in cooperative movements provides channels to members to participate and be involved in democratic processes (Kaunda, 1965; Widstranda, 1972; Aimley, 1962). This Chapter, using data collected, examines how introduction of agricultural cooperative society movements, has offered members of the cooperative societies, means and access to participation in democratic processes. The research wishes to examine how the cooperative movement encourages and promotes among its members democratic processes.

The indices of democratic processes used in the study consist of members degree of participation in electing officials, discussion and debates on matters relating to the management of cooperative societies and unions, and members involvement and decision making.

A fundamental requirement and a measure of democracy is that the power rests with the people and that they exercise a degree of control over leaders. The control is often exercised through the periodic election of leaders. In the

case of agricultural cooperative unions there are two levels of leadership: committee members of the society and members of the cooperative union board of directors. The committee members of the society control loans, make recommendations as to who is to have or not to have loans and are responsible for distribution of inputs.

The cooperative society committee plays an important role in the programme of agricultural development. In the past the abuse of positions by the committee members has resulted in the failure of many agrarian cooperative movements. However, the current practice demands that committee members hold office for a year and may stand for re-election.

While the committee members run the affairs of the society, the union, which is the apex organization in the province incorporating all the societies into one union, is under the board of directors. The board of directors, which is a policy making body, is made up of members elected from societies at district level. Members in each district elect a set of board members. Through this practice members participate in the control of highest organ of authority.

The members of the society, through election which is free and by secret ballot, exercise real control over officials, both at society and board levels. Through the vote they can reject an official by voting him out and voting in members who they think will serve the interest of the society and or the union. This opportunity is not available to the non-members of the cooperative society. They must depend on government officials to run and manage their development projects.

There is another area in which the members of the cooperative society participate effectively in democratic processes. Members of the cooperative societies are afforded an opportunity to take active part in decision making over several issues relating to the running, management and organisation of the society and developmental issues. Table 32 lists the distribution of the categories of membership that make decisions. Although decisions requiring specific skills are made by the officials of the union or the government, members of the cooperative societies are offered opportunities to participate in decision making in a number of areas.

Table 32

Members Participation in Decision Making

DECISION	MEMBER
Members	18.5%
Officials	24.1%
Committee Members	38.9%
Special Decisions by Officials	3.7%
Members and Committee Members	9.3%
Members, Committee Members and Officials	5.6%
Total	100.0%

CHI SQUARE = 41.66607 WITH 5 DEGREES OF FREEDOM
SIGNIFICANCE = 0.0000

Most of the decisions for the society are made by committee members, 38.9 percent. Many of these decisions are administrative and technical. Members of the society make decisions over 18.5 percent of the issues and members participate in other decision making with committee members and officials from the government and unions.

Such degree of participation is only possible through the membership of the society. Other farmers who are not members of any cooperative society have no means through which they can influence decisions.

The topics of discussion which the members of cooperative societies participate in are not limited to management, election of committee members and loan issues, but include discussions of many other issues related to agricultural development. Table 33 sketches out some of the issues discussed. This table shows that farming skills are the most favourite topics discussed at the meetings of the members of the cooperative societies.

Table 33

Issues discussed at Cooperative Meetings as Expressed
By Cooperative Members

ISSUES DISCUSSED AT MEETINGS	MEMBER
Running of Cooperatives	14.8%
Farming Skills	72.2%
Cooperative Management and Farming	5.6%
Not Certain	7.4%

Analysis and discussions presented in this Chapter show that the cooperative movement provides opportunities to members to participate in democratic processes and this gives them a feeling of control over their own affairs. This serves to diminish the commonly held belief in the fatalistic situation that is commonly associated in developmental literature with the status of peasants. This cannot be said to be the case with non-members of the cooperative society.

CHAPTER 6

CONCLUSION

This work examines the impact the cooperative movement has on the agricultural development, specifically it looks at how the cooperative movement provides access to means of acquiring agricultural knowledge, farm capital and inputs to achieve improved farming. It also examines how the cooperative movement encourages people's participation in the choice of leaders in the movement.

In order to assess the impact of the cooperative movement, the study has examined two sets of farmers: cooperative members and non-members. The latter is to act as a control group. The impact of cooperative movement is operationalised through a set of hypothesis whose summary of findings are reported below.

The first hypothesis tests if any difference exists between members and non-members of the cooperative in terms of access to means of acquiring farming skills and knowledge. The analysis and discussions presented above has shown that membership in the cooperative society avails one more opportunities to acquire the needed knowledge and skills in farming. In addition to imparting knowledge essential for farming the cooperative movement

takes an active part in arousing among its members interest and awareness to acquire such knowledge through occasional seminars, discussion groups and training.

The research has also examined the impact of cooperative movements in promoting agricultural development by looking at the availability of agricultural loans and inputs. The agricultural loans and inputs are essential to improve one's farming methods. The data provided conclusively shows that the cooperative movement has been able to provide a large proportion of its members loans and inputs which have helped them to improve their farming. A comparison between cooperative members and non-members has consistently shown that loans and inputs are more available to members and not non-members.

To measure improvements in farming the study looked at production, farm income, expenditure and farm sizes. To establish whether or not the cooperative movement has any impact, the performance of members and non-members was examined. The results show that on the average cooperative members have higher production levels, larger farms, derive more income from their farms and have higher farm expenditure than non-members. This difference arises from the

cooperative's ability to assist its members in improving their farming. The evidence presented strongly supports the hypothesis that the cooperative movement has an impact in improving agriculture. The effect of membership in the cooperative movement is further illustrated by looking at the accoutrement, property and general wealth of members of cooperative society and non-members. On the whole the members are much better off than those who have not joined the cooperative movement.

The study also examines the ability of the cooperative movement to promote and encourage its members in the participation of democratic processes. The latter includes election of leaders and the participation of the members in decision making. The findings support the hypothesis that the cooperative movement promotes some degree of democratic process among its members.

In summary, the study's findings show that the cooperative movement has had an impact on agricultural development. It has been able to increase on the average the production and income of its members. Rather than reducing the social inequalities in rural areas the general trend emerging from the data and analysis tends to suggest that while increasing productivity and income of members

the cooperative movement contributes to widening of social inequalities in the rural areas. This exercise also seems to suggest that there is need for the masses to join cooperatives in order to raise their standard of living.

However, this is tentative finding which requires further investigation.

BIBLIOGRAPHY

Aimley, David: (1962)

Co-operatives, The Way Ahead, London,
Oxford University Press.

Andreyev, I: (1974)

Socialism and Developing Countries, Moscow
Progress Publishers.

Bailey, Jack: (1974)

The British Co-operative Movement, Westport,
Greenwood Press.

Bardeleben Mafred: (1973)

The Co-operative system in the Sudan:
Characteristics in socio-economic development
process, Muchen, Welforum Yerlang.

Braumann, K: (1963)

A Man Conquers Poverty, Gunna International.

Chilivumbo, A: (1983)

Communal Co-operation,: Experiment in Rural
Socialism, Manuscript (in press).

Colson, Elizabeth: (1967)

The Social Organization of the Gwembe Tonga,
Manchester, Manchester University Press.

CSO, (1980)

Census of Population and Housing: Preliminary
Report, Lusaka, Central Statistical Office,
Government Printer.

Elliot Charles: (1971)

Constraints on the Economic Development
of Zambia, Manchester University Press.

Giles, Y. R.: (1939)

Credit for the Millions, New York, Harper
Brothers.

Gluckman, M.: (1955)

Co-operative Organisation in Tropical Countries;
a study of co-operative development in non-self
governing territories under United Kingdom
Administration, London, HMSO.

International Labour
Organisation: (1965)

The role of Co-operatives in the economic
and social development of developing countries.
Geneva, ILO.

Kaunda, K: (1965)

"Speech at Chifubu Rally, 17th January 1965,
Information Service, Press background No.
3166, Lusaka, Zambia.

Kaunda, K: (1969)

"Speech to the Second National Convention on
the Four Team Plan, Kitwe, 12th December,
1969" Zambia Information Service Background
No. 92169, Lusaka

Kuznetsov, G. : (1972)

Producers' Co-operatives at an early stage of
Socialism, Novosti Publishing Agency., Moscow.

Lipset, Seymour Martin: (1959)

Agrarian Socialism: A Study in Political Sociology, University of California Press
Berkeley.

Lombard, C.S.: (1971)

"The Growth of Co-operatives" Zambia Papers,
No. 6, Manchester, Manchester University Press.

Musakanya, V: (1983)

The Role of Credit Unions in the Social Economic Development of Zambia, MA Dissertation, Unza;
Lusaka.

Quick, Stephen: (1975)

Bureaucracy and Rural Socialism in Zambia,
Manchester, Manchester University Press.

Quick, Stephen: (1978)

Humanism or Technocracy - Zambia's Farming Co-operatives (1965-72), Manchester, Manchester University Press.

Richards, A: (1940)

"Bemba Marriage and Modern Economic Life",
Rhodes-Livingstone Papers, No. 4, Manchester,
Manchester University Press.

Tanzania: (1967)

Presidential Special Committee of Enquiry into Co-operative Unions in Tanzania, Dar-Es-Salaam,
Government Printer.

Tordoff, W. R. Moiteno (ed): (1957)

Politics in Zambia, Manchester, Manchester
University Press.

Turner, V. W.: (1957)

Socialism and Continuity in an African Society
a study of Ndembu Village Life, Manchester
University Press.

Uganda: (1967)

Committee of Enquiry into the Affairs of All
Co-operative Unions in Uganda, Kampala,
Government Printer.

U.N. Research Institute for
Social Development (UNRISD): (1975)

Rural Co-operatives as agents of change: a
research report and debate (Rural Institutions
and Planned change UNRISED, New York.

Whethan, Edith H: and Currio Jean I: (ed)

Economics of Africa: Readings in applied
Economics, Cambridge University Press.

Widstrand, Carl Costa (ed): (1970)

African Co-operations and efficiency, Uppsala,
Scandinavian Institute of Africa Studies.

Widstrand, Carl Costa (ed): (1970)

Co-operatives and rural development in East
Africa, Uppersala, Holmes and Meier.

Wood, Adrian: (1983)

Primary Co-operative Society Development in
Western Province: Progress and Potential in
six Committees November. Lusaka, (mimeo).

QUESTIONNAIRE OF THE ROLE OF COOPERATIVES IN RURAL
DEVELOPMENT

1. Card No: 1
2. Name: 2-4
3. Sec: 5
4. Age: 6-7
5. Current Membership of Cooperative Society 8
 - Yes - 1
 - No - 2
6. Educational Status (State years attended school) 9-10
7. Marital Status: 11
 - Never Married - 1
 - Married - 2
 - Widowed - 3
 - Divorced - 4
8. If married state No. of other wives: 12
9. Religion: 13
 - Roman Catholic 1
 - Anglican Church - 2
 - U.C.Z. - 3
 - Jehovah's Witness - 4
 - Other world Churches - 5
 - African Churches - 6
 - No religion - 7
10. How many people live in the household? 14-15
11. If member of cooperative state length of membership 16-17
12. What is the cropped farm size 18-20

13.	How did you acquire the farm?	21
	Bought	- 1
	from Father	- 2
	from Mother	- 3
	from Maternal Uncle	- 4
	from village headman	- 5
	from state	- 6
	from spouse	- 7
	Other) Friend who left the field	- 8
14.	What crops did you grow this season?	22
	None	- 0
	Maize	- 1
	Groundnuts	- 2
	Sunflower	- 3
	Tobacco	- 4
	Other	- 5
	Maize/groundnuts	- 6
	Maize/sunflower	- 7
	Maize/groundnuts/sunflower	- 8
	All of the above	- 9
15.	Did you get any loan?	23
	yes	- 1
	no	- 2
15a.	If yes how much?	24-27
16.	Did you use any fertilizer:	28
	yes	- 1
	no	- 2
17.	If yes, state number of bags used	29-30
18.	Did you get the fertilizer on time?	31
	yes	- 1
	no	- 2
19.	Where did your fertilizer come from?	32
	Cooperative society	- 1
	Namboard	- 2
	Cooperative/Namboard	- 3
	Other	- 4

20.	Did you use hybrid seeds?	33
	yes - 1	
	no - 2	
21.	What farm tools did you use last season?	34
	Hoe/axe - 1	
	Oxen-plough - 2	
	Tractor - 3	
	Plough/tractor - 4	
	1 and 2 - 5	
22.	If you use tractor or plough, do you own or hired them?	35
	Own - 1	
	Hired - 2	
	Borrowed - 3	
23.	If hired state from where	36
	Cooperative - 1	
	District Council - 2	
	Private owners - 3	
24.	What kind of labour did you use on the farm?	37
	Household - 1	
	Wage labour - 2	
	Household/wage - 3	
25.	How much did you spend on the farm, inputs, tools and labour	38-41
26.	What was the total income obtained from farm?	42-45
27.	In a good year how much farm income do you get?	46-49
28.	How many bags of the following did you harvest?	
	a. Maize	50-52
	b. Groundnuts	53-55
	c. Sunflower	56-58
	d. Tobacco	59-61
	e. Other crops	62-63

29. How much tax or levy did you pay? 64-66
30. Do extension workers visit you? 67
yes - 1
no - 2
31. Do they visit you 68
Every month - 1
Every two months - 2
Every three months - 3
Every four months - 4
Twice a year - 5
Once a year - 6
Never - 7
32. If extension workers visit you, do you find their instruction 69
Useful - 1
Very useful - 2
Not useful - 3
33. Have you attended any course in farming? 70
yes - 1
no - 2
34. If yes, did you find such a course useful? 71
yes - 1
no - 2
35. What type of house do you have? 72
Wattle and Daub - 1
Brick-grass roof & earth floor - 2
Brick-grass roof & Cement floor - 3
Brick-corrugated roof & cement floor - 4
Very modern house - 5
36. Where did the capital come from to build the house? 73
No capital involved - 0
Pension - 1
Farm income - 2
Remitted from urban - 3
Business - 4
Wage - 5
Farm/business - 6
Farm/business/wage - 7
Wage/business - 8
More than three of above - 9

37. Do you have any of the following: 74
- | | |
|-----------------------|-----|
| None | - 0 |
| Bicycle | - 1 |
| Radio/player | - 2 |
| Motor-cycle | - 3 |
| Car | - 4 |
| Bike/radio/player | - 5 |
| Car/bike/radio/player | - 6 |
38. Do all your children of school going age, go/have gone to school? 75
- | | |
|---------------------|-----|
| None go/has gone | - 1 |
| Only boys | - 2 |
| Only girls | - 3 |
| Both girls and boys | - 4 |
39. Before becoming a farmer, what job were you doing? 76
- | | |
|---------------------------------|-----|
| None | - 1 |
| Manual | - 2 |
| Semi-skilled | - 3 |
| Skilled | - 4 |
| Clerical and other white collar | - 5 |
| Teaching | - 6 |
| Business self-employed | - 7 |
| Technical/blue collar | - 8 |
| Executive/administration | - 9 |
40. What is the education of your spouse 77
41. Does the cooperative run women's classes? 78
- | | |
|-----|-----|
| Yes | - 1 |
| No | - 2 |
42. How many times per year do you have member's meetings?

43. How are your cooperative society officials selected? 80
- Elected by members - 1
Chosen by Union officials - 2
Not applicable - 9
44. Card: 1
45. Name: 2-4
46. How are decisions made in your cooperative society? 5
- By committee officials - 1
By committee members - 2
Some special decisions by officials - 3
Not applicable - 9
47. If you hold meetings what do you discuss? 86
- (a) Running of cooperative - 1
(b) Farming techniques - 2
(c) Both (a) and (b) - 3
(d) Not applicable - 9
48. What position do you hold in the cooperative? 87
- Chairman - 1
Secretary - 2
Committee member - 3
not applicable - 9
49. What position do you hold in the village? 88
- None - 0
Village headman - 1
Unip official - 2
Productivity Committee - 3
50. If a cooperative committee member, how long (years) have you been a committee member? 9-10
- Less than a year - 1
One year - 2
Two years - 3
Three to four years - 4
Five to six years - 5
Seven to eight years - 6
Nine to ten years - 7
More than ten years - 8
Not applicable - 9

51. What property do you have in the house? 11

- (a) None - 0
- (b) Chairs/tables - 1
- (c) Beddings - 2
- (d) Beds - 3
- (e) (b and c) - 4
- (f) (a and d) - 5
- (g) (c and d) - 6
- (h) (b, c and d) - 7

52. Why did you join the cooperative society? 12

- To improve farming - 1
- To earn more money - 2
- To have access to loan - 3
- Market - 4
- Wanted help - 5
- One and two - 6
- Five and two - 7
- Four and two - 8
- three and four - 9

53. For non-members, have you ever been a member of cooperative society? 13

- Yes - 1
- No - 2

54. Give reasons for your answer 14

- Financial - 1
- Poor harvest - 2
- One and two - 3
- Poor - 4
- Old - 5
- One and two - 6
- Don't have enough land - 7
- Not sure - 8
- Three and seven - 9