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A DESCRIPTIVE STUDY OF STAFF AND FARMER PERCEPTIONS OF THE FACTORS INFLUENCING SMALLHOLDER FARMER PARTICIPATION IN EXTENSION ACTIVITIES OF DEDZA HILLS RURAL DEVELOPMENT PROJECT IN THE KAPHUKA AREA (EPA 5)

by

Charles MacPhery Masangano

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ABSTRACT

A DESCRIPTIVE STUDY OF STAFF AND FARMER PERCEPTIONS OF THE FACTORS INFLUENCING SMALLHOLDER FARMER PARTICIPATION IN EXTENSION ACTIVITIES OF DEDZA HILLS RURAL DEVELOPMENT PROJECT IN THE KAPHUKA AREA (EPA 5)

by

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Farmer participation is essential to the success of any agricultural development activity. Most agricultural development projects fail to produce good results because of lack of farmer participation. Dedza Hills Rural Development Project is no exception to this situation.

The aim of this study was to identify factors which influenced farmer participation in extension activities of Dedza Hills Project in EPA 5 in Malawi.

Interview questionnaires were administered to both staff and farmers. The farmers were stratified into three categories of less than 0.7 hectares, 0.7-1.5 hectares, and above 1.5 hectares of land. The responses were compared among the three landholding categories, sex and club membership. It was observed that the smaller landholding farmers were the ones least contacted in the area. Several reasons causing this situation were identified and recommendations to Dedza Hills Project were made.

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Abbreviations

ASA- Annual Survey of Agriculture

ADD- Agriculture Development Division

DHRDP- Dedza Hills Rural Development Project

EPA- Ecological Planning Area (also called extension planning area)

LADD- Lilongwe Agricultural Development Division

NRDP- National Rural Development Program

NRDP IV- National Rural Development Program Phase IV

NSO- National Statistical Office

RDP- Rural Development Project

Vernacular names used

Chichewa - National language in Malawi.

Chewa - An ethnic group in Malawi.

Ganyu - Sell of labor in exchange for food or cash. Commonly practiced in the food deficit periods.

Kwacha - Currency of money in Malawi. One American Dollar is roughly equivalent to 2.5 Kwacha.

Nsima - A thick porridge made from maize or other cereal flour. It can also be made from root or fruit crops like cassava and bananas.

Ndiwo - Relish usually eaten together with nsima.

Yao - An ethnic group in Malawi.

CHAPTER I

INTRODUCTION

Extension is a very essential component in any agricultural development effort. It provides an important communication link between research and the farmer. If the improved technologies developed by research are to be utilized by the farmer, then a good technology transfer mechanism has to be put in place. Extension has in the past and still is being praised in the western world for providing such a mechanism. However, in the developing world, extension has not been very successful. This study was an effort to investigate the reasons why smallholder farmers have tended not to participate in extension activities of the Kaphuka area in the Dedza Hills Rural Development Project in Malawi.

Introduction to Malawi

Malawi is a small country occupying the southern part of the East African Rift Valley, lying between 9 degrees and 17 degrees south of the equator. Its width varies between 80 and 160 kilometers covering an area of 119,140 square kilometers between 33 and 36 degrees east meridians. Twenty percent of the country is covered by water. Malawi shares boundaries with Zambia to the west, Tanzania to the north and east, and Mozambique around the whole southern part of the country. Topography is immensely varied, from the Rift

Valley Floor almost at sea level to mountains rising to 3,000 meters. The total population of the country was estimated in 1985 at about 7 million, growing at the rate of 3.2 percent a year. Table 1 shows the population distribution and density.

Table 1: 1985 Estimated Population Distribution and Density in Malawi

	Urban	Rural	Total	Number of people per square kilometer of land
Northern Region	90,000	730,000	830,000	30
Central Region	225,000	2,475,000	2,700,000	74
Southern Region	450,000	2,970,000	3,480,000	107

SOURCE: National Statistics Office, Zomba, Malawi, 1985.

In 1986, Malawi's Gross Domestic Product (GDP) was estimated to be K2,621 million, with a per capita income of K347 (U.S. $155). Agriculture which employs eighty-five percent of the population and contributed thirty-seven percent of GDP in 1987, dominates economic activity of Malawi.

Since independence in 1964, Malawian agricultural performance has been commended as one of the success stories in Sub-Saharan Africa. According to World Bank estimates, agricultural output in LDCs grew on an average by 2.8

percent and 2.7 percent annually in real terms, during the 1960-70 and 1970-80 decades respectively. The corresponding average annual growth rates for African countries as a whole were 2.7 percent and 1.3 percent respectively, indicating a declining trend. However a few countries in Sub-Saharan Africa (Malawi, Cameroon, Ivory Coast, Rwanda and Swaziland) experienced annual growth rates in agricultural output of 3 percent or more (World Bank, 1982). For Malawi, agricultural output is estimated to have grown annually by 5.0 percent and 3 percent in the periods 1954-69 and 1964-79 respectively (World Bank, 1981).

Evidence tends to suggest, however, that this momentum in agricultural growth has slackened during the later part of the 1980s. In addition, most of the growth seems to have stemmed from the estate sub-sector, while the smallholder sub-sector has remained static. More important is the fact that, while some smallholder farmers experienced good productivity growth performance, others have not (Mkandawire 1988). Generally farmers with larger landholdings are the ones who have experienced growth in agricultural production, but those with smaller landholdings have not. With population growth over time, the number of smaller landholding farmers has grown and this has resulted in widespread poverty which Lele (1988) described as extreme, especially considering that 60 percent of the smallholder farmers cultivate land less than one hectare.

Malawi has one of the highest rates of infant mortality and malnutrition in Africa. Quinn, et. al. (1988) reported that, nationally, a third of all the children born die before they reach their fifth birthday, and that of those who do survive, 55 percent are chronically malnourished. The pre-harvest period in Malawi is characterized by shortages of food, especially for the smaller landholders. Coupled with an upsurge of diseases like malaria, and respiratory tract infections, underweight births increase to as much as 35 percent, compared to 27 percent in the post-harvest period (Center for Social Science Research 1986). Various authors have partly attributed this situation to the agricultural policies of Malawi especially those concerning agricultural extension and training.

History of Agriculture Extension in Malawi

Mkandawire (1987) has provided a good description on how farmer training and extension has evolved from the colonial era to the 1980s. Agricultural extension was first recorded from 1903, when the government distributed free cotton seeds, through the British cotton growers Association, to African farmers who were willing to try and grow the crop. Instructors known as "travelling officers" were dispatched to teach cultural practices associated with cotton production (Dequin, 1970). Although these farmers were not offered adequate support resources like credit and markets, and were often left unprotected from unscrupulous

profiteers, they responded positively towards the European efforts to increase production. In the 1940s, the government attempting to modernize agriculture found it necessary to force the African farmers to increase their farm productivity. This coercion was embodied in the 1946 Natural Resources Ordinance which made it compulsory for all African households to follow certain prescribed farming patterns with emphasis on early land preparation, planting, correct spacing, and uprooting of old crop stalks by certain dates after harvest. Violators of these measures were either fined or made to serve short term prison sentences (Kettlewell, 1965 and Dequin, 1970). The regulatory measures came to be rigorously enforced after 1950 as a result of the 1948 famine which the colonial authorities partly attributed to the weaknesses of the African traditional farming pattern (Kettlewell, 1965). Extension workers saw their role as one of enforcing agricultural regulations, rather than advising farmers. To the farmer, the extension agent was an unpredictable alien, wielding wide but undefined powers, according to unpredictable criteria, and his arrival in a village often caused great panic (Mkandawire, 1987). Some farmers in order to gain the extension agents favor, gave gifts like eggs, chickens or some of their garden products. Others simply avoided the extension agent, often running away to neighboring localities after spotting the extension agent in the village. The "master farmer" system was introduced in the

1950s in an attempt to move towards a more education-oriented extension. This involved the selection and concentration of resources on a group of farmers who were deemed to be progressive. These farmers were called master farmers and they were provided access to loans and permission to grow certain crops such as tobacco, coffee, and tea. They received friendly visits from the extension agent in contrast to the ordinary farmers (Chanock, 1972). Extension, to the master farmers, was supplemented with printed materials. In spite of the persuasive measures accorded to the master farmers, the rest of the African farming community suffered from an extension agency whose primary role was enforcing agricultural regulations. In some cases this caused conflicts between the African farmer and extension agents. Indeed these conflicts were later fueled by a nationalist movement for independence. The nationalist leaders implicitly encouraged civil disobedience, strikes, and a general refusal by the African farmers to cooperate with agricultural extension workers. This movement led to the repeal of all agricultural legislation and with it Malawi attained independence in 1964 (Mkandawire, 1987). The department of agriculture was then directed to abandon all regulatory practices (Bradfield 1966 p 160) and agriculture extension after independence followed an educative and persuasive approach. The philosophy, however, was mainly confined for increasing cash crop production. Research emphasis was also on export-

oriented cash crops like cotton, tobacco, and groundnut which were grown by richer farmers rather than food crops grown by the majority of the smaller farmers. Beginning from the 1960s to the 1970s, the main extension approach was individual visits to farmers. Mass media approach mainly by radio programs, puppet shows, and farmers magazines were used to support the individual visits.

In the 1980s, the government decided to change to a group approach called the block extension approach, which simply is a modified training and visit system. This extension approach requires that the extension worker sub-divides his/her section (working area) into a number of sub-sections, which are called blocks. He/she is supposed to visit each block at least once every two weeks and each block is supposed to have a demonstration garden where farmers are provided with agricultural advice in a practical way. The main advantages of the block extension approach are that (1) a wider cross-section of farmers can be contacted at one time, (2) farmers can learn from each other in addition to learning from the extension worker, and, (3) it is easier for development officers (supervisors) to supervise the extension workers. This extension system is administered through a structure of 8 Agricultural Development Divisions (ADD), which are sub-divided into 30 Agricultural Rural Development Projects (RDP), which are further sub-divided into 173 Ecological Planning Areas

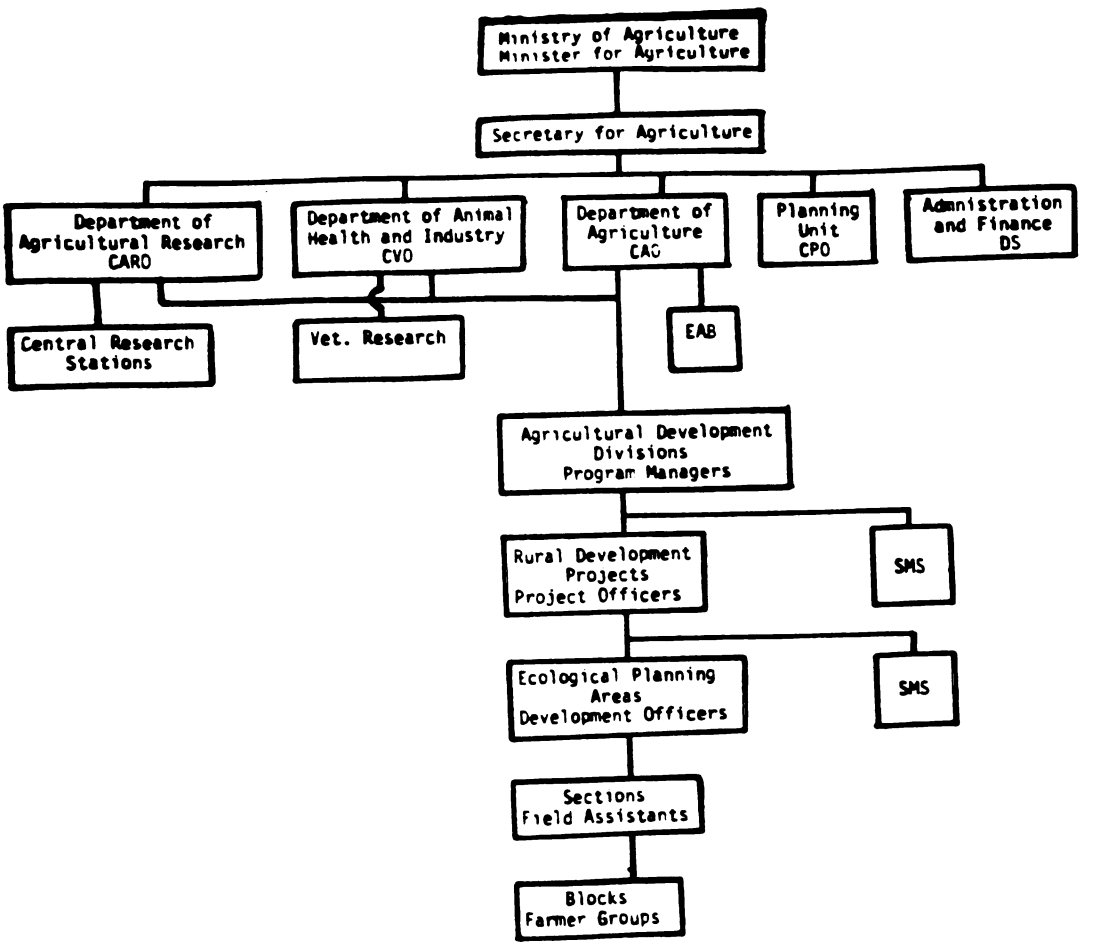
(EPA). See figures I and II for a detailed organization of the Ministry of Agriculture.

Agricultural development activities have been district (area) based since 1968, through the National Rural Development Program (NRDP), whose aim is increased agricultural production for food self-sufficiency and improved living standards for Malawians. Agricultural strategies for smallholder farmers in Malawi is, however, generally accused for being biased towards larger, resource rich farmers leaving the poor unattended to (Carr, 1988; Lele, 1988; Mkandawire, 1988; Mkandawire and Chipande, 1988; Quinn et al, 1988).

The Malawi Government (1987) sub-categorized the smallholder farmers into three categories of (1) those with less than 0.7 hectares of land, (2) those with between 0.7 and 1.5 hectares of land, and (3) those with more than 1.5 hectares of land. The first group constituted thirty five percent while the second group constituted forty percent and the last group constituted twenty five percent of the smallholder farmers.

Dedza Hills Rural Development Project

Dedza Hills Rural Development Project (DHRDP) is one of the 5 agricultural rural development projects in the Lilongwe Agricultural Development Division (LADD), in the Central Region of the country. It shares boundaries with Ntcheu Rural Development Project to the south, Salima



Abbreviations Used in Figure 1

CAO	Chief Agricultural Officer
CARO	Chief Agricultural Research Officer
CPO	Chief Planning Officer
CVO	Chief Verterinary Officer
DS	Deputy Secretary
SMS	Subject matter specialists

Figure 1: Ministry of Agriculture Organisation

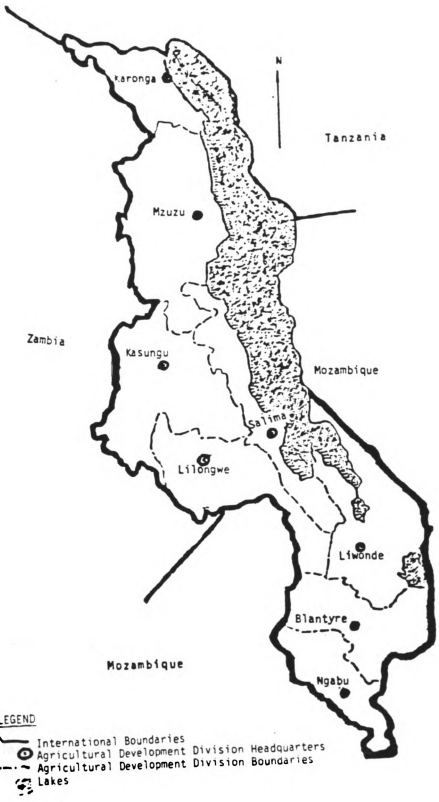


Figure 2: Agricultural Development Division Map of Malawi

Agricultural Development Division to the east, Lilongwe North East Rural Development Project to the north, Thiwi Lifidzi Rural Development Project to the west, and Mozambique to the south west. The total project area is 184,700 hectares of which more than 62,000 hectares is under government reserved forest (NRDP IV documents undated p. 5). Being a transition zone between the Lilongwe plains and the lake shore valley, Dedza Hills is characterized by a hilly dissected landscape, with areas of level ground frequently broken by mountainous areas. The altitude varies widely from 600 to 2000 meters above sea level. Mean annual rainfall varies between 900 and 1,250 mm with the higher rainfall and a more extended rainy season in the southern part of the project. The southern half of the project has a distinctively different cropping pattern from the northern half.

The project is divided into four ecological planning areas (EPA), serving over 40,000 farm households[1] (farm families) through the provision of extension, farmer training, credit services to promote crop production, livestock production, soil conservation and good home management practices. Main crops grown include maize, groundnut, beans, potatoes, fruits and vegetables. The

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[1]Mkandawire (1988) has described the household concept in Malawi as not simply referring to parents and children but that it also includes kin of wider genealogical connection who while providing labor to the household rely on the household head for their maintenance.

average landholding size in the area is 0.9 hectares with sixty three percent of the farmers having less than one hectare of land (ASA, 1988). The average landholding size for these farmers is 0.6 hectares of land.

The project was funded by World Bank from 1983 to 1988 and it was planned that in this period extension/farmer contact would be increased through increased staff/farmer ratio from 1:1,900 to 1:800. Included would be increased staff supervision, increased credit, increased soil and water conservation services, improved animal health and husbandry services, and improved farmer training facilities. By March 1988, the project had 50 extension workers, 7 veterinary assistants, 4 land husbandry assistants, 4 credit assistants, 6 farm home assistants, 7 supervisors, and 11 project level subject matter specialists.

The four EPAs in the project include: Kaphuka, (EPA 5); Mayani, (EPA 6); Kanyama, (EPA 7); and Bembeke, (EPA 8).

Kaphuka (EPA 5)

Kaphuka (EPA 5) covers the northwestern part of the project with 10,274 farm households (project reports, 1989). This EPA consists of gently undulating plains broken by a few small rocky hills and outcrops interlaced with broad concave valley floors. The soils are generally deep well drained dark red clays. Suitable crops for the area include maize, beans, groundnut, pastures, fruits and vegetables.

With 11 extension agents the EPA has a staff/farmer ratio of 1:934.

Justification and Problem Statement

Beneficiary participation is very essential in most rural development efforts. Wimmer (1988) said that the key concept for the purpose of development is to develop the people and not things. Thus, rural development must aim at growth as well as capacity building, among other things. If this is to be achieved, then the rural poor must be involved in the rural development process as actors as well as recipients of rural development. Bunch (1982) said that development is occurring where people are gaining the self-confidence, motivation character traits and knowledge needed to tackle and solve their problems by actually tackling and solving these problems. The key feature in this argument is that the people for which the development is aimed for must actually participate in the development process. Prawl (1988) argues that no amount of government program can accomplish what energetic, motivated and enthusiastic rural people can accomplish for themselves. In agricultural development projects, it is the farmer who actually produces the agricultural products. Governments, or international agencies, working together with governments only provide conditions favorable for higher production. If the farmer decides not to utilize those facilities, development can not occur.

One disturbing factor for most people concerned with development is that the poor tend not to participate in development activities. Griffith (1978) writing on an educational point of view reports that, one of the persistent phenomena which frustrates educators and other social workers alike is that the poor tend not to avail themselves of services while the middle classes regularly utilize them. This has been a major problem to Malawi Government in its National Rural Development Program implementation efforts. In the Dedza Hills Rural Development project for example a major query, expressed by a World Bank Supervisory Mission in 1986, was that the majority of the farmers did not participate in the extension activities. The Mission actually recommended that efforts be made to try and identify the specific constraints which prevent farmers from participating more intensively in the extension activities of Dedza Hills Rural Development Project.

Several suggestions have been made in the literature by various authors as reasons why beneficiaries do not participate in development projects aimed at helping them. Some of those suggestions are:

1. The rural poor are not educated and therefore lack knowledge and the right attitude for change.
2. The rural poor do not have the necessary resources to support the adoption of new technology.

3. Smallholder farmers are not allowed nor encouraged to participate in the planning of development projects and, therefore, fail to identify with the projects.
4. Smallholder farmers lack information about the services available to them.
5. The smallholder farmers feel or are alienated from services.
6. The services being offered by development agencies are not relevant to smallholder farmers.
7. Smallholder farmers had bad historical experiences with government programs so that they are skeptical of any increased governmental interest in their farming activities.
8. Extension workers are not competent enough to educate farmers.
9. Macro-economic policies do not favor smallholder farmers to adopt new technologies.

If Dedza Hills Rural Development Project is to help the smallholder farmers, then reasons as to why they do not avail themselves of services which the project offers have to be identified. This study therefore was an attempt to verify and seek reasons why the smallholder farmers did not participate in the development efforts in EPA 5 of Dedza Hills Rural Development Project.

The Purpose and Objectives of the Study

The primary purpose of this study was to identify the reasons why the majority of the farmers in the smallest landholding size category in EPA 5 of Dedza Hills Rural Development project did not participate in the project's extension activities. Several questions identified in the literature pertaining to the reasons why most of the smallholder farmers do not participate in development projects were investigated. Specifically the research questions were as follows:-

1. Do smallholder farmers have access to extension and credit by Dedza Hills Rural Development Project in EPA 5.?
2. Do smallholder farmers perceive extension activities by Dedza Hills Project as being important to their agricultural production activities?
3. Do smallholder farmers and staff perceive any of the following as contributing factors to their participation in extension and credit activities of Dedza Hills Rural Development project?
    (a) Availability of information
    (b) Availability of resources
    (c) Level of education
    (d) Alienation
4. What are the perceptions of smallholder farmers regarding their confidence in extension agents?

5. Do smallholder farmers think that extension agents spend as much time with them as they do with larger farmers?
6. Do smallholder farmers understand the information given by extension agents?
7. Have smallholder farmers been provided an opportunity to participate in the planning of extension activities?
8. Which of the selected governmental programs seem to influence smallholder farmers' participation in extension programs?
   (a) Marketing
   (b) Price of inputs
   (c) Price of products

Assumptions

1. It was assumed that agricultural development activities by Dedza Hills Rural Development Project were aimed at reaching all the farmers in the project area.
2. It was assumed that in accordance with the Malawi Government and World Bank policies, Dedza Hills Rural Development Project was aimed at helping smallholder farmers to improve their living standards through the provision of agricultural services which would result in increased agricultural production. Malawi's main development objective is reduction of poverty ignorance and disease (Malawi Government, 1987), while World Bank

aims at increasing the productivity of subsistence agriculture as expressed by Robert McNamara[2] when he was addressing the Board of Governors of the World Bank in 1973:-

> The fact that very little has been done over the past two decades to increase the productivity of subsistence agriculture. Neither political programs nor economic plans nor international assistance --- bilateral or multilateral--- have given the problem a serious and sustained attention. The World Bank is no exception. In our more than a century of operations less than $1 billion out of $25 billion of lending has been devoted directly to this problem. It is time for all of us to confront this issue head-on. I suggest that the goal be to increase the production on small farms so that by 1985, their output will be growing at the rate of 5 percent per year. If the goal is met and smallholders maintain that momentum, they can double their annual output between 1985 and the end of the century.

With the above policy statements it was assumed that Dedza Hills Rural Development Project was aimed at helping smallholder farmers to improve their living standards through the provision of agricultural services which would result in increasing agricultural production.

Limitations

1. The study was conducted in EPA 5 of Dedza Hills Rural Development Project. Generalization of the results have therefore been limited to smallholder farmers in EPA 5 of Dedza Hills Rural Development Project.

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[2]Robert McNamara was the president of World Bank at the time he presented the speech to the Board of Governors in Nairobi, Kenya, on September 24, 1973.

2. Out of 10,274 farm households in EPA 5, only 2,887 farmers were listed for sampling. This further limited the generalization of the results to the 2,887 farmers only.
3. Data on monetary income were collected based on farmer perceptions and therefore need to be used with caution since for various reasons farmers may not have reported the exact amounts they earned.

Definition of Terms

1. **Agricultural year-** An agricultural year in Malawi starts on October 1 to September 30.
2. **Blanket recommendations-** This term has been used to mean recommendations made at a national level without taking into consideration area and farmer specific differences.
3. **Credit package** - A credit package consists of one or more types of inputs as a single composite unit that is suitable for a given hectarage, with one set price which includes "credit charges" (Credit Manual 1982). Each credit package is based on recommendations for a particular crop or farm enterprise.
4. **Participation in planning-** in this study referred to farmer participation in the formulation of periodic extension programs, periodic farmer training programs and the planning of any extension activities to be done in a given time frame.

5. **Farmer participation in extension activities** - On the other hand meant farmer's voluntary attendance in extension activities such as meetings, demonstrations field days, and utilization of credit offered by Dedza Hills Rural Development Project.
6. **Medium term loan**- Agricultural credit issued for farm implements like plows, riggers, sprayers, ox-carts, and the like. This loan is supposed to be repaid in 3-5 years depending on the amount of loan and type of implement.
7. **Seasonal credit** - credit issued to farmers for inputs like fertilizer, seed, and chemicals. This loan is normally supposed to be repaid by the end of the agricultural year.
8. **Section** - The area in which an extension worker is assigned to work. The extension worker is expected to work with all the farmers in the section. Normally a section would have about 800 farm households.
9. **Block**- Each extension worker is supposed to sub-divide his section into a number of sub-sections which are called blocks. The extension worker works with the farmers in his/her section in these blocks and he/she is supposed to visit each block at least once every two weeks. Each block is supposed to have a demonstration garden, where recommended agricultural technologies are supposed to be demonstrated.

10. **Clubs/farmers clubs** - Groups of farmers through which smallholder agricultural credit is administered. Inputs are issued to clubs which thereafter distribute them to the individual members of the club. Worth noting is the fact that if a member of the club defaults, the whole club defaults and is not allowed to get credit the following season, neither are the club members allowed to form splinter clubs nor join other clubs (Malawi Government, 1982.)
11. **Smaller farmers** - This term has been used in the study as a relative term generally referring to all the farmers with less than 1.5 hectares of land who are caught up in a poverty situation due to shortage of land and other resources.
12. **Smallest category of farmers-** The phrase smallest category of farmers has been used a few times in the text and it refers to all the farmers with less than 0.7 hectares.
13. **Smallholder farmers-** All the households involved in farming primarily for subsistence needs were referred to as smallholder farmers in this study.
14. **National Rural Development Program (NRAP)-** National Rural Development Program (NRDP) is a concept in Malawi aiming at spreading agricultural production and development to all districts of the country. Thereby promoting the key objective of increasing and sustaining food production and self-sufficiency as well

as increasing cash crop production for the country's needs for agro-industrial development and foreign exchange (Kangaude, 1988.)

15. **Harvesting period-** Between March and May, which is the period when maize is harvested in Malawi.
16. **Resources-** This word has been used to refer to any resources which farmers perceive as necessary for their farming activities.

CHAPTER II

REVIEW OF RELATED LITERATURE AND RESEARCH

Participation of beneficiaries is a central subject to most people working in rural development. Most rural development efforts have failed because of lack of participation by the beneficiaries. Bryant and White (1982) have defined development as increasing the capacity of people to influence their future. They argue that development projects and programs need not only accomplish physical and concrete changes, but should do so in such away that people have a greater capacity to choose and respond to the changes. Development looked at from this angle implies that attention must be given to capacity building, equity, empowerment and sustainability. For all these qualities to be achieved, development, contrary to being only a result of external intervention, must recognize and develop capabilities among the beneficiaries through a fostering of participation. Chambers (1983) said that common people throughout the world recognize that participation is power and that their own knowledge and skills, when put to work in development projects, will strengthen their confidence in their ability to act towards the solution of their problems. Through participation, farmers learn to plan, find solutions to their own problems, and gain self-confidence, pride and the satisfaction of having made significant achievements. They develop the ingenuity and creativity that later enables

them to continue improving their lives and this is crucial to the fulfillment of the broad goal of enabling them to supply their own basic necessities (Wimmer, 1988). The development process should help to enhance skills in people to be able to fulfil their basic needs of food shelter clothing and education.

The problem which exists in most development projects is how to encourage this participation. In Malawi for example, 26 of the 30 agricultural rural development projects have been funded, but evidence still shows that the poorest of the farmers which constitutes the majority of the those with smaller landholdings have not benefited from this development. Mkandawire (1988) makes the observation that attendance at the block in most of the agricultural development divisions in Malawi has not been satisfactory. He argues that most of the poorer farmers such as female headed households have not been effectively reached through the block extension strategy. Observations made in the Salima Agricultural Development Division from the 1982/83 to 1985/86 growing seasons showed that farmers with less than one hectare of land had the least contact with extension workers using all the various extension farmer contact strategies (Mkandawire and Chipande, 1988). Carr (1988) on the other hand points at how agricultural programs have benefited only the above average farmers, leaving the majority of the resource poor household unattended to. He states that:-

Past initiatives in a number of agricultural programs have sought to overcome the constraint on land through the intensification of maize production with a consequent release of resources for other cash crops. Intensification has been fostered through the expanded use of fertilizer and improved maize seed, supported by a growing credit and extension service. These initiatives have resulted in the use of fertilizer by more than 25% of the farming population with about 16% receiving credit. Improved maize seed has not proved widely popular to date and its use has stagnated at less than 10% of the maize area. The programs have assisted the farmers with above average land resources, but have so far had little impact on the majority of resource poor households which face the most serious problems of falling soil fertility and seasonal under-nutrition.

Dedza Hills Rural Development Project is no exception. Table 2 shows fertilizer usage on maize by holding size category in 1987/88 cropping season. Farmers with less land resources are the ones not adopting improved technology in the Dedza Hills Rural Development Project.

Table 2: Improved Seed and Fertilizer Usage by Household Size in 1987/88 Season

Crop	Percentage of households used fertilizer by landholding size category	
	0-1 ha.	1-2 ha.
Local maize	24	53
Hybrid maize	100	100
% of households growing hybrid maize	1.2	2.4

SOURCE: Annual Survey of Agriculture 1987/88

This observation was confirmed by the low participation rate of the farmers with less land as compared to the farmers with larger land resources. In 1987/88 growing season for instance, only three percent of the farmers with less than one hectare of land were contacted while up to twenty one percent of the farmers with between one and two hectares were contacted through individual visits. (See Table 3)

Table 3: Extension Participation Rate by Landholding Category

Extension Activity	Participation rate in Percentage 0-1 ha.	1-2 ha.
Personal visit	3	21
Demonstration	26	50
Meeting	42	50
Day training	0	4

SOURCE: Annual Survey of Agriculture 1987/88

Another observation which was apparent in the Dedza Hills Project was that farmers belonging to credit clubs were the ones having more contacts with extension staff than the non club members, as Table 4 shows.

Table 4: Extension Participation Rate by Club Membership

Extension activity	Member %	Non member %
Personal visit	8.7	1.4
Demonstration	41.3	2.3
Meeting	87.0	2.3
Day training	6.5	1.0

SOURCE: Annual Survey Agriculture 1987/88

Unfortunately there are only very few farmers participating as club members in the project. According to project reports for example, Kaphuka area in 1987/88 season had only 2159 club members out of 10274 farm households giving a club membership percentage of only twenty-one percent. The implication of this situation is that only very few farmers were contacted.

The question which should be raised then is "why should the people who really need the help not be willing to participate in programs designed for them?" Several suggestions have been made in the literature in an attempt to answer this question.

Relevancy

Much has been written about the smallholder farmers failure to participate in extension activities. One is that the technologies involved are not relevant to the farmer. Kallen and Bengtsson (1973) argue that poor farmers do not

avail themselves of services simply because the technology supplied is not directly linked to the existing demand. Belshaw and Hall (1972) also discussed in detail how research conducted in Tropical Africa is not geared to solving farmer problems. They argued that most research conducted in underdeveloped countries is based on the thinking and approach of the sophisticated highly developed western world, seldom oriented in the direction of the countries' development needs. Researchers have tended to have overseas specialized training without any conscious appreciation of the dignity of useful work, subsequently, their research design is to provide the prestige of publication in a scientific journal rather than to bear upon pressing local needs (McMeekan, 1966).

The smaller farmers in Malawi are working under a considerable number of constraints. The first constraint being shortage of land which is increasing with the increasing population pressures (Carr, 1988). This problem leads to two other problems as discussed by Mkandawire (1988). These include shortage of labor and shortage of income. The household size in Malawi is generally large, averaging 5 persons. Wealthier households are generally larger and therefore tend to have more labor available than poorer households which are in most cases those with less landholding. This labor constraint is even worse in single female headed households, since there is no adult male. The smaller households are also the ones who generally tend

to be poor. This can be explained by the shortage of land and labor which are factors of production. These smaller households therefore tend to have seasonal food shortages during the growing season and are therefore forced to engage themselves in ganyu (selling of labor to other farmers with payment in cash or kind) in exchange for food at a period where labor is most needed in their own fields. This results in their gardens being left unattended with the consequent result of low yields and food shortage for the next growing season.

The most urgent need for these farmers therefore is food and not cash. Their first objective is to achieve food self sufficiency. Technologies which could be most acceptable to these farmers are therefore, those which aim at food self sufficiency at the household level. Secondly, the technologies have to be labor saving and requiring low capital investment. Contrary to this, the technologies which are currently available in Malawi are capital and labor intensive.

A good example is maize, whereby the improved varieties available in the country are dent hybrids, which require heavy fertilization and good cultural practices. They are considered by the farmers as only suitable for cash crop production. They don't render themselves suitable to the traditional food processing procedures and storage practices (Carr, 1988; Ellis, 1958 , Kydd, 1988). Carr (1988) made an

observation on the kinds of technologies being demonstrated:-

> The second is --- the content of the demonstrations which are offered. These are related to the practices of credit club members and focus particularly on farming methods which rely heavily on purchased inputs. The maize demonstrations show clearly what could be achieved if farmers had cash and labor resources to obtain all the necessary inputs and carry out all the necessary operations in a timely manner. They practically offer little practical help to those who can not afford the inputs and are short of labor, who in most areas constitute the majority of farmers. This limits their interest and thereby reduce the numbers contacted by extension through the block demonstration. Both the block demonstrations and the "Mzuzu System" micro plots[3] would benefit from designs which dealt more specifically with the needs of this majority and include the particular problems of female headed households.

This implies that the technologies being promoted by extension in the country may not be relevant to most of the farmers. This study has therefore investigated, whether this situation was true in EPA 5 of Dedza Hills Rural Development Project.

Alienation

Another factor identified in the literature as contributing to the lack of participation of the poor in development activities is alienation. Griffith (1978) stated that the poor, are alienated from social services and hence don't participate in them. Mkandawire (1988) also made the statement that:-

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[3]Mzuzu System Micro-plots is a new extension strategy being tried in Mzuzu Agricultural Development Division.

> The majority --of small farmers perceive the block as largely designed for the better off large farmers who are credit users.

This situation may be making the small farmers feel alienated from agricultural extension activities, especially the block system. This study investigated whether this situation was true in EPA 5, and if so why?

Education

Inadequate formal education has been cited by some authors as a reason for lack of participation by the poor in development projects designed especially for them. Wharton (1963) said that the transmission and acquisition of certain kinds of knowledge facilitate or improve the transmission of further knowledge. He argued that even though it is possible to train an illiterate person, it is definitely much easier to train a literate person. More importantly he argued that education, apart from helping farmers to acquire simple skills of writing, reading and simple calculations which facilitate communication (e.g. reading simple technical papers), it increases farmers inquisitiveness which results in self discovery of knowledge concerning farming. It widens the scope of decision making, it stimulates motivation and induces frustration which usually leads to heightened personal and political activity with some important economic consequences. Basic education enables the farmer to engage in the general process of improved rationality or thinking through problems and not

merely accepting them as unchangeable givens. Given the right type of education farmers are able to question their value systems and cultural weaknesses. Farmers with some basic education have a good attitude towards change and are more willing to seek and try new information. This makes them more willing to participate in development programs like agricultural extension. They are also more willing to accept new technologies. Noor (1980) said that basic education, especially when relevant to the needs of the people leads to more production. In his paper "education lending for the poor" he stated:-

> Experience and research show that educated farmers are more productive than uneducated, particularly in modernizing agricultural environments. In South and East Asia, for instance, surveys have indicated that four years of school education directly results in about an 8 percent increase in the earnings of the small farmers.

This study therefore investigated what role if any farmer education contributed to farmer participation in extension and credit activities of Dedza Hills Rural Development Project in the Kaphuka area (EPA 5).

Participation in Planning

Much has been written on participation for empowerment. If a development program has been planned without the farmers' or beneficiaries' involvement or participation in the planning process they likely will not identify with it. People know that participation is power. When their indigenous knowledge and skills are put to work in

development projects they gain confidence in their ability to act together towards the solution of their own problems. (Chambers, 1983). Fals-Borda (1985) made the statement that:-

> Common people want to have their knowledge systematized, objectified by their own collectives, advanced consciously by their own sages while being aware of other knowledge so that their wisdom is seen and respected as scientific as any other.

Participation in the planning of development programs creates a feeling in the disadvantaged that they have a say in what is done, how it is done and how it is evaluated. Involvement of farmers in the planning of development programs ensures respect for local culture, an appreciation or consideration of farmer objectives and an orientation toward felt needs of the farming community (Wimmer, 1988). The study therefore investigated the question whether farmers had been involved in the planning of extension activities, farmer training and credit by Dedza Hills Rural Development Project in the Kaphuka area (EPA 5).

Resource Availability

Resources available to farm households are very instrumental in influencing the utilization of technology in Agriculture (Swanson, 1982). Despite the fact that farmers know very well that usage of fertilizer increases their maize yields substantially, this technology has only been adopted by 25 percent of the farming community in Malawi

(Carr, 1988). This situation is so, simply because the majority of the farmers can not afford fertilizer.

It has been observed that limited resource farmers in Salima A.D.D. and else where in Malawi fail to participate in credit because of a number of reasons. First, these farmers fear that if they fail to repay the loan their household property will be confiscated and sold at much lower prices than their real value in order to recover the credit as quickly as possible. Second, being that credit is issued to farmer clubs, the club officials usually feel that in the interest of all the club members, only credit-worthy farmers are recommended. Extension workers and credit officials also prefer lending to larger resource rich farmers because this involves lower costs and lower risks (Carr, 1988; Mkandawire, 1988; Mkandawire and Chipande, 1988).

Coupled with this situation is the general feeling among the smaller resource poor farmers that extension is only for larger, resource rich and credit worthy farmers. This is, as was discussed on earlier, the technologies currently being recommended by extension are capital and labor intensive which are only possible to farmers who have these resources. These observations agree with O'keefe (1977) who observed, that people with higher incomes tend to participate more in education programs than people with lower incomes. Resource availability was therefore included as an item influencing farmer participation in extension and

credit by Dedza Hills Rural Development Project in the Kaphuka area.

Attention by Extension Staff

Holdcraft and Jones (1982) reported that participation by almost all segments of society including the landless and nearly landless was rarely accomplished in almost all community development programs implemented in the 1960's and before. They indicated that in most instances community development workers tended to identify with traditional elites to whom most of the program benefits accrued. Mkandawire and Chipande (1988) on the other hand made the following observation.

> The problems associated with smallholder access to inputs also apply to their access to extension. This arises because in Malawi input credit is closely linked to extension and innovation adoption. Extension staff, because of their role in credit administration, have used their prerogative as a means of ensuring that anybody who gets credit follows the husbandry practices prescribed in the extension messages. As such extension has tended to be linked to credit, hence those with limited access to credit have also experienced limited access to extension. And the majority of these have been the low resource endowed farmers, such as those with less than a hectare of land, and female headed households.

The above observations imply that the smaller and resource poor farmers may have been systematically left out or bypassed by extension services, while the larger resource rich farmers benefited. The study therefore investigated whether farmers perceived that extension workers were assisting them as much as other farmers.

Historical Disappointments

Jones and Egli (1984) had discussed problems observed in the lake region highlands of Burundi, Rwanda and Zaire, where they noted that farmers were unwilling to participate in agricultural development activities, for historical reasons. Colonial governments used to force farmers to make soil and water conservation structures and because of that experience, even after independence they were always suspicious of any increased governmental interest in their farming activities. Colonial government in Malawi, then Nyasaland, used a similar technique to African farmers to accomplish specific cultural practices done. Fines were imposed on resistant farmers and indeed some farmers were sentenced to prison (Kettlewell, 1965; Kydd and Spooner, 1987; Mkandawire, 1987). Extension workers saw themselves as law enforcers and not educators. Some farmers in order to gain favor with the extension workers, used to give them gifts like eggs, chickens and farm products. Other farmers simply avoided the extension worker by running away from their villages at the sight of the extension worker.

Mkandawire (1988) has discussed another form of fear by farmers on extension agents in the Salima Agricultural Development Division. This fear has developed as a result of the credit recovery procedures used.

> Generally--- most smallholders are unable to obtain inputs because they are simply afraid of getting credit. This fear is particularly related to farmers past experiences with respect to the mechanisms that are associated with credit recoveries. Soon after the

> harvest period extension workers working in conjunction with credit assistants devote a considerable proportion of their time to credit campaigns. A series of meetings are held in the villages to urge farmers to pay their credit in time. These meetings are not only associated with various forms of exhortations reminding farmers to pay back their credit, but also in some cases considerable coercive measures are used to have the credit recovered.
>
> In our discussions with farmers, most of them particularly expressed the fear of having their property confiscated in case of default. Past experience has shown that defaulters stand to lose such property as furniture bicycles, radios, ploughs, riggers, oxcart as well as food. These items are usually confiscated from credit defaulters to defray any credit taken. The property taken is usually sold below its real value.
>
> Defaulters not only stand losing their personal property, but also stand being barred and jeopardizing all other members in their group the opportunity of getting credit almost permanently unless the default is corrected. Most farmers are resentful of these unconventional means of credit recovery.

In the same report he made another observation that most farmers associated extension meetings, especially block meetings with credit issuing and recovery. He noted that prior to credit issuing block meeting attendance rose, but, soon after credit was issued attendance dropped considerably. It seems, therefore, that those farmers who feared to participate in credit may also have elected not to participate in other extension activities for similar reasons.

This study investigated to see what influenced farmers participation in extension and credit offered by the Dedza Hills Rural Development Project.

Lack of Information

It has also been proposed that the poor or smallholder farmers sometimes do not participate in development programs because they lack information about the existence and availability of such programs (Griffith, 1978).
A mid-term evaluation study of the Salima Agricultural Development Division in 1988 revealed that some farmers, especially female headed households, did not know of the existence of an extension advisory service.

Availability of information about the existence and availability of extension and credit services was therefore investigated to determine whether it contributed to farmer participation in the services.

Macro-economic Factors

Morss and Gow (1985) have cited Macro-economic policies as a factor which could affect adoption of technology. They have cited some examples which can limit smaller farmers capability to adopt technology.

(a) Domestic price ceilings imposed to promote exports may kill the incentive for farmers to adopt agricultural innovations.

(b) Import tariffs or quotas designed to foster domestic production of fertilizers, chemicals, and farm implements may increase production costs and lower incentives to produce.

(c) Restrictive monetary policies may limit the access of small farmers to credit.

In the Malawian situation a problem which may seem obvious is that of high prices of inputs (fertilizers, chemicals) and equipment. This is because of high transport costs resulting from two problems. First, Malawi is a landlocked country and hence imported goods have to come by long distances on land. Second, the shortest import route which is through Mozambique, is not operational due to instability in that country (Lele, 1988). Imports, therefore, come through Tanzania or South Africa which are longer routes and consequently more expensive. It is therefore reasonable to think that macro-economic factors like price of inputs may limit farmers ability to adopt technology and consequently their participation in extension and credit offered by the Dedza Hills Rural Development Project. Farmer perceptions of selected macro-economic factors were investigated.

Summary

Lack of farmer participation in extension has been identified as a major factor contributing to the failure of most agricultural development projects. Several suggestion were identified in the literature as reasons why farmers do not participate in development projects. These reasons included the following;

(a) Irrelevancy of the extension activities to the smallholder farmers.

(b) Smallholder farmers are alienated from extension activities.

(c) Smallholder farmers lack education and therefore do not participate in extension activities.

(d) Smallholder farmers do not think that the extension activities are aimed at helping them since they do not participate in their planning.

(e) Smallholder farmers do not participate in extension activities because they do not have the necessary resources to support those resources.

(f) Extension staff do not give sufficient attention to the smallholder farmers and hence the smallholder farmer do not participate in extension activities.

(g) Some historical factors concerning extension have disappointed farmers and hence they do not participate in extension.

(h) Smallholder farmers have not been provided information about the existence and or the availability of extension services and hence do not participate in them.

(i) Macro-economic factors have discouraged farmers from participating in extension activities.

CHAPTER III

DESIGN AND METHODOLOGY

The methodology was designed to obtain farmer and extension staff perceptions on the various aspects discussed in the objectives section. Interviews were used for two main reasons. Literacy rates in Malawi are recorded at 25 percent (Malawi Government, 1987) and because of this, face to face interviews were found to be most appropriate. Secondly, interviews provided a good forum for probing for more information where necessary. Both closed and open ended questions were used. Frequency counts and percentages were the main tools used to analyze the data.

Design

This study involved three stratified sampling of farmers. Additionally all extension workers, including subject matter specialists in the EPA, and some project level subject matter specialists were also interviewed. Farmers were stratified into three categories of less than 0.7 hectares, 0.7-1.5 hectares and above 1.5 hectares. There were 692 farmers in the less than 0.7 hectare category, 1322 farmers in the 0.7-1.5 hectare category and 873 farmers in the above 1.5 hectare category. This yielded ratios of twenty four percent, forty six percent and thirty percent. Seventy farmers were sampled from the less than 0.7 hectares and the sizes of the other two samples were determined proportionally using seventy as a base. The

result was 135 farmers from the middle category and 87 farmers from the above 1.5 hectare category. Twenty-two extension staff members in EPA 5 and at the project headquarters were interviewed.

Population

The target population of the study constituted all the farmers, extension workers and subject matter specialists in EPA 5, as well as all subject matter specialists at the project headquarters. In the period between February and March 1988, extension workers in the EPA were requested to compile lists of farmers from their sections in three categories;

(a) those farmers with less than 0.7 hectares of land, (b) those farmers with between 0.7 and 1.5 hectares of land, and (c) those farmers with more than 1.5 hectares of land. The lists were required in these three categories for purposes of obtaining stratified samples according to landholding size categories. The use of extension workers in this process was necessitated by the fact that extension workers were assumed to have the best idea of the landholding sizes of various farmers, since they use the same sort of information for preparing crop estimates. A list of 2,887 farmers was obtained; 692 farmers had less than 0.7 hectares of land, 1,322 farmers with between 0.7 and 1.5 hectares of land and 873 farmers with more than 1.5

hectares of land. This resulted in a ratio of 24 percent, 46 percent and 30 percent, respectively.

Nationally the distribution of farmers in these landholding categories are reported at 35 percent for those with less than 0.7 hectares, 40 percent for those with 0.7 to 1.5 hectares and 25 percent for those with more than 1.5 hectares (Malawi Government, 1987). The total number of smallholder farmers in EPA 5 is reported at 10,274 farm households (Dedza Hills Progress Report, April 1988-February 1989). Most of the extension workers indicated that they were unable to obtain the total list of farm households in their sections because of other commitments.

Nine of the eleven field assistants in the EPA were interviewed. Two were not available in the EPA at the time of the interview. Others interviewed included the Development Officer (Supervisor at the EPA level), farm home assistant (women's program specialist at the EPA), land husbandry field assistant, credit assistant, Acting Project Officer for Dedza Hills Project and ten other subject matter project specialists including; livestock, horticulture, training, research, land husbandry, credit and women's program.

Subject Selection

Stratified sampling procedures were used to determine the subjects to be used in the study. Seventy subjects were sampled from the smallest population, farmers with less than

0.7 hectares. The sample sizes of the other two groups were proportionally determined from this base giving resulting figures of 135 for the 0.7 to 1.5 hectare category, and 87 for the above 1.5 hectare category. Tables of random numbers were used for the stratified random sampling.

Twenty two extension workers and subject matter specialists were interviewed. Since subject matter specialists at the project level work with staff and farmers in the project including those of EPA 5, they were interviewed using the same instrument administered to staff in EPA 5.

Instrumentation

Two sets of questionnaires, one for farmers and another for staff, were developed by the researcher in the Winter term of 1989 at Michigan State University (see Appendix I and II). These instruments were reviewed by four experts including two faculty members from the University of Malawi's College of Agriculture and two senior officers in the Ministry of Agriculture in Malawi. Changes were made based on constructive comments. The farmers questionnaire was translated into Chichewa, (a language which all the farmers and interviewers involved in the study were able to speak and understand), by the researcher with the help of three other people of the Chewa speaking tribe. The translation of the farmers questionnaire was necessary to

reduce interviewer biases. The staff questionnaire was administered in English since all the staff members were able to understand and speak English competently.

All the questionnaires were pilot tested in Bembeke (EPA 8) of Dedza Hills Project. The items identified as ambiguous were rephrased. EPA 8 was chosen because; (1) it is on the Southern end of the project, where there was least likelihood of having farmers from Kaphuka (EPA 5) exposed to the instrument, (2) farmers in Bembeke (EPA 8) spoke and understood Chichewa very well, and (3) EPA 8 farmers were exposed to extension and Credit Services offered by Dedza Hills Project.

The reliability of the instruments was obtained by a test retest procedure using farmers and staff from EPA 8. The farmer's questionnaire gave a reliability of 0.85. Ten farmers were originally sampled for the pilot testing and reliability measurement but only eight were available for the second interview. Seven extension staff participated in the first set of interviews but only four were available for the second interview.

Recruitment of Enumerators

Four enumerators were used in the study. Three were school leavers who were recruited specifically for this job. The fourth enumerator was a government employee working as an enumerator for the National Statistics Office, who at the time of the study was made available to work with his

colleagues in the field. The criteria for recruiting the 3 enumerators were as follows:

(1) Minimum educational level of MCE (equivalent to Cambridge O level certificate).

(2) Able to speak and write Chichewa and English fluently.

(3) Must have a bicycle

A two week training program was conducted for the enumerators by the researcher with the assistance of a faculty member from the University of Malawi's College of Agriculture and a Monitoring and Evaluation Senior Field Supervisor from the Lilongwe Agricultural Development Division. The purpose of this training was similar to the one described by Snedecor (1950) which included:

(1) To acquaint the enumerators with the questionnaire and the objectives of the study.

(2) To develop skills on how to establish rapport with farmers and techniques for probing during the interview.

The course, held at the Dedza Hills Project headquarters, consisted of three days of discussing the contents of the questionnaire, interview procedures, and two days of field practice in Bembeke (EPA 8). During the last week of the course, the enumerators were attached to Government Enumerators so as to give them an opportunity to

learn from the experienced enumerators. Staff interviews were conducted by the researcher.

Conditions of Testing

The interviews were conducted in May which coincided with the harvesting of maize in the EPA. Wherever possible farmers were met at their homes usually in the afternoon or evening following their field work activities. In the few cases where it was difficult to find the farmers at their homes, interviews were held in the fields. Staff members were visited either at their homes or in their offices in the afternoon hours when they had returned from their field activities.

Data Analysis

The questions asked yielded frequency of responses which were compared among the three landholding size categories, sex, and club membership. The choice of the three factors: landholding size, sex and club membership, was based on earlier studies done in Malawi, which indicated that these factors tend to be associated with the poverty level of the farmers (Mkandawire, 1988).

Summary

The study was designed to learn the perceptions of smallholder farmers and staff of the factors influencing

farmer participation in extension activities. The questions asked were:

(a) Did the farmers have access to extension?

(b) Did the farmers perceive extension activities as relevant to their farming,

(c) Did the farmers perceive the following as contributing factors to their participation in extension activities in EPA 5?

1 availability of information,

2 availability of resources,

3 level of education,

4 alienation,

5 farmers' confidence in extension agents

(d) Did the farmers perceive that extension agents spent as much time with them as they did with other farmers?

(e) Did the farmers understand the information provided by the extension agents?

(f) Were the farmers provided with the opportunity to participate in the planning of extension activities?

(g) Did selected macro-economic activities influence farmer participation in extension activities?

Stratified samples of farmers and all staff in EPA 5 and at Dedza Hills Project Headquarters were used for the study. Interviews were used for data collection.

Interviewers were recruited in Dedza, and were trained at the Dedza Hills Project Headquarters. The data were summarized using frequencies and percentages. Comparisons were made between the three landholding size categories, club and non club members, male and female farmers. A problem faced in the field was that not all of the farmers needed were listed for the sampling procedures and therefore, the generalization of the findings was limited.

CHAPTER IV

PRESENTATION OF DATA

Presentation of the results begins with a general description of the sample, and thereafter each result has been presented according to each question as discussed in the first chapter. The major findings of the study were that:

(a) The majority of the women farmers were found in the smallest landholding size category.

(b) Club membership tended to increase as the size of landholdings increased.

(c) Most of the farmers with smaller landholdings felt that they had no access to both credit and extension by Dedza Hills Project.

(d) Extension staff/farmer contact increased as the size of landholdings increased.

(e) Farmers identified several factors which they perceived as limiting their access to extension and credit by Dedza Hills Project.

(f) There were more non club-members who felt that they had no access to extension than club members.

(g) Club members had more contacts with extension staff than non-club members.

(h) A considerable percentage of non-club members were not sure of the relevancy of extension and credit services to their farming.

(i) While most of the farmers received information about meeting times with the extension agent, a considerable percentage of the non-club members did not.

(j) Availability of resources was a limiting factor to the farmers' ability to utilize extension recommendations. Farmers with smaller landholdings earned less incomes than farmers with larger landholdings. Male household heads earned more income than female household heads. Farmers belonging to clubs obtained higher incomes than farmers who did not belong to clubs.

(k) Extension staff perceived that farmers with less education were slow to understand new technologies than farmers with more education.

(l) Most of the farmers were not provided an opportunity to participate in the planning of extension activities.

(m) Most farmers perceived that prices of inputs were very high while those of products were very low.

(n) Some farmers perceived that marketing facilities were very far away.

A General Description of the Samples

Out of 292 farm households interviewed five cases, one case from the 0.7-1.5 hectare category, and four cases from

the above 1.5 hectare category were rejected for inconsistency of responses.

The average household size for the whole sample in the study was 5.6 persons, of which, the less than 0.7 hectare and the 0.7-1.5 hectare categories averaged 5.6 while the above 1.5 hectare category averaged 5.8. More than eighty percent of the farmers were of ages between 20 and 60 years (Table 5).

Table 5: Distribution of Farmers According to Age Categories

Age groups	number of farmers	percent
Less than 20 years	4	1.4
21-30	42	14.7
31-40	87	30.4
41-50	69	24.1
51-60	48	16.8
61-70	28	9.8
Above 70	8	2.8
Total	286	100

* one non respondent

There were 157 men and 130 women in the sample. The majority of the women were found in the less than 0.7 hectare category (See Table 6 below). Nearly fifty-three percent of the farmers in the less than 0.7 hectare category

were women while almost thirty percent of the farmers in the above 1.5 hectare category group were women. Despite the fact that the prevalent ethnic groups in the area were Chewa and Yao, who follow the matrilineal system of inheritance,[4] households headed by male farmers appeared to be holding more land than households headed by women.

Table 6: Distribution of Farmer Sex by Landholding Category

Sex	< 0.7 ha.		0.7-1.5 ha.		> 1.5 ha.	
	number	%	number	%	number	%
male	33	47.1	70	52.2	54	65.1
female	37	52.9	64	47.8	29	34.9
Total	70	100	134	100	83	100

There were more farmers as club members than non club members in each of the landholding size categories. However, club membership tended to increase as size of landholding increased. Seventy six percent of the farmers in the above 1.5 hectare landholding size category, for instance, were club members compared to only fifty one percent of the farmers in the less than 0.7 hectare

[4]The matrilineal system as described by Mkandawire (1988) is a system whereby people in a village give considerable weight to the right of the mother to remain with her kinsmen and to control her offspring with the father having little control over both the wife and the children. Inheritance of the household land in this system is passed on from the mother to her female children.

landholding size category (Table7). It should be noted however, that the sample seems to have been biased towards club members since, according to project reports, only 21 percent of the farmers in the EPA were club members while there were over seventy percent club members in the sample. This was explained by the fact that only 2,887 farmers were listed for sampling, out of a total number of 10274 farm households in the area.

Table 7: Club membership of Farmers Based on Landholding Size

Club membership	0.7 ha. number	%	0.7-1.5 ha. number	%	> 1.5 ha. number	%
member	36	51.4	105	78.4	63	75.9
non-member	33	47.1	24	17.9	16	19.3
non-response	1	1.5	5	3.7	4	4.8
Total	70	100	134	100	83	100

Smallholder Farmer's Access to Credit

The fact that a higher proportion of the smallest farmers were not club members, indicated that they did not participate in the Dedza Hills Project credit program. Smallholder farmer credit in Malawi is issued in-kind to farmer clubs which in turn issue the proceeds to individual club members. Any farmer who does not belong to a club

would therefore not participate in credit. This was confirmed by the fact that seventy percent of the farmers in the smallest landholding category group said that they had no access to credit (Table 8).

Table 8: Farmer Perception of Access to Credit According to Landholding Size

Farmer perception of access to credit	< 0.7 ha. number	%	0.7-1.5 ha. number	%	>1.5 ha. number	%
yes	49	70.0	64	47.8	43	51.8
no	19	27.1	65	48.5	39	46.9
non responses	2	2.9	5	3.7	1	1.2
Total	70	100	134	100	83	100

In Table 9, factors are listed which were perceived to limit the farmers' access to credit. The first factor relates to the procedures used for recovering credit. Soon after harvest, both extension and credit staff spend a

Table 9: Factors Perceived by Farmers as Limiting Their Access to Credit

	Number of responses	% of total responses
Fear of losing personal property during credit recovery campaigns	42	27.5
Fear of crop failure	28	18.3
Shortage of land for gardening	26	17.0
Farmer was not allowed credit because he/she was poor	18	11.8
Being single woman, farmer could not manage the loan	10	6.5
Handicapped, old age, sickness	29	18.9
Total non duplicative responses	153	100

considerable time conducting credit recovery campaigns. The campaigns involve conducting meetings reminding farmers to repay their loans. Meetings are used to exhort the farmers and at times some degree of force may be used to achieve compliance. For example, a club that fails to repay its loan by September 30, which is the last day farmers are expected to repay their loan, will have to sell property belonging to club members to pay the loan. Usually this property, which normally includes such items as radios, sewing machines, bicycles, farm implements, livestock (cattle, goats, and sheep), crops (maize, beans, groundnuts), is sold below its real value in order to raise money quickly and recover the loan. This practice

discourages many farmers from using credit to finance farm operations.

A second factor that seems to limit farmers accessing credit is fear of unforseen circumstances. Most of the farmers indicated that they did not participate in credit for fear of crop failure. This could result in lack of resources to repay the loan often resulting in the repercussions as discussed in the previous paragraph. Since most of the farmers discussed in the study, especially those with less land, were living in conditions of extreme poverty, uncertainty reminded them of their fragile existence. Therefore, these farmers were not very willing to accept something which had posed a high degree of uncertainty. The fact that a farmer stood a chance of having his food (maize) confiscated, in the event of failure to repay the loan, impacted significantly on the decision to participate in credit. In most cases the farmer chose not to participate.

The third factor that farmers cited as limiting their access to credit was shortage of land. This problem was basically related to the credit package concept. Credit was issued as a package consisting of a collection of inputs (fertilizers, seeds, chemicals) for a specific recommended hectarage or area. A farmer could only apply for a specific package. If the farmer happened to have a garden smaller than the hectarage on which the amount of inputs were calculated, then he/she ended up with excess inputs. The

cost of those inputs significantly influenced the farmer's profit/loss ledger. Seventeen percent of the farmers indicated that they would have participated in credit had they been allowed to get one or two 50 kilogram bags of fertilizer for their maize crop as opposed to four bags which the credit package required. Farmers with larger landholdings therefore tended to be the ones in a better position to apply for the credit packages than the farmers with smaller landholdings. However, some farmers indicated that their landholdings were too small for the credit to be profitable. They therefore suggested that credit should be diverted into other business ventures like poultry production, pot making, basket and mat weaving, and carpentry.

The fourth reason given for not participating in credit was their perceived poverty. Seasonal credit for smallholders in the country is issued in-kind to farmer clubs which in turn distribute the inputs (fertilizers, seed, chemicals) to the individual members in the club. Recovery of the credit is the responsibility of the club officials. The advantages of this arrangement are;

1) Reduced administrative costs by reducing the number of accounts,
2) Encouragement of farmers to do development work on a community basis. Farmers could learn from each other and also help each other in difficult situations, and

3) Improved delivery of extension messages to the farmers.

Despite these advantages the club approach is faced with a major problem. If a member of a club fails to repay the loan the whole club is prevented from accessing credit until the outstanding balance is paid in full. The disadvantaged members are neither allowed to form a new club nor join other clubs. Consequently, club leaders tend to be very strict in the selection of farmers eligible to obtain credit. Any farmer not considered credit worthy is not approved for credit. Thusly, poor farmers are screened out in this process. Both extension and credit staff also prefer lending to larger resource rich farmers in order to reduce risks of default.

About seven percent of the farmers, especially those from single female-headed households indicated that due to limitations associated with their situation, they could not manage credit. Labor constraint was their main concern. The absence of a man in the household, created a labor shortage in the household. In addition to farming responsibilities, women are involved in household activities i.e., taking care of children, preparing food for the family, and other labor demanding household duties.

Finally several farmers indicated that they didn't participate in credit because of various handicaps such as, illness and old age.

Smallholder Farmer Access to Extension

The majority of farmers in all the landholding categories perceived themselves as being limited in their accessing extension services. Of interest is the fact that more farmers in the smallest landholding size category perceived themselves as being limited in accessing extension services compared to the other two landholding categories, (eighty percent as opposed to only sixty four percent), (Table 10).

Table 10: Farmer perception of Factors limiting Access to Extension According to Landholding Size

Farmer perception of factors limiting access to extension	< 0.7 ha.		0.7-1.5 ha.		> 1.5 ha.	
	number	%	number	%	number	%
yes	56	80.0	86	64.2	53	63.9
no	13	18.6	45	33.6	29	34.9
non responses	1	1.4	3	2.2	1	1.2
Total	70	100	134	100	83	100

This finding is consistent with the findings of the Annual Survey of Agriculture in 1987/88 season which showed that only twenty six percent of the farmers with less than one hectare of land were contacted through demonstrations compared to farmers with between one and two hectares of land where fifty percent were contacted (see Table 3 in

Chapter 2). It should be noted here that fifty five percent of the farmers in the area had less than one hectare. Conclusions could be made therefore, that only a few farmers in the area were being contacted.

In Table 11, farmer responses are listed pertaining to the factors they perceived as limiting their access to extension. Thirty-three percent of the farmers said that extension workers tended to work only with club members. This perception was supported by the fact that a higher proportion of club members were being contacted by extension agents than were non club members. Ninety five percent of the club members were contacted compared to sixty five percent of the non club members. See Table 12. This is consistent with the findings of the Annual Survey of Agriculture in 1987/88 crop season which showed that more farmers in the clubs were being contacted but non club members were not (see Table 4 in Chapter 2). This was understandable being that as Mkandawire (1988) discussed, most of the extension workers in the country think that the judgement of their performance is based on how they perform on credit issues and recoveries. They therefore tended to spend more time with the credit borrowers than the non borrowers.

The second factor perceived by farmers as limiting their access to extension was that they did not get information about extension activities in their area. They simply were never invited.

Table 11: Factors Perceived by Farmers as Limiting Their Access to Extension

Factor	Number of Responses	% of Total
Extension workers don't work with non club members	40	32.8
Farmer was never invited	30	24.6
Other engagements and duties	23	18.8
Funerals sickness old age and other handicaps	29	23.8
Total non duplicative responses	122	100

Table 12: Farmer Attendance to Extension Activities According to Club Membership

Farmer attendance at the block	club member number	%	non club member number	%
yes	197	97.0	43	65.2
no	6	3.0	23	34.8
Total	203	100	66	100

* Non responses: 18

Eighty two percent of the non club members perceived that they had limiting factors to their access to extension as compared to sixty three percent of the club members (Table 13).

Table 13: Farmer Perception of Access to Extension by Club Membership

Whether farmer had access to extension	Member		Non member	
	number	%	number	%
Yes	128	63.4	58	81.7
No	74	36.6	13	18.3
Total	202	100	71	100

* non responses: 14

Relevancy of Extension and Credit

Relevancy of Extension

A higher percentage (more than seventy eight percent) of the farmers, regardless of the size of their landholdings perceived extension activities by the Dedza Hills Project as relevant to their farming activities (Table 14).

Table 14: Farmer Perception of Relevancy of Extension by Landholding

Was extension relevant?	< 0.7 ha. number	%	0.7-1.5 ha. number	%	> 1.5 ha. number	%
yes	56	80.0	105	78.4	70	84.3
no	4	5.7	6	4.5	6	7.3
Non responses	10	14.3	23	17.1	7	8.4
Total	70	100	134	100	83	100

However, as Table 15 denotes, a significant number of non-club members (thirty seven percent) were uncertain if the extension activities of the project were relevant for their farming. This may be explained by the fact that most of the non club members did not have access to extension.

Table 15: Farmers Perception of Relevancy of Extension According to Club Membership

Was extension relevant?	club member		non club member	
	number	%	number	%
yes	195	95.5	37	50.7
no	5	2.5	9	12.3
not sure	4	2.0	27	37.0
Total	204	100	73	100

* non responses: 10

Relevancy of Credit

As Table 16 shows, most of the farmers (more than sixty eight percent) in all the landholding categories perceived credit as important to their farming, despite the fact that thirty four percent of them had no access to it as already observed in Table 12 above.

Table 16: Farmers Perception of the Relevancy Credit by Landholding Size

Was credit relevant?	< 0.7 ha. number	%	0.7-1.5 ha. number	%	> 1.5 ha. number	%
yes	48	68.6	96	71.6	63	75.9
no	8	11.4	10	7.5	6	7.2
non responses	14	20.0	28	20.9	14	16.9
Total	70	100	134	100	83	100

However, just as was the case with extension, sixty two percent of the non club members said that it was not or they were not sure if credit by Dedza Hills Project was relevant to their farming (Table 17). A plausible explanation to this situation could be that they didn't know the advantages of credit since they did not have access to it.

Table 17: Farmer Perception of the Relevancy of Credit by Club Membership

Was credit relevant?	club member number	%	non club member number	%
yes	179	87.7	27	35.5
no	12	5.9	12	16.7
not sure	13	6.4	33	45.8
Total	204	100	72	100

* non responses: 11

Availability of Information

A higher percentage of the farmers (more than seventy percent) in each of the landholding size categories received information about extension activities in the Kaphuka area (Table 18). However, forty seven percent of the non club members did not (Table 19). This confirmed the observation made in Table 12 discussed above that most of the non club members did not participate in extension activities, similarly in Table 11, whereby farmers isolated availability of information as a factor limiting their access to extension.

Table 18: Farmer Perception of Obtaining Information About Meeting Times by Landholding Size

Whether farmer gets information	< o.7 ha. number	%	0.7-1.5 Ha. number	%	> 1.5 ha. number	%
yes	49	70.0	102	76.1	64	77.1
no	15	21.4	23	17.2	13	15.7
not sure	6	8.6	9	6.7	6	7.2
Total	70	100	134	100	83	100

Table 19: Farmer Perception of Receiving Information About Meeting Time by Club Membership

Whether farmer gets information	club member number	%	non club member number	%
yes	183	89.7	32	52.5
no	18	9.0	29	47.5
Total	201	100	61	100

* non responses: 25

The implication of this finding was very disturbing especially considering that the majority of the smallholder farmers as already discussed in Chapter 2 were non-club members.

Availability of Resources

Lack of resources seems to be characteristic common to farmers with small landholdings in Malawi. The mere fact that a farmer had less than 0.7 hectares of land is a shortage of the resources necessary to support a household. Fifty five percent of the farmers in the Kaphuka area of Dedza Hills Project had less than one hectare of land and their average landholding was 0.6 hectares according to Annual Survey of Agriculture (1987/88). As observed by Carr (1988), these farmers tend to be the ones experiencing shortages of capital and labor.

The average monetary income of farmers increased with increasing landholding categories. Of significance is the fact that it was also higher for club members than for non club members. (Tables 20 and 21).

Table 20: Average Monetary Income earned in the 1987/88 Season According to Landholding Size

	Number of responses	Average income in 1987/88 season
Less than 0.7 ha.	65	$ 50.58
0.7-1.5 ha.	118	$ 93.69
Above 1.5 ha.	61	$101.32

1 $1 was equated to K2.5 Malawi currency
2 Non responses: 43

Table 21: Average of Money Earned from the 1987/88 Season According to Club Membership

	Number of responses	Average income
Members	172	$ 92.71
Non members	67	$ 54.29

The fact that club members earned high incomes exemplifies the importance of club membership. Club members had access to resources through credit. As already observed in Tables 12 and 13, a higher percentage of club members had access to extension compared to non-club members. In addition Table 7 shows that a higher percentage of the farmers with larger landholdings were club members.

Table 22 shows that male headed households had higher incomes in the 1987/88 season than female headed households. A probable reason to this situation is that since female headed households experienced more shortage of labor their production levels were low.

Table 22: Average of Monetary Income Earned from the 1987/88 Season by Sex

	number of responses	Average income
male headed households	134	$ 106.34
female headed households	112	$ 57.31

* non responses 41

Caution should be exercised however, in that these income figures may for various reasons not reveal the exact money earned from farming. However these figures, when compared to other reports generated in Malawi seem to be fairly represented (Carr 1988).

Table 23 shows the various sources of income cited by farmers. Forty-six percent received incomes from sales of crops. Other business activities contributed significantly to income generation in the area. Over fifty percent of the farmers were engaged in other business activities in addition to farming.

Table 23: Sources of Monetary Incomes

Source	Number of responses	Percent
Crops	156	45.6
Poultry	42	12.3
Making clay pots	34	9.9
Sells of small animals like goats	20	5.8
Weaving baskets and mats	17	5.0
Sells of cattle	9	2.6
Small business canteens	6	1.8
Other businesses	58	17.0
Total	342	100

There were 232 non repetitive responses

Farmers' Level of Education

Education system in Malawi can be categorized in two, (a) formal school system (b) informal or out of school system. The formal school system is sub-divided into primary school which is from year one to year eight, secondary school which is from year 9 to year 12, and college and university education which varies from one year to six years. The informal school system is usually provided to adults in the form of adult literacy programs, health education programs, and extension services.

Education in this study was mainly measured in number of years completed in formal schooling. Most of the farmers did not have or only completed few years of primary school. Farmers with larger landholding had completed more years of formal schooling than those with smaller landholdings (Table 24).

Table 24: Average Number of Years in School by Landholding Size

	Number of responses	average number of years in school
less than 0.7 ha.	55	3.35
0.7-1.5 ha.	91	3.76
above 1.5	59	3.66

* non responses 82

Male household heads on average had completed more years of formal schooling than female household heads (Table 25).

Table 25: Average Number of Years in School by Sex.

	Number of responses	average number of years in school
male	120	4.07
female	87	2.94

Non responses 82

Extension staff perceived that farmers' level of education contributed to their level of participation in extension activities. Sixty three percent of the extension staff said that the less educated farmers were slow to understand new technologies (Table 26).

The second most important reason cited by twenty two percent of the extension staff was that less educated farmers were shy or afraid or lacked confidence to talk about their problems.

The last reason cited by thirteen percent of the extension staff was that the less educated farmers were usually suspicious of government agents.

Table 26: Staff Perceptions on the way Farmers' Level of Education Affect Their Extension Participation

Reason	number of responses n= 22	%of total
less educated farmers are slow to understand new ideas	14	63.6
less educated farmers are shy, afraid, and lack confidence to talk about their problems	5	22.7
less educated farmers are suspicious of government agents	3	13.6
Total	22	100

Farmer Participation in the Planning of Extension Activities

Malawi's extension approach has basically been one from top down. Technologies have been developed by research based on what the government thought was pertinent to be addressed. Extension's role has primarily been to transfer technology to the farmer without taking into consideration the farmer's ideas and suggestions. This was very apparent in the Dedza Hills situation. A review of the project's appraisal documents failed to show evidence that farmers were involved in any of the projects planning efforts. There was no indication of a needs assessment conducted in the project planning stage. The technologies supported were not based on farmer needs and objectives, but on national recommendations. This resulted in recommendations which were unsuitable and inappropriate for the small farmers. For instance taking the case of maize, as a staple food in the area, yields of the local varieties were very low. The government, therefore, without consultation with the farmers developed high yielding dent hybrid varieties, which to the dismay of extension staff were never accepted by the farmers. Annual Survey of Agriculture results for 1987/88 crop growing season showed that only three percent of the farmers in Dedza Hills Project grew it.

Table 27 on the other hand shows that extension staff did not involve farmers in the planning of their extension activities. Ten percent of the farmers or less in each of the landholding categories had participated in the planning

of extension activities. Farmers were therefore only looked at as objects to be changed rather than participants in the change process.

Table 27: Farmer Participation in Planning of Extension Activities by Landholding Size

Whether farmer participated in planning	<0.7 ha.		0.7-1.5 ha.		>1.5 ha.	
	number	%	number	%	number	%
yes	5	7.1	7	5.2	8	9.6
no	61	87.1	120	89.6	70	84.3
not sure	4	5.7	7	5.2	5	6.0
Total	70	100	134	100	83	100

Macro-economic Factors

Malawi has been cited as one of the countries with high prices of farm inputs in the East African region. Lele (1988) comparing prices of fertilizer between Malawi and Kenya noted that Malawi's prices were sometimes three times higher. The blame mainly being on transport costs since Malawi has no port of its own. Imported inputs like fertilizer and chemicals have to be transported to the country by road either through Dar-es-salaam in Tanzania or Durban in South Africa. This has resulted into very high transport costs. Thirty five percent of the farmers in the study cited fertilizer prices as being too expensive for

farming to be attractive (Table 28). Other farmers cited low produce prices. Lele (1988) points out the fact that fertilizer price/official produce price ratio were almost three times higher than those of Kenya in 1987. It should be pointed out, however, that Malawi is caught up in an awkward situation in that the poor farmers, due to the various constraints of shortage of land, labor, and capital end up being net buyers of food maize, and any increase in the price of this crop would very badly affect this group.

Another factor cited by farmers was that marketing facilities were very far away. Generally the country has a well distributed marketing structure with at least a seasonal market every 10 kilometer radius. The problem is lack of transport, such that most of the inputs and crop products have to be carried on head to and from the markets. Only a few farmers have ox-carts and bicycles to use.

Table 28: Macro-economic Factors Affecting Farmer Participation in Extension

Factor	number of responses	% of total
Inputs are too expensive	98	54.7
Markets are very far away	51	28.5
Price of products are very low	30	16.8
Total non repetitive responses	179	100

CHAPTER V

SUMMARY DISCUSSION AND RECOMMENDATIONS

This chapter presents a brief summary of the purpose of the study, methodology, findings, discussion of the findings and recommendations for both the Dedza Hills Project and further research.

A Summary of the Purpose of the Study, Methodology and Findings

The purpose of the study was to identify reasons why the smaller farmers in EPA 5 did not participate in the extension activities offered by the Dedza Hills Rural Development Project. Several factors were suggested in the literature as reasons why the small farm holders who tended to be poor did not participate in extension activities. Verification of these factors was the basis for conducting this study.

The study was designed to obtain perceptions from smallholder farmers and professional staff regarding factors influencing farmer participation in extension in Kaphuka area (EPA 5). Samples of farmers were stratified in three landholding size categories of those with less than 0.7 hectares, 0.7-1.5 hectares, and above 1.5 hectares. Extension workers, subject matter specialists in EPA 5, and subject matter specialists at the project headquarters constituted the professional staff. The data were

summarized using frequencies and percentages. Comparisons between the landholding size categories, between male and female household heads, and between club and non club members were made.

The main observations derived from the study are as follows:

1. Most of the household heads in the smallest landholding size category were women while the larger landholding categories were headed by men.
2. Despite the fact that there were typically more club members in all of the three landholding size categories, club membership increased with an increase in the size of landholding.
3. Seventy percent of the farmers in the smallest landholding size category felt that there were factors limiting their access to credit (inputs issued on loan to smallholder farmers on a seasonal basis). The perceptions of the farmers in the larger landholding size categories were mixed.
4. Most of the farmers in all the landholding size categories felt that they had factors limiting their access to extension. However, there was a higher percentage of farmers in the smallest landholding size category than in the larger categories (eighty-one percent as compared to sixty-four percent).
5. Extension staff/farmer contact increased as the size of landholding increased.

6. Farmers identified several factors including fear of losing personal property during credit campaigns, fear of crop failure, shortage of land for gardening, not being allowed to participate in credit and extension, extension workers working only with club members, lack of labor resources, and other handicaps, as limiting their access to credit and extension in EPA 5.
7. Eighty two percent of the non-club members perceived that there were factors limiting their access to extension compared to sixty three percent of the club members.
8. More club members (ninety-seven percent as compared to sixty-five) had contacts with extension staff than non-club members.
9. Although most of the farmers (seventy-eight percent and more) in the three landholding categories felt that extension services by Dedza Hills Project were relevant to their farming, thirty seven percent of the non club members were not sure.
10. Although most of the farmers (sixty-eight percent and more) in the three landholding categories perceived credit as relevant to their farming, forty six percent of the non club members were not sure.
11. While most of the farmers received information about meeting times with the extension agent, forty-seven percent of the non club members did not.

12. Availability of resources was a factor limiting agricultural advancement of the farmers in the EPA. Monetary incomes increased with increasing landholding size categories.
13. Female household heads earned lower monetary income while also less willing to participate in credit due to perceived labor constraint.
14. Non-club members earned lower income than club members.
15. Extension staff perceived that less educated farmers were slow to understand new technologies.
16. More than ninety percent of the farmers were not provided an opportunity to participate in the planning of extension activities.
17. Farmers perceived prices of inputs (fertilizers, seeds, and chemicals) as being very high compared to their return on crops.
18. Farmers perceived that marketing facilities were very far away from them.

General Discussion of the Results.

From the above findings it can be noted that most of the farmers, especially those with smaller landholdings were operating against a number of constraints. These constraints include lack of access to extension, credit services, shortage of resources, lack of education and unfavorable macro-economic factors.

The findings generally confirmed the NRDP IV Supervisory Mission allegations that the majority of the farmers in the project did not participate in extension activities. Only twenty-six percent of the farmers with less than 1 hectare of land, who were in the majority of farmers in the area, were contacted through demonstrations in 1987/88 crop growing season. Those who were contacted tended to be the ones with club memberships while the non-club members were seldom contacted. Extension workers seemed to give more attention to credit borrowers leaving the non-borrowers unattended. Credit itself was more readily available to those farmers with greater resources while poorer farmers had limited access to it. Equally, the technologies recommended were provided mainly to the larger resource rich farmers.

The main objective of the block extension approach, was to increase extension coverage to the majority of the farmers. This approach would allow for farmers to learn from each other. However, the approach has largely failed to achieve its objectives. A significant number of the non-club members were not reached by this approach. They perceive it as a forum for credit borrowers. This is consistent with Carr (1988) who stated that most of the technologies being taught in most of the extension forums were closely related to credit. The technologies presented included the usage of fertilizers, improved seeds suitable for cash cropping, and good cultural practices (timely

garden preparation, timely weeding, control of pests, timely harvesting) all of which required capital or labor. Extension and credit by Dedza Hills Project have tended to benefit larger resource rich farmers leaving the poor unattended.

As was observed the main resources limiting agricultural advancement for most of the farmers included a shortage of land, labor and capital. The average landholding for fifty-five percent of the farmers in the Kaphuka area was reported at 0.6 hectares (Annual Survey of Agriculture 1987/88). This is inadequate to produce enough food for an average household of five, especially with the technologies which were currently available in Malawi. Due to this shortage of land, crop rotations and fallowing were out of question. The standard practice is continuous cropping of local maize (being the staple), either in pure stand or mixed. This resulted in a serious drainage on the soil fertility on this land. The situation was worsened by the fact that the majority of the smaller farmers did not use fertilizers resulting from insufficient income to purchase fertilizers. These smallholding farmers, as observed, did not have access to credit and extension. Their economic situation was hampered by low levels of production frequently resulting in food shortages. As Table 29 illustrates, as many as 50 percent of the farmers run out of food by February-March.

Many farmers ended up doing ganyu (working for other farmers in exchange for food or cash which was used for buying food (Mkandawire, 1988; Quinn et. all., 1988).

Table 29: Pre-harvest Food Shortage Situation for 1987/88 and 1988/89 Growing Seasons in EPA 5

Month	Total number of households	households without maize in store	percent
December 1987	10274	1866	18.2
January 1988	10274	2970	28.9
February 1988	10274	4110	40.0
March 1988	10274	3800	37.0
November 1988	10274	697	6.8
December 1988	10274	744	7.2
January 1989	10274	3507	34.1
February 1989	10274	4418	43.0
March 1989	10274	5127	49.9

SOURCE: Project monthly reports for the respective months

The payment for ganyu was usually inadequate to sustain the household's food needs. However, these farmers were not in a position to complain for the low payment since the employers of ganyu were mostly the larger landholding farmers. A patron-client relationship and survival made it very difficult for smaller farmers to question the payment. A major complication created by this practice was that the

time these farmers required to go for ganyu was deep into the growing season when labor requirements for their own gardens was at a peak. It was a time when they needed to plant, weed, and fertilize their own crops. By going for ganyu, therefore, their own fields suffered, contributing to low yields. It should also be mentioned that the farmers, especially the female headed households, as already observed earlier, suffered critical shortages of labor. The practice of ganyu, therefore, placed the farmers in a vicious cycle of food shortage. In other words food shortage in one year tended to contribute to food shortage in the next year.

Another disadvantage of ganyu was that it tended to encourage malnutrition in children when it involved the women. In cases where both the husband and the wife or the woman in female headed households, went for ganyu, the children were usually left without adequate care. They were left with a relative or in some cases with older siblings. In both cases they frequently failed to get proper care, offered by the mother. They were fortunate to receive one meal a day due to improper care and scarce food. In many cases this meal would be nsima (a thick porridge made from maize flour). Nsima was eaten with a ndiwo, a vegetable since fish or meat was expensive, if available. Infant mortality rate was put at 200 to 224 deaths of children under one year of age per every 1000 live births while 55 to 59 percent of the under fives were stunted in Dedza District (Quinn et. al., 1988).

Recommendations for the Dedza Hills Project

A number of changes are recommended for improving the situation in EPA 5. Based on this study, the areas which require such changes include:

1. **Club membership**; Since club members were most likely to have access to both extension and credit, there is a critical need to increase club membership to include a larger percentage of the smaller landholding farmers. Special efforts also need to be made to recruit female headed households. Special clubs may have to be organized for these categories of farmers.
2. **Credit packages**; Smaller credit packages need to be developed for farmers with smaller landholdings. The smaller fertilizer packs which are being tried in the Phalombe Rural Development Project may be a possibility of EPA 5.
3. **Credit recovery**; Credit recovery procedures is another practice which requires modification. The practice of confiscating farmers property when they fail to repay on time needs to be stopped. Increasing the credit recovery period may be an improved practice to encourage more farmer participation.
4. **Technology development**; Technologies suitable for smaller resource poor farmers need to be developed. Such technologies should be aimed at increased food production while demanding less drain on capital and labor. Examples of such technologies might include utilizing high yielding

flint maize varieties, agro-forestry practices which include high nitrogen fixing tree crops[5], and low labor demanding high value cash crops for intercropping with maize.

5. **Fertilizer subsidies**; To encourage farmer access to fertilizers, the fertilizer subsidies program which Malawi is already implementing needs to be maintained.

6. **Extension staff job descriptions**; The duties of extension workers need to be more clearly defined, from those of credit assistants, if more farmers, especially non-credit borrowers, are to benefit from the block extension approach. Extension workers need to spend most of their time on extension and technology transfer activities rather than credit. Emphasis needs to be made to them that they are there for all farmers and not only credit borrowers.

7. **Education**; Since lack of education was also perceived as a factor contributing to farmer participation in extension, the adult literacy programs which are already being offered by Ministry of Community Services and Social Welfare need to be expanded.

8. **Participation in planning**; To ensure that the extension programs in the area have credibility in the eyes of the majority of the farmers, local cultures, farmer constraints,

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[5]Research at International Institute for Tropical Agriculture demonstrated that when agronomic crops have been interplanted with some leguminous tree crops like leucaena give high yields without nitrogen fertilization. The agronomic crop benefits from the nitrogen fixed by the leguminous tree. Research on this type of technology is at an early stage in Malawi.

farmer objectives and farmers' felt needs, need to be taken into consideration in the planning of extension activities. The best way to do it is by involving farmers in the planning of the agricultural projects. One way of doing this is by conducting a needs assessment survey when doing the feasibility studies of the project.

To ensure a continued interest by the farmers during the project implementation period however, there is a need to have a continued dialogue between farmers and the extension staff. While the extension agency needs to continuously provide appropriate technology to farmers, the farmers need to give feedback on the problems they are facing, as well as their suggestions. Not only does this help the agency to provide the most suitable technologies, but also creates a feeling in the farmers that they have a "valued say" in the system. One way of encouraging such a dialogue is by the extension staff involving farmers in the planning of their extension activities. Let the farmers give their suggestions on the programs being planned. It has to be noted however that due to the indoctrinating extension approach farmers were exposed to during the colonial era, their perception of an extension agent is bound to be that of somebody who is too superior to listen to what they have to say. They may therefore, not be willing to speak their views. Creative ways of having them express themselves are therefore essential. Extension staff may need some training especially on extension methodology

so as to have them appreciate the importance of considering farmers as participants and not only recipients of agricultural development.

9. **Food for work;** Since most of the farmers in the area are already in a cycle of food shortage, an infusion of food is necessary to break this cycle. One approach Malawi is considering is a "food for work" program. Under this program, farmers would have to work on government supported projects in exchange for food. This work would have to be performed after harvesting when little is required on their farms. It has generally been observed that during that period, there is little done and most of the labor is largely unemployed. The "food for work" program would provide useful employment to this labor while also releasing the labor used for ganyu during the peak labor periods. Another advantage would be an improvement of the government rural structures like roads, rural water supply programs, soil and water conservation projects, forestry programs and the like (Carr, 1988).

10. **Fertilizer for work;** Just like the "food for work" programs, a "fertilizer for work" program is also necessary as an answer for the problem of lack of capital. Fertilizer application, especially for the nitrogenous fertilizers, has proved itself to be a technology with impact on maize yields. If farmers accessibility to this technology is improved, food shortage problems will be eased. It has to be emphasized though that high yielding flint varieties of

maize which are more responsive to fertilizers, with good storage characteristics are required. The need for research to develop improved varieties needs increased emphasis.

11. **Support for small business enterprises;** Although the above "fertilizer for work" program may seem a sufficient program one might also want to encourage other income generating activities to support it. One way of doing this is by encouraging the locally available skills among some of the farmers for the various business ventures in the area. As can be observed in Table 23 there were a number of local skills available in the area. Some of the farmers were able to make money in excess of $400.00 (K1,000.00), through these business ventures. In one case, a farmer reported having made money in excess of $1,480.00 (K3,700.00) through sales of clay pots while in another case a female farmer reported having made up to $240.00 (K600.00) from making clay pots. Poultry was a business where most of the farmers were involved.

Efforts to encourage these business skills may be plausible for income generation, which, can be used to increase farmer's access to purchased inputs like fertilizers. Some of the business ventures require capital, and credit. However, more research needs to be done to determine how support of this nature can best be accomplished.

Recommendations for Further Research

1. This study was faced with a major problem in that there was a big difference between the target population and the accessible population affecting the degree to which the results can be generalized to the target population. The assumption that extension agents would know most of the farmers in their sections was found largely not to be true. The study did find that extension agents seemed to be most familiar with farmers who were also club members. This may have resulted therefore in a situation whereby the sample was biased towards the responses of club members. It is recommended that future study be conducted to test this assumption. Three approaches might be followed:
(a). Obtain the lists of names from the District Commissioner's Office, (b) get lists of the villages in the EPA for sampling the villages themselves and (c) use samples made by the Commissioner of Census and Statistics. However, by using these three approaches it would not be possible to stratify the samples since there is no way of determining the accuracy of the hectarages reported by the farmers. One would, therefore, have to survey the farmers fields, or include an item on the questionnaire to determine their hectarages. The weakness in asking farmers to indicate their hectarages is that unreliable data may be reported since farmers may not know how big their landholding is.

2. The findings of this study have showed that insufficiency of land, labor and capital were major factors limiting farmers' ability to participate in extension activities. This was related to a number of factors including (a) the farmers were not willing to adopt technologies which were associated with some degree of uncertainty, (b) poor farmers were not allowed to participate in credit, and (c) farmers were discouraged with the credit recovery procedures.

More research is required to address these factors.

(1) Technologies which are not associated with high degrees of uncertainties need to be developed.

(2) Research to identify ways to encourage the poor farmers to participate in credit and club activities need to be conducted.

(3) Other procedures for recovering credit need to be identified.

3. The study identified that extension workers tended to work only with farmers participating in club membership leaving the non-club members unassisted. Research to identify ways of encouraging extension staff to work with non-club members need to be conducted.

4. The study identified single woman farmers as having critical shortages of labor in their households. This labor shortage limited their ability to participate in both extension and credit in EPA 5. Studies to identify ways of assisting single woman farmers need to be conducted.

5. The findings of this study seem to show that while crop production research may have been conducted, socio-economic research has not. This has resulted in the technologies developed being irrelevant to the smallholder farmers, simply, because there was no way of learning farmers problems, needs, and objectives. It is therefore recommended that more investigation be done in this area.

6. The improved maize varieties available in Malawi were perceived by smallholder farmers as not appropriate to their farming, because of their poundability and storage characteristics. This resulted in most of the land being devoted to low yielding local maize varieties. It is recommended that a higher yielding flint maize variety, presumably with good pounding and storage characteristics, be developed and should be field tested to determine acceptability to smallholder farmers.

7. Since most of the farmers in the EPA were working on very small pieces of land, mixed cropping seemed to be a very important practice. Most farmers mixed maize with other crops in order to maximize their utility of land, labor and capital while also fulfilling different objectives from the different crops. It is recommended that while developing appropriate maize varieties, other crops suitable for mixing with maize, as well as acceptable to farmers based on their objectives for mixing, be developed.

Beans and groundnut were very commonly mixed with maize in the area. More research on varieties and appropriate

cultural practices for these crops would be fruitful. The efforts already started by the Bean\cowpea Collaborative Research on beans in the area are therefore worth encouraging.

8. It was noted that due to shortage of land with the increasing population pressure, many farmers cultivated hilly areas, unsuitable for arable cropping. This trend was expected to continue. Erosion problems were already evident, and the existing recommendations for soil conservation seemed inadequate. It is recommended that efforts be made to develop appropriate soil conservation measures. The buffer strip approach[6] being demonstrated at the various EPA demonstration gardens seem to be a promising technology, but research is needed.

9. The study revealed the need to improve the educational competencies of the farmers. Research to identify ways of improving the educational competencies of the farmers needs to be conducted.

10. It was observed that a reasonable art and business skill bank, which could be developed further to help farmers improve their economic conditions, existed in the area. Studies to determine how much of these skills exist, what other skills could be developed, how could these skills be

---

[6]Buffer strips are strips of land immediately above contour marker ridges which are planted to grasses or crops with strong root systems to check run off from above. The contour ridges themselves are also planted to tree crops like fruit trees with a strong root system to reinforce the run off checks.

better utilized, and how could government assist in developing these skills could be very fruitful type of research.

Summary

This chapter of the report gives an overview of the study, major findings, recommendations for Dedza Hills Project and recommendations for further research. It was noted that most of the farmers were working under a number of constraints which impacted their ability to participate in extension activities as well as their adoption of technologies. These constraints resulted in seasonal food shortages, forcing farmers to engage in ganyu. The implications of ganyu to the smaller farmers discussed included:

a) It affects crop yields of the next season which results into further food shortages.

b) Children from families which suffer food shortages and where women engage in ganyu do not receive sufficient care which affects their nutrition.

The recommendations made to Dedza Hills Project included:

a) Encouraging more club membership especially for the smaller farmers.

b) Developing credit packages suitable for smaller farmers.

c) Changing of the credit recovery procedures.

d) Technologies suitable to resource poor farmers need to be developed.

e) Fertilizer subsidies should not be withdrawn.

f) Job descriptions for extension workers need to be clarified.

g) Adult literacy programs need to be expanded.

h) Farmer participation in the planning of extension activities need to be encouraged.

i) The "food for work" and "fertilizer for work" programs need to be introduced.

j) The small business efforts by the small farmers need to be supported.

The recommendations for further research included:

1) Research needs to be conducted to identify the extent to which extension workers know their farmers.

2) Studies to identify ways of encouraging smaller farmers to participate in extension activities.

3) Studies to identify ways of encouraging extension workers to work with non club members need to be conducted.

4) research to identify ways of assisting single woman farmers need to be conducted.

6) More socio-economic research studies need to be conducted.

7) **High yielding flint maize varieties need to be developed.**

8) **Mixed cropping studies need to be encouraged.**

9) **Research on soil conservation needs to be done.**

10) **Research to identify ways of supporting small business activities need to be conducted.**

APPENDICES

Appendix I

INTERVIEW QUESTIONNAIRE FOR FARMERS ON A DESCRIPTIVE STUDY OF STAFF AND FARMER PERCEPTIONS OF THE FACTORS AFFECTING SMALLHOLDER FARMER PARTICIPATION IN EXTENSION ACTIVITIES IN THE KAPHUKA AREA OF DEDZA HILLS RURAL DEVELOPMENT PROJECT OF MALAWI.

FARMER'S SOCIAL STATUS:

1. Respondent's name _____

2. Respondent's code _____

3. Field assistant's section _____

4. Village _____

5. Date of interview _____

6. Respondent's sex

   Male _____

   Female _____

7. Respondent's marital status

   Single _____

   Married _____

   Divorced _____

   Widowed _____

8. Will you kindly tell me your estimated age?

   11-20 years old _____

   21-30 years old _____

   31-40 years old _____

   41-50 years old _____

   51-60 years old _____

   61-70 years old _____

   Over 70 years old_____

9. What is your family size at present (number of people in the family including all dependents)?

_____

10. How many years have you been farming (as the main decision maker)?_____.

11. Can you list any other sources of income you have apart from farming and indicate the amounts of income you get from them per year?

SOURCE	AMOUNT
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

B. EDUCATION

12. What is the highest level of education you attained?

_____

13. Are there any extension services in your area?

Yes _____

No _____

Not sure _____

14. What is the name of your extension agent?

_____

15. When did you last have contact with your extension agent?

Less than two weeks ago _____

Two weeks to one month ago _____

Two months to six months ago _____

More than six months ago _____

I don't know _____

16. How often do you have contact with your extension agent?

More than once a week _____

Weekly to fortnightly(every two weeks) _____

Fortnightly to monthly _____

Monthly to semi-annually _____

Not sure _____

17. Does the extension agent provide information that you understand?

Yes _____

No _____

Not sure _____

18. Have you used any of the information provided by the extension agent?

Yes _____

No _____

Not sure _____

19. If you have never used information provided by the extension agent, why is that so?

_____

_____

_____

_____

20. What suggestions would you make if the information provided by the extension agents is to be useful to your farming?

_____

_____

_____

_____

21. If you have used information provided by the extension agents, in what ways have you used it?

_____

_____

_____

_____

C. RESOURCE AVAILABILITY

22. Does lack of resources limit you from implementing changes proposed by the extension agents?

Yes _____

NO _____

Not sure _____

D. EMPOWERMENT

23. Have you ever been asked to participate in the planning of extension activities?

Yes _____

No _____

Not sure _____

(If no go to 27)

24. If yes, did you participate?

Yes _____

No _____

Not sure _____

(If no go to 27)

25. If you participated in the planning of extension activities did you find the exercise useful to you?

Yes _____

No _____

Not sure _____

26. If your participation in the planning of extension activities was useful to you, can you explain what you think you gained from this exercise?

_____

_____

_____

_____

27. Have you ever been asked to participate in any of the following activities?

ACTIVITY	YES	NO	POSITION
Malawi Congress Party	_____	_____	_____
Church	_____	_____	_____
Area Action Group	_____	_____	_____
Village Action Group	_____	_____	_____
Other (name them)			
_____	_____	_____	_____
_____	_____	_____	_____

28. If you participated in any of the above listed activities, did you find the exercise useful to you?

Yes _____

No _____

Not sure _____

(If no go to 30)

29. If the exercise was useful to you, can you explain what you think you gained from it?

_____

_____

_____

_____

E. INFORMATION

30. How far is the nearest place you have to travel to meet your extension agent?

_____

31. Do you know when you are expected to meet your extension agent?

Yes _____

No _____

Not sure _____

(If no go to 33)

32. How do you get information concerning meetings, demonstrations, training sessions, and other activities organised by your extension agent?

_____

_____

_____

F. ALIENATION

33. Are there any factors which limit your accessibility to extension activities in your area?

Yes _____

No _____

Not sure_____

(If no go to 35)

34. If there are factors limiting your accessibility to extension activities in your area, can you mention them?

_____

_____

_____

35. What suggestions would you make to Dedza Hills Rural Development project, if the extension activities are to made more accessible to you?

_____

_____

_____

_____

36. Are there any factors which limit your accessibility to credit offered by Dedza Hills Rural Development Project?

Yes _____

No _____

Not sure _____

(If no go to question 38)

37. If there are factors which limit your accessibility to credit offered by Dedza Hills Project, can you mention them?

_____

_____

_____

_____

38. What suggestions would you make if credit offered by Dedza Hills project is to be made more accessible to you?

_____

_____

_____

G. RELEVANCY

39. Is the credit offered by Dedza Hills Rural Development Project relevant to your farming activities?

Yes _____

No _____

Not sure _____

(If no go to 41)

40. In what ways is credit offered by Dedza Hills Project relevant to your farming?

_____

_____

_____

_____

41. What suggestions would you make if credit offered by Dedza Hills Project is to be made more relevant to your farming?

_____

_____

_____

_____

42. Are the types of extension activities offered by Dedza Hills Rural Development Project relevant to your farming?

Yes _____

No _____

Not sure _____

(If no go 44)

43. In what ways are extension activities offered by Dedza Hills Rural Development Project relevant to your farming?

_____

_____

_____

_____

44. If extension activities in Dedza Hills Rural Development Project are to be made more relevant to you, what suggestions would you make?

_____

_____

_____

_____

H. CONFIDENCE

45. Do you have confidence in the information the extension agent gives you?

Yes _____

No _____

Not sure _____

(If yes go to 48)

46. If you don't have confidence in the information from the extension agent, why is that so?

_____

_____

_____

_____

47. What do you think extension agents should be doing if they are to help you in your farming?

_____

_____

_____

_____

I. ATTENTION

48. Do you think the extension agent spends as much time working with you as he does with larger farmers?

Yes _____

No _____

Not sure _____

49. Are there any historical events which make you afraid of participating in extension activities?

Yes _____

No _____

Not sure _____

(If no go to 51)

50. If yes to question 49 what are they?

_____

_____

_____

_____

51. Are you suspicious of your extension agents?

Yes _____

No _____

Not sure _____

(If no go question 53)

52. If you are suspicious of your extension agents, why is that so?

_____

_____

_____

_____

K. MACRO-ECONOMIC FACTORS

53. Do any of the factors below influence your participation in extension activities?

Marketing facilities Yes _____ No _____ Not sure _____

Price of inputs Yes _____ No _____ Not sure _____

Price of Products Yes _____ No _____ Not sure _____

(If no go to question 54)

54. If yes to question 53, how do they influence your participation in extension activities?

_____

_____

_____

_____

55. Do you attend block extension activities?

(If yes go to question 57)

Yes _____

No _____

Not sure _____

56. If no to question 55, why?

_____

_____

_____

_____

57. Are you a club member?

(If no go to question 59)

Yes _____

No _____

Not sure _____

58. If yes to question 57, how does the club help you?

_____

_____

_____

_____

59. If no to Question 57, why?

_____

_____

_____

_____

60. Thank you for participating in this interview.

Appendix II

INTERVIEW QUESTIONNAIRE FOR STAFF MEMBERS ON A DESCRIPTIVE STUDY OF STAFF AND FARMER PERCEPTIONS OF THE FACTORS AFFECTING SMALLHOLDER FARMER PARTICIPATION IN EXTENSION ACTIVITIES IN KAPHUKA AREA OF DEDZA HILLS RURAL DEVELOPMENT PROJECT.

Name of respondent _____

Respondent's code _____

Date _____

1. How long have you been working as an extension agent?

_____

A. ALIENATION

2. Do you think the extension services offered by Dedza Hills Rural Development Project are readily available to smallholder farmers in EPA 5?

Yes _____

No _____

Not sure _____

3. If the extension services are not available to the smallholder farmers, what do you think is the reason for this situation?

_____

_____

_____

B. RELEVANCY

4. Do you think the extension services offered by Dedza Hills Rural Development Project are relevant to smaller smallholder farmers in EPA 5?

   Yes _____

   No _____

   Not sure _____

5. If the extension services offered by Dedza Hills Rural Development Project are not relevant to smallholder farmers in EPA 5, what do you think is the reason for this situation?

   _____

   _____

   _____

   _____

C. EDUCATION

6. Do you think level of education has an effect on smallholder farmer's participation in extension activities of Dedza Hills Rural Development Project in EPA 5?

   Yes _____

   No _____

   Not sure _____

7. If yes, in what ways do you think smallholder farmer's level of education affects his/her participation in extension activities in EPA 5?

   _____

   _____

   _____

   _____

D. LEVEL OF TRUST

8. Do you think smallholder farmer's level of trust in extension agents has an effect on their participation in extension activities in Dedza Hills Project?

   Yes _____

   No _____

   Not sure _____

9. If yes, in what ways do you think smallholder farmer's level of trust in extension agents affect their participation in extension activities of Dedza Hills Rural Development Project in EPA 5?

   _____

   _____

   _____

   _____

E. RESOURCES

10. Do you think amount of resources available to smallholder farmers has an effect on their participation in extension activities of Dedza Hills Rural Development Project in EPA 5?

    Yes _____

    No _____

    Not sure _____

11. If yes, in what ways do you think amount of resources available to smallholder farmers in EPA 5 affect their participation in extension activities of Dedza Hills Rural Development Project?

_____

_____

_____

_____

12. Do you think smallholder farmers have the necessary resources required to implement changes as recommended by extension in Dedza Hills Rural Development Project?

Yes _____

No _____

Not sure _____

13. If resources are inadequate, are the smallholder farmers in EPA 5 able to get assistance from credit offered by Dedza Hills Rural Development Project?

Yes _____

No _____

Not sure _____

14. If credit offered by Dedza Hills Rural Development Project is not readily available to smallholder farmers in EPA 5 what efforts might the Dedza Hills Project make in order to make the credit more available to them?

_____

_____

_____

_____

15. Do you think the credit offered by Dedza Hills Rural Development Project is relevant to smallholder farmers in EPA 5?

Yes _____

No _____

Not sure _____

16. If the credit offered by Dedza Hills Rural Development Project is not relevant to smallholder farmers of EPA 5, what efforts would Dedza Hills Project make in order to make it more relevant to them?

_____

_____

_____

_____

F. SOCIAL STATUS

17. Do you think smallholder farmer's social status has an effect on their level of participation in extension activities of Dedza Hills Rural Development Project?

Yes _____

No _____

Not sure _____

18. If yes, in what ways do you think smallholder farmer's social status affect their participation in extension activities of the Dedza Hills Project?

_____

_____

_____

_____

G. INFORMATION

19. In your perception, do farmers have an opportunity to know if extension services exist in EPA 5?

    Yes _____

    No _____

    Not sure _____

20. If they have not been provided an opportunity to know of the existence of extension services, why not?

    _____

    _____

    _____

    _____

21. Do you think the smallholder farmers understand that they are expected to meet with their extension agents?

    Yes _____

    No _____

    Not sure _____

22. If they do not understand, why is this so?

    _____

    _____

    _____

    _____

23. If the smallholder farmers in EPA 5 know that they are expected to meet with their extension agent, do they know where they supposed to meet with him/her?

Yes _____

No _____

Not sure _____

24. If they don't know where they are expected to meet their extension agents, why is that so?

_____

_____

_____

_____

25. Do the smallholder farmers know when they are expected to meet their extension agents?

Yes _____

No _____

Not sure _____

26. If they don't know when they are expected to meet their extension agents, why is that so?

_____

_____

_____

_____

H. ATTENTION

27. Do you think extension agents spend as much time with smallholder farmers as they do with larger farmers?

Yes _____

No _____

Not sure _____

28. If they don't spend as much time with smallholder farmers as they do with larger farmers, why is that so?

_____

_____

_____

_____

29. Do you think that smallholder farmers understand the information you deliver to them?

Yes _____

No _____

Not sure _____

30. What suggestions would you make to increase/enhance their understanding of the information?

_____

_____

_____

_____

31. Do you believe in the information you provide farmers?

Yes _____

No _____

Not sure _____

32. If you don't believe in some of the information you provide to farmers, why?

_____

_____

_____

_____

I. HISTORICAL FACTORS

33. Do you think that farmers have been influenced by historical events which make them skeptical of extension services?

Yes _____

No _____

Not sure _____

34. If you think they are skeptical what do you think are the reasons for that situation?

_____

_____

_____

_____

35. Do you think smallholder farmers are afraid to participate in extension activities in EPA 5?

Yes _____

No _____

Not sure _____

36. If they are afraid why are they afraid?

_____

_____

_____

_____

J. MACRO-ECONOMIC FACTORS

37. Do you think any of the factors listed below influence the smallholder farmers participation in extension activities of Dedza Hills Rural Development Project in EPA 5?

Credit services	Yes____	No_____	Not sure_____
Marketing facilities	Yes____	No_____	Not sure_____
Price of inputs	Yes____	No_____	Not sure_____
Price of products	Yes____	No_____	Not sure_____

38. If any of the above listed factors influence the smallholder farmers' level of participation in extension activities of Dedza Hills R.D.P. in EPA 5, why is that so?

_____

_____

_____

_____

39. Do you think farmers understand the purposes of a block?

yes _____

no _____

not sure _____

40. Do you think farmers understand the purposes of a club?

yes _____

no _____

not sure _____

41. Do you think farmers are able to distinguish a block from a club?

yes _____

no _____

not sure _____

42. Do you think that there is a difference in the level of participation in extension activities between male and female farmers?

yes _____

no _____

not sure _____

43. If yes to question 42, who do you think participates more between men and women?

men _____

women _____

not sure _____

44. What is the reason for your answer in question 43?

_____

_____

_____

_____

45. Thank you very much for participating in this interview.

Appendix III

Table 30: Sex by Marital Status

	Male	Female	Total
Married	155	96	251
Divorced	1	20	21
Widowed	1	14	15
Total	157	130	287

Appendix III

Table 31: Farmer Participation in Leadership Activities by Landholding Sizes.

Whether farmer participated in leadership	< 0.7 ha. number	%	0.7-1.5 ha. number	%	> 1.5 number	%
Yes	35	50.0	78	58.2	48	60.8
No	35	50.0	56	41.8	31	39.2
Total	70	100	134	100	79	100

By leadership means having a leadership position in local political party, area action group, village action group, village headmanship and Church leadership position.

Appendix III

Table 32: Farmer's Trust in the Information Provided by Extension Agents by Landholding Size

Farmers' Trust	<0.7Ha. number	%	0.7-1.5Ha. number	%	>1.5Ha. number	%
Yes	56	8.12	108	80.6	73	88.0
No	3	4.3	5	3.7	3	3.6
Not sure	10	14.5	21	15.7	7	3.6
Total	69	100%	134	100%	83	100%

Appendix III

Table 33: Farmer Perceptions of help by Extension Agent by Landholding Size

Whether agents helps farmer as much as other farmers	<0.7Ha. number	%	0.7-1.5Ha. number	%	>1.5Ha. number	%
Yes	44	62.9	97	72.4	60	73.2
No	16	22.9	19	14.2	11	13.4
Not sure	10	14.3	18	13.4	11	13.4
Total	70	100	134	100	82	100

Appendix III

Table 34: Farmer Perceptions of Historical Events by Extension by Landholding Size

Farmer Perception of historical events	<0.7Ha. number	%	0,7-1.5Ha. number	%	>1.5Ha. number	%
Yes	5	7.1	12	9.0	5	6.0
No	58	82.9	110	82.9	71	85.5
Not sure	7	10.0	11	8.3	7	8.4
Total	70	100	133	100	83	100

Appendix III

MACRO-ECONOMIC FACTORS AFFECTING FARMER PARTICIPATION IN EXTENSION ACTIVITIES

Table 35: Distance to Markets

	Number	Percent
Yes	66	23.7
No	185	66.5
Not sure	27	9.7
Total	278	100

Table 36: Price of Inputs

	Number	Percent
Yes	94	34.4
No	151	55.3
Not sure	28	10.3
Total	273	100

Table 37: Price of Products

	Number	Percent
Yes	55	20.7
No	169	63.5
Not sure	42	15.8
Total	266	100

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