

**AN ASSESSMENT OF NGO'S CONTRIBUTION TO AGRICULTURAL  
EXTENSION IN MOSHI RURAL DISTRICT**

**BY**

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**ABSTRACT**

Over the past decade there has been a rapid evolution of NGOs in Tanzania, an indication that the services provided by the public sector do not satisfy the needs of the community. This study sought to investigate and assess the contribution of NGOs in providing agricultural extension in terms of logistic support, training and supervision in Moshi Rural District. The specific objectives were (a) To determine the institutional functioning of NGOs in terms of organisational structure, status and inter-relationships with government and donors, (b) To explore the operational procedures in terms of approaches, methods and media and (c) To identify the factors associated with effectiveness or lack of effectiveness of NGOs in Moshi District. The study used a cross-sectional design that employed a survey method. The survey population comprised of farmers aged 21 years and above who get extension services from KEDA and Saint Vincent de Paule. These farmers were representative of households which are immediate clients of these NGOs. Instrumentation included the design of questionnaires which were used to interview the sampled farmers and structured interview schedule administered to relevant authorities. The questionnaires were pretested in four villages. Data were collected from four selected villages in Moshi Rural District by means of questionnaires and a structured interview schedule. A random sample of 15 respondents was picked from each village using a list of farmers from the villages, thus, the sample size was 60 respondents. The findings of the study show that eighteen per cent of the respondents attended meetings organised by the NGOs while 8.4% attended meetings organised by other organisations. The study also shows that 16.6% and 6.6% of the respondents attended field days and

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study tours. According to the findings it is concluded that the NGOs have been efficient for the fact that they have well defined organizational structure, operational procedures and are effective in disseminating technologies to farmers. It is therefore recommended that NGOs be encouraged especially in terms of operational procedures, formation of more groups and rehabilitation of infrastructures.

**DECLARATION**

I, Uraru Anamensa Mashuo Lyatuu, do hereby declare to the Senate of Sokoine University of Agriculture that the work presented here is my own original creation, and has not been submitted for a degree award in any other University.

Signature .....  .....

Date ..... 7/9/2001 .....

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**DEDICATION**

I dedicate this dissertation to my father, Anamensa Josel Lyatuu and My mother Luiyana Ndesanjo Kitange who laid the foundation of my education.

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**LIST OF ABBREVIATIONS AND ACRONYMS**

<b>BOT</b>	-	Bank of Tanzania.
<b>BTS</b>	-	Bi-monthly Training Session.
<b>CBO</b>	-	Community Based Organisation.
<b>DALDO</b>	-	District Agricultural and Livestock Development Officer.
<b>DC</b>	-	District Commissioner.
<b>DESC</b>	-	District Extension Steering Committee.
<b>FAO</b>	-	Food and Agriculture Organisation.
<b>GO</b>	-	Government Organisation.
<b>GRO</b>	-	Grassroots Organisation.
<b>GTZ</b>	-	German International Cooperation Agency
<b>HORTI</b>	-	Horticultural Research and Training Institute.
<b>HPI</b>	-	Heifer Project International.
<b>KEDA</b>	-	Kilimanjaro Environmental Development Association.
<b>MAC</b>	-	Ministry of Agriculture and Co-operatives.
<b>MACDA</b>	-	Marangu Community Development Association.
<b>NAEP</b>	-	National Agricultural Extension Programme.
<b>NGO</b>	-	Non-Governmental Organisation.
<b>ORAP</b>	-	Organisation of Rural Association for Progress.
<b>RALDO</b>	-	Regional Agriculture and Livestock Development Officer.
<b>SARI</b>	-	Selian Agricultural Research Institute.
<b>TANGO</b>	-	Tanzania Association of Non-Government Organisations.
<b>TASO</b>	-	Tanzania Agricultural Society.
<b>VEO</b>	-	Village Extension Officer.

## CHAPTER ONE

### INTRODUCTION

#### **1.1 Background Information.**

Moshi District is situated in northern Tanzania, Kilimanjaro Region on the slopes of Mount Kilimanjaro. The inhabitants of this District are farmers and livestock keepers. Their homes are surrounded by home gardens where they grow coffee and bananas as major crops intercropped with fruit trees such as mangoes, avocado pears, papaws and passion fruits as well as yams, cocoyams and fodder trees as minor crops. Apart from the home gardens they have fields separate from the home gardens where they grow maize, beans, finger millet, cassava, pigeon peas, sweet potatoes, paddy and sunflower. Livestock which include cattle, goats, sheep, pigs and small stock (rabbits) are kept indoors i.e zero grazed while poultry (chickens and ducks) are reared in free range.

All the above enterprises are aimed at improving household incomes for a better life. Because of high population density and shortage of land, there is a need to increase productivity and to intensify production, hence there is a need to adopt improved technologies. It is in this context then the importance of extension services is realised in the area. Due to the fact that there are regular outbreaks of pests, diseases and parasites, a thorough knowledge of their control and eradication is necessary for more production and income.

The District is divided into 3 agro-ecological zones: the upper zone, middle zone and lower zone. Activities in the upper zone include dairy farming with coffee and bananas

grown in the home gardens. This is where most of the homesteads are situated. This is characterised by temperate climate with cool temperatures. Temperatures fall to 4 degrees centigrade and rains usually are heavy (1500-1800mm). The middle zone also has home gardens cropped with bananas and coffee, but here there are less fodder trees, cocoyams, but maize and beans are intercropped on open land. Goat rearing and poultry keeping are also done. The weather here is warmer than the upper zone. In general the standard of living here is a bit higher than the other zones. The lower zone is a bit hot and the activities here are a bit different from the two zones. Crops grown here are maize, beans, finger millet, paddy, sweet potatoes, cassava, pigeon peas and sunflower, while animals are open-grazed due to large area of open land during off season. In this zone there are fewer homesteads as most of the land is cultivated by farmers from the upper and middle zones.

The dominant ethnic group is the Chagga who are indigenous in the area. Other tribes include the Pare, Rundi, Smbaa, etc. Due to land scarcity on the slopes of Mount Kilimanjaro, most farmers have been forced to adopt agroforestry in their home gardens and zero grazing (intensive livestock rearing). These methods of farming need sophisticated technology in terms of housing, sanitation, breeding and nutrition; such that a thorough knowledge of agriculture is very vital in the area.

As the area is situated on the slopes of Mount Kilimanjaro, the villages are separated by rivers such that communication is a bit complicated, that is to say one cannot cross from one village to another by the use of vehicle or motorcycle without first going

downslope and then upslope. This forces people to walk most of the time because it is faster to cross the river valleys on foot.

Despite the various attempts and efforts to improve the lives of the rural population through increased agricultural productivity, the overall performance of the agricultural sector has been inadequate (Task Force on National Agricultural Policy, 1982). The failure of the extension system to influence farmers to adopt improved technologies has been pointed out as a major cause of poor performance, and has been attributed to a number of reasons:

- i) Inefficient, bureaucratic management;
- ii) Ineffective extension methodologies;
- iii) Unaffordable innovations.
- iv) Project approach to extension with consequent gradual decline in extension performance after expiration of the project phase;
- v) Poor staffing in terms of quality and quantity;
- vi) Financial constraints which lead to poor transport facilities, poor infrastructure and low salaries for extension workers. (De Vries, 1978; Task Force on National Agricultural Policy, 1982, Mattee, 1989).

The bulk of the extension services are provided by the Ministry of Agriculture and Co-operatives. However there are areas where the Ministry is supplemented by other organisations which include Non Governmental Organisations, community based, church, and parastatal organisations. These organisations work independently with

very little assistance from the government. Their modes of operation differ from organisation to organisation. There has been a big wave of NGOs mushrooming in various places in the country such that some have been conducting similar activities in the same area and competing for recognition. For example, in 1970 Tanzania had 27 registered NGOs but by 1982 the number had grown to 50 (Shao, 1998). In 1995 there were already 173 registered NGOs under the Tanzania Association of NGOs (TANGO). Taken nationally however, we had by 1995, 750 NGOs out of which 400 were registered (Shao, 1998).

Failure of the Ministry of Agriculture and Co-operatives to motivate extension staff has led to very little extension provision to the farmers especially considering the high population of Moshi District. This has led to the need for more NGOs and community based organisations together with grassroots organisations, to provide extension advice so that farmers can improve their standards of farming and hence boost their economic well-being. This tradition gives hope for the sustainability of their activities as the government emphasises more the self reliant mode of development. Many NGOs and CBOs have emerged to help poor farmers raise their standards of living by focusing on the core problems. The main problems include insufficient moisture for crops and environmental destruction which are addressed by organisations like Traditional Irrigation and Environment Development Organisation (TIEDO), Tema Agroforestry Project, Kilimanjaro Environmental Development Association (KEDA) and *Chama cha Wakulima wa Mpunga* (CHAWAMPU). These organisations address the problems by rehabilitating irrigation infrastructures which include dams, furrows and canals. They have also launched a programme of environmental conservation, and

water conservation for irrigation. Farmers are trained on how best to conserve rain water for use when there is shortage of rain. They are also trained on how to conserve soil and increase fertility for more productivity.

*Umoja wa Wafugaji wa Ng'ombe wa Maziwa (UWANG'OMA)*, Saint Vincent de Paule, Marangu Community Development Association (MACDA) and *Marawe Kyure* Women Organisation are examples of NGOs and CBOs which extend knowledge on livestock production mainly on dairy husbandry. Farmers are trained on how to increase milk production by obtaining the right breeds and managing them properly.

## **1.2 Problem Statement**

Traditionally, extension has been a government funded activity. However due to financial constraints it is obvious that the Government alone cannot render the extension services effectively. Participation of other providers, non-governmental organisations, commodity boards, Co-operative Unions and private people is of vital importance (Sumaye, 1994). It is due to this fact, that NGOs are playing an increasing role in delivering extension services.

However very few NGOS have clearly defined objectives where general reference can be taken. The work of NGOs has been neglected in the wider literature and in funding arrangements for technology development and dissemination. Yet they are of growing, though not uniform, strength in the complex, diverse and risk-prone areas (Wellard, and Copestake, 1990). It is therefore important to examine in detail and explore the evolution, activities, the extent to which NGOs disseminate agricultural

innovations and the effectiveness of NGOs to improve the farmers well-being and assess the sustainability when donors pull out.

### **1.3 Objectives**

#### **1.3.1 General objective**

To investigate and assess the contribution of NGOs in providing agricultural extension in terms of logistic support, training and supervision in Moshi District.

#### **1.3.2 Specific objectives**

- (i) To establish the institutional functioning of NGOs in terms of organisational structure, status and inter-relationships with the government and donors in Moshi District.
- (ii) To explore the NGOs operational procedures in terms of approaches, methods and media in Moshi District.
- (iii) To identify the factors associated with effectiveness or lack of effectiveness of NGOs in Moshi District.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This review covers the definition of Non-Governmental Organisations and their characteristics in different areas as they differ according to culture, geographical location, nature of clientele and the mode of operation. The review also covers the institutional functioning of NGOs and how they interrelate with Government Organisations, the extent to which NGOs disseminate agricultural innovations, factors associated with their effectiveness and operational procedures.

Experiences may differ from country to country depending on the policy of the country, the approach of the international policy on the problems experienced in that area, and the attitude of the clientele towards the services provided by the NGOs. Different approaches have been used in different areas including top-down approaches, bottom-up approaches, participatory rural appraisal (PRA) approaches etc. These approaches have succeeded in certain areas and have failed in others. However most of the areas have experienced successes with NGOs.

#### **2.2 Definition of Non Governmental Organisation (NGO)**

Non-Governmental Organisations (NGOs) refer to registered, private, independent, non-profit making organisations (Wellard and Copestake, 1990). This definition excludes unregistered or informal organisations and groups, which are referred to

separately as grassroots organisations (GROs), though NGOs and GROs are included when we refer to voluntary organisations (Wellard and Copestake, 1990). NGOs differ from Community-Based Organisations (CBOs) in that the CBOs are sometimes profit-oriented and depend on contributions from members. NGOs have no permanent membership, neither do they encourage shareholding in their activities.

NGOs are organs which are supposed to answer to the felt needs (i.e. social, economic, cultural etc) of the poor and disadvantaged groups which the government organisations have failed to address. More broadly, they have a concern towards the development of the less developed societies in general. In this sense then the aims of NGOs are firstly, to improve the circumstances and prospects of the disadvantaged people who are unable to realise their potential or achieve their full rights in the society and secondly, to act on the issues and/or concerns which are detrimental to the society as a whole (Shao, 1998)

Non-Governmental Organisations share the philanthropic orientation of Grassroots Organisations, but tend to be more formally institutionalised. They vary in size from sub-national to international, and in mode of operation, some implementing projects or programmes directly, others working with local NGOs or GROs. NGOs' broad objectives are of three types, sometimes overlapping within a single organisation:

- i) Service provision, initially focusing on relief activities, but now more development in character.

- ii) Organisation building working with local communities to identify problems and organise local efforts to solve them.
  
- iii) Support and advocacy functions which include lobbying at local, national or international levels, and the provision of back-up (such as research and policy analysis) to other NGOs or GROs (Wellard and Copestake, 1990).

### **2.3 Characteristics of NGOs**

Over the last two decades, and particularly towards the end of the 1980s we have witnessed in Africa and Tanzania in particular, a proliferation of Non-Governmental Organisations (NGOs) in terms of size and numbers. The argument has been that this has had two major favourable impacts on the continent: first, that the activities of the NGOs have helped to mitigate the negative impacts of the prevailing macro-economic policies on the poor and vulnerable groups and second, that they have contributed to the democratisation process by pluralising and strengthening the civic society (Fowler, 1991; Shao, 1998).

NGOs are wary of being co-opted by government and losing control of their wider agendas. Many NGOs want to participate in policy formulation as part of constructive partnership with GOs instead of simply being seen as conduits for resource transfer. On the other hand, governments are sceptical of NGO programmes, and their mandate as selected bodies for acting on behalf of rural people (Lewis, 1992). To a larger extent, NGOs can put thrust to increase participation, development and transfer at all possible levels (Sendeu, 1994).

Public sector extension has primarily been concerned with providing a service to the wealthier categories of the rural population, whilst NGOs have developed their programmes to address the needs of those traditionally by-passed by government services, the rural poor (Lewis, 1992).

Many NGOs are small especially in terms of number of staff, the target area in which they operate and the target population. This feature appears to be a central one because it allows NGOs to make clear objectives of their work, to focus their work and win the confidence of the population with which they work. More important is the fact that this feature allows NGOs to be flexible. With this flexibility, NGOs are able to experiment on a small scale their strategies before adopting them in a wider area (Marche and Ruvuga, 1994).

NGOs experiences in development and dissemination of agriculture related technologies and management practices for the rural poor is highly diverse and exhibits both success and failure. NGOs actions are restricted by limited overall size, unreliability and short-term nature of their funding, as also by action orientation of their funding agencies (Bebbington and Farrington, 1992). NGOs are often community based, and have good linkages with farmers. They have access to funds, others have more flexibility in their activities than government departments. However, to ensure their effective participation at the local level, a system needs to exist which allows NGO activities to be consistent with the government activities. A number of NGOs involved in participatory agricultural research are staffed by highly motivated

individuals who have left government services for the less bureaucratic, more innovative and generally better paid informal sector. They bring to the NGO sector a detailed knowledge of the government sector and, if they are able to maintain favourable contacts, there is a fairly easy route to collaborate (Wellard and Copestake 1990).

The lack of empirical evidence of NGO financial performance leaves a substantial gap in the literature on the effectiveness of NGO services. This gap poses a pressing need for cost-benefit comparisons of NGOs and the public and the private sector organisations engaged in the same type of farmer support services (White and Eicher, 1999).

Thus, according to the literature, NGOs are characterised by the following:

- i) Their activities have mitigated the negative impacts of prevailing macroeconomic policies on poor and vulnerable groups and also contributed to the democratization process.
- ii) They are in a better position to increase participation, development and transfer of technology at all levels
- iii) They address the needs of those traditionally bypassed by government services.
- iv) They are small especially in terms of number of staff, target area in which they operate and the target population.
- v) They are flexible and therefore able to experiment on a small scale, their strategies before adopting them in a wider area.

- vi) They are often community based, and have good linkage with farmers.
- vii) They are staffed by highly motivated individuals, who are less bureaucratic, more innovative and generally better paid.

## **2.4 Institutional Functioning of NGOs and Interrelation with GOs**

This refers to how the NGOs as institutions carry out their functions in rendering extension services. It covers the organisational structure and status, inter-relationship with donors, farmers, government organisations, other NGOs and other institutions such as community based organisations, grassroots groups, women groups, youth groups etc.

### **2.4.1. Organisational structure and status.**

NGOs have different organisational structures depending on the nature of donors, clients, geographical location of the area they operate and the policy of the country they operate in.

Many NGOs have a board of trustees, management, staff and farmers. Usually the board of trustees represent the stakeholders in top decision making on how the NGOs should operate. The management usually includes the chairman, secretary, programme officer and treasurer. The management supervises the activities rendered by the staff of the NGOs. The staff on the other hand consist of operations officers who link the management with the frontline staff who are the extension workers. These frontline staff discuss the issues with the farmers and reach a solution, if they don't reach any

solution the front-line staff forward the problem to higher authorities for more clarification.

#### **2.4.2. Relationship with donors.**

Donors and the public sector need to offer NGOs a range of options consistent with their own aspirations, whether (at one end of spectrum) these lie in delivering services on behalf of the government or (at the other) in the development of innovative approaches to the enhancement of rural livelihoods (Bebbington and Farrington, 1992). Providing that their approaches are sensitive enough, there is plenty of scope for them to work with NGOs at field and policy level, and to incorporate into their own programmes and structures many of the lessons delivered from NGO experience (Bebbington and Farrington, 1992).

#### **2.4.3. Relationship with farmers.**

In eastern Bolivia NGOs work directly with farmers and GROs. Levels of co-operation range from NGO co-ordination with existing GROs to fostering the formation of local groups with whom the NGO can collaborate in developing agricultural technologies (Wellard and Copestake, 1990).

NGOs are often community based, and have good linkages with farmers. They have access to funds other than government sources, trained and well motivated personnel (Heinrich and Modiakgotla, 1993). Although NGOs contribution to the formation of farmer organisations have not always matched their rhetoric, most experience in

linking agricultural development projects with organisational strengthening has been gained in the NGO sector (Bebbington and Farrington, 1992).

NGOs are well equipped to overcome some of the constraints faced by formal research and extension services, and in many parts of the world, NGOs have succeeded in working with farmers to develop acceptable technology (Farrington, 1989). This is also the case with the study area (Moshi District).

The role played by NGOs and other grassroots organisations in providing extension services is recognised by farmers. However, their achievements have not been thoroughly assessed to justify them as alternative extension providers in addition to the Ministry of Agriculture and Co-operatives (Sicilima, 1997).

#### **2.4.4 Relationship with the Government.**

Under the present policy of decentralization, the Ministry of Agriculture and Co-operatives will concentrate on three core activities, namely Research, Extension and Training. Basically as a policy, extension is a government funded activity. However due to financial constraints it is obvious that the government alone cannot perfect the extension service (Sumaye, 1994).

NGOs contribute significantly to government development efforts. To ensure NGOs' effective participation at the local level, a system needs to exist which allows their activities to be consistent with and, if both sides agree, integrated into government efforts (Heinrich and Modiakgotla, 1993).

The relationship between a particular NGO and the government agency will depend on the particular organisations involved. The responsiveness of government officials to NGOs request for support is governed, first and foremost, by the policies of the respective Department which the official represents. Second, responsiveness sometimes depends on the degree of responsibility a particular official wishes to assume. Given two officials in similar positions in the same department one may assume decision-making responsibility to the limit allowed, while the other will suggest referring matters to his superior, if there is any doubt as to who is responsible (Sollows, 1991).

In Tanzania, the bulk of agricultural extension advice to over 95% of the farmers receiving the extension services was provided by the Ministry of Agriculture and Co-operatives. Increasingly NGOs are getting involved in agricultural extension in Tanzania, some independently, but others in close collaboration with government (Rwenyagira and Mattee 1994).

Any successful collaboration between NGOs and GOs depends on the premises upon which such partnership rests. External factors such as rural poor infrastructure along with the policies of donor agencies may also be key determinants of success or failure. Partnership between NGOs and GOs is desirable if the comparative advantage of each party can be used to their mutual benefit (Khan *et al*, 1991).

#### **2.4.5 Relationship with other NGOs and institutions**

The Organisation of Rural Associations for Progress (ORAP) in Zimbabwe has found that sharing ideas, knowledge and materials with local NGOs is important and reduces competition among NGOs; it also enables definition of territorial operations (Ndiweni, 1991).

Supporting NGOs, whether international or nationally based, may provide financial, personal or other resources to assist on certain programmes. CARE, for instance, have recently appointed regional agricultural advisors who service the efforts of CARE itself and, through extension, those of other NGOs. They may also take on a kind of umbrella like co-ordinating role providing information services or networking between local NGOs or GROs (Wellard and Copestake, 1990).

The ORAP and other NGOs have also involved the District Development Fund (DDF) in the venture of undertaking several projects jointly. Once the NGOs found that the DDF had funds which could be used in irrigation schemes or water development in rural areas they proposed collaborative project and after extensive discussions with the DDF, some of its funds were committed for developing the second phase of a scheme already being operated by the NGOs (Ndiweni, 1991).

#### **2.5 The Extent to which NGOs Disseminate Agricultural Innovations**

The lack of comprehensive policy framework on NGOs has led to two sets of problems. First, NGOs feel they are excluded from consultations in the formulation of development plans and are only being asked to respond when plans are already at the

implementation stage. Second, a lack of policy framework often creates a situation where political influence, rather than use of empirically documented information, determines where and how NGOs can intervene (Sumaye, 1994).

In the early 1980s, NGOs were instrumental in drawing the attention of government agencies to the great potential of rice-fish culture as an activity appropriate for north-east Thai farmers. Their flexibility and focus in limited geographical areas allowed them to understand why the technology fitted farmers circumstances so well, and to explain this to concerned government officials. As such, they provided an extremely valuable bridge (Sollows, 1991).

NGOs need to utilise strategies for technology transformation of rural society linked with improved cropping practices, provision of inputs, and skills to bring desirable changes. It is necessary to involve farmers in various programmes fully in order to commit and motivate them and to avoid conflict and resistance (Sendeu, 1994).

## **2.6 Operational Procedures of NGOs**

This refers to the set of actions used by the NGOs in implementing their activities. The procedures include approaches, methods and media used in different areas considering the habits, norms, cultures, customs, geographical location, and availability of resources. While there is evidence of NGOs comparatively stronger performance in welfare and relief activities, there is less evidence of success in income and employment generation (Farrington and Bebbington, 1993).

In the rural areas, especially those which can be classified as complex, diverse and risk-prone, where many farmers cannot afford to buy advice and government services are often weak, NGOs may be the main providers of extension services (Carrey, 1998). However, most NGOs have similar operational procedures in terms of approach, methods and media.

### **2.6.1 The approaches used by NGOs.**

The word 'approach' refers to the style of action within an extension system. The approach embodies the philosophy of the system. It is the essence of the system. It is like a doctrine for the system which informs, stimulates and guides such aspects of the system as its structure, its leadership, its program, its methods and techniques, its resources and its linkages with other organisations (Urio, 1998). Different NGOs use different approaches, some use PRA approaches, some use RRA, some visit farmers individually and some even form clubs and community based organisations. In general, most of these NGOs tried to achieve tangible benefits by supplying services that are needed or requested by beneficiaries, and mostly support beneficiary groups, not only as a matter of efficiency in the scale of services but also as a commitment to collective empowerment as an independent value (Farrington and Bebbington, 1993).

The key characteristic of NGOs is to involve the beneficiaries in determining their own course of development. This could be said to be the fundamental difference between the government or public extension service and NGOs. The approach in rural development followed by many NGOs is normally participatory while in public extension service it is top-down (Marche and Ruvuga, 1994).

COOPIBO Tanzania has advanced and adopted two approaches since it was established, namely, 'Functional group approach and Participatory Research and Extension'.

The functional group approach involves three interrelated components which are:

- i) Functional groups whereby individual farmers join groups so as to be able to achieve common goal.
- ii) Problem solving strategy which consists of five steps as follows:
  - o farmers awareness of the problem,
  - o assessment of the problem, during which problem causes are identified
  - o looking for possible/alternate solutions
  - o selecting the best solution for implementation
  - o evaluation of results.
- iii) Farm service concept, COOPIBO's role is to strengthen and help to adjust services to farmers. COOPIBO also tried to enhance the setting up of additional services, like supply of workshop with repair facilities for oil pressing units (Ndinga *et al*, 1994).

The approaches used in extension provision are therefore Training and Visit (T&V) whereby the extension workers train farmers either individually or in groups and then afterwards visit them to see how they have adopted; Farming Systems Research whereby researchers and extension workers demonstrate the technology on the farmers' fields and Participatory Technology Development where researchers,

extension officers and farmers jointly develop and implement the appropriate technology for that particular area.

### 2.6.2 Methods

Many NGOs work in a defined timeframe after which the beneficiaries are expected to have acquired the necessary skills to solve a specific problem and the related ones. This implies that as the beneficiaries acquire knowledge the role of NGO diminishes (Marche and Ruvuga, 1994). For example, INADES Formation, Tanzania an NGO based in Dodoma has been involved in training groups of farmers in soil conservation techniques. As training went on the trainers from INADES facilitated selection of farmers who would learn more and train many more farmers the same techniques. So the role of INADES gradually diminishes and that of farmers increases (Marche and Ruvuga, 1994).

In areas where COOPIBO provides extension services, the village extension workers play a key role in supervising and assisting farmers groups. Also some villagers were trained as local resource people, at the disposal of their groups. For instance, in areas where oxenization seems to be promising some of them may assist interested groups which want to increase their knowledge on animal traction (Ndinga *et al*, 1994).

Saville (1965), identifies methods used in extension services as mass methods, group methods and individual methods. Urio (1998) mentions the methods used in agricultural extension as individual methods whereby the extension workers contact individual farmers either at home or at their farms; group methods and mass media. All the methods are applicable depending on the level of education of the clientele, the

population of the farmers and the stage in the adoption process. Mass media is appropriate at the awareness and interest stage, while individual and group methods are preferred at the evaluation, trial and adoption stage (Urio,1998).

### 2.6.3 Media

In the case of Proshika's Livestock and Social Forestry Programme in India, the livestock and sericulture programmes are using technical inputs from the government for programme development. For example, the livestock programme is making vaccines and other inputs available to target groups. Also the dissemination of technical knowledge among paravets from groups has also been activated in the programme (Khan *et al*, 1991).

Traditionally, agricultural extension information was transmitted to the farmers and other clients via extension agents. However, rapid advances in the communication and electronic industries have also spilled over to the agricultural extension system, offering additional options for the mass communication of new agricultural information. For example, the use of television, telefax, video, computer and satellite technologies has tremendously increased the speed, coverage and quality of information transmission (Umali and Schwatz, 1994).Media therefore refer to the channels used by the NGOs in disseminating knowledge or innovations to the farmers. The media include newsletters, leaflets, newspapers, booklets, meetings, seminars, workshops, videos, radios and drama.



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## **2.7 Factors Associated with Effectiveness of NGOs.**

### **2.7.1. Introduction.**

Many NGOs have empowerment of smallholder farmers as one of the key objectives and train and organise farmers to increase their skills and political power and although NGOs contribution to the formation of farmer organisations has not always matched their rhetoric, most experience in linking agricultural development projects with organisational strengthening has been gained in the NGO sector (Rwenyagira and Mattee, 1994). When we talk of effectiveness we refer to the number of farmers reached by the NGOs in the course of providing extension services, the adoption rate by the farmers in terms of what has been disseminated to them through the NGOs and the increase in production. However, with little empirical evidence to support or refute their claims, researchers have generated a literature largely composed of unqualified generalisations and consistent praise for NGO effectiveness (White and Eicher, 1999).

Therefore factors associated with effectiveness include the following:

### **2.7.2 The simplicity in adoption of the innovations.**

In most cases innovations are simple to adopt due to the flexibility and compatibility of the innovations with the existing socio-economic circumstances. Communities in dire need of assistance sometimes make direct appeals to NGOs for help. Since many NGOs have flexible planning, such requests may be given attention (if funds are

available) even if the period does not coincide with the government budget (Mungate and Mvidudu, 1991). NGOs flexibility in choosing their subject area, the sources of information on which to draw, the vehicle of communication and their clientele give them a potentially important and independent role in information exchange (Rwenyagira and Mattee, 1994). For the fact that NGOs conduct participatory training, the technologies developed and disseminated are usually compatible with the lifestyles of the farmers. They are usually simple and easy to adopt. The mode of functioning of the extension service requires research to be able to generate adequate, relevant, adapted and timely technology for the extension system to transfer to farmers (Marche and Ruvuga, 1994).

For the fact that the extension services provided by NGOs are participatory, it is obvious that participants analyse the availability of resources exhaustively and therefore come up with sound implementation. In this situation then we expect the costs of production to be cheaper and achieve higher production by using resources at farmers disposal. Working together with farmers through incorporating their experiences and taking into account the logic of the farming system they have developed, is the starting point to any successful extension system (Ndinga *et al*, 1994).

### **2.7.3 Capacity building.**

Most NGOs motivate the front-line staff by providing them with short courses, seminars, workshops and even meetings. In these sessions extension workers are able to improve their working ability and hence work better than those people working

outside the NGO operational area. In terms of the extent of NGOs and GOs involvement in the practice of participation it would appear that NGOs are more dominantly involved, although this can be misleading since the distinction between the government and NGO agency is sometimes difficult to determine (Wambura *et al*, 1994).

A particular advantage of working with NGOs is their geographical spread into areas where government services find difficult to reach (Henderson and Singh, 1990). Although NGOs have been existing for a long time, it was not until recently that their role in development has been recognised. At both international and national levels, NGOs have become active in lobbying and influencing policy reforms. At grassroots level, NGOs have contributed in giving voice to people whose voice would have never been heard. Thus evidence shows that some NGOs have been successful in development (Marche and Ruvuga, 1994).

To secure their role in Africa's agricultural development, NGOs must be able to demonstrate their ability to increase the scale of successful operations and replicate their projects in varying environments. However, many researchers have noted a poor record of performance. (White and Eicher, 1999). With trained staff more farmers are reached and productivity increased. Also by conducting study tours, seminars and field days, farmers are able to exchange views, learn by seeing the reality and build confidence in themselves and hence acquire more experience in their day to day activities in agricultural production.

#### **2.7.4 Size of the area the NGO operates**

This is a central feature of many NGOs. Many NGOs are small especially in terms of number of staff, the target area in which they operate and the target population. This feature appears to be the central one because it allows NGOs to make clear objectives of their work, to focus their resources and attention in a well defined area, to understand well the environment in which they work and win the confidence of the population with which they work (Marche and Ruvuga, 1994). It is easy to supervise a small area and hence more farmers reached by the extension worker more frequently.

#### **2.7.5 Commitment of staff.**

While we see an enormous wearing of morality and discipline in extension provision in the public service (including extension services), generally speaking in NGOs there is acceptable level of commitment for the following reasons:

- i) Staff can be involved in setting the objectives and planning the activities of the organisation
- ii) Staff can express their opinion and the opinion can be taken into account.
- iii) Because of small size it is possible to monitor and evaluate the performance of the staff.
- iv) Because of size it may be possible to give a reasonable motivation e.g salary and allowances (Marche and Ruvuga, 1994).

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter outlines the methodology of the study. It covers the description of the study area, research design, population and sampling procedures, instrumentation, data collection and statistical analysis. This study was confined to Moshi Rural District specifically in Marangu, Kilema, Mamba, Kirua Vunjo, Makuyuni, Uru, Kibosho and Old Moshi wards where the two NGOs (Kilimanjaro Environmental Development Association and Saint Vincent de Paule) operate. Seventeen Villages are served by these NGOs which are Himo and Rauya in Marangu ward, Masaera, Kilema and Kilema Pofu in Kilema ward, Mabungo in Makuyuni, Rau and Kitandu in Uru ward, Otaruni, Umbwe, Mkomongo, Maua, Maro, Singa and Kindi in Kibosho ward and Mbokomu and Tella in Old Moshi ward.

#### **3.2 Research Design**

A cross-sectional design was applied whereby data were collected at a single point in time from a sample selected to represent some larger population at that time (Babbie, 1990). This design can be used for purposes of description as well as for the determination of relationships between variables at the time of the study.

#### **3.3 Sampling Procedures**

This study focused on the operations of two Non-Governmental Organisations which are well established in the District. The two NGOs have been selected from the seven

NGOs mentioned in chapter one. The NGOs provide extension services in both crop and livestock sector, one NGO has been randomly selected from each sector. The NGOs are:-

- i) Kilimanjaro Environmental Development Association (KEDA) which deals with soil and water conservation, tree planting including agroforestry practices and rain water harvesting. It operates in Himo, Rauya, Masaera, Kilema, Pofu and Mabungo. The NGO is funded by GTZ, a German bilateral organization. The donor support is used for transport of the staff, motivation of staff and procurement of seeds for tree seedlings which include fodder trees as well as fruit trees. The NGO collaborates with the Ministry of Agriculture and Co-operatives and the Ministry of Natural Resources to advocate agroforestry in the areas it operates.
- ii) Saint Vincent de Paule which deals with dairy promotion. The NGO is supported by Heifer Project International (HPI) an International organisation that fights hunger by providing animals (livestock) and knowledge to poor farmers in developing countries. It provides the farmers with improved dairy animals (cattle and goats) as well as training them on the proper animal husbandry in terms of housing, feeding, breeding etc.

### **3.3.1 The population**

The population for the study consisted of farmers in Moshi Rural District who receive extension advice from the two NGOs. Two villages were selected from each NGO

operational area. The sampling frame for farmers consisted of all the farmers living in the selected villages.

### **3.3.2 The sample**

Data were collected from four villages in the study area (two villages from each NGO operational area). The four villages were randomly selected from the eight villages mentioned above where 15 farmers (each representing a household) were also randomly selected from each village. The sample size was therefore 60 farmers.

### **3.4 Instrumentation**

Questionnaires were designed and pretested before being administered to farmers.

Four farmers from each village were interviewed during pretesting and as a result the answers to the questions were valid and reliable.

### **3.5 Data Collection and Analysis**

#### **3.5.1 Primary data**

These were collected using three instruments.

A questionnaire was administered to respondents from households (represented by the immediate recipient of the extension services) selected by the procedure described above.

Structured interviews were used to collect information/data from key informants which included the village chairmen, group leaders and administrators including ward

executive officers, village executive officers and councillors in the area where the NGO operates.

Focus group discussions were conducted with four groups, two groups of farmers and two groups of extension workers in the study area. It was envisaged that focus group discussions would produce more information and help to clarify issues obtained through structured interviews and questionnaires.

### **3.5.2 Secondary data**

Secondary data on the performance, achievements and operations of the NGOs were obtained from records at the DALDOs and DNROs offices as well as NGOs reports and records. Progress reports which included annual, monthly and daily reports were collected from the District Agriculture and Livestock Development office, District Natural Resources office and Himo Agroforestry Project. Progress reports from the two NGOs were also available in Himo and Moshi which are the headquarters of the respective NGOs. Another source of data for this study was the review of official documents on policies concerning the two NGOs. These documents included the constitution of the NGOs, meetings held and their resolution, leaflets and official magazines. Review of the documents was for the purpose of identifying statements that controlled and regulated the operational procedures of NGOs in terms of extension provision.

### **3.5.3 Data analysis**

The data collected were coded and analyzed using the Statistical Package for Social Sciences (SPSS) where descriptive statistics such as frequencies, percentages and means were calculated.

## **CHAPTER FOUR**

### **RESULTS AND DISCUSSION**

#### **4.1 Introduction.**

This chapter presents results of the study on the participation of NGOs in agricultural extension in Moshi District, mainly from Kibosho, Uru, Kilema and Marangu wards.

An attempt is made to relate the various activities rendered by the NGOs, CBOs and the government with main focus on the agricultural extension services.

#### **4.2 Basic Characteristics of the Farmer Respondents**

The characteristics considered here include age, gender, marital status and the main crops grown by the respondents. Age was taken as criterion to exclude youths and children who are below 18 years. Age is very important to determine the respondents attitude towards the NGO providing the services in that area. Usually older people have strong attitude due to the fact that they are the ones left behind to take care of the home gardens. An in-depth discussion with the groups revealed that most youths have left for towns and cities to do petty business so that they hardly spend any time at home and even when they visit the homes they contribute very little to agricultural activities. Gender is also important in determining different activities rendered on the farms. Marital status is important in determining the efficiency in agricultural production. The main crops grown by the farmers determine the farming characteristics of individual farmers.

From the sample survey, majority of the farmers were aged between 31 and 50 years which was 66.7 per cent and very few below 31 and above 60 (see Table 1). This means that the respondents were middle aged and that they are still very active. This also portrays the fact that middle aged people are the ones who benefit most from NGOs providing services in the areas.

**Table 1: Farmers age distribution (n=60)**

Age group (years)	Number of farmers	Percentage
21-30	5	8.3
31-40	18	30.0
41-50	22	36.7
51-60	13	21.7
Above 60	2	3.3
Total	60	100

Source: Survey data, 2000

Main crops grown include coffee, bananas, maize, beans, sunflower and other minor crops intercropped with the main crops. Maize is intercropped with other crops depending on need, availability of land and labour within the household as shown on Table 2. As can be observed from the Table the number of farmers growing crops has increased considerably indicating that farmers got more interest in growing the crops

**Table 2: Main crops grown (n=60)**

Crop	Number of farmers						
	93/94	94/95	95/96	96/97	97/98	98/99	99/2000
Maize	12	12	15	17	33	43	43
Beans	5	6	7	7	22	31	39
Coffec	10	10	10	11	16	16	28
Bananas	16	16	16	16	16	16	37
Sunflower	8	8	9	8	9	8	16

Source: Survey data, 2000

Most of the farmers are engaged in crop production as well as livestock keeping. Table 2 shows the number of farmers engaged in the production of the various crops. It is obvious that the number of farmers growing annual crops varies from year to year depending on land availability especially taking into consideration that land is rented due to scarcity, but the number of farmers dealing with perennial crops does not differ much because the crops are permanent. Minor crops have not been mentioned as they are grown as a means of insurance against hunger. However their significance is still recognised by the individual farmers although not by the NGOs.

According to the results in Table 3, 43.3 per cent of the respondents were males and 56.7 per cent were females. Although much effort has been made to reach male farmers, practically more women participate in agricultural activities on the slopes of Mount Kilimanjaro. The 56.7 per cent of female respondents may be due to the fact that most farm activities on the slopes of Mount Kilimanjaro and particularly in

Moshi District are rendered by women. Men usually go for off-farm activities to earn income to support the family and youths who have not gone for petty business are usually at school. Most of the male respondents are people who retired from government services and other organisations who now stay at home and do farming.

**Table 3: Gender characteristics (n=60)**

Gender	Number of farmers	Percentage
Male	26	43.3
Female	34	56.7
Total	60	100

Source: Survey data, 2000.

Table 4 shows the number of farmers keeping livestock and that most of them are cattle keepers. The results indicate that the majority of the respondents keep cattle and goats with emphasis on dairy cattle and goats for milk production. Sheep rearing which is also done indoors due to shortage of land is also important. Goats are kept mostly on the area covered by KEDA due to the fact that the fodder trees are fed to goats which are good browsers. Pigs, chicken and ducks are of very little significance to the farmers, the latter two being reared under free range system.

**Table 4: Livestock keeping (n=60)**

Type of livestock	Number of farmers	Percentage
Cattle	57	95.0
Goats	41	68.3
Sheep	17	28.3
Pigs	1	1.7
Chicken	13	21.7
Ducks	1	1.7

Source: Survey data, 2000.

#### **4.3. Characteristics of the NGOs**

Both NGOs were found to be serving the small scale farmers on the slopes of Mount Kilimanjaro. However Saint Vicent de Paule is working under the umbrella of the Roman Catholic Diocese of Moshi in the name of Saint Vincent de Paule, while KEDA is co-operating with Himo Agroforestry Project, GTZ and individuals. Furthermore KEDA is a member of Tanzania Non Government Organisations (TANGO) an umbrella NGO.

Both NGOs are co-operating with District Councils and Villages in providing extension services, supplying inputs and offering veterinary services to the farmers. They also attend Bi-monthly Training Sessions, workshops and meetings organised by the government and other institutions in the district.

#### **4.4. Institutional Functioning of the NGOs and Interrelation with GOs.**

This covers the organisational structure and status of Saint Vincent de Paule and KEDA, and their relationship with donors, farmers, government, other NGOs and institutions.

##### **4.4.1. Organisational structure and status.**

The two NGOs differ in the way they evolved. The evolution of Saint Vincent de Paule is a result of Heifer Project International (HPI) in its effort to minimise and even to eradicate hunger in the developing countries. KEDA on the other hand evolved from the efforts of Himo Agroforestry Project which is funded by GTZ. Actually people from Rauya village had approached the project asking it to help them draw water from river Ghona to irrigate their fields. It is here where the NGO (KEDA) evolved and started extending their services to Mamba, Mwika and Kilema wards.

Saint Vincent de Paule is registered under the umbrella of Diocese of Moshi while KEDA is registered under the membership of TANGO. Saint Vincent de Paule as an NGO has a chairman, a Patron who is a Priest in the Roman Catholic Church, a District supervisor, eleven VEOs and group leaders at the bottom level. With the chairman is a Board that ensures smooth running of the NGO for the betterment of the farmers. KEDA's organisational structure has five principle organs namely- the General Meeting, Board of Trustees, the Management and the Zonal co-ordinators. The General Meeting is the supreme organ of the Association under which the other organs are sub-ordinate and accountable. The Management of the Association consists of the following office bearers:

- i) Executive Secretary
- ii) Programme Officer and
- iii) Treasurer

The management holds office under general supervision and control of the Central Committee and is responsible for running all day to day activities of the Association. However the Management is also responsible for implementing the association's policy, initiating plans, co-ordinating proposals from the zones and forwarding them to the Central Committee for deliberation, prepare progress reports and safeguarding all properties of the Association on behalf of the Board. However the two NGOs differ in that the Saint Vincent de Paule has no premises of their own, rather they depend on the Diocese of Moshi in terms of offices and administration. They have a chairman who works in collaboration with Roman Catholic priest of Moshi parish. KEDA on the other hand has offices and they are fostered by GTZ through Himo Agroforestry Project. The two NGOs differ in their areas of operations, KEDA operates on four wards namely Marangu, Mamba, Kilema and Mwika while Saint Vincent de Paule operates at District level.

Clients for the two NGOs are farmers, women groups and local institutions with objectives of creating awareness on environmental management and to alleviate poverty and hunger by promoting agricultural productivity.

#### **4.4.2. Relationship with donors**

The two NGOs get assistance from outside the country in terms of funds, transport and advice. The NGOs in turn prepare progress reports which are submitted to the donors. Discussions held with the supervisors revealed that donors or their representatives visit the areas operated by the NGOs at least once per year to assess the progress of the activities and give advice. Donors decide on how best to use the available resources basing on the regular reports given and the visits they make. Other decisions are made by the management of the NGO.

#### **4.4.3. Relationship with farmers**

Taking into consideration that farmers are beneficiaries of the NGOs, they are obliged to adhere to the advice given by the extension workers. The extension workers on the other hand sit down with the farmers to chart out appropriate methods for delivering messages. Discussions held with farmers groups revealed that farmers make decisions on the use of their land, the utilisation of the agricultural product and the management of the farm as a whole.

#### **4.4.4. Relationship with the government, other NGOs and institutions**

It was found that the NGOs in collaboration with other institutions conduct meetings which involve extension workers and farmers. Results in Table 5 show the number of farmers who attended meetings organised by various institutions. Actually the meetings organised by VEOs are more because under the National Agricultural Extension Programme (NAEP), each VEO is supposed to meet at least 24 groups per month delivering messages discussed in BTSs. The two NGOs organise their meetings

after consulting the group leaders. In the meetings they discuss various issues which include proper farming practices, animal husbandry, nutritional improvement and new ideas on the existing problems including poor health, leadership problems etc (see Table 6). The results show the number of farmers who discussed different issues in different meetings. Proper farming practices discussed include control of soil erosion, manure and fertiliser application and spacing of various crops; while in animal husbandry the farmers discussed control of diseases, pasture and fodder tree establishment, calf rearing and general sanitation. As regards to nutrition they discussed preparation of different food varieties from sorghum and pigeon peas in order to improve their nutritional status while discussion on new ideas on the existing problems include poor health, clean water, management of irrigation water, environmental degradation and leadership problems.

**Table 5: Organisers of farmers meeting (n=60)**

Organiser	Number of farmers	Percentage
VEO	44	73.3
DALDO	3	5.0
SARI	1	1.7
KEDA	5	8.3
Lyamungo Research Centre	1	1.7
Saint Vincent de Paule	6	10.0
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Survey data, 2000.

KEDA works in collaboration with government organisations like the Ministry of Agriculture and Co-operatives, Ministry of Natural Resources, Community Based Organisations, Church organisations, schools and various voluntary groups, such that the formulation of messages is multidisciplinary and relevant for that specific area.

Saint Vincent de Paule does the same except that their regulations and constitution differ from that of KEDA.

**Table 6: Issues discussed in meetings (n=60)**

Issues discussed	Number of farmers	Percentage
Proper farming practices	42	70.0
Animal husbandry	34	56.7
Nutrition	3	5.0
Solutions to existing problems	14	23.3

Source: Survey data, 2000.

The NGOs formulate the messages and assist the VEOs in disseminating the messages to farmers as shown on Table 7 below. The messages are disseminated through meetings, farm visits, posters, videos and reading materials like leaflets etc.

**Table 7: Messages disseminated**

Message	Number of farmers	Percentage
Animal husbandry	33	55.0
Crop management	10	16.7
Human nutrition	12	20.0
Soil & water conservation	8	13.3
Biogas	4	6.7
Gender issues	1	1.7

Source: Survey data, 2000.

Both NGOs provide the supervisors with working facilities which include transport, topping up allowances to enable them have lunch during working hours and also help them attend seminars and workshops conducted by various institutions. Both NGOs produce leaflets carrying various topics like dairy cattle husbandry, establishment of tree nurseries, pasture establishment and soil and water conservation in collaboration with various subject matter specialists from the District, Regional and even the Zonal level. Table 8 shows the distribution of reading materials to the farmers from the sample survey.

**Table 8: Reading Materials Received (n=60)**

Materials	Number of farmers who received the materials.	Percentage
Leaflets	18	30.0
Magazine	33	60.0
Booklets	9	10.0

Source: Survey data, 2000

#### **4.5 The Extent to which NGOs Disseminate Agricultural Innovations.**

##### **4.5.1. Introduction**

This part looks into the coverage of the NGOs in the provision of extension services. It also explores what is involved in the efforts of dissemination which include types of messages and target group.

##### **4.5.2. Messages/Technologies disseminated:**

The technologies disseminated are recommended by research stations and other institutions approved by the Ministry of Agriculture and Co-operatives like seed companies, fertiliser companies, feed manufacturers and breeding station such as West Kilimanjaro, Usa River, Tengeru, Mpwapwa, Lyamungo and Selian Research Centres. Saint Vincent de Paule disseminate innovations recommended by West Kilimanjaro and Mpwapwa Livestock Research Centres and Tengeru Livestock Training Institute. Up to the year of study they had reached 126 livestock keepers in Moshi District. The NGO has started distributing dairy goats to farmers who cannot afford to keep cattle.

The goats produce less milk but they are appropriate for resource poor small scale farmers because they are less demanding than dairy cattle.

KEDA disseminate technologies from Agricultural Research Centres mainly Selian, Lyamungo and Tengeru. The recommendations from these institutes include proper crop spacing, appropriate fruit trees establishment, optimum manure and fertiliser application to all crops, environmental conservation specifically control of soil erosion, afforestation, use of improved stoves and establishment of pastures and fodder trees.

#### **4.5.3. Target group.**

Taking into account that both NGOs are aiming at fighting poverty, they try to operate on the interest of the recipients, that is to say that they conduct participatory surveys (for soliciting the true needs for their clients) in collaboration with government staff.

Both NGOs build local capacity by enabling the villagers to identify their needs through participatory discussions. As mentioned before, women are the ones mostly engaged in agriculture on the slopes of Mount Kilimanjaro and few men and youths do the cultivation and livestock keeping. However traditionally women do not own land and therefore property ownership by women is only theoretical such that actions regarding land have to be approved by men, but the implementation is done by whoever has been left at home.

Saint Vincent de Paule provides dairy animals to individuals who belong to groups, these people have to belong to groups as insurance in case anything happens to the animal. The NGO provides extension services to the farmers in groups through VEOs. KEDA focuses on whoever has been left on the home garden and dwells on the aforementioned messages. Farmers form groups which include tree nursery groups, soil and water conservation groups, women groups, youths, schools, church organisations and community based organisations such as Marangu Community Development Association (MACDA).

#### **4.6 Operational Procedures of the NGOs.**

##### **4.6.1 Introduction.**

This part looks into the way the NGOs operate in terms of approaches, methods and media. Both NGOs offer services focused on specific activities and in most cases they don't dwell on all activities as do the government extension services.

KEDA concentrates on environmental conservation in line with optimum crop and livestock production practices. In this case environmental conservation is primary and crop and livestock production are secondary according to the way the services are perceived.

Saint Vincent de Paule concentrates on livestock production especially dairy cattle and goats, crop production and environmental conservation being secondary. Table 9 shows the agricultural services provided by the two NGOs as mentioned by respondents. Some of the farmers got more than one service and therefore appeared in more than one service. Agricultural advice actually refers to the advice sought by

the farmer from the NGOs, but when we talk of farm visits we refer to the visits made by the extension worker under the facilitation of the NGOs. The other services include materials which include animals, tools, inputs and veterinary services; and expertise which includes survey for contours construction in the soil and water conservation and contour farming services.

**Table 9: Provision of agricultural services (n=60)**

Type of service	Number of farmers	Percentage
Heifer provision	29	48.3
Agricultural advice	13	7.8
Farm visit	13	7.8
Materials for construction	4	6.7
Water for irrigation	9	15.0
Training	17	28.3
Tree seedlings	5	8.3
Improved stoves	3	5.0

Source: Survey data, 2000

The NGOs also play some role in input supply as shown in Table 10. Inputs supplied include seeds and fertiliser in the areas served by KEDA and animal feeds and drugs in the areas served by Saint Vincent de Paule.

**Table 10: Input availability (n=60)**

Source of inputs	Number of farmers	Percentage
Local shops	53	88.3
Credit from NGOs	5	8.3
Local markets	2	3.4
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Survey data, 2000.

#### **4.6.2. Approaches.**

The mode of operation by the NGOs is usually participatory i.e farmers are involved in decision making. The NGOs therefore have formed groups from which leaders represent the majority of people in meetings, workshops and seminars. In their constitution, KEDA states that the Association believes in people centred development where the target group is the means and the end in development process. The association's mission will be achieved through transparency, commitment, openness to change, self determination and accountability.

Actually the approach is partly top down and partly bottom up in the sense that when the messages are disseminated from the NGOs after they have identified an existing problem, then it becomes top down but when people sit down and identify their problems and seek advice from the NGOs then it become bottom up.

Saint Vincent de Paule encourages the formation of groups in which the animals are distributed according to the agreed contract. The leaders of this NGO meet the

supervisor to chart out the distribution procedures where the recipients are obliged to adhere to the instructions and advice on good animal husbandry for the sustainability of their dairy enterprises.

In KEDA information pamphlet it is stated that ‘to achieve the set objectives KEDA has endeavoured to be accountable and transparent, the Association has also agreed to change, commitment and self determination.’ This NGO plans its work with extension officers, policy makers and administrators and disseminate technologies to farmers through the extension officers. The extension officers sit with farmers and refine the technologies and select those which are easily adoptable and the farmers in turn put forward their problems to which the extension officers seek solutions. It is in this process that the problems related to the NGO are dealt with by the NGO and modified solutions are sent back to the farmers through the extension officer. However both NGOs use Participatory Rural Appraisal (PRA) method in identifying immediate farmers problems and monitoring and evaluating their activities.

#### **4.6.3 Methods**

Apart from extension services provided, Saint Vincent de Paule provides the farmers with dairy cows and goats on condition that they form groups. Working in groups is encouraged by the Ministry of Agriculture and Cooperatives so that extension services reach as many farmers as possible. Saint Vincent de Paule and KEDA have encouraged group formation whereby they deliver their services both in materials and in kind.

The dairy cows provided by Saint Vincent de Paule are incalf heifers an incentive which makes the farmers adopt the technologies delivered by the extension workers. These heifers are provided on condition that the farmer first constructs a proper dairy shed, establishes a pasture plot and pays an amount of money to cover initial costs which will be incurred for veterinary services. Saint Vincent de Paule has a district supervisor who has been seconded from the Ministry of Agriculture and Co-operatives. The supervisor monitors the extension activities rendered in the villages by the village extension workers in the NGO operational area. This supervisor is provided with a motorcycle and allowances to help him carry out his duties efficiently while the extension workers are motivated by lunch allowances whenever they work beyond office hours.

KEDA on the other hand, works with groups of farmers who have established them for the purpose of working together. The NGO sits down with the farmers and analyse their problems regarding agriculture and environmental conservation.

#### **4.6.4. Media.**

The media used by Saint Vincent de Paule includes video shows which have started in Kibosho ward. The NGO provides the leaders of the farmers groups with videos on different subjects and the group leaders organise the farmers to watch the video programme. They also prepare posters on various topics related to livestock management. KEDA has not reached the stage of using videos but use posters, leaflets and newsletters prepared under assistance of Himo Agroforestry Project. Both NGOs use the word of mouth and demonstration plots. The word of mouth is used in

meetings, individually by contact with farmers through farm visits and announcements. The demonstration plots are established on the farmers' farms and act as visual aids to show the farmers that it is possible to implement what they hear or read from the other media.

#### **4.7. Factors Associated with Effectiveness of NGOs**

##### **4.7.1. Introduction.**

Effectiveness means producing desired results in the shortest possible time. In this part we discuss how the NGOs have achieved the desired results and the results themselves. In fact these desired results have been achieved through a number of factors. It is in this context that the factors which have influenced the effectiveness of the two NGOs in the area they operate are discussed below.

##### **4.7.2. The easiness in adoption of the innovations.**

The innovations are adopted easily because of the nature, methods and approaches used by the NGOs. Also because of the characteristics of the innovations themselves.

The following factors were identified as important:

###### **4.7.2.1. Flexibility.**

The two NGOs are flexible in their operations. If one solution fails an alternative is sought immediately unlike in the public sector where there is a long chain of command. KEDA works in close collaboration with farmers and therefore has ample

time in learning their problems, unlike in the government sector where decisions have to be made by DESC meetings, the DALDOs and DEOs have to wait long for funds and fuel for supervision, while the NGOs have ready funds at their disposal with which can easily purchase goods and services for use by the farmers.

#### **4.7.2.2. Compatibility.**

The messages/technologies advocated by the NGOs are compatible with the environment they operate in. Saint Vincent de Paule discusses the problems of dairy keeping with the farmers and agree on the solutions; problems with immediate solutions are solved immediately and those which don't have immediate solutions are forwarded to higher authorities for further attention. An in-depth discussion with the group leaders revealed that veterinary experts had been called in to solve problems of infertility, mineral deficiencies, proper calf rearing and general animal husbandry. These experts are provided with transport and allowances. KEDA discusses problems on soil and water conservation, agroforestry, soil fertility and how to solve them. Problems that have no immediate solutions are forwarded to Himo Agroforestry Project for more scrutiny.

#### **4.7.2.3. Cheap and profitable.**

Taking into consideration that the NGOs are close to the farmers, farmers don't incur any costs in looking for their services. This makes it cheaper and easier for the farmers to adopt than in public sector. An in-depth discussion with the farmers of Rauya and Himo villages revealed that there is a positive attitude of the people

towards the contribution of KEDA. Actually five out of eight farmers indicated in Table 7 have adopted soil conservation measures in the place where soil erosion is rampant, not only the adoption of soil conservation but also livestock keeping as fodder and grass are now plenty from the elephant grass grown along the contour ridges and fodder trees planted in the furrows of the contour ridges. People also appreciate the technology of making improved stoves which use less firewood and hence results in less destruction of the environment. Discussions held with the farmers served by Saint Vincent de Paule revealed that they appreciated the services rendered to them, that the provision of heifers go hand in hand with the extension services provided, therefore adoption rate is higher in the members of the groups than the non members. Farmers in the study area appreciate that the NGOs are doing a very commendable job in the provision of extension services.

#### **4.7.3. Capacity building.**

As mentioned earlier the two NGOs conduct workshops, seminars and short courses in order to improve the skills of the farmers and the VEOs. They also organise study tours and field days to demonstrate the technologies recommended to the farmers by the NGOs.

KEDA has organised several field days at Himo and Rauya as observed from Table 11. The field days are organised at strategic points/places where they demonstrate the construction of soil conservation structures, construction of improved stoves and identification of various species of fodder trees. Saint Vincent de Paule organises field days and study tours for farmers who are in groups to see recommended dairy sheds

and see improved breeds of dairy cattle and goats. They also offer short courses to farmers who are in groups. The NGO has already organised five field days of one day each, two study tours of one week each and four short courses of one week each. Tables 11 and 12 show the contribution of the two NGOs in organising field days and study tours.

**Table 11: Organizers of field days (n=60)**

Organiser	Number of farmers	Percentage
RALDO-Kilimanjaro	2	3.3
TASO-Arusha	2	3.3
RALDO-Tanga	1	1.6
Lambo Estate	1	1.6
KEDA	5	8.3
Lyamungo Research Centre	2	3.3
Village chairman	3	5.0
Saint Vincent de Paule	5	8.3
Did not participate	39	65.3

Source: Survey data 2000.

**Table 12: Organizers of study tour (n=60)**

Organiser	Number of farmers	Percentage
DALDO	2	3.3
HORTI-Tengeru	3	5
FAO	2	3.3
Selian	1	1.7
KEDA	2	3.3
Women groups	3	5
Extension worker	2	3.3
Saint Vincent de Paule	2	3.3
Did not participate	43	71.8

Source: Survey data, 2000.

Saint Vincent de Paule has distributed 29 heifers to 48.3% of the respondents an indication that its recipients have acquired grade animals which presumably increased milk production and hence improved nutritional status of the people. KEDA on the other hand has introduced improved stoves which help to reduce deforestation and also introduced soil conservation structures including contours and terraces which have improved the agricultural production in the area.

These NGOs conduct field visits whereby they facilitate the extension supervisors with transport and lunch allowances so that they participate effectively. They also organise study tours, field days and meetings as shown above whereby farmers, extension workers and policy makers observe and exchange views so as to improve their agricultural practices.

## **CHAPTER FIVE**

### **CONCLUSIONS AND RECOMMENDATIONS**

The overall aim of this study was to investigate and assess the contribution of NGOs in providing agricultural extension in terms of logistic support, training and supervision in Moshi Rural District. This chapter summarises the conclusions and recommendations derived from the study. For the sake of convenience, the major conclusions are organised around the study objectives as laid down in the first chapter, which is also in line with the way the results were presented.

#### **5.1. Conclusions**

The following are major conclusions drawn from the findings of the study.

- i) Both NGOs have well defined organisational structure and status. Their objectives are clearly defined as being eradication of hunger on the part of Saint Vincent de Paule and environmental conservation on the part of KEDA. They have offices and field staff who are seconded from the Ministry of Agriculture and Co-operatives. These staff are the supervisors and extension officers who work at village level.
- ii) Both NGOs have succeeded in providing services to farmers due to the fact that they focus on specific activities which have shown impact on the area they operate. Unlike the GOs which dwell on all activities, these NGOs have managed to stick on two core problems after which the other problems are attended accordingly. The extension services provided by the

NGOs, accompanied by material support like input supply and grade animals have facilitated the improvement of household economy in the areas they operate. The use of different approaches including PA when preparing project write-ups have also contributed to the success of the NGOs. The methods and media used which involved meetings, posters, leaflets have drawn great attention from the farmers they serve.

- iii) The NGOs have proved effective in disseminating technologies to farmers in the areas they operate. The effectiveness has been influenced by the easiness in adoption of the innovations which is characterised by the flexibility in their operations, the compatibility of their technologies with the environment the farmers live in, and the low cost of acquiring the messages and the profit they get. The effectiveness is also influenced by capacity building whereby the NGOs conduct seminars, workshops, study tours and field days for farmers and staff.

The findings reveal that the NGOs link the farmers with researchers from West Kilimanjaro, Tengeru, Mpwapwa, Selian and Lyamungo Research stations to get up to date information on the improvement of the crops and livestock. The NGOs build local capacity by empowering the farmers to identify their needs and seek ways of solving them.

## **5.2. Recommendations**

In order to improve the performance of the NGOs and other Community-Based Organisations it is worth considering the following recommendations.

1. The evolution of NGOs should be encouraged in other areas/regions so that small scale farmers can benefit from them due to the fact that they are less bureaucratic and have short chains of command.
2. The District Councils should encourage the use of the operational procedures of the NGOs as the approaches, methods and media used in disseminating extension messages has proved effective. The Councils should help in preparing and distributing the newsletters, leaflets, video programmes, and posters to increase the adoption rate by the farmers.
3. Effectiveness of the NGOs should be improved by encouraging formation of more groups; having proper and defined policy that should bind the farmers to adhere to the recommendations given by the extension workers. The effectiveness can also be improved by rehabilitation of infrastructures like houses and roads and also sensitising men and women on gender issues.

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## APPENDICES

### APPENDIX 1: FARMERS' QUESTIONNAIRE.

**TITLE: An Assessment of NGOs' Contributions to Agricultural Extension in Moshi District, Kilimanjaro Region.**

#### **Introduction:**

Dear farmer, we are conducting this study to gather information on the contribution of NGOs to Agricultural Extension in your area. We are requesting your support and cooperation in this task by responding to the following questions: Any answer or reply made will be kept confidential.

#### **Part I**

1. Name of NGO .....
2. Village.....
3. Name of farmer.....
4. Sex.....
5. Age.....
6. Education qualification.....
7. Marital Status Married/Single/Widow/Widower/Divorced.
8. Number of children (alive).....
9. How many years have you lived in this village?.....
10. When did you first have access to this NGO?.....
11. Main occupation.....

12. Area of land.....
13. Crops grown.....
14. Other activities.....

## Part II

15. How many times do you meet the extension worker in your area a month?.....
16. What are the main issues do you discuss?.....
17. (a) Are the message brought to you directly relevant to your activities? Yes/No  
(b) If Yes, list them.....
18. (a) Do you receive any reading materials Yes/No.  
(b) If Yes, list them.....  
.....
19. (a) Have you attended a meeting where agricultural activities are discussed? Yes/No.  
(b) If Yes, who conducted the meeting?.....
20. (a) Have you ever attended a field day? Yes/No.  
(b) If Yes, who conducted it?.....
21. (a) Have you ever gone for study tour? Yes/No.  
(b) If Yes, who organised it?.....

22. Production trend for 10 years.

Crop/ Animal	1989/9	90/9	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
0	1									

23. Access to Credit

Type of Credit

Institution providing the credit.

.....

.....

.....

.....

.....

.....

24. Availability of inputs

Type

Where available

.....

.....

.....

25. Who is directly involved in agriculture in the family? (a) Father (b) Mother

(c) Children (d) All of them (e) Father and Mother only (f) Father and Children

(g) Mother and Children.

26. (a) Types of services provided by the NGO.

.....  
.....  
.....

(b) Which three are most important?

.....  
.....  
.....

(c) How are the three services rendered in terms of:-

- (i) Funding?.....
- (ii) Transport?.....
- (iii) Training?.....
- (iv) Other? (Specify).....

27. (a) Have you kept Livestock/Animals? Yes/No.

(b) If Yes what type?

Type of Animal	Number
Cattle	
Goats	
Sheep	
Pigs	

28. (a) Are there community based organisations in your area providing extension services? Yes/No.

(b) If Yes, how many?.....

(c)What type of services do they render?

.....  
.....

29. (a) Are there religious organisations rendering extension services in the area?

Yes/No.(b) If Yes, how many?.....

30. (a) Are the new technologies easy to adopt? Yes/No

(b) If Yes, why?.....

31. Where else do you obtain agricultural information?

.....

32. How do you get your inputs?

(a) Buy from shops.

(b) Get credit from NGOs.

(c) From other sources (specify).

33 What benefits have you got so far from the NGOs?

.....  
.....

**APPENDIX 2: CHECKLIST FOR EXTENSION WORKERS.**

1. Coverage of extension provision.....

District/Division/Ward/Village.....

2. (a) Name of NGO .....

(b)Where did it emerge?.....

(c) Reasons for its emergence.....

3. Logistic support provided by the NGO.....

.....  
.....  
.....

4. Logistic support provided by Government.....

.....  
.....  
.....

5. Logistic support from other organisations.

**Organisation**

**Support**

.....	.....
.....	.....
.....	.....
.....	.....

6 .Organisational structure of the NGO.

7. (a) Mode of conducting Extension training.

Groups ( )

Classes ( )

Clubs ( )

Individuals ( )

(b) Extension Training materials used:

Material	Where obtained
.....	.....
.....	.....
.....	.....
.....	.....

8. Apart from extension services what else does the NGO do to you and the farmers?

.....

**APPENDIX 3: CHECKLIST FOR POLICY MAKERS AND ADMINISTRATORS.**

- 1 Name of NGO in the area.....
- 2. Area covered by the NGO (villages).....
- 3. When did the NGO start operating in the area?.....
- 4. How was it initiated?.....
- 5. (a) Are there any problems faced by the NGO?

Yes/No.

(b)If Yes which ones?

.....  
.....  
.....  
.....

6. General achievements of the NGO.

.....  
.....  
.....  
.....

7. What is your position and role in the NGO?

.....

8. What are your views with regards to the operation of the NGO?

.....

9. (a) Is the NGO gender sensitive? Yes/No.....

(b) If Yes, how?.....

10. (a) Is the NGO conscious of environmental conservation?

Yes/No.....

(b) If Yes, how?.....