

**CONTRIBUTION OF FARMER GROUPS TO HOUSEHOLD INCOME IN
IRAMBA DISTRICT, TANZANIA**

BY

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
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ABSTRACT

Farmer groups (FGs) approach is seen as a fundamental solution to income poverty and food insecurity. On the basis of a data set on “Contribution of FGs to household income”, this dissertation analyses the extent to which farmer groups alleviate both income poverty to small scale farmers who are rural poor in four villages in Iramba District. The overall objective of the study was to determine the contribution of FGs to household income. A cross-sectional design was adopted whereby purposive and simple random sampling methods were used to obtain 100 respondents, that is 50 from group members and another 50 from non-members. Both structured and unstructured questionnaire were used in data collection and checklist for collecting information from key informants. The collected data were statistically analyzed using Statistical Package for Social Sciences (SPSS) computer program version 12.0. Descriptive statistics such as frequencies, means and percentages were computed. T-test was applied to find out relationship between variables. The study findings show that crop and animal husbandry were most preferred farming activities by FGs in the study area amounting 51%. Moreover, T-test analysis revealed that group members’ income contribution to household was statistically significant as compared to incomes contributed from members without group at $P < 0.05$. Shortage of capital and uncooperative members were often cited by farmers as critical constraints facing them. The study provides the following recommendations: Groups should be based on farmer needs, small (5-20 members), self-reliant and cohesive units, FGs should be working with agro-processors and large marketing agencies to create a value chain from production to marketing, and should be facilitated to have networks with other

groups. Furthermore the study recommended developing rural financial system to ensure FGs members access to low interest credits.

DECLARATION

I, Elibariki Nda Leonard, do hereby declare to SENATE of Sokoine University of Agriculture (SUA) that this dissertation is my original work and that it has not been submitted for a higher degree award in any other University.

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Date

The above declaration is confirmed

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Date

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DEDICATION

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To the Almighty God who loved the people of this world so much that he gave his only Son, so that every one who has faith on him will have eternal life and never really die.

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LIST OF ABBREVIATIONS

ADP	-	Area Development Programme
AIDS	-	Acquired Immune Deficiency Syndrome
ASDP	-	Agriculture Sector Development Programme
ASDS	-	Agriculture Service Development Strategy
ASP	-	Agricultural Sector Policies
ASSP	-	Agricultural Services Support Programme
BAS	-	Basic Agricultural Service
DADPs	-	District Agricultural Development Plans
DSI	-	Development Studies Institute
FAO	-	Food and Agriculture Organization
FFS	-	Farmer Field Schools
FG	-	Farmer Group
FO	-	Farmer Organization
GDP	-	Gross Domestic Product
HIV	-	Human Immunodeficiency Virus
LGA	-	Local Government Authorities
MA	-	Master of Arts
MAFC	-	Ministry of Agriculture, Food Security and Cooperatives
MARD	-	Masters Degree in Rural Development
MDG	-	Millennium Development Goal
MSc	-	Master of Science
MVIWATA	-	Mtandao wa Vikundi vya Wakulima Tanzania

NBS	-	National Bureau of Statistics
NGO	-	Non-Governmental Organization
NSGRP	-	National Strategy for Growth and Reduction of Poverty
PADEP	-	Participatory Agricultural Development and Empowerment Project
PRSP	-	Poverty Reduction Strategy Paper
RD	-	Rural Development
REPOA	-	Research on Poverty Alleviation
SNAL	-	Sokoine National Agricultural Library
SPSS	-	Statistical Package for Social Sciences
SRS	-	Simple Random Sampling
SSA	-	Sub-Sahara Africa
SUA	-	Sokoine University of Agriculture
TDHS	-	Tanzania Demographic and Health Survey
TDV	-	Tanzania Development Vision
UN	-	United Nations
UNDP	-	United Nations Development Programme
URT	-	United Republic of Tanzania
US \$	-	United States Dollar
WVT	-	World Vision Tanzania
WWW	-	World Wide Web

CHAPTER ONE

INTRODUCTION

1.1 Background information

Globally, 2.8 billion people live on less than two US dollars a day, and 1.2 billion live on less than one US dollar a day, with 44 percent living in South Asia (World Bank, 2001). About 1.2 billion people live in extreme poverty in developing countries (World Bank, 2001). Approximately 50 percent of Sub-Saharan African (SSA) countries are living below the poverty line, defined as subsisting on less than one US dollar a day (Mwaniki, 2006).

About 70% of Africa's poor are rural (Cleaver, 1997). Since 1990s there has been a general decline in poverty in Tanzania but it remains widespread, particularly in rural areas. About 17 million people, half the population (URT, 2003), live below the poverty line of US dollar 0.65 a day. Approximately 80 percent of the poor live in the rural areas where about 70 percent of the population lives (URT, 2001). From 1991/92 to 2000/01 overall food poverty declined from 22 to 19 percent while basic needs poverty declined from 39 to 36 percent. Despite these improvements, Tanzania is lagging in its progress towards its targets on reducing poverty and food insecurity and in achieving the Millennium Development Goals (MDGs) target of halving poverty by 2015 (URT, 2005a).

Agriculture remains the dominant sector in Tanzania's economy and its performance has a significant effect on output and corresponding income and poverty levels. To achieve the broad set of MDGs that target halving poverty by 2015, Tanzania will

require accelerated growth, currently pegged at about 6-7% growth in annual Growth Domestic Product (GDP), and greater equality in growth and service delivery (URT, 2005).

Growth of agricultural production and productivity is needed to raise rural income, to support the increasing numbers dependent on the industry and to meet the food and raw material needs of the faster growing urban population. Enhancing agricultural productivity contributes to industrial growth by providing cheap labour, capital investment, foreign exchange and markets for consumer goods (FAO, 2001).

Over the past decade, agricultural sector reforms in Tanzania have been characterized by strong decentralization and de-concentration. Agricultural research was largely de-concentrated to the zonal level, while agricultural extension was de-concentrated and eventually decentralized to the district level. Since Tanzania's structural adjustment phase during the mid-1990s, there has been a pressing need at Local Government Authority (LGA) level to develop a pluralistic approach to service provision and effective local interaction with farmers that create an enabling environment for the private sector and civil society organizations to expand their roles in agricultural innovation. Many NGOs are involved in farmer empowerment, group formation, adult education and technology transfer. Some area-based development programmes, as well as NGO-supported projects, have experimented with improving access to technology for poorer smallholders through farmer empowerment and through carefully targeted investments aiming to deliver public goods and rectify market failures. Tanzania has a rich diversity of farmer groups with

different purposes, which have been in existence for many years. Many agricultural development projects have facilitated group formation and worked with farmer groups in various ways, often building on indigenous, mostly informal village producer groups (Lema and Kapange, 2006).

Zumba (1997) cited by Mushi (2000) argues that small scale farmers in Tanzania need to work in groups so as to improve their standard of living. It has been argued that farmers working in groups are believed to make careful observation and conduct small scale trials of new ideas. This is possible where local networks exist as they facilitate communication among members and non-members and hence increase the rate of dissemination and of research findings and technology as well.

Currently, the Government of Tanzania has put more effort to address the agricultural sector so as to improve productivity in rural areas. This effort is participatory with the focus on forming farmer groups that are well organized and proactive. Second, farmer groups are properly linked to the national level. In many cases, local farmer groups are not well organized, in spite of their high potential. Briefing and training of farmer groups is therefore a priority. In many cases, farmer groups develop spontaneously, but without proper links to the national level. In such cases, better communication policies and mechanisms for uniting most farmer organizations and groups under one umbrella (Madukwe, 2006).

Therefore, research on farmer groups becomes critical with the anticipation that, well organized and sustainable groups of farmers can make an important contribution to household income particularly to rural people.

1.2 Statement of the problem

Agriculture remains the largest sector in the Tanzanian economy (The same applies to Iramba District Council) and how it performs has a significant effect on crop output and correspondingly, on income and poverty levels. The potential of agricultural growth to household income in rural Tanzania has been debated in the Agricultural Sector Development Strategy (ASDS), Agriculture Sector Development Programme (ASDP) and Agricultural Services Support Programme (ASSP). All these strategies are supportive of agriculture's critical role in economic growth and household income (Kapange, 2002).

The ASDP stresses the importance of increasing the voice of farmers in local planning processes and in increasing their control in the design and implementation of investments and over the kinds of service that they need. The ASDP aims to empower farmers through placing greater control of resource allocation in the hands of groups and communities to improve the relevance and responsiveness of service (URT, 2005a).

Despite the efforts made by organizations either Governmental or non Governmental (NGO) on empowering farmer groups in Iramba District Council aiming to increase income and reduce food insecurity at household level, still the Iramba District

Council has limited empirical information on how farmer groups contribute to household income especially to rural people. This study assessed the contribution made by farmer groups towards household income and correspondingly, poverty reduction. The basis of problems identification and recommendations to government and relevant development partners are provided through knowledge gathered during the study.

1.3 Justification of the study

The call for undertaking this study comes from the fact that there is limited information on how farmer groups contribute to household income in Iramba District Council. The study, however, goes hand in hand with MDG Number one which stipulates a target to: “halve, by 2015, the proportional of people whose income is less than one US dollar a day” (UN, 2006). The operational targets to be achieved by 2010 with respect to reduction of income poverty between men and women in Tanzania, as stipulated in cluster 1 of the National Strategy for Growth and Reduction of Poverty (NSGRP), are: “Reduced proportional of population below the basic needs poverty line from 25.8% in 2000/01 to 12.9% by 2010” in rural areas (URT, 2005b). This strategy forms part of Tanzania’s efforts to deliver its National Vision 2025. The focus is, however, outcome oriented and organized around three major clusters of broad outcomes for poverty reduction, namely, growth and reduction of income poverty; improved quality of life and social well being and good governance and accountability (URT, 2005b).

Therefore any empirical effort on evaluation of farmer groups socially and/or economic in rural areas will have a positive impact towards household income, since it will generate not only comprehensive but also documented information on the contribution of farmer groups towards household income and ultimately poverty reduction, problems encountered as well as their possible solutions which will be helpful for the Government in general, development partners and other relevant stakeholders in forming suitable strategies for supporting substantial and sustainable farmer groups.

1.4 Research objectives

1.4.1 General objectives of the study

To assess the contribution of farmer groups towards household income in Iramba District Council.

1.4.2 Specific objectives of the study

- (i) To identify FGs in Iramba District Council that are involved in household income improvement,
- (ii) To identify activities carried out by both members and non-members of FGs that improve the household income.
- (iii) To compare incomes of household FGs and non farmer groups beneficiaries
- (iv) To identify constraints of FGs towards household income improvement in the study area

1.5 Hypothesis

The following Null hypothesis and Alternative hypothesis will be tested during the study

1.5.1 Null hypothesis

- (i) FGs do not contribute to improve household income among the people in Iramba District Council.
- (ii) There is no significant difference on household income between households of farmers in groups and those outside groups in Iramba District Council.

1.5.2 Alternative hypothesis

- (i) FGs have substantial contribution to improve household income among the people in Iramba District Council.
- (ii) There is significant difference on income between household income in FGs and those outside FGs in Iramba District Council.

1.6 Conceptual framework

The conceptual framework presents existing relationship between variables that will be used in the study. The conceptual framework binds facts together and provides guidance towards collection of appropriate data or information (Katani, 1999). The framework focused on the relationship of farmer groups and household income. Background variables mentioned in Fig.1 have an effect on the independent variables. Likewise, any positive interventions in the independent variables, affects directly the dependent variable by making household income more tangible.

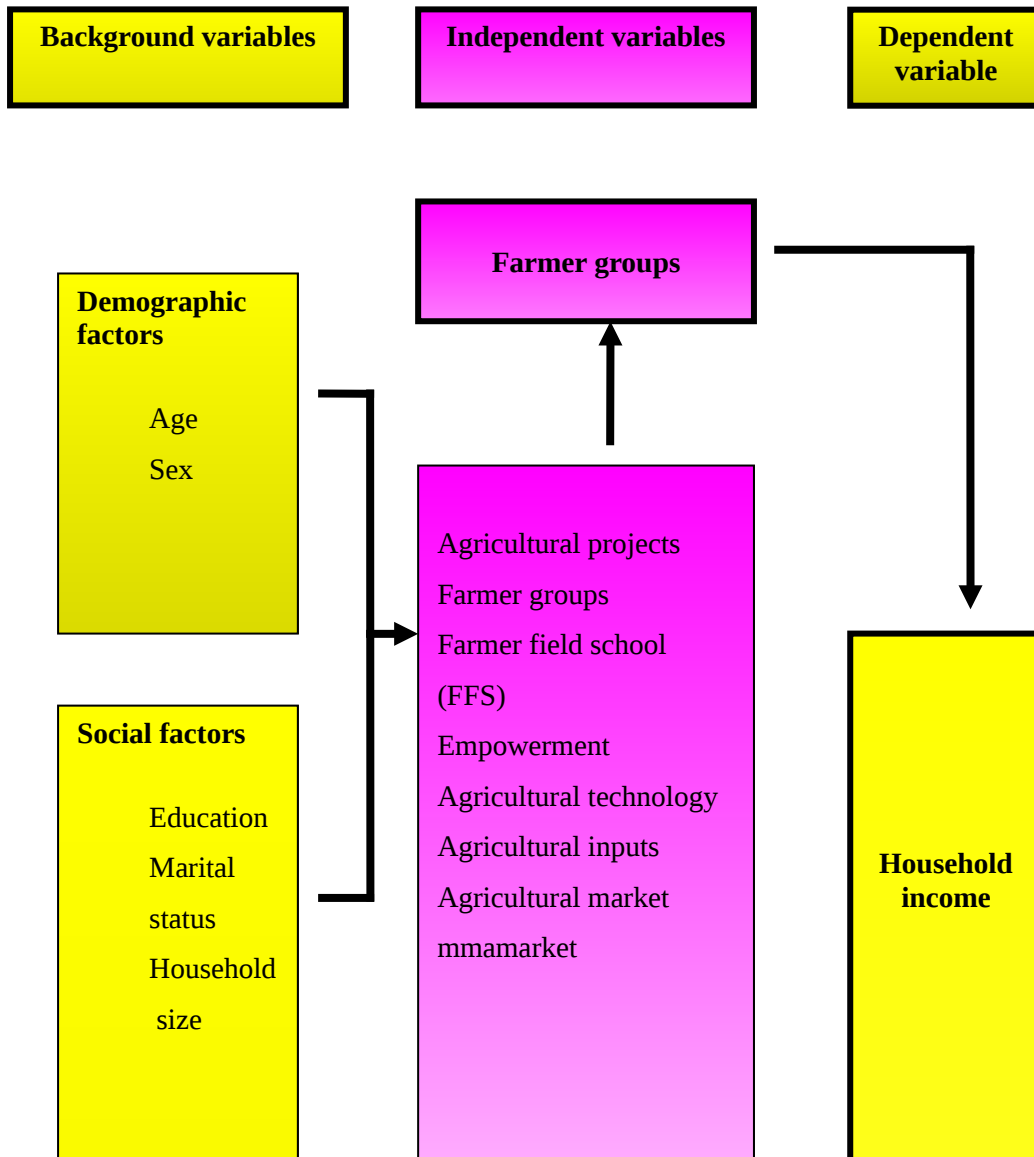


Figure 1: Conceptual framework of the study of contribution of FGs to the household income in Iramba District

Table 1: Operational definition of key variables

Variables	Operational definition
Age	Number of years of birth
Sex	Biological differences between male and female
Household	Number of people in the household
Marital status	Refers to the current state of the marriage of the respondents
Education status	Highest level of formal schooling attained by Farmer groups and non Farmer
Empowerment	Knowledge, skills and willingness acquired to critically analyze the situation
Technology	Tool/equipment used on economic activities
Farmer groups	Collection of farmers towards achieving a common goal
Agricultural market	Place for selling agricultural commodities
Farmer Field School	Schools where groups of farmers meet periodically for technology development and dissemination
Agricultural projects	Investment activity upon which resources are expanded to create capital assets
Household income	Daily, weekly, monthly or annual income contributed to the household from economic activities

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

The chapter reviews the literature on FGs in relation to household income in rural areas. It reviews definition of farmer groups, types of farmer groups, Farmers' Organizations and Agricultural Innovation in SSA Countries, farmer organizations in Tanzania, approaches to access technology, benefits of farmer groups, farmer empowerment and rural development, the Tanzania Agricultural Policy, MDGs and agriculture, Tanzania Development Vision (TDV) 2025 and agriculture, agriculture alignment to the NSGRP and the agricultural sector and national income.

2.2 Definition of Farmer Group

Stringfellow *et al.*, (1997) has defined Farmer Group (FG) as a collection of farmers interacting with one another towards achieving a common goal. Usually, the interaction between the members of the group is more than with those outside the group. Similarly Burkley (1992) cited by Mushi (2000) defined FG as a composition of men and/or women who come together to pursue a common interest related to individual or group improvement in the spheres of economic and social development.

2.3 Types of FGs

Nombo (1995) categorized farmer groups into formal and informal. The formal groups are those with clearly defined structures and written rules or constitution governing the behaviour of its members. The formal sector may include elected groups of people for some specific task, for instance a committee formed to

supervise public funded projects. The informal ones, meanwhile, lack elaborate structures and rules or constitution governing their activities. The relationship of members is loosely tied to their mutual needs and interests, for instance water user associations. On the other hand Conroy (2003) categorized farmer groups including formal co-operatives, informal farmer associations or groups, multi-purpose groups and national farmers' organizations.

2.4 Farmer organizations and agricultural innovation in SSA countries

Since the 1990s Sub-Saharan African countries have embarked on major agricultural sector reforms, which led to changing and enhancing innovative roles for the public and private sectors as well as civil society organizations. Farmer organizations (FOs) now increasingly voice the needs of their members in various fora on policy making and orienting service provision. They are solicited by the private sector to enhance chain development, including those for new markets, and they play a role in local development planning. FOs are now, more than ever, actively involved in agricultural development, which requires institutional, organizational and technological innovation in order to be successful. Providing user-oriented research, extension, and training services is therefore a prerequisite for technological innovation. Institutionalizing participatory methods, decentralizing services, creating multi-actor platforms and multi-stakeholder driven funding mechanisms all enhance demand-driven agricultural services.

The private-sector and/or public-private arrangements or partnerships currently play an increasing role in research and extension. FOs are thus evolving in an

environment where stakeholders' interests diverge and/or converge. However, the effective use of new technologies to become innovations is often defined by conditions other than simple access to knowledge and information; it often requires appropriate, innovative institutional and organizational settings. The agricultural innovation systems concept therefore considers links between actors, interactive learning processes, and the policy and institutional contexts that govern the system in order to better understand the generation, dissemination and application of knowledge.

The agricultural innovation systems concept also emphasizes the need for all stakeholders to work together towards innovation for development. Research and extension organizations have moved from working with individual farmers to collaboration with groups and, increasingly, with farmers' organizations. At the grass-roots level, farmers' associations, producers' groups and cooperatives, as well as specially created farmers' groups, are all involved in research and extension activities. At higher levels, unions, federations and syndicates are implicated in multi-stakeholder platforms for planning research and extension services. Nowadays FOs present a highly diverse picture: from the former, state-managed, cooperative societies and unions to the new, farmer- initiated federations and syndicates, as well as market-driven farmer groups. As a consequence, links with public and private knowledge-for-innovation service providers are encountered at all levels, with various status, aims and function modalities. But the role of FOs in agricultural innovation goes much further than simply participating in, and contributing to, research and extension. FOs can therefore fulfill several roles, contribute to various

functions that enhance successful innovation and increasingly provide services themselves (Heemskerk and Wennink, 2004).

Agriculture accounts for about 30% of Sub-Saharan Africa's GDP, at least 40 % of export value and approximately 70–80% of employment. Furthermore, two-thirds of manufacturing added value in most African countries is based on agricultural raw materials. In a number of smaller countries, agriculture plays an even more dominant role, representing 80 % or more of export earnings. Despite urbanization, Africa is still a predominantly rural society. The agricultural sector is therefore integral to any model of social and economic development (World Bank, 2005).

African agriculture is to a great extent dominated by production efficient small scale units. Whereas small scale African farmers in the past faced unfavorable domestic policies, they are today challenged by globalization, including unfair competition from farmers in the North, both in the domestic and international markets, due to subsidy policies and trade barriers. Utilizing the potential represented by the agricultural sector and the small scale farmers, an enabling environment is needed, locally and globally, including partnership with donors and the private sector. Still, the World Bank state that for the poorest countries the process of small scale agriculture led economic growth leading to strong economies and minimal poverty will not occur by 2015. "For these countries, the relevant time frame is one of decades and generations" (World Bank, 2005).

2.5 Farmer Organizations in Tanzania

Several formal Farmer Organizations exist in Tanzania. Farmers no longer consider the traditional umbrella organization, which is organized into cooperative unions, as providing reliable advocacy. An example of farmer organizations include the, *Mtandao wa Vikundi vya Wakulima Tanzania* (MVIWATA), which emerged in 1993 as a new representative network of farmer groups, with NGO status, representing around 60 000 farming households. MVIWATA aims to ensure effective representation of farmers' interests and takes part in a number of national fora for the agricultural sector. MVIWATA and its local networks are strongly involved in agricultural research and development and actively approach many different sources of information and knowledge-for-innovation sources. MVIWATA has developed experience with farmer-to-farmer knowledge exchange for innovation and the contracting of agricultural services (Lema and Kapange, 2006).

Since Tanzania's structural adjustment phase during the mid 1990s, there has been a pressing need at LGA level to develop a pluralistic approach to service provision and effective local interaction with farmers that creates an enabling environment for the private sector and civil society organizations to expand their roles in agricultural innovation. Many NGOs are involved in farmer empowerment, group formation, adult education and technology transfer. Some area-based development programmes, as well as NGO-supported projects, have experimented with improving access to technology for poorer smallholders through farmer empowerment and through carefully targeted investments aiming to deliver public goods and rectify market failures, especially in drought-prone and risky areas. Tanzania has a rich diversity of

farmers' groups with many purposes, which have been in existence for many years. Many agricultural development projects have facilitated group formation and worked with farmers groups in various ways, often building on indigenous, mostly informal village producers' groups. Not all of these groups are genuine and some exist only for a particular project (Lema and Kapange, 2006).

2.6 Approaches to access technology

2.6.1 Farmer-groups approach

The age-old practice of extension-farmer contact on a one-to-one basis, though very effective, is expensive and unsustainable as the sole means of reaching farmers with agricultural technology. New methods emphasize the passing on of agricultural technology to farmers in organized groups (farmer groups). Group formation is ideally done by farmers themselves. Membership of a group varies, and it is advantageous to have a small number of people forming it. A group size of between 20 and 30 is ideal and manageable in order to provide a face-to-face interaction, better communication and the free flow of information (Stringfellow *et al.*, 1997).

The FG approach plays valuable role in policy advocacy and in realizing economies of scale. One major benefit of the group is that farmers support each other to learn and adopt. Thus farmer-to-farmer extension is amplified. Rather than simply be agents for technologies imposed from outside, the extension agents are expected to become catalysts, mobilizing farmers to experiment on an identified need/ solution, recognizing local innovations and helping to assess and encourage them. Experienced farmers thus become the best discussion partners for other farmers. A

farmers' network of communication operates in a sustainable basis since it is perpetuated continually for a number of human generations.

A condition of effective and sustainable functioning of FGs is that the perceived benefits to members substantially outweigh the perceived costs. Benefits are likely to be high in situations where the production of a high value commodity is involved and where linkages with other stakeholders (private or public sector) are valued by the group (Stringfellow *et al.*, 1997).

2.6.2 Farmer field school approach

Farmer field schools (FFSs) are schools without walls where groups of farmers meet periodically with facilitators during the crop or animal cycle (Davis and Place, 2003). It is a participatory method of technology development and dissemination (FAO, 2001), based on adult learning principles and experiential learning. It reflects the four elements of experiential learning cycle, namely: concrete experience, observation and reflection, generalization and abstract conceptualization, and active experimentation. It has now been established in several African, Asian and South American countries, with millions of farmers participating. For example, over 900 FFSs are being successfully implemented in Kenya (Davis and Place, 2003).

The operation of the extension delivery approach is that development organizations with extension personnel to identify or form farmer groups based on particular topics. For instance, there are groups based on passion fruits, poultry, beekeeping and vegetable production etc. Farmer field schools hold field days for other FFS

groups and neighboring farmers. This provides an opportunity for each participant to teach others what they have learned. At the end of the FFS cycle, certain farmers are chosen by the group to be farmer facilitators. They can then lead their own farmer field school the following season. The extension officer's role has evolved from that of a primary knowledge source to that of a facilitator of knowledge creation. The extension officer no longer has to have all the answers, and the messages of extension are not centrally contrived but, instead, related to locally relevant problems emerging from the FFS study field. The FFS methods have transformed farmers from recipients of information to generators and manipulators of local data (Madukwe, 2006)

Madukwe (2006) argued that one important issue in FFS is that of sustainability without outside funding. It is a participatory approach, which facilitates farmer demand for knowledge, and offers opportunity for the end users to choose, test and adapt technologies according to their needs. Through participation in FFS, farmers develop skills that allow them to continually analyze their own situation and adapt to changing circumstances.

2.7 Benefits of FGs

Working through groups, farmers can reduce the cost of accessing inputs, production technologies, information and markets by sharing these costs amongst all members of the group. This means lower individual costs (FAO, 1999). The government also obtains several advantages, by working through farmer groups government extensionists can reach more farmers at no increase in cost, governments and

banking institutions reach more farmers with little increase in cost and through group approaches efficiencies in the delivery of inputs and marketing of output are improved. This translates into lower consumer prices (Madukwe, 2006).

2.8 Farmer empowerment and rural development

The Tanzania rural development strategy highlights the need to transform and diversify agricultural and livestock production towards prevailing patterns of demand in local, regional and international trade. It also focuses on strengthening capacities to investigate and identify investment potentials in a more liberalized and competitive economic environment, and outlines the government roles at each level. Participation by the private sector, civil society, and rural communities is crucial in implementing rural development strategies. The ASDS focuses on agricultural productivity and profitability, as well as on promoting private sector, public sector and processor/contract-grower partnerships, and on the participatory implementation of the strategy through DADPs (Lema and Kapange, 2006).

Farmer empowerment is a precondition to successful partnership between farmers and their groups and organizations on the one hand, and public, private and community based Agricultural Sector Policies (ASPs) on the other. Farmer empowerment for agricultural innovation in Tanzania has two components (URT, 2005); strengthening farmer empowerment through knowledge, control of funds, influence on organizations and institutional change, farmers can then acquire the capacity to better analyze their constraints and identify opportunities, articulate their specific needs, exchange knowledge, access the services they need, become active

development partners, and improve their bargaining power and Strengthening Farmer organizations. Farmers or community-based organizations and networks should be promoted and strengthened to become strategies key development partners. The highest priority in combating rural poverty is the strengthening of farmer groups, in their various forms, at district, local and county level (Lema and Kapange, 2006).

2.9 The Tanzania agriculture policy

Although the number and nature of guidelines that constitute an agricultural policy is vast and complex, the ultimate goal is the improvement of the well being of the people whose principal occupation and way of life is based on agriculture. Most of these people are smallholder and livestock keepers, who do not produce surplus. Therefore the focus of this policy is to commercialize agriculture so as to increase income levels (URT, 1997).

2.10 Millennium Development Goals and agriculture

Of the eight MDGs, Tanzania has adopted five as priorities in its major policy documents and national action plans. These include Education, Health, Agriculture, HIV/AIDS, Water and Infrastructure. Environment and Gender are treated as cross cutting issues (URT, 2004)

The MDGs focus on income and human poverty. This includes addressing constraints in the broader sectors of the economy to bring about poverty reducing growth. But the primary focus of Tanzania's PRSP – the main implementing instrument - is on the composition of public expenditures, especially social sector spending. It lays less

emphasis on broader strategies that would encourage poverty-reducing growth, such as land reforms. Even in the area of public expenditure, the operational value of the PRSP is limited because of the nature of costing and prioritization that is defined by the cash budget framework which only reflects the adjusted cost to meet the budget ceiling rather than the actual cost (URT, 2004)

2.11 Tanzania Development Vision 2025 and agriculture

The Tanzania Development Vision (TDV) 2025 is a long term government dream calling for social and economic betterment mainly through improved quality livelihood for its people, attain good governance through the rule of law and develop a strong and competitive economy (URT, 2000). With this vision, Tanzania of 2025 should be a nation imbued with five attributes; (i) high quality livelihoods, (ii) peace, stability and unity, (iii) good governance, (iv) a well educated and learning society; and (v) a competitive economy capable for producing sustainable growth and shared benefits. By 2025 it is envisioned that Tanzanians will have graduated from a least developed country to a middle income country with a high level of human development (URT, 2000)

Despite some impressive macroeconomic achievements resulting from the reform programmes, agricultural growth and rural poverty reduction continue to present daunting challenges. In response to these and other pertinent development issues, the Government adopted the TDV 2025. The Tanzania Development Vision envisages raising the general standard of living of Tanzanians by ensuring food security, improving income levels and increasing export earnings. Agriculture has been

identified as one of the priority sectors for achieving these goals. However, Tanzania agriculture has numerous weaknesses including low productivity, underdeveloped supporting facilities, use of inappropriate technology, dependency on rainfed agriculture and impediments to food market access only to mention a few.

TDV of 2025 is in line with MDGs number one which is dedicating efforts to eradicating extreme poverty and hunger. The potential of FGs to rural poverty alleviation is stipulated by ASDP which stresses the importance of increasing the voice of farmers in local planning process through placing greater control of resource allocation in the hands of groups and communities. The ASDP has developed as a paramount instrument for alleviating poverty with the primary objective of creating an enabling and conducive environment for improving profitability of the agricultural sector as the basis for improved farm incomes and rural poverty reduction in the medium and long term. ASDP provides a basis for action by both the public and private sector to support Tanzania's efforts to stimulate agricultural growth and reduction of poverty (Shetto, 2005).

2.12 Agriculture alignment to the NSGRP

NSGRP is a national framework for putting the focus on poverty reduction high on the Tanzania's development. FGs under ASDP are consistent with both the NSGRP and ASDS. The ASDP goal is to contribute to NSGRP which aims to raise agricultural growth from 5% in 2002 to 2003 to 10% per annum by 2010 and raise livestock sub-sector growth from 2.7% to 9% over the same period. The NSGRP operational outcomes related to agricultural sector (within cluster 1) give emphasis

on agricultural productivity and profitability, employment in rural areas and food security. Key NSGRP cluster strategies target irrigation and water resources management, agricultural research and extension services, technical services and farmer empowerment (URT, 2003). The operational targets to be achieved by 2010 with respect to reduction of income poverty between men and women in Tanzania, as stipulated in cluster 1 of the National Strategy for Growth and Reduction of Poverty (NSGRP), are: “Reduced proportional of population below the basic needs poverty line from 25.8% in 2000/01 to 12.9% by 2010” in rural areas (URT, 2005b)

2.13 The agriculture sector and national income

Agriculture is the back-bone of the Tanzanian economy. It contributes over 47% of the country’s national output (GDP), employs over 75% of its people, and accounts for over 41% of its foreign exchange. Thus, the transformation of agriculture is essential for accelerating Tanzania’s socio-economic development, including poverty reduction (URT, 2006). In the pursuit of the NSGRP and Millennium Development Goals (MDGs), specific cluster strategies and intervention packages have been identified to achieve set targets. The NSGRP based MDG costing for agriculture aims at answering the question about what it takes in terms of resources to meet the targets set under this sector (URT, 2006).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

The aspects described in this chapter include the description of the study area and location, research design, sampling procedure, data collection procedures, data management procedures and limitations of the study.

3.2 Description of the study area and location

The study was conducted in Kinampanda and Kinyangiri Divisions, Iramba District Council, Singida Region in Tanzania. The district lies between longitudes 35° and 39° east of Greenwich, and between latitudes 30° and 35° south of Equator. Eight districts border the region. To the north are Shinyanga (R), Maswa and Meatu, to the east Hanang district. On the western border are Tabora (R) and Igunga while Singida (R) borders Iramba District to the south east (Iramba District Council, 2007).

Kinampanda and Kinyangiri Divisions are two of the seven divisions in Iramba District; other divisions include Kisiriri, Kirumi, Nduguti, Ndago and Shelui. Administratively, Kinampanda is divided into 3 wards, namely Kinampanda, Ulemo and Kyengege with 14 villages while Kinyangiri is divided into two wards, namely Kinyangiri and Iguguno with 12 villages. Among the two divisions, one ward of each, Ulemo and Kinyangiri were selected for this study. Four villages, two from each ward were involved in the study. The villages are Kitukutu and Mukulu in Ulemo ward and Kinyangiri and Ishenga in Kinyangiri ward. The rainfall in Iramba is erratic in most of the areas ranging between 500mm-850mm per annum. Rainfall

is unimodal interrupted by two notable dry spells in mid-February and mid-March (Iramba District Council, 2007).

Generally, farmers within Iramba District Council practice farming and rear animals. The crops grown within the area include sunflower, groundnuts, cotton, pigeon peas, onions, maize, bulrush millet, paddy, sorghum, sweet potatoes and beans, while livestock reared include cattle, goats, chicken, sheep and pigs. Few farmer groups exist in Kinampanda and Kinyangiri Division. Some projects existed for some time and dealt with, among activities, the training of farmer groups as well as non-farmer groups. This situation therefore suits this kind of study.

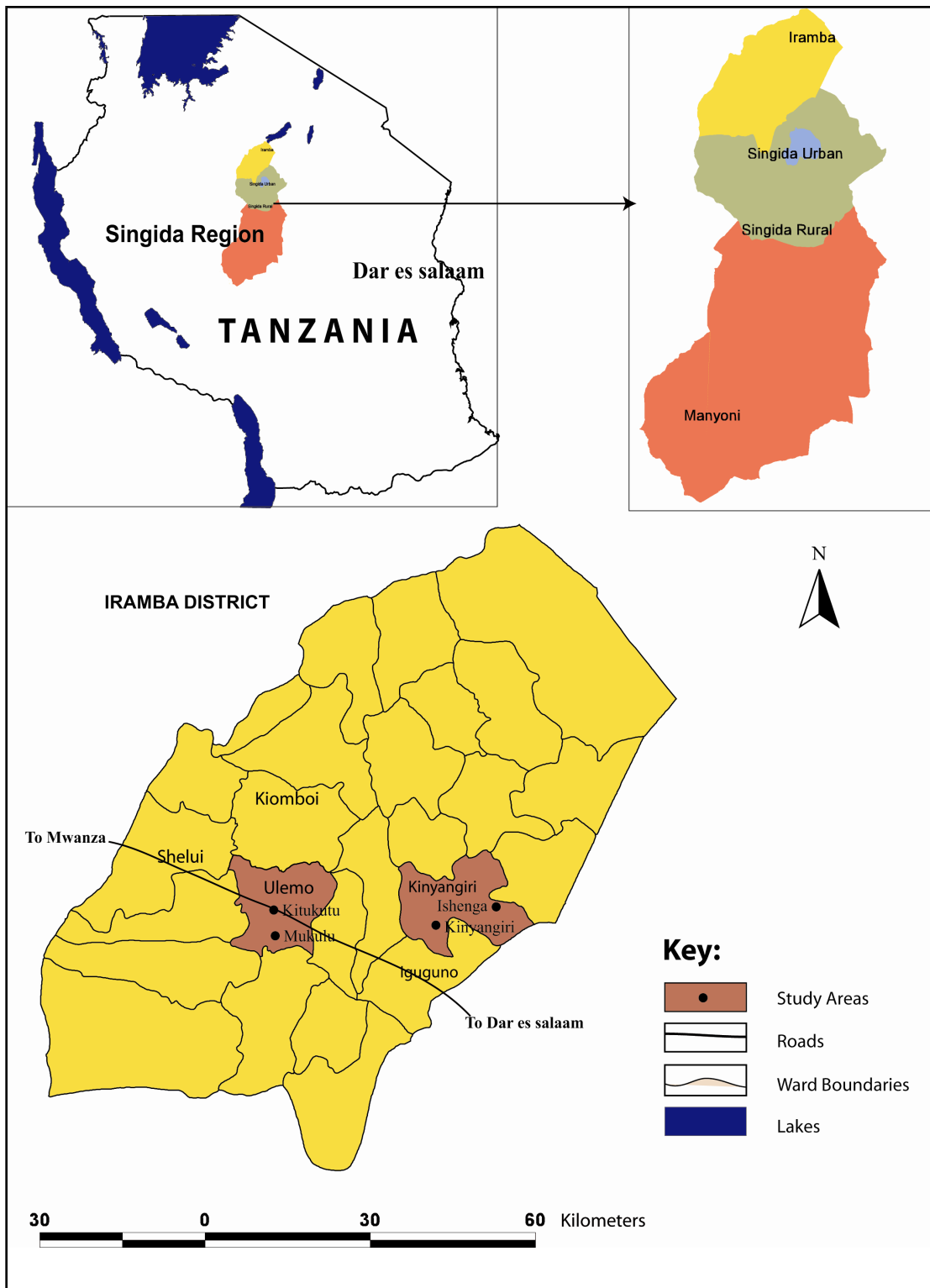


Figure 2: Map of Tanzania showing study areas

3.3 Research design

Social survey method was conducted, whereby a cross-sectional research design as outlined by Bailey (1994) and Babbie (1990) was employed. The design allows the data collection to be done at a point in time. The design is easier and economical to conduct especially where there are resource constraints like time, labour and transport as it was the case in this study.

3.4 Sampling procedure

3.4.1 Sampling unit

The population of the study involved farmers who operate in groups in Iramba District. This is the main target group of sampling unit. Farmers without groups within the same village were also involved in comparison purpose. A household was used as a sampling unit because it is the most appropriate measure when assessing the level of poverty and standards of living in a society (Blackwood and Lynch, 1994). This obtained substantial information related to objectives of this study.

3.4.2 Sample size

The study comprised 100 respondents which constituted 50 group members and another 50 non group members. Also 10 key informants were used to supplement the information. The sample size was reasonably large especially in conformity with Bailey (1994) argument that around 30 cases seems to be the bare minimum for studies in which statistical data analysis is to be done.

3.4.3 Sampling method

The sampling methods used to get the required sample included purposive sampling and simple random sampling (SRS). Purposive sampling technique was used to obtain four villages; two from each ward were involved in the study. The villages were Mkulu and Kitukutu in Ulemo ward and Kinyangiri and Ishenga in Kinyangiri ward. This purposive technique has been generally recommended in social science research as it focuses directly to the area intended for the study (Kothari, 2006). For the SRS, respondents were randomly selected from lists of members and non members separately from each group using simple random sampling. Table 2 shows the selected villages as well as the total number of respondents selected per village.

Table 2: Distribution of villages according to sampled households (N=100)

Village	Sampled household	Percent
Mukulu	25	25.0
Kinyangiri	25	25.0
Ishenga	25	25.0
Kitukutu	25	25.0
Total	100	100.0

3.5 Data collection procedures

3.5.1 Primary data

These were collected through personal interviews using questionnaires with both open and closed ended questions and those were the main source of information for this study. Supplementary information, however, were collected through personal observation and interview of some key informants outside the selected respondents

3.5.2 Secondary data

Secondary data were obtained by reading different publications relevant to the study from the Sokoine University of Agriculture National Library (SNAL), Research on Poverty Alleviation (REPOA) documents and Iramba District Council Office and internet.

3.6. Data management procedure

3.6.1 Data processing

Data from primary sources were summarized, cleaned, and coded prior to entering in the computer.

3.6.2 Data analysis

Data analysis was done by using Statistical Package for Social Sciences (SPSS) programme. Descriptive statistics such as frequencies, percentages and means were described. The relations between some pairs of variables were determined through bivariate analysis including cross-tabulation and t-test. A t-test was employed to compare and find whether there were differences in means of some variables such as household incomes between members of farmer groups and those without groups at probability level of $P < 0.05$.

3.7 Limitations of the study

Basing on the data collection, limitations of this study include:

- (i) Availability of consistent information for both members and non-members was a problem especially the question of cost production inputs; as a result it became difficult to know exactly the net income due to poor record keeping. Intensive probe was obligatory without which it was difficult to get some reliable answers.
- (ii) Some respondents either concealed or became reluctant to give information in perspective that researcher could assist them to acquire loans. They however became cooperative after sensing that the researcher may help them acquire loans.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 General overview

This chapter presents the empirical findings of this study. The results are presented in a logical flow of ideas as guided by the study objectives. The key sections to be presented and discussed include: (i) background variables of respondents, (ii) FGs in Iramba District Council, (iii) awareness towards of FGs, (iv) activities performed by both members and non members of FGs, (v) household income of FGs and non FGs beneficiaries, (vi) division of labour among FGs members, (vii) FGs and Gender relations, (viii) FGs membership conditions and output distribution, (ix) FGs benefits, (x) technology dissemination, (xi) external support, (xii) extension services and (xiii) constraints faced by FGs.

4.2 Background variables of respondents

This section discusses the background variables of respondents, both members within and outside the groups. Variables involved are demographic which include age and sex while social variables take an account of education, marital status and household size. These variables were analyzed and discussed in sub-sections as follows:-

4.2.1 Demographic variables of respondents

4.2.1.1 Age

The age of an individual can affect productivity because the ability to carry out the daily economic activities, both farming and non-farming, will decrease with age. Age

is an important demographic variable and is the primary basis of demographic classification in vital statistics, censuses, and surveys (NBS, 2005).

The findings revealed that the age of respondents ranged between 22 and 70 years old. Of the 100 respondents, about 7% were aged between 20 and 30 years old, 42% between 31 and 40, 30% between 41 and 50, 10% and 11% between 51-60 and 61-70 respectively (Table 3). The majority of respondents in the research area were the most active labour force because they fall in the age and the group (20-60) which was about 89%. This indicates that most of the population is in general still very active and can afford to carry out various productive activities. Mandara (1998) considered economically productive age from 16-64 years. The age groups below 16 and above 64 are considered a high dependency ratio age structure which economically is less productive. However, the grouping of the population into economically active and inactive population is arbitrary and excludes a considerable number of children who participate in the family's labour force.

Table 3: Distribution of respondents according to demographic variables (N=100)

Variable	Sex of respondents					
	Male	Percentage	Female	Percentage	Total	Percentage
Age						
20-30	5	5	2	2	7	7
31-40	25	25	17	17	42	42
41-50	21	21	9	9	30	30
51-60	8	8	2	2	10	10
61-70	10	10	1	1	11	11
Total	69	69	31	31	100	100
Marital status						
Married	64	64	24	24	88	88
Single	4	4	2	2	6	6
Separated	0	0	1	1	1	1
Widowed	1	1	4	4	5	5
Total	69	69	31	31	100	100
Education level						
None	3	3	0	0	3	3
Adult literacy classes	3	3	0	0	3	3
Primary education	53	53	29	29	82	82
Secondary education	7	7	2	2	9	9
Post secondary education	3	3	0	0	3	3
Total	69	69	31	31	100	100

4.2.1.2 Sex

Sex is one of the basic and important characteristics of population information about planning and administration purposes. The majority of the respondents about 69% as indicated in Table 3 were males and the corresponding 31% were females. This is because high proportions of males in the study area were heads of households compared to females. However males were most likely interviewed simply because the household was the sampling unit and the males were the heads regardless of the fact that many activities were done by females. Similar findings by Mushi (2000) reported that in cases where both wife and husband were available, the husband was interviewed because the researcher aimed at interviewing the head of the household. Although 20.7% of the FGs members interviewed (N=87) were female, there was no evidence of segregating in the formation of FGs.

4.2.2 Socio-economic variables

4.2.2.1 Education

The level of education is an important factor in coping with poverty and particularly coping with risk and uncertainties related to agricultural production. Regnar *et al.*, (2002) considered the ultimate objective of education is to increase labour productivity and thus it is a productive force for farmers and thus very important for their ability to utilize efficiently the advice and information offered by the extension service and other development agents. The proportion of the respondents with primary school education (standard 1-7), (Table 3) was 82%. Very few (9%) of those interviewed had achieved a secondary school while 3% had each adult literacy education and post secondary education. Nevertheless 3% of respondents have got no school. The findings implies most of households in the study area have formal primary education, which is important in agriculture innovations uptake for the farmers to adopt good management practices/new technologies and thus to fight against poverty and consequencely to raise household income.

4.2.2.2 Marital status

Marriage has an effect on the production process as it increases labour availability in the household through sharing of income generating activities between husbands and wives and other family members (Mtama, 1997). Married couples are likely to be more productive than single persons due to labour supply in farm activities. Findings of this survey in Table 3 shows that, 88% of both FGs and non FGs members of household heads were married. On the other hand, single, widowed and separated women, representing 6%, 5% and 1% of all the household heads respectively. The

proportion of married respondents was greater than that of the other categories. Survey findings seemed to be higher than those reported by National Bureau Statistics (NBS) and Tanzania Demographic and Health Survey (TDHS) (2005); according to them, about 66% of women in economic activities are married. This implies that the status of the family has an influence on daily economic activities for both members and non-members of FGs.

4.2.2.3 Household size

A household refers to a group of people either related or unrelated, who are answerable to one person, often regarded as the household head. Members of the household share a dwelling unit or structure and have the same housekeeping arrangements (Dose, 2007). Similarly according to (URT, 2002) a household was defined as one or more persons who make himself or themselves provision or essentials of living. The persons in the group may be related, unrelated or both. But usually this type of household includes a husband, wife, children and other relatives. Throughout this research, the household size was categorized into three groups; below 5, 5-10 and above 10 household members. About 47% of households had household sizes of a range between below 5 household members, 49% between 5 and 10 while 4% household members were above 10. The minimum and maximum number of people observed per household was 1 and 16 respectively.

It was found from the survey that an average household size is 6 members (Table 4) which is relatively higher than the figure stated in the URT (2003) which put average at 5.1 members in Iramba District Council and 5.0 for Singida Region whilst the average household size in Tanzania is 4.9. This is consistent with ILO (2001) cited

by Munyu (2006) in which rapid assessment undertaken and suggested that a big family is that with more 6 people. However this divergence could be accounted for by the sample size.

Table 4: Distribution of respondents according to household size (N=100)

Category	Name of village				Percentage
	Mukulu	Kinyangiri	Ishenga	Kitukutu	
Below 5	9	11	11	16	47.0
5-10	15	13	14	7	49.0
Above 10	1	1	0	2	4.0
Total	25	25	25	25	100.0
Household size mean, minimum and maximum					
Mean	6				
Minimum	1				
Maximum	16				

4.3 FGs in Iramba District Council

Farmers have been working in groups ever since farming started, varying from cooperation in harvesting and threshing, collaborative grazing and management of animals (Heemskerk and Wennink, 2004). The study revealed that many FGs (formal) in Iramba District Council started increasing in numbers after the introduction of the Participatory Agricultural Development and Empowerment Project (PADEP) in 2003/2004. Formally people were used to communal labour instead of forming groups to supplement household labour. PADEP was a five year intervention to enhance agricultural development through promotion and adoption of improved technologies by the target community and enhancing active participation in the input and output marketing.

The number of FGs involved in the study was 20. It was revealed from the survey that activities which were underway by these groups include poultry keeping,

sunflower production, livestock dipping, diary keeping, pig keeping, maize and sorghum production, sunflower processing and tree planting. The study however, covered two wards Kinyangiri and Ulemo which are located in Kinyangiri and Kinampanda Divisions respectively (Table 5).

Table 5: Distribution of FGs and activities performed in the study areas
(N=20)

Name of ward	Name of village	Name of FG	Activity	Age (Years)
Ulemo	Mukulu	Faraja	Poultry keeping	3
		Kwamu	Sunflower production	4
		Juhudi	Sunflower production	4
		Muongano	Livestock dipping	3
		Azimio	Diary keeping	3
		Pamituma	Tree planting	2
		Umoja ni Nguvu	Sunflower production	4
	Uwamo	Sunflower production	4	
	Kitukutu	Uleana	Pig keeping	4
		Ukombozi	Poultry keeping	3
		Muongano	Diary keeping	2
		Matumaini	Sunflower production	1
		Uwaki	Sunflower production	2
	Kinyangiri	Kinyangiri	Umoja	Sorghum production
Pambano			Diary keeping	4
Tumaini Jema			Sunflower processing	4
Ishenga		Muongano	Sorghum production	4
		Mapambano	Maize production	4
		Igembensao	Sunflower production	4
		Inuka	Sorghum production	4

Mukulu village had (258) farmers with groups and contributed 13 households for the study equivalent to 5.0% of the sampled households. Kinyangiri village had 58

farmers and contributed 13 households for the study equivalent to 22.0%. Ishenga 83 and Kitukutu 134 contributed 12 each equivalent to 14.4% and 9.0% sampled households respectively (Table 6). However, the larger the number of FGs at Mukulu Village could be accounted for by the presence of both Government assistance and NGOs (World Vision Tanzania inclusive).

Table 6: Distribution of FGs respondents and non FGs by village (N=100)

Name of Ward	Name of village	FGs members	Members interviewed		
			FGs members	Percentage	Non FGs members
Ulemo	Mukulu	258	13	5.0	12
	Kitukutu	134	12	9.0	13
Kinyangiri	Kinyangiri	58	13	22.0	12
	Ishenga	83	12	14.0	13
	Total	533	50	50.0	50

4.4 Awareness of FGs

The study results in Table 7 indicated that of 50 respondents who are not members of FGs, equivalent to 100% were aware of existence of FGs within the area. Similar findings were reported by Mushi (2000) who observed awareness of existence of FGs in Gairo Division in Morogoro District. However the proportion reported by author was less than that of the present study probably because FGs in Iramba District Council started to increase in numbers after the introduction of the PADEP in 2003/2004 which was a five year intervention to enhance agricultural development through promotion and adoption of improved technologies by the target community and enhancing active participation in the input and output marketing.

The reasons mentioned by non members in Table 7 as to why they did not join any group were shortage of time to attend existing group activities (28%), absence of

chance to join in existing groups (20%), those who were not yet decided (14%), lack of entrance fee (26%) and 12% of respondents were ignorant on possible group benefits and hence they were in a dilemma as to whether they should join or not due to uncertainties about future benefits. Kilima *et al.* (1999) observed similar findings in Mufindi and Iringa districts where 14% (N=61) of non-members of co-operatives acknowledged that they were not aware of benefits of co-operatives.

Non-members who were expecting to join FGs in future according to findings were 64% (N = 50) despite the reasons given in Table 7 below. This is due to the fact that some of these non members have acknowledged the role of FGs in household improvement as a whole. 36% were not expecting to join any groups in future simply because they were very busy with non farm activities especially petty businesses.

Table 7: Distribution of respondents' awareness, future expectations and reasons for not joining FGs (N=50)

Parameter	Frequency	Percentage
Awareness		
Yes	50	100
No	0	0
Future expectations		
Join	32	64
Not join	18	36
Reason for not joining		
Shortage of time	14	28.0
No chance in the existing groups	10	20.0
Not yet decided	7	14.0
Lack of entrance fee	13	26.0
Illiteracy on group benefits	6	12.0

4.5 Activities performed by both members and non-members of FGs

It is important to capture information on economic activities because there is a need to ascertain the size and structure of the labour force and to know its distribution by farming and non farming activities with a view to streamlining and strengthening development planning and endeavors (URT, 2002). Crop and animal husbandry were found to be the major farm activities conducted in the study area. The major crops grown were sunflower, groundnuts, cotton, pigeon peas, onions, maize, bulrush millet, paddy, sorghum, sweet potatoes and beans. Cattle, goats, sheep, pigs and chicken were the main animals kept. Crop production and animal keeping is done for both foods for family and as a source of income for household needs and also to finance inputs. Table 8 shows the activities performed by respondents of members and non-members of FGs. About 19% and 12% of members and non-members of FGs perform both farming and non-farming activities respectively while 31% members and 38% non members of FGs dealt with farming activities only as major source of income. Neither members nor non-members of FGs were found to depend solely on non-farm activities.

Farming activities carried out by FGs members to household income include crop husbandry (19%), crop and animal husbandry (29%), crop husbandry and tree planting (1%) and bee keeping and tree planting (1%). While animal husbandry (2%) and crop husbandry (26%) are only activities carried out by members without groups.

Furthermore non-farm activities performed by FGs members include civil servant (5.4%), petty business (35.7%), brick making (1.8%), carpentry (3.6%), masonry

(3.6%) driver (1.8%), food vending (7.1%) and tailoring (1.8%). Non-members performed petty business (28.6%), brick making and carpentry (1.8%) each and 3.6% food vending.

Table 8: Distribution of activities carried out by both members and non-members of FGs (N=100)

Category	FGs members	Percent age	Non FGs members	Percent age	Total	Percent age
Farming activities	31	31.0	38	38.0	68	69.0
Non-farm activities	0	0.0	0	0.0	0	0.0
Both farming and non farming activities	19	19.0	12	12.0	31	31.0
Total	50	50.0	50	50.0	100	100
Farming activities that contribute to household income						
Activity	FGs members	Percent age	Non FGs members	Percent age	Total	Percent age
Animal husbandry	0	0.0	2	2.0	2	2.0
Crop husbandry	19	19.0	26	26.0	45	45.0
Animal and crop husbandry	29	29.0	22	22.0	51	51.0
Crop husbandry and tree planting	1	1.0	0	0.0	1	1.0
Bee keeping and tree planting	1	1.0	0	0.0	1	1.0
Total	50	50.0	50	50.0	100	100.0
Non-farming activities that contribute to household income						
Activity	FGs	Percent age	Non FGs	Percent age	Total	Percent age
Civil servants	3	5.4	0	0.0	3	3.0
Petty business	20	35.7	16	28.6	36	64.3
Brick making	1	1.8	1	1.8	2	3.6
Carpentry	2	3.6	1	1.8	3	5.4
Masonry	2	3.6	2	3.6	4	7.1
Lorry driver	1	1.8	0	0.0	1	1.8
Food vending	4	7.1	2	3.6	6	10.7
Tailoring	1	1.8	0	0.0	1	1.8
Total	34	60.7	22	39.3	56	100.0

4.6 Household income of FGs and non FGs beneficiaries

In determination of contribution of FGs to household income, the amount of money contributed by FGs and non FGs of the household per month were determined by way of comparing them. Moreover, distribution of respondents by monthly income

and mean total income of the two groups was computed (Table 9 and 10 respectively). The average monthly income for FGs members ranged between 1500/= and 120 000/= while that of non members ranged from 1700/= to 60 000/= per respondent.

The implication of the above observation is that the difference between individual members and non members indicates the positive role of FGs in the improvement of community welfare. The argument was also confirmed by the group members who admitted that membership to FGs did not hinder non group activities which were initially the sole source of their income (Mushi, 2000).

Table 9: Distribution of respondents' monthly income (N=100)

Range	FGs	Percentage	Non FGs	Percentage	Total	Percentage
From farming activities						
Up to 35 000	17	17.0	40	40.0	57	57.0
35 001-80 000	28	28.0	9	9.0	37	37.0
Above 80 000	5	5.0	1	1.0	6	6.0
Total	50	50.0	50	50.0	100	100.0
From non-farming activities						
Range	FGs	Percentage	Non FGs	Percentage	Total	Percentage
Up to 35 000	35	35.0	49	49.0	84	84.9
35 001-80 000	11	11.0	1	1.0	12	12.0
Above 80 000	4	4.0	0	0.0	4	4.0
Total	50	50.0	50	50.0	100	100.0

T-test statistical analysis done to compare income contributed by FGs and non FGs members in the household per month in both farming and non farming activities. Basing on statistical t-test results (Table 10) it was well shown that there is a significant difference between mean incomes contributed by FGs members to the household compared to non-members at $P < 0.05$

Table 10: Distribution of respondents' means income from farming and non-farming activities (N=100)

Category	Respondents	Mean(Tshs)	T-test	P-value
Average monthly income from farming activities				
FGs members	50	46 980.0000	4.282	0.000
Non FGs members	50	26 354.0000	4.282	0.000
Average monthly income from non-farming activities				
FGs members	50	33 818.0000	2.459	.016
Non FGs members	50	8434.0000	2.459	.017

Statistically significant ($P < 0.05$)

FGs members contribute an average of 46 000/= per month while non-members contribute an average of 26 354/= per month in farming activities while in non-farming activities FGs members and non members contribute 33 818/= and 8434/= respectively. It can be stated from the facts shown here that most non-members' households are living below the poverty line of one dollar per person a day in comparison to FGs members. These results imply that FGs members had relative advantages in income gained compared to non FGs members in both farming and non-farming activities and hence the practices dealt with poverty effectively in rural areas. This therefore signifies that FGs have substantial contribution to improve household income in Iramba District Council (Table 10). The significance of FGs to household income contribution was critically emphasized in informal conversation with one of FGs member at Mukulu village as follows:

"Farmers or the rural people know exactly what they are missing, and if we have the extension system well set out then these questions are going to be answered for

farmers through use of farmer groups simply because one finger can kill no louse."

Working jointly increases the capability of people, emphasis added.

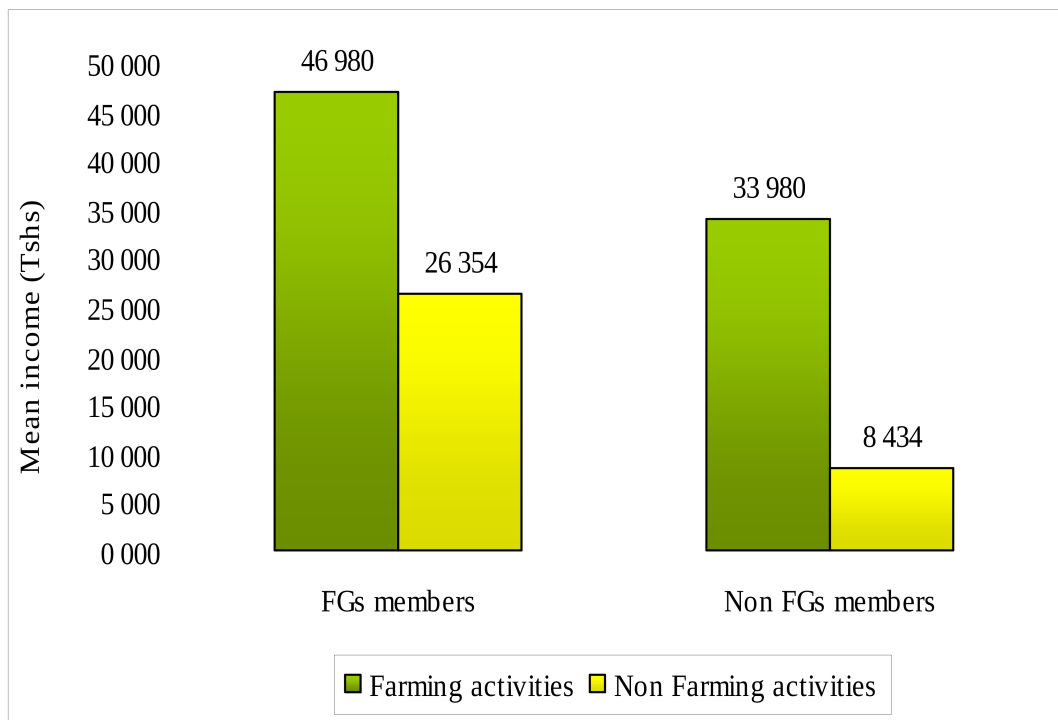


Figure 3: Percentage mean income contributed by FGs and non FGs members to household

4.7 Division of labour among FGs members

The study discovers that, members of each group had agreed to have a pattern on how activities should be distributed among themselves. Figure 4 shows that 38% of the members of FGs were performing group activities together, 42% had agreed each member to be provided a piece of work to deal with which so far seems to be the best way of labour division to cut off irresponsibility complains to some members

while 12% and 4% reported to perform group activities according to ability and sex respectively.

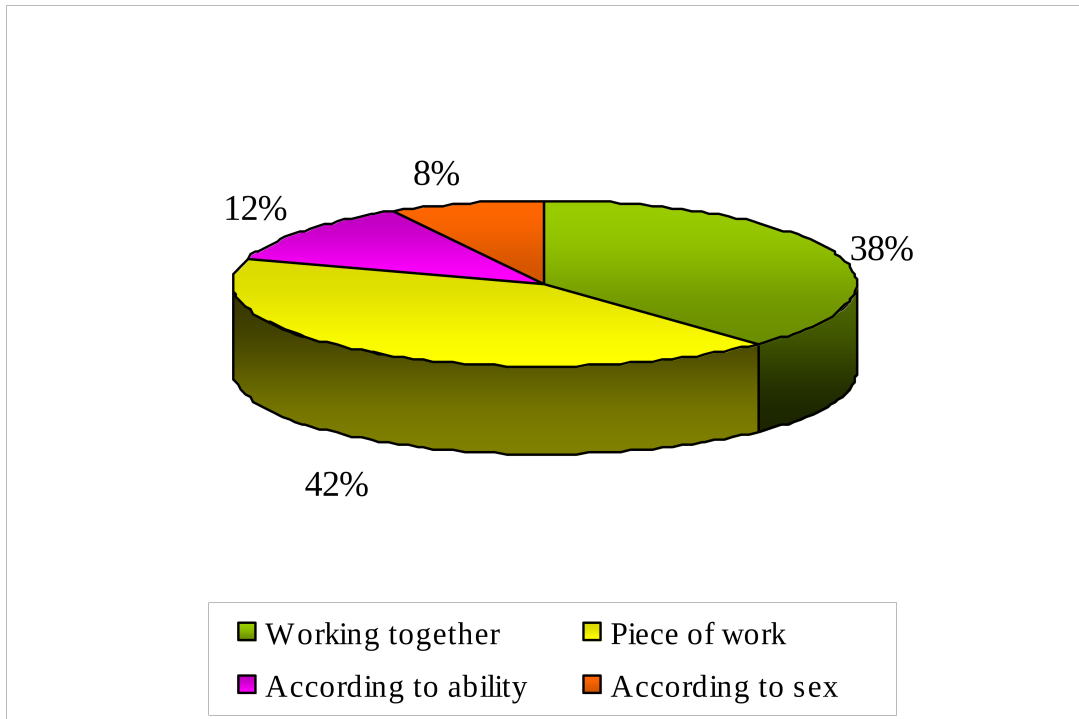


Figure 4: Division of labour within the group

4.8 FGs and gender relations

Economic growth, social development and poverty eradication are the major priority issues in the development agenda of many of the developing countries. Gender is a cross-cutting issue in those priorities. Hence, in relation to these priorities, it is critical to analyze gender relations, vis-à-vis access to and control over resources, benefits and opportunities and roles and responsibilities of men and women. Similarly, there is a need to assess the social, economic, environmental, and political factors that influence the

positions and conditions of women before and after intervention (Bohle, 1993).

Women and men are different biologically. All cultures interpret these biological differences uniquely, with expectations about what behaviors and activities are appropriate for males and females and what rights, resources and power each should possess. These societal expectations are the socially constructed gender roles (Bohle, 1993). The study however revealed the ratio of men to women to be 1:1.2

Table 11: Distribution of males and females members within FGs

Name of village	Males	Percentage	Females	Percentage	Total
Mukulu	116	45	142	55	258
Kinyangiri	29	50	29	50	58
Ishenga	54	65	29	35	83
Kitukutu	41	31	93	69	134
Total	240		293		533
Ratio	1		1.2		

In addition, URT (1997) estimated that the ratio of males to females in the agricultural sector is 1:1.5. Women in Tanzania produce about 70% of the food crops and also bear substantial responsibilities for many aspects of export crops and livestock production. However, their access to productive resources (land, water etc.), supportive services (marketing services, credit and labor saving facilities etc.) and income arising from agricultural production is severely limited by social and traditional factors. This in turn has hampered their capability and efficiency in the agricultural sector.

4.9 FGs membership conditions and output distribution

Membership conditions established by FGs in the study area include entrance fee, female membership only, forty percent and above being female members and membership household. Table 12 summarizes the findings. From the table 80% had to pay an entrance fee of between 3000/= to 25 000/= for registration and opening of savings account into which the money from the Government were deposited. Entrance fee for FGs which were formed under umbrella of Participatory Agricultural Development and Empowerment Project (PADEP) was 25 000/= while some groups were charged between 3000/= and 15 000/=. Membership by females only in the similar study was another condition observed in 4% of the studied groups. About 4% and 12% of FGs were reported to have forty percent and above females and membership by household respectively. Swai (1998) observed the conditions of entrance fee and membership by household reported by members of FGs in Mvomero Division, Morogoro Region.

Table 12: Distribution of FGs by membership conditions and output (N=50)

Condition	Respondent	Percentage
Entrance fee	40	80.0
Females only	2	4.0
Forty % and above females	2	4.0
Membership by household	6	12.0
Distribution of output		
Fairly	45	90.0
Not fair	5	10.0

Moreover, respondents were asked to whether they were satisfied with the output distribution from group activities among the members. About 90% reported fair distribution of output while 10% were not fair about how output of the group were

distributed (Table 12). The study revealed that output was distributed according to participation and those who participate less were distributed accordingly. These findings are consistent with results obtained by Mushi (2000) in Gairo Division who observed 96% of the members interviewed were satisfied with the way group income was distributed and 4% of members were not satisfied.

4.10 FGs benefits

The study results in Table 13 indicated that 62% reported to have increased income from groups activities thus FGs appeared to have substantial contribution for household income generation. In addition the study revealed other benefits including technology gain (12%), increased access to social capital (12%), accessibility to social capital (6%), access to external support from government and Non Government Organization (6%) such as PADEP and World Vision Tanzania, work simplification (2%) while (6%) reported not realized yet the benefits from being members of FGs. Main reason to why some respondents not realized yet the benefits from being group members can be accounted for delay of some groups to give tangible benefits due to long grace period of their business.

Table 13: Distribution of respondents' group benefits (N=50)

Category	Frequency	Percentage
Income generation increased	31	62.0
Technology gain	6	12.0
Accessibility to external support	3	6.0
Work simplification	1	2.0
Social capital	6	12.0
Benefits yet realized	3	6.0

FGs can reduce the cost of accessing inputs, production technologies, information and markets by sharing these costs amongst all members of the group resulting in lower individual costs (FAO, 1999).

4.11 Technology dissemination

In order to determine technology dissemination within and outside the groups, the respondents were asked to explain the way they used to acquire and/or transfer knowledge. The results in Table 14 show that about 66% of the members reported to disseminate knowledge through discussions. About 22% of the members said that the knowledge dissemination was through farm demonstration. While 12% reported the knowledge dissemination was both by discussions and farm demonstration. Dissemination of technology however, requires some supporting factors, extension services and training are just few to mention.

Table 14: Distribution of respondents according to technology dissemination (N=50)

Type of Dissemination	Frequency	Percentage
Farm Demonstration	11	22
Discussion	33	66
Both discussion and farm demonstration	6	12
Total	50	100

NB: Analysis was based on multiple responses

The facts that community members were getting advice from group members and/or use their farm for demonstration indicate that FGs in the study area have to some extent used for extension purposes. For instance, members of Juhudi group in Mukulu village who were dealing with sunflower production made a clear

clarification that some community members were asking for advice. Similarly, Matumaini group at Kitukutu village had been formed as a result of technology dissemination from the previous groups.

The findings above were supported by those of Barroga and Burgos (2005) who documented that improved technology dissemination is directly related to social and economic development. However, this should be well appreciated by the farmers as end-users for its effectiveness. More importantly, the farmers have a special credibility that most of their fellow farmers have trust in them, should they find the technologies effective to them.

4.12 External support

In the study area, the respondents were asked to mention the support from external sources basically, categorized into Governmental and NGOs. Table 15 shows 74.4% receiving Governmental support. The support includes extension services from Government Extension Officers and financial support from the PADEP project. The project provided the groups formed with training to improve agricultural practices. About 24% reported to get support from NGOs. (WVT) was the only NGO supporting both farmers within and outside the group. The support was given through Kinampana Agricultural Development Programme (ADP). Regular training on improved agricultural technology and provision of improved seeds were the main type of support given by the WVT, While 1.6% of the respondents reported to get neither Governmental nor NGOs support.

Table 15: Distribution of respondents' external support (N=100)

Type of support	Frequency	Percentage
Governmental	96	74.4
NGOs	31	24.0
Nil	2	1.6
Total	129	100

NB: Analysis was based on multiple responses

4.13 Extension services

The study discovered various extension services that were on hand in Iramba District Council. The services include health, environmental conservation, and crop husbandry, tree planting activities, bee keeping and technical advice. Accessibility to services, incidence of extension visits, satisfaction with services and attendance to farm demonstration as discussed hereunder.

4.13.1 Accessibility to extension services

Extension services provided to both members and non-members appear in Table 16. Of the 100 respondents who were asked to state whether they had ever experienced accessibility to extension services, the findings indicate that the highly accessible services relate to crop husbandry 47 (47%) of which 23 (46%) were farmer groups participating members and 24 (48%) non farmer groups participating members. The percentages of FGs and non FGs members who accessed crop husbandry practices are almost similar. The similarities however, could be accounted for by the fact that

farmers were advised on good farming practices as a whole. Health and crop husbandry were reported by 18 (18%) of which 7 (14%) were FGs members and 11 (22%) non farmer groups, crop and technical advice 10 (10%) of which 6(12%) and 4 (8%) were farmers with and without groups respectively, environmental and crop husbandry 7 (7%) of which 4 (8%) were FGs members and 3 (6%) non FGs members, technical advice 6 (6%) of which 5 (10%) were FGs members and 1 (2%) non FGs members, health and environmental services 3 (3)% of which 1 (2%) was a FGs member and 2 (4%) were non FGs members, tree planting 2 (2%) of which 1 (2%) was a FGs member and non-member each while animal husbandry and bee keeping was 1 (1%) of which 1 (2%) was a FGs member. None and 2 (4%) of FGs and non FGs members respectively were reported not getting any kind of extension service. The variations between members with and without groups to access extension services could be accounted for by types of activities they perform and the profession of the extension officers available. In the field it was observed that extension officers were biased towards farmers whose activities were related to their professions. For instance one member of Uwaki group which deals with sunflower production in Kitukutu village claimed that were less visited by extension officers compared to non farmers who were individually engaged in environmental conservation because was under the professional of the extension officer. However the study also revealed that many project services were given along the roadside and not to the unreachable remote areas.

Chambers (1983) reported six biases that impede outsiders' contact with rural poverty which is a key to rural development (RD). These include: (i) spatial bias

whereby learning about rural conditions is mediated by vehicles as such attention is paid to roadside and not to the unreachable remote areas as a result favours those people residing near the road, (ii) project bias whereby rural development pays attention to areas where some development is happening or has happened, (iii) person bias whereby prominent people dominate and have their ideas imposed on the rest, (iv) dry season bias; whereby rural community are only visited during the dry season because the vehicles can reach there, (v) diplomatic biases (politeness and timidity) whereby realities of the poor people is hidden to visitors by development workers particularly politicians and superiors they are ashamed to expose poverty that face the people, (vi) professional bias where by development workers only want to discuss issues that are in their line. In this sense the poorer are adversely affected as they are normally far from the main roads, less developed, no contact to researchers, information about them are hidden and are less educated as well according to circumstances.

4.13.2 Extension communication to FGs

Effective extension communication requires farmers to be active on developing and adapting information and in asking for the kind of information which they find useful. Table 16 shows the distribution of members by frequency of extension visits. The results however indicate that of 100 respondents the majority 40 (40%) of which 20 (40%) were FGs members and 20 (40%) non FGs members receive extension visits very rarely, one to two times per annum. About 25 (25%) of members were found to get extension visits three to five times per year of which 12 (24%) were FGs members and 13 (26%) non FGs members, 22 (22%) of respondents get the services

more than six times of which FGs members and non members were 11 (22%) each, 6 (6%) of which 5 (10%) were FGs members and 1 (2%) non FGs members and 5 (5%) of which 2 (4%) were FGs members and 3 (6%) non-members get services when in need and frequently respectively while 2 (2%) claimed to have no visits of extension workers, all 2 (4%) were non FGs members. The reason for variations of frequency of extension visits between FGs members and non FGs members was not only the type of activity they do that needed a particular services accordingly but also spatial and project biases which favors those residing near the roads and around project areas respectively.

Bonor and Baxter (1984) as cited by Shenduli (1998) revealed that without an effective system communication within the extension service and between it and farmers, agricultural extension can achieve little impact. The ability to communicate effectively is very crucial to extension workers performance because it is through communication that the extension workers give information to the farmers and judge how effective it is, by seeing how farmers respond to the messages being communicated.

Table 16: Distribution of members by accessibility and frequency to extension services (N = 100)

Parameter	FGs members		Non FGs members		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Health services	1	2	2	4	3	3
Environmental conservation	1	2	2	4	3	3
crop husbandry	23	46	24	48	47	47
Tree planting activities	1	2	1	2	2	2
Bee keeping	1	2	0	0	1	1
Technical advice	5	10	1	2	6	6
Crop and technical advice	6	12	4	8	10	10
Health and crop husbandry	7	14	11	22	18	18
Environmental and crop husbandry	4	8	3	6	7	7
Animal husbandry	1	2	0	0	1	1
Nil	0	0	2	4	2	2
Total	50	100	50	100	100	100
Frequency of extension visits						
Very rare (1-2 times)	20	40	20	40	40	40
Three to five times	12	24	13	26	25	25
More than six times	11	22	11	22	22	22
When in need	5	10	1	2	6	6
Frequently	2	4	3	6	5	5
Nil	0	0	2	4	2	2
Total	50	100	50	100	100	100

4.13.3 Satisfaction of extension services

Satisfaction to extension services provided a proxy assessment of the quality of service delivery. Respondents were asked to report whether they were satisfied or not to extension services provided. According to Table 17, of the 58 (58%) respondents were satisfied with crop husbandry service, 22 (44%) were FGs members and 36 (72%) non FGs members. 14 (14%) with demonstration and technical advice of which 12 (14%) and 2 (4%) were FGs and non FGs members respectively. Of 6 (6%)

crop and technical husbandry all 6 (12%) were for FGs members, 5 (5%) health service and environmental services each, of which 1 (2%) was a FGs member and 4 (8%) non FGs members for health service and 2 (4%) of FGs and 3 (6%) non FGs for environmental conservation service, 4 (4%) were satisfied with crop husbandry, health services and environmental conservation of which all 4 (8%) were FGs members. 2 (2%) and 1 (1%) were satisfied with tree planting 1(2% were FGs members and 1 (2%) non FGs members) and bee keeping 1 (2% were FGs members) respectively while 5 (5%) were not satisfied at all with any services 1 (2%) being FGs members and 4 (8%) members without groups.

Despite the fact that crop husbandry was the main activity performed by both FGs members and non FGs members only 48 (48%) were found satisfied with the service of which 22 (44%) were group members and 36 (72%) non members implying inadequacy of agricultural extension services. Ibrahim (1992) cited by Mushi (2000) pointed out the necessities of extension officers by arguing that agricultural extension services help to educate and assist farmers to solve their farming problems. Farmers will likely adopt improved farming practices when farming problems are solved thereby increasing agricultural productivity. Even though the majority of farmers in Iramba District had access to agricultural extension services, the services were not adequate as reported by the respondents in the study area.

The findings show that FG members were highly accessible in bee keeping, demonstration and technical advice, crop husbandry and technical advice and crop husbandry, health services and environmental conservation compared to non-members. However group members have benefited on accessing more than one

service so easily compared to non members who accessed high on each of health service, environmental conservation and crop husbandry.

Table 17: Distribution of respondents by satisfaction of extension services (N = 100)

Parameter	FGs members		Non FGs members		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Health services	1	2	4	8	5	5
Environmental conservation	2	4	3	6	5	5
Crop husbandry	22	44	36	72	58	58
Tree planting activities	1	2	1	2	2	2
Bee keeping	1	2	0	0	1	1
Demonstration & technical advice	12	24	2	4	14	14
Crop husbandry and technical advice	6	12	0	0	6	6
Crop husbandry, health services & environmental conservation	4	8	0	0	4	4
Nil	1	2	4	8	5	5
Total	50	100	50	100	100	100

4.13.4 Farm demonstrations

Farm demonstration is a participatory method of technology development and dissemination based on learning principles and experiential learning. Demonstration reflects concrete experience, observation and reflection, generalization and abstract conceptualization, and active experimentation. In the study area farm demonstrations were not sufficient. Based on key informants interviews reported no villages with demonstration plots within the areas studied, instead farmers were using group farms and primary school farms for the purpose, however very few of them visited Nane Nane show at Nzuguni – Dodoma and district shows which are held annually.

The findings of the study indicated by Table 18 which shows the attendance of respondents to demonstrations, frequency of attendance and reasons of not attending

for those reported never attended. 57.7% and 42.3 of group members and non-members had attended demonstration respectively while the rest had never attended. The proportion of members and non-members who attended demonstration gives a significant difference simply because some of the demonstration plots belonged to FGs.

Table 18: Distribution of respondents by attendance, frequency and reasons for not attending farm demonstrations (N = 100)

Parameter	FGs members		Non FGs members	
	Frequency	Percentage	Frequency	Percentage
Attendance				
Attended	30	57.7	22	42.3
Not attended	20	41.7	28	58.3
Attendance frequency per year				
Nil	20	47.0	28	58.3
Once	16	66.7	8	33.0
Twice	12	57.1	9	42.9
Thrice	0	0.0	2	100.0
Four times and above	2	40.0	3	60.0
Reasons for not attending				
Not informed	48	97.3	50	100.0
Time limit	0	0	2	100.0

Findings indicated also that members within the groups who never attended the farm demonstration were fewer compared to those outside the group amounting to 41.7% and 58.3% respectively (Table 18). Likewise the proportion of members who had attended demonstrations once accounted for 66.7% and those attending twice were 57.1% exceeded that of non members which was 33.0% and 42.9% respectively. The reason behind is that members were more accessible to demonstration farms and thus given more chance to attend farm demonstrations contrary to non members. Swai (1998) reported that demonstrations in Mvomero Division were biased to group

members because non-members had less access to demonstration farms as members of FGs who, on the other hand, were beneficiaries of it.

It was also found that all (100%) who not attended demonstrations were non members and were not informed about it at all while 97.3% were members. Again some respondents who were non members have time limit to attend farm demonstration due to non farm commitment, mainly doing petty business.

4.14 Constraints faced by FGs

Examining specific constraints facing farmer groups in achieving their goals and objectives, shortage of capital, uncooperative group members and division of profit and income misuse were cited as the main ones amounting 38%, 22% and 20% respectively (Table 19). Due to low levels of resources by individual members, the groups are unable to raise the desired amount of capital from membership contributions to adequately support their activities.

Pests and diseases, unfavorable weather, and high prices of agricultural input were cited as the next most constraining factors as reported by 12.7%, 11.1%, and 7.9% respectively; surprisingly, lack of access information and services and lack of adequate farm land were not seen as major constraining factors amounting 3.2% and 1.6% respectively. This may be because production is still primarily for home consumption, although farmers do take advantage of buoyant local market conditions to market surpluses.

Table 19: Distribution of respondents by constraints of FGs (N=50)

Category	Responses	Percentage
Shortage of working capital	19	30.2
Lack of adequate farm land	1	1.6
High price of agriculture inputs	5	7.9
Uncooperative group members	11	17.5
Pests and diseases	8	12.7
Unfavorable weather	7	11.1
Lack of access of information and Services	2	3.2
Division of profit and income misuse	10	15.9
Total responses	63	100.0

NB: Analysis was based on multiple responses

4.15 Summary of the chapter

In view of the generated study findings and discussion drawn, this section summarized the major findings of the chapter which has explained background variables (demographic and socio-economic variables) of respondents in the study area for both members within and outside the groups. Generally it is distinguished that there are variations between age, marital status, education level and household size of respondents within and outside the groups. The findings show that majority of the respondents were the most active labour force because they fall in the age of 20-60, married and most of households have formal primary education. The explanation for the variation has been given and they tend to conform to other studies made earlier.

This chapter further presented the FGs and activities carried out by both members and non-members of FGs. Crop and animal husbandry identified as the most

preferred farming activities within the study area. Other activities include tree planting and bee keeping. Non-farming activities presented include civil servants, petty business, brick making, carpentry, masonry, food vending, tailoring and driving. T-test analysis revealed that group members' income contribution to household was statistically significant as compared to income contributed from members without group at $P < 0.05$. Respondents particularly those within groups showed that the groups helped them to increase not only household income but also food security simply because labour is intensive enhance activities to be accomplished timely and precisely.

Finally, this chapter identifies shortage of working capital, lack of adequate farm land, high price of agriculture inputs, uncooperative group members, pests and diseases, unfavorable weather, lack of access of information and services, division of profit and income misuse as constraints for development of FGs

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Overview

This chapter presents conclusions and recommendations based on the findings of the study. The study identified FGs, activities carried out by both members and non members of FGs that improve the household income of members and non-members' beneficiaries as well as constraints. Moreover, recommendations on how to improve FGs in order to get better productivity and sustainability as well were identified by the study.

5.2 Conclusions

The following conclusions were made.

- (i) The major findings of the study discovered members within the groups adopt easily on improved agricultural practices skills and contributed high in household income in both farming and non farming activities. This was confirmed by the fact that farmers who are not members of groups were fighting to join groups after seeing fruitful results from group members.
- (ii) FGs have been particularly strong in areas with a large concentration of externally funded projects, implying that external initiatives (including logistics support and sensitization to support the groups) are helpful in initiating the process.

- (iii) The study has shown many FGs (Formal groups) are young aged not more than five years despite the existence of informal/local ones ever since farming started. PADEP was the catalyst in the group formation in Iramba District Council; it was a five year intervention which enhanced agricultural development through promotion and adoption of improved technologies through use of FGs.

- (iv) This study has also revealed that some FGs are large (about 30-40) and depends on few but active individuals who encourage members to bring partial cooperation to group activities as a result conflicts emerged especially during division of profit and leadership distribution among members.

- (v) Shortage of capital and uncooperative members was often cited by farmers as critical constraints facing them, in addition to scarcity and/or high price of agricultural inputs, lack of adequate farmland, unfavorable weather patterns, lack of access of information and services, division of profit and income misuse and problems of pests and diseases. These emphasize that fighting poverty especially income poverty through use of farmer groups is not the only variable influencing technology adoption and productivity, the need for complementary progress in other areas, especially development of the rural financial system is needed.

5.3 Recommendations

This section offers recommendations derived from the conclusions made from the study. The recommendations are useful to the Ministry of Agriculture, Food Security and Cooperatives, planners of rural development programmes, policy makers and NGOs in helping rural people who most of them are employed by agriculture to increase productivity and hence improving their livelihood.

- (i) Groups should be based on farmer needs not those of outsiders and extensions workers should work with farmers to identify their problems and prioritize them.
- (ii) Small groups (5-20 members) should be encouraged simply because farmers learn more quickly in small groups than in larger ones.
- (iii) For the benefits of FGs action to continue even after outside assistance ceases, the groups must become self-reliant and cohesive units. This also requires frequent training to be done by extension officers.
- (iv) Leadership should be shared by members within the group. A group should not depend too much on a single individual. The importance of member contributions should be highlighted.

- (v) FGs should be working with agro-processors and marketing agencies, to create a value chain from production to marketing, linking farmers to marketing and processing entities.
- (vi) Farmer groups should be facilitated to have networks with other groups within and outside the Iramba District in order to have more progressed relationships that basically will enable them exchange ideas on market strategies and improved agricultural technologies hence high productivity.
- (vii) Development of rural financial system is important to help FGs members to have access to low interest credits.
- (viii) Commercializing smallholder agriculture and accelerating its growth rate is essential in increasing agricultural production as a means of pulling the majority of the rural poor out of abject poverty.

5.4 Recommendations for further research study

The type of survey used in this research is micro and cross-sectional one which allows the data collection to be done at a point in a time. On the other hand it can not represent the population of the country as a whole. Hence, there is a need for longitudinal studies to be conducted so that generalization of observations can be made.

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APPENDICES

Appendix 1: Questionnaire for members of farmer groups

CONTRIBUTION OF FARMER GROUPS TO HOUSEHOLD INCOME IN IRAMBA DISTRICT

Village.....Ward.....

Name of the group.....

Group size.....

Male.....Female.....

A. Respondent’s characteristics

1. What is your age?
2. Sex
 1. Male
 2. Female
3. Marital status
 1. Married
 2. Single
 3. Divorced
 4. Separated
 5. Widowed
4. Level of education
 1. None
 2. Adult literacy classes
 3. Primary education
 4. Secondary education
 5. Post secondary education
 6. Other (Please specify)
5. What is your household size?
1. Male.....
 2. Female.....

B. Activities and Economic status of the respondent

5. What is the major source of your income?

- 1. Farming activities (Go to No. 6)
- 2. Non-farm activities (Go to No. 7)
- 3. Both 1 & 2

6. What are the farming activities that contribute to your income?

- 1. Animal husbandry
- 2. Crop husbandry
- 3. Tree planting
- 4. Others (Specify).....

7. What are the non-farm activities, which contribute to your income?

.....

8. What is your average monthly income?

- (a) From farming activities.....
- (b) From on-farming activities.....

9. What assets do you own?

- 1. Bicycle
- 2. Motor bike
- 3. Sewing machine.
- 4. Milling machine
- 5. Others (specify).....

10. (a) Which of the activities in 6 and 7 above are done, in groups?

.....
.....

(b) How are the activities distributed within the group?

.....
.....

(c) How is the group income distributed among the group members?

- 1. Fairly (How?).....
- 2. Not fair (Why?).....

C. Existence and performance of Farmer Groups (FGs)

11. What is the age of your group? (in years)

12. What are the conditions for joining your group?

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

13. What motivated you to join group?

.....
.....

14. What benefits do you gain from the group?

.....
.....

15. How does the knowledge obtained from the group disseminate to others?

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

16. What problems do you encounter in your group?

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

D. Extension services

17. What kinds of extension services do you get?

1. Health services
2. Environmental conservation
3. Crop husbandry
4. Tree planting activities
5. Bee keeping
6. Technical advice
7. Others (specify)

18. How frequent do you get advice from extension officers?

.....

19. (a) Which extension services (in question 18) are satisfied with?

.....
.....

(b) Why/How? (Explain briefly)

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

20. (a) Have you ever attended farm demonstrations?

(b) If yes, how often?

.....

(c) If no, why?

.....

21. What kind of external support does your group get? (Mention the type of support)

1. From government agencies

.....
.....

2. From Non – Governmental Organizations

.....
.....

3. Others (specify)

.....

22. Compared to individuals who are not members of the group, what extra benefit do you get as a member?

THANK YOU FOR YOUR CO-OPERATION

Appendix 2: Questionnaire for non-members of farmer groups

**CONTRIBUTION OF FARMER GROUPS TO HOUSEHOLD INCOME IN
IRAMBA DISTRICT**

Village.....**Ward**.....

Name of the group.....

Group size.....

Male.....**Female**.....

A. Respondent's characteristics

1. What is your age?
2. Sex
 1. Male
 2. Female
3. Marital status
 1. Married
 2. Single
 3. Divorced
 4. Separated
 5. Widowed
4. Level of education
 1. None
 2. Adult literacy classes
 3. Primary education
 4. Secondary education
 5. Post secondary education
 6. Other (Please specify)
5. What is your household size?

1. Male..... 2. Female.....

B. Activities and Economic status of the respondent

5. What is the major source of your income?
1. Farming activities (Go to No. 6)
 2. Non-farm activities (Go to No. 7)
 3. Both 1 &2
6. What are the farming activities that contribute to your income?
1. Animal husbandry
 2. Crop husbandry
 3. Tree planting
 4. Others (Specify).....
7. What are the non-farm activities, which contribute to your income?
.....
8. What is your average monthly income?
- (a) From farming activities.....
 - (b) From on-farming activities.....
9. What assets do you own?
1. Bicycle
 2. Motor bike
 3. Sewing machine.
 4. Milling machine
 5. Others (specify).....

C. Existence and performance of Farmer Groups (FGs)

10. Are you aware of the existence of the farmer groups in this area?
1. Yes
 2. No
11. (a) If yes why don't you join any group?.....
- (b) Are you now interested to join a group?
1. Yes
 2. No

D. Extension services

12. What kinds of extension services do you get?

- 1. Health services
- 2. Environmental conservation
- 3. Crop husbandry
- 4. Tree planting activities
- 5. Bee keeping
- 6. Technical advice
- 7. Others (specify)

13. How frequent do you get advice from extension officers?

.....

14. Which extension services (in question 13) are you satisfied with?

.....

.....

15. Why/How? (Explain briefly)

.....

16. Have you ever attended farm

demonstrations?

.....

17. If yes, how

often?

.....

18. If no, (question 17), why/

.....

19. What kind of external support does your group get? (Mention the type of support)

- 1. From government agencies

.....

- 2. From Non – Governmental Organizations

.....

- 3. Others (specify)

.....

.....

THANK YOU FOR YOUR CO-OPERATION

Appendix 3: Questionnaire for key informants

CONTRIBUTION OF FARMER GROUPS TO HOUSEHOLD INCOME IN IRAMBA DISTRICT

Village.....Ward.....

Name of the group.....

Group size.....

Male.....Female.....

A. Respondent's characteristics

1. What is your age?

2. Sex

1. Male

2. Female

3. Marital status

1. Married

2. Single

3. Divorced

4. Separated

5. Widowed

4. Level of education

1. None

2. Adult literacy classes

3. Primary education

4. Secondary education

5. Post secondary education

6. Other (Please specify)

5. What is your occupation?

B. Activities and Economic status of the respondent

6. Are there farmer groups in your area?

- 1. Yes
- 2. No

7. If yes, how are extension services provided to them?

- 1. Individual approach
- 2. Group approach
- 3. Other (specify)

.....

8. (a) Is there a demonstration plot in your village?

- 1. Yes
- 2. No

(b) If no, is there any other kind of demonstration (e.g. on-farm)? (Explain briefly).

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

(c) How frequent does the extension agent conduct demonstrations per year?

.....

9. (a) What is the rate of formation of the farmer groups?

.....
.....

(b) Explain why?

.....
.....

10. What problems do extension workers face in their work?

.....
.....

11. (a) Is the target group (farmers) involved in planning?

- 1. Yes
- 2. No.

(b) If yes, how?

.....

.....
(c) If no, why?

.....

.....

.....

12. Are there any policies supporting or restricting the formation of farmer groups?

- 1. Yes
- 2. No

13. If yes, please mention them

.....

.....

14. What kinds of support do farmer groups get from their governmental or Non-Governmental Organizations for their enhancement?

.....

.....

THANK YOU FOR YOUR CO-OPERATION