HOUSEHOLD FOOD SECURITY OF MEMBERS AND NON-MEMBERS OF WOMEN SELF-HELP GROUPS IN MIRIGAMIERU WEST DIVISION IN MERU-CENTRAL DISTRICT- KENYA

Thesis Presented by
KITHIRA FLORENCE
H60/ 9099/2000

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FEBRUARY 2004

Kithira, Florence
Household food
security of members

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university.

Kithira Florence
H60/9099/2000

The thesis has been submitted for examination with our approval as university supervisors.

Dr. Richard K’Okul
Senior Lecturer
Department of Food, Nutrition and Dietetics

Dr. Elizabeth Kuria
Lecturer
Department of Food, Nutrition and Dietetics
DEDICATION

To my husband, Kubai, my son Muriithi, my mum Rebecca and grandparents Mary and Joseph.
ACKNOWLEDGEMENTS

I wish to express my gratitude and appreciation:-

First and foremost to my heavenly Father, the omnipresent God for being so faithful to me and making it possible for the completion of this thesis.

To my two supervisors, Doctors K’Okul and Kuria for their wonderful supervision, guidance, patience and instruction. I am grateful to them for their confidence in my ability to complete this thesis.

To Sophie and Muthee, thanks for editing this thesis.

To my good friends, Onesmus, Ann, Millie, June, Julia and all my friends in Kenya Technical Teachers’ College for their encouragement and friendship.

I am indebted to all the households and women self-help groups in Miriga-Mieru West Division for their co-operation in answering the questionnaires and to my research assistants.

Special thanks go to International Food Policy Research Institute (IFPRI) for awarding me a research grant, moral support and relevant literature materials to undertake my research.
ABSTRACT

Household food security in Kenya has been deteriorating steadily with one in every two households in Eastern, Coast, Western, and Northeastern provinces classified as absolutely food poor. Women play a crucial role in household food security in Kenya because they are responsible for over 50% production of food grown. However, with this important role of maintaining food production and acquisition, women are resource poor. Access to credit for the poor rural women is quite difficult.

The purpose of this study was to investigate whether household food security is influenced by belonging to women self-help groups. A cross-sectional survey was used to collect data from 100 respondents. The data was analyzed using the Statistical Package for Social Sciences (SPSS). Chi-square, Pearson Product-Moment Correlation, Logical regression analysis and the Independent t-test were used to relate and differentiate variables.

In reference to food adequacy, all the respondents supplemented the food from own production with food from the market emphasizing the importance of financial accessibility to food. Women in groups had higher education levels than women who did not belong to any women groups. There was a significant difference in the amount of income earned by the two groups of respondents \((p = 0.002, t = -1.768)\). A significant relationship was found to exist between the percentage of money spent on food and belonging or not...
belonging to women self-help groups \( (x^2 = 23.043, p = 0.000) \). Women in groups seemed to spend a smaller percentage of their monthly income on food as compared to those not in groups. There was a significant positive relationship between the amount of credit received and amount of money spent on food \( (r = 0.555, p = 0.000) \).

Concerning the influence of women groups’ activities on household food security, women indicated that the group’s activities facilitated them to carry out businesses and improved their food production as a result of their ability to buy farm inputs such as fertilizers. Lack of money to buy food or buy farm inputs and lack of proper storage facilities were the main causes of food insecurity cited by the two groups of respondents.

The researcher recommends that, local leaders should encourage women to organize themselves to form women groups, so as to approach micro-finance organizations and Non Governmental Organizations which will facilitate them access credit. This will go a long way in increasing food production and increasing household income. It is also important that the organizations involved with giving women groups’ credit combine the package of credit with training the groups on the utilization of credit for the benefit of the household. The interest rates should also be lowered by the financial institutions to make the credit more attractive to women of low socio-economic status.
Based on the results, the study has recommended that a similar study could be replicated in an urban area in this country, and also one could be conducted using a larger sample through inclusion of households from all divisions of Meru Central district.
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<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-CLOF</td>
<td>Ecumenical Church Loan Fund</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization</td>
</tr>
<tr>
<td>FANTA</td>
<td>Food and Nutrition Technical Assistance</td>
</tr>
<tr>
<td>GOK</td>
<td>Government of Kenya</td>
</tr>
<tr>
<td>IFPRI</td>
<td>International Food Policy Research Institute</td>
</tr>
<tr>
<td>KWFT</td>
<td>Kenya Women Finance Trust</td>
</tr>
<tr>
<td>K-REP</td>
<td>Kenya Rural Enterprises</td>
</tr>
<tr>
<td>KTTC</td>
<td>Kenya Technical Teachers College</td>
</tr>
<tr>
<td>NGO</td>
<td>Non Governmental Organization</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
</tr>
<tr>
<td>STCC</td>
<td>Save the Children Canada</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations International Children’s Education Fund</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
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</table>
CHAPTER ONE

1.0 BACKGROUND INFORMATION

In the Rome Declaration of the World Food Security signed at the World Food Summit, governments proclaimed that, "it was intolerable and unacceptable that more than 800 million people in the world, particularly in the developing countries did not have sufficient food to meet their nutritional needs" (Food & Agriculture Organization, 1998). In Africa, the proportion of the chronically undernourished people rose from 38% to 43% between 1969 and 1992. The number of people with inadequate access to food doubled in the same period (FAO, 1997). Food insecurity has been attributed to factors such as drought, erratic weather, civil conflicts, famines, poverty, disease and rapid population. For example, the drought in the Sahel and the horn of Africa from 1983 to 1987, and in Southern Africa in the early 1990s led to serious food deficits (FAO, 1997).

Kenya is classified by FAO as a low-income food deficit country (Food & Nutrition Technical Assistance, 2000). Over the past decade, the incidence and intensity of hunger and malnutrition has increased significantly and food availability has not kept pace with the rapidly growing population (Government of Kenya, 1999). According to FAO/WHO, the minimum food requirement is at 2250 calories per day per adult (GOK, 2000a).

The nutritional status of children under 5 years is one of the indicators of household food insecurity. In Kenya 5.9% of these children of the rural poor...
are wasted, while 43.0% are stunted. Of the urban poor, 3.6% children are wasted while 36.0% are stunted (GOK, 2000b). Moreover, food production in Kenya has been declining since the late 1980s. The national food production index, for example, which was over 100 between 1987 and 1992, dropped to 87 in 1998 (UNICEF, 2000). In addition, adequate availability of food at the national level does not necessarily translate to equitable distribution across the country or access among the households (FANTA, 2000). Increasing attention is paid to the household since it is the social unit where most people gain access to food (FANTA, 2000). A household becomes food insecure when all the potential sources of food or the most important of the sources of food are strained or even threatened (UNICEF/GOK, 1998).

The welfare monitoring survey data shows that about 50% of the rural and 29% urban population are unable to access the minimum requirements of food and essential non-food commodities (GOK, 1997). These households are classified as absolute food poor. Households that produce their own food are at a less risk of food insecurity than those that rely heavily on purchased food items (UNICEF/GOK, 1998). People are food insecure due to poverty and underdevelopment. However, if a country has enough income, it can purchase food for its citizens during periods of food shortage (Kirit, 2000). Lack of adequate income is one of the most important factors hindering both urban and rural people from obtaining the diverse foods needed for an adequate diet (FANTA, 2000).
Studies carried out in Gambia, Kenya and Rwanda by the International Food Policy Research Institute (IFPRI) showed that the absolute level of income is a key factor in household food security. Other factors include the control, the source, and the flow of income (FAO, 1997). It was also found out that in Africa, income controlled by women is more likely to be spent on food. At similar income levels, households with women controlled incomes were found to be more food secure than those with male controlled incomes (FAO, 1997). However, rural women’s limited incomes, lack of the collateral, higher levels of illiteracy and lack of information reduce their access to credit from financial institutions (FAO, 1998).

Women are often the worst affected if food security deteriorates as they may have to spend long hours outside the home to raise extra money to buy food (Neeja & Muklarjee, 1997). Growing awareness of the roles of women in food production as well as their contribution to social and economic development has prompted the creation of new national and local rural policies to support their work (FAO, 1990). Women play key roles in maintaining food production and acquisition thus boosting household food security (GOK, 2000b).

Women produce more than 50% of the food grown in Africa and, when they are not producing the food they are earning the income for its purchase (FAO, 1998). Apart from food production, women are involved in other crucial roles in food security which include preservation of biological diversity, processing
and preparing food and care for the basic needs of the households (FAO, 1998). In Kenya, mobilization of women can be traced back as far as the Women Council of Kikuyu in the 19th century (Kabeer, 1990). During the first half of 20th century women in areas such as Vihiga, Kiambu and Machakos formed mutual assistance groups in which they helped each other in case of birth, diseases and death (Kabeer, 1990).

Women groups of various kinds, formal and informal, exist in almost every community and within every level of society in Kenya (Kariuki, 1985). The number of groups has tremendously increased in the last quarter of the 20th century and their activities diversified mostly towards income generation. There are about 107,080 registered women groups in Kenya, 2,749 of which are to be found in Meru Central District (GOK, 1999). The group membership has been increasing since 1997 when there were only about 2,296 registered groups (GOK, 2000b).

Formal Organizations that support self-help groups and other small entrepreneurs include the Government through the Ministry of Culture and Social Services, Kenya Women Finance Trust Fund (KWFT), Kenya Rural Enterprises (K-REP), National Council of Churches in Kenya (NCCK), Tototo Home Industries and Faulu Kenya (Dondo, 1994). The government’s grants to the women groups decreased drastically from Kshs 200 million in 1997 to Kshs 0.98 million in 1999 (GOK, 2000b). Decrease in household income, due to the reduction in grants would negatively influence household food security.
Women's control of income and other resources has positive effects on household food security (Kennedy & Haddad, 1992). A study by Mutoro (1997) indicates that women groups in rural areas involved in income generation activities could improve their living standards and hence household food security. This could be made possible by generating income, which could be invested in agricultural production. It is important to note that loans for women groups have the advantage of reaching the poorest woman in the society (Mutoro, 1997). Women groups are attractive and useful to women of low-income households. They provide income generating activities and investment opportunities for the poor and single women managing their households in difficult situations (Mutoro, 1997). Income generation increases food consumption and improves the quality of diet, hence improving household food security (Kennedy & Haddad, 1992).

It is important to note that women groups have more access to credit than an individual woman because commercial banks find it hard to advance loans to women because they either lack the necessary collateral or they do not present bankable projects (Mutoro, 1997). In view of this background, the researcher found it necessary to carry out a study to investigate whether household food security is influenced by women self-help groups. This is by comparing the food security situation of households where women are beneficiaries of credit through self help groups and those households of women who did not belong to any groups.
1.1 STATEMENT OF THE PROBLEM

Household food security in Kenya has been deteriorating steadily with one in every two households in the Coast, Eastern, Western, and North Eastern provinces classified as absolutely food poor (UNICEF/GOK, 1998). Food insecure households are concentrated among the female-headed households especially in rural areas, the urban poor and resource poor households that live in high potential agricultural areas (UNICEF/GOK, 1998). Most women in Meru Central District are responsible for food production. They are faced with the task of providing their households with food. Most households depend on both foods produced from their own farms and also purchased food for their daily nutrient intake.

Although women play a crucial role in household food security, most are resource poor. They lack access to resources such as income, credit and land, which are essential in agricultural production and purchase of food. Legal and cultural reasons limit women’s right to access credit (FAO, 1998). This is because land which most women do not own is usually required as collateral for loan in commercial banks. Credit is more accessible to women groups than to individual women. It has been argued that income in the hands of women has more significant influence on household food security than that in the hands of men (FANTA, 2000).

Lack of cash income in the hands of women could be one of the causes of household food insecurity in Meru-central district. This is because although
the district has over 17 banks and financial institutions, credit is not easily accessible to individual women of low socio-economic status due to the high interest rates and lack of the necessary collateral requirements (GOK, 1997).

If women self-help groups have access to credit, members are likely to use this money to invest on food production or in business or use it for the purchase of food, making their households more food secure. It is against this background that the researcher found it worthwhile to seek out if accessing credits through women self-help groups' influences household food security.

1.2 PURPOSE OF THE STUDY

The study sought to investigate the influence of women self-help groups on household food security. It compared the food security situation of households belonging to women in groups, which had access to credit and those women who did not belong to any group.

1.3 OBJECTIVES

The study sought to achieve the following objectives: -

i) To investigate the socio-economic status of members and non-members of women self-help groups.

ii) To compare the food security status of households with members and non-members of women groups.

iii) To compare the household expenditure patterns of members and non-members of women groups.
iv) To investigate the influence of women groups' activities on household food security.

1.4 HYPOTHESIS
The study sought to test the following hypothesis: -
There is a positive relationship between household food security and membership to women groups.

1.5 ASSUMPTION
It was assumed that women in groups are involved in some form of income generating activities.

1.6 SIGNIFICANCE
The findings of the study are to serve as a contribution to the area of food security as a whole and in particular to the household food security. The information will help the government, NGOs and other interested parties to make decisions on women groups. The findings will be helpful to organizations funding women groups and be used to promote women groups in the rural areas.

1.7 LIMITATIONS
This study had the following limitations: -
i) The study was carried out in Meru Central District and therefore generalization to the rest of the country can only be done with caution.
ii) The study was limited to women who were not in any formal employment.

1.8 DEFINITION OF TERMS

**Household food security:** - This is the ability of a household to physically and economically access food that is adequate in quantity, nutritional quality, safety and culturally acceptable to meet the dietary needs of all its members at all times (FAO, 1997).

**Formal women self-help groups:** - A group of women who have joined together for mutual assistance and are registered with the Ministry of Culture and Social Services.

**Informal women self-help groups:** - A group of women who have joined together for mutual assistance but are not registered with the Ministry of Culture and Social Services.

**Household:** - all members of a household, who eat from the same cooking pot. It will comprise of family members, laborers, and relatives who live together.

1.9 CONCEPTUAL FRAMEWORK

The conceptual framework adapted for this study was derived from the UNICEF model used to explain child malnutrition (UNICEF, 1998). Household food security focuses on the family’s capacity to produce and acquire food. In this model (figure 1), achieving food security at Macro-level requires measures related to economic growth, poverty alleviation and increased equity in the distribution of income among the population. At the
Microanalysis level women are central in production and acquisition of food in Kenya.

In adopting this model, it was assumed that with favorable political, ideological and economic superstructures, the women will have access to basic contributing factors such as resource control, ownership and use which in this case is women's access to credit through women groups. This can strengthen the underlying factors leading to increased land size, adequate labor and capital, improved technology and increased household income. In this study 'resources' includes those structures specifically linked to women's productive role of which access to credit is emphasized. Therefore, with these resources, women can enhance their food production and purchase. Food production and purchase are related in that with the increase in food production there is decreased food purchase and vice-versa. Enhanced immediate factors will influence the dietary intake and health will be improved. This will directly strengthen the household food security.

On the other hand, lack of resource control, ownership and use, which could be due to unfavorable political, ideological and economic superstructures, will influence those women who do not belong to women self-help groups. These women will be disadvantaged and hence may not have improved household food security. Due to lack of credit, these women are not able to transform the underlying factors for example technology, land, labor and capital to increase food production and food purchase, which could improve
their household food security. This may lead to low dietary intake and poor health.
Figure 1.1 Factors influencing household food security

Adapted from UNICEF 1998 and modified to suit the study
It is important to note that in many rural households in Africa, the food consumed is mainly from produced and purchased sources, which relies heavily on women. Many households are not able to produce enough food to carry them through to the next harvest and have to rely on purchased sources (World Bank, 1990). Financial sources are thus necessary for most of the households to be able to meet their food deficit.

Micro-finance programs that improve the access of the poor to credit have the potential to reduce poverty and to increase household food security. Access to credit increases adoption to new technologies such as improved seeds and chemical fertilizers, which in turn increase crop output (Babu, 2001). Access to formal credit for both production and a consumption purpose is necessary to increase household income and therefore, reduce poverty and malnutrition (Babu, 2001).
CHAPTER TWO

2.0 LITERATURE REVIEW

In this section literature has been reviewed on food security in Sub-Saharan Africa, food security situation in Kenya and the concept of household food security. Other issues discussed include, determinants of household food security, women involvement in food security, activities of the women self groups and women entrepreneurs and credit facilities.

2.1 FOOD SECURITY IN SUB-SAHARAN AFRICA

FAO (1999) estimates that 800 million persons in the world are food insecure. In addition to the millions who suffer from persistent hunger, there are many others who normally get enough to eat precariously on the margin of subsistence. A major threat to the already inadequate food consumption of the poor is from the real income. Analysts have underlined that to deal with persistent hunger is to deal with poverty and underdevelopment (Kirit, 2000).

Hunger is primarily a problem of people living in poverty and not food production. If the poor were provided with additional income, more food would be demanded and produced. Food security can be provided to individuals either by increasing their monetary income, decreasing the price of food or by increasing food production (Kirit, 2000). Table 2.1 shows the prevalence of food insecurity in Africa in contrast to other developing countries.
### Table 2.1: Prevalence of food-insecure persons in Africa and other developing countries

<table>
<thead>
<tr>
<th>Sub-region</th>
<th>Percentage of food insecure population</th>
<th>Percentage of food insecure population</th>
<th>Number of food insecure persons (millions)</th>
</tr>
</thead>
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<tr>
<td>Central Africa</td>
<td>36</td>
<td>48</td>
<td>36</td>
</tr>
<tr>
<td>East Africa</td>
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<td>North E and N Africa</td>
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<tr>
<td>South America</td>
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<td>33</td>
</tr>
<tr>
<td>All developing regions</td>
<td>29</td>
<td>18</td>
<td>792</td>
</tr>
</tbody>
</table>

*Source: Kirit (2000).*

From Table 2.1 above, it is evident that East Africa is more food insecure than the other parts of Sub-Saharan Africa. This can be attributed to the persistent droughts. For example, in Kenya there were droughts in 1972-73, 1982-84, 1992-94 and most recently, 1998-1999. Apart from droughts the people from this region are impoverished partly due to corruption and bad governance. East
Africa relies heavily on agriculture while the farmers rely on rain for production. Droughts therefore have a big blow on the economy and food security. This region is not endowed with minerals like North East and North Africa, which are more food secure since the income from the sale of these minerals is used to purchase food. Asia is more food insecure than Africa mainly because of its high population and few resources.

2.2 FOOD SECURITY IN KENYA

Many households in Kenya experience transitory and/or chronic food insecurity. At the household level, the effects of protracted drought and socio-economic impact of the current economic crisis have continued to adversely affect household food security (GOK, 1994). Over the past decade, the incidence and intensity of hunger and malnutrition have increased significantly and food insecurity remains a national threat because food availability has not kept pace with the rapidly growing population (GOK, 1999). According to food balance sheets, per capita supply of cereals which provide most of the calories, declined between 1992 and 1994 from 140.9 kgs to 115.7 kgs (GOK, 1999). The food production and demand projections showed that serious food deficits and further deterioration in nutrition status would be experienced at the beginning of this millennium unless greater efforts were made to address the food insecurity situation (GOK, 1999). Food security at the national level does not guarantee self-sufficiency at the household level. At the national level, food security entails adequate food supplies through local production, storage, and food imports and food aid.
At the household level food insecurity occurs when all the potential sources are strained, lacking or even threatened (UNICEF/GOK, 1998).

In the urban areas, food is usually available but a nutritionally adequate diet is too costly for at least one third of the households. Rural households depend on timely and adequate labor inputs and some source of cash income to be food secure throughout the year (FANTA, 2000). Progress in attaining food security has been slow and uneven up to present time and the situation is likely to continue even in the next century (FAO, 1998).

Food poverty line is one below which people do not meet their minimum nutritional requirements. According to FAO/WHO, the minimum food requirement is at 2250 calories per day per adult (GOK, 2000a). In Kenya, 48.7% of the population lives below the food poverty line. In the rural population, 5.9% of the children under five years are wasted while 43% are stunted. In the urban areas, 3.6% are wasted while 36% are stunted (GOK, 2000a). In the year 2000, there were about 23,000 child deaths which were associated with moderate to severe malnutrition (GOK, 2002). Stunting and wasting are the main indicators of household food insecurity (GOK, 2000a).

2.3 CONCEPT OF HOUSEHOLD FOOD SECURITY

Food is a complex, multi-faced phenomenon, with different properties and meanings, affecting everyone in several important ways (Unklesbay, 1992). Food contains nutrients essential for survival and well being of all species. It is
an economic phenomenon, the end result of agriculture and food systems with varied resources and labor. Food is the largest item in a typical household budget, except in developed countries (Unklesbay, 1992). Food will enter into the household in a variety of ways, namely, a household produce, a purchase or food received as gifts (FAO, 1998).

Household food security as defined by FAO (1992), is the ability of the household to produce or buy adequate, safe and good quality food that is acceptable to meet the dietary requirements of all its members at all times. Ideally, household food security implies physical and economic access to food that is adequate in terms of quality, nutritional value, safety and cultural acceptability to meet each person’s needs. It therefore, depends on adequate income and assets, including land and other productive resources (FAO, 1997). According to the World Food Summit Plan of Action adopted in November 1996, food security exists when all people at all times, have physical and economic access of sufficient, safe and nutritious food to meet their dietary needs and preferences for an active and healthy life (FAO, 1998).

FAO (1997) concedes that food security at household level, lays more emphasis on food access rather than ‘availability of food’. As expressed by FAO’s committee on World Food Security (FAO, 1983), the food system consists of 3 components namely, adequate access, stability of food supplies and sustainability of food procurement. Stability of food supplies is the capacity to ensure the long-term stability of the household food supply and the
ability of households to meet both the consumption and livelihood needs on a continuous basis (FAO, 1998). Household food security can be ensured only when the capacity to acquire food exists. A household acquires access to food through own production, income generating activities, ownership of asset and transfers from sources external to it (Sharma, 1992). Currently no study has been done to determine how the activities of women self-help groups influence the stability, sustainability and access of food to households of women in income generating activities in Meru Central District.

2.4 DETERMINANTS OF HOUSEHOLD FOOD SECURITY

Household food security is determined by household income, household size, and intra-familial income distribution and food prices.

2.4.1 Household Income

The role that household income plays in household food security is of cardinal importance. This is because household income is a vital determinant of food habits and nutrition. With a significant rise in income, a variety of foods are purchased and eaten (Hartog & Staveren, 1985). Generally, there is a change from starchy staple foods to more meat, fats, sugars, fruits and vegetables. People may change from cheaper staples such as cassava to the more expensive staples such as rice and wheat.

Accordingly, Engle Lean as quoted by Hartog & Staveren (1985) exemplifies this, by stating that with rising income, the proportion of income spent on food
diminishes, thus better off households spend no more than 30% of their incomes on food, whereas households with lower income spend more than 70%. Of course, the absolute expenditure on food is greater among the well to do, principally because low-income forces people to buy small amounts, which however are far more expensive cumulatively, than larger amounts (Hartog & Staveren, 1985).

2.4.2 Intra-Familial Income Distribution

Men and women have different spheres of economic activity and control different types of income, being responsible for different types of expenditure. Women are responsible for food expenditure and spend the extra income on increasing food consumption (Brawn & Kennedy, 1986).

2.4.3 Food Prices

Household income and food prices are two main determinants of food consumption of the poor (Brawn & Kennedy, 1986). High or increasing food prices generally have severe effects on the poor and malnourished than on the better off consumers. This is because the poor need to spend a larger portion of their total income on food to meet the minimum requirement. Gittinger (1998) stated that if a household does not produce food it consumes, it is subject to price risks arising from a sudden increase in the price of food it buys or a sudden fall in the price of the outputs it sells. A household can reduce the risk by producing more of the food it consumes.
2.4.4 Household Size

Household size influences food habit and nutrition, particularly among poor households, depending on the cost incurred for purchase of food (Hartog & Staveren, 1985). With increase in the size of the household, consumption of animal foods decreases and staple foods are replaced by cheaper ones or decrease as well. The intake of protein may also decrease.

2.5 INDICATORS OF HOUSEHOLD FOOD SECURITY

A number of different indicators can be used for delineating household food security. They are divided into process indicators that reflect both food supply and food access, and outcome indicators, which serve as proxies for food consumption (Maxwell & Frankenberger, 1997). Outcome indicators can be grouped into direct and indirect indicators. Direct indicators of food consumption include those closest to actual food consumption, for example, household consumption surveys. Household budget surveys can be used to determine the money spent on food by a household. Food frequency assessments involve the collection of minimum amounts of food consumption data. Information is collected using a rapid 24-hour recall. Although this method is limited in its level of precision, it is a cost effective simple tool for detecting consumption differences between households (Maxwell & Frankenberger, 1997).

According to Maxwell & Frankenberger (1997), indirect indicators such as storage estimates are normally used when direct indicators are either
unavailable or too costly. Estimates of food storage give some indication of household food security status especially in communities that produce much of their own food.

2.6 WOMEN’S INVOLVEMENT IN FOOD SECURITY

Women are central in the production and processing of food. They are the main collectors of water, biomass fuels and other energy sources (Muguti, Everts, Schulte & Smallengange, 1999). Kenya is basically an agricultural country contributing a quarter of the total gross domestic product (GDP) annually. Over 50% of Kenya’s population is engaged in subsistence farming, among which 64% are women. Food security is basic to the survival and sustenance of any nation. The Government of Kenya is well aware that there can be no meaningful development without food security (GOK, 2000b).

FAO (1998) emphasizes that food security depends on the availability, accessibility, adequacy and acceptability of food. Women’s contribution is critical as food producers, as income earners who purchase food for their households, and as processors and preparers of the foodstuffs to keep their families healthy and active. According to the National Plan of Nutrition (GOK, 1994), the Kenya government acknowledged that many households experience both transitory and chronic food insecurity. One of the strategies given to solve this problem was to develop women-friendly, time saving and energy efficient technologies and practices. Kabeer (1990) argues that poorly informed agricultural policies have undermined women’s ability to participate
fully in food production activities. This has made them vulnerable in times of economic crisis. Education of the girl-child has been said to be a long-term intervention for household food security.

In many places women are responsible for providing most of the food required by their families. They produce more than 50% of the food grown worldwide according to FAO estimates (FAO, 1995). Women are active in both cash crop and subsistence agricultural sectors and much of their work is producing food for the household. When they are not producing the food, they are earning the income for its purchase (FAO, 1998).

FAO (1998) emphasizes that development planners have discovered that the increase of household income through the employment of men in cash crop production does not necessarily increase household income available for the purchase of food. On the other hand, when women have direct control over income, they tend to spend it on the well being of the family, particularly on improving the nutritional security of the more vulnerable members.

Unfortunately, the development projects, government policies and support services appear to exclude women and this partly explains the impoverishment of female headed and female managed households in the rural areas. According to Mutoro (1997), women group organizations geared to income-generating activities could serve as successful coping strategies for women in
rural areas by generating money and enabling women to invest in agricultural production.

Women play key roles in maintaining food production and acquisition thus boosting household food security. Although the government has continued to support women in their efforts on national development and eradication of poverty, there is need to raise the status of women by improving their education, health, living and working conditions. Women should be given high priority in development spending and International aid policies if poverty eradication especially at household level is to be achieved (GOK, 2000b). Due to the direct involvement of women in household food security, it was important to find out how women self-help groups influence household food security.

2.7 WOMEN SELF-HELP GROUPS

Women self-help groups in Kenya especially in the rural areas, have a long history. Through them, women have helped each other in time of need such as during sickness, childbirth, cultivation, thatching, harvesting and other activities that need collective efforts (Mutoro, 1997). According to Kariuki (1985), women groups of various kinds, formal and informal, exist in almost every community and within every level of society in Kenya. These women groups are many and their activities are diverse (Hyma & Nyamwange, 1993). A workshop held in Nyeri on optimal forms of assistance to women employment in the rural to informal sector identified that women groups
promote household development and provide avenues for self-employment (Mutahi & Onyango, 1994). Mutoro (1997) emphasizes that these groups might provide a springboard for the transformation of rural life if they are re-directed towards women’s strategic and pragmatic gender needs. The government of Kenya recognizes the importance of women in development and eradication of poverty. Gender concerns such as gender equity in access to land and credit facilities have been outlined in the Poverty Eradication Plan (1999-2015), (GOK, 2000a).

Table 2.2 indicates that the number of registered women groups increased by 10.0% in 1999. The membership to the groups increased by 9.9% in 1998. Group contribution registered an increase of 6.9% from Kenya shillings 381.8 in 1998 to 408.2 million in 1999. However, the government granted a total of Kshs 1.0 million in 1999 as compared to Ksh.200 million in 1997 (GOK, 2000b).
Table 2.2 Women groups and grants given in millions Kshs. in Kenya from 1997-1999

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>1998</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of women groups</strong></td>
<td>85,205</td>
<td>97,319</td>
<td>107,080</td>
</tr>
<tr>
<td><strong>Membership</strong></td>
<td>3,096,102</td>
<td>3,900,548</td>
<td>4,287,701</td>
</tr>
<tr>
<td><strong>Group contribution</strong></td>
<td>352,050</td>
<td>383,080</td>
<td>408,020</td>
</tr>
<tr>
<td><strong>Grant by government of Kenya (Million)</strong></td>
<td>200,000</td>
<td>0.47</td>
<td>0.98</td>
</tr>
</tbody>
</table>

*Source: GOK (2000b)*

The number of women groups has since increased to 111,688 as per year 2000 (GOK, 2000b). In Meru Central District, by the year 2000, there were 2,749 registered women groups. However, it was important to find out whether the role of women is more recognized in women groups than in the individual households. While women have been a focus of economic development research because of their important role in meeting the basic family needs, development action projects concerned with the empowerment of women in research control have lagged behind (Mutoro, 1997).

In Kenya, women groups promote national development and provide different avenues for self-employment. Women groups address social welfare issues
and most of their activities are aimed at income generation. Women’s income is becoming increasingly necessary to households of all types (Ongile, 1994). Women groups usually serve significant functions in that they increase the purchasing power of women. They may also give each member access to emergency income which in a way increases family security and contributes to family welfare (UNICEF, 1984). A study by Mutoro (1997) indicates that the main problem facing women groups is lack of income due to lack of credit.

2.8 WOMEN ENTERPRISES AND CREDIT FACILITIES

Women constitute nearly 60% of the world’s one billion poor, living in absolute poverty (Pauli, 2000). Economic development programs however, have not succeeded in helping women lift themselves and their families out of poverty. Over the last two decades, the number of rural women living in absolute poverty has risen by 50%. In developing countries, women’s economic activities are in the non-economic way such they are not accounted for in the national income account and therefore ignored in economic development programs. Women who engage in such work usually are not granted access to land, credit and other resources that improve productivity would enable them to generate income. Women’s enterprise activities tend to be most effective when they include a package combining credit, technology and training. Credit and finance policies greatly affect women’s access to credit (Pauli, 2000).
A study by Ofafa (1992) indicated that small enterprises have been acknowledged as one of the ways through which the living standards of women in Kenya can be improved. Kenya is no exception to the common phenomenon in Africa that women are excellent entrepreneurs if they are given enough chances and space to start and operate small enterprises (Mutahi & Onyango, 1994). Alleviation of poverty by micro-credit or small-scale employment is increasingly seen as a method to improve general family welfare, health and nutrition. Many of these programs are aimed at women because it is hypothesized that targeting women would have greater impact on family health and nutrition than programs that generate income for men (Katz, 2001).

Women head a large number of Kenyan households. This is because many husbands leave the rural areas to seek employment in towns and plantations, leaving women behind as the de facto heads of the households. They play a vital role in production, processing and preparation of food for the family (Mutahi & Onyango, 1994). It is important to note that the employment men go to seek in towns is not available in many circumstances and hence in actual sense it is the women who basically take care of the families’ needs. A strategy for small enterprises development in Kenya cannot be complete without a presentation of the special issues in the promotion of women entrepreneurs. Women can be helped through self-help groups to improve the welfare of their families by starting income generating activities (Mutahi & Onyango, 1994).
In Latin America and the Caribbean, a growing micro-enterprise sector is providing empowerment for an increasing number of women and contributing significantly to the amount of household income particularly in low-income households (Pauli, 2000). According to the GOK (2001), micro-enterprises employ close to 2.4 million workers most of whom are found in the rural areas. Fifty two point two percent of these are owned by men, while the rest are owned by women. Banks find it difficult to give credit to women because they cannot present bankable projects and when they are able to do so, they lack the necessary collateral (Ofafa, 1992). However, lack of credit to the rural and urban poor is another kind of poverty which has to be addressed if the problem of food insecurity has to be solved in this country.

It is important to note that the repayment records for women borrowers have been consistently superior to those of male borrowers in credit programs available to them (FAO, 1998).

Mutoro (1997) argues that given the large number of women groups in Kenya, only a handful have been assisted financially by the government through the Ministry of Culture and Social Services. The amount involved has been minimal and had decreased over the years. There are a number of non-governmental organizations that support self-help groups and other small entrepreneurs.

This study sought to focus on the relationship between income from women self-help activities and household food security. The major threat to the
already inadequate food consumption of the poor is real income. The study sought to find out whether women self-help groups can be used to deal with the problem of poverty and underdevelopment in this country by addressing the issue of household food insecurity.
CHAPTER THREE

3.0 METHODOLOGY

This chapter covers the techniques and procedures that were used to collect data for this study. These include the research design, area of study, population size, sampling techniques, and data collection techniques, instruments and data analysis process.

3.1 RESEARCH DESIGN

The study adopted a cross-sectional survey approach to determine whether household food security was influenced by women self-help groups. Survey research is appropriate for gathering data from a large sample of respondents within a short time. This method enabled the researcher to obtain both quantitative and qualitative information.

Quantitative research attempts to discover something about a large population by studying a representative sample. Information is collected at one point in time and is then generalized to the population from which the sample is drawn (Borg & Gall, 1989). This information included all the socio-economic and demographic data. The qualitative approach to research on the other hand is uniquely suited to uncovering the unexpected and exploring new avenues (Marshalls & Rorsman 1995). The study made use of both quantitative and qualitative data.
3.2 STUDY AREA

The study was carried out in Miriga-Mieru Division of Meru Central District, which is one of the 12 districts in the Eastern Province. The districts bordering it are Laikipia to the west, Meru North to the northeast, Meru South and Kirinyaga to the south, Isiolo to the north, and Nyeri to the southeast. It has a total area of 3,012km² with ten divisions, 27 locations and 75 sub-locations. The district has a population of 498,880, 250,853 of whom are females. It consists of 120,268 households (GOK, 2001).

Miriga-Mieru division has a total of 34,551 males, and 34,918 females. It covers a total of 53.2 Km² and has 18,658 households (GOK, 2001). The research covered municipality location, which had a population of 24,295 with 11,766 females. It has an area of 9.5 km² with 6,823 households (GOK, 2001). This location has 3 sub-locations namely Kaaga, which has a population of 9,662, Gakoromone with a population of 9,146 and Township with a population of 5,487 (GOK, 2001). This division was the one, which had many landless people who come to the town in search of jobs, hence settle in slums. Most of these households are food insecure (GOK, 1997). This area was selected for study because some households in this area are food insecure though there were many women self-help groups operating in this area and some had received funding from some organizations. Additionally, this division is fairly accessible compared to the other divisions of the district.
3.3 POPULATION

The target population of this study was all registered women self-help groups involved in income generating activities in Municipality location of Miriga-Mieru division and all women who did not belong to self-help groups. This population was chosen because there are many women self-help groups operating in the area. Households were chosen because they reflect best the trends in household food security. Women were selected because they play key roles in maintaining food production and acquisition thus boosting household food security.

3.4 TARGET POPULATION SELECTION CRITERIA

The study groups were categorized into women in self-help groups who received funding from organizations and women who did not belong to self-help groups.

The following criterion was strictly followed:

a) A household was classified as belonging to women self-help groups which have access to credit if the woman/mother in that household was a member of a self-help group and had been receiving funding from any organization(s) for a minimum of two years.

b) A household was classified as not belonging to women self-help groups if the woman/mother in that household had not belonged to any women self-help group for a minimum of two years.

c) The households with women in formal employment were excluded from the study.
3.5 SAMPLING PROCEDURE

The process involved the multi-stage sampling technique. This is a technique that requires two or more successive steps or stages to obtain the required sample. Purposive sampling was also used to select the division because it has most of the women groups involved in income generating activities since they are close to Meru town. Purposive sampling was used to select one location, which is Municipality location that hosts Meru town where most of the women operate their businesses. Simple random sampling was used to select one sub-location out of the three sub-locations that is Kaaga, Meru Municipality, and Meru Township. Kaaga sub-location was randomly selected for the study.

A sampling frame was drawn from the list of households obtained from the sub-chief. Out of this, 100 households were selected using stratified and simple random sampling. In selecting the household respondents, the accessible population was stratified according to women in self-help groups, which receive funding, and women who do not belong to any women group. A sample was then selected by simple random sampling such that each of the groups in the study had 50 representatives, making a total of 100.

Miriga-Mieru division has about 6,823 households while Kaaga sub-location has about 1,050 households (GOK, 2001). Since this is a survey research, about 10% of the accessible population (which is the households in Kaaga sub-location) was required to make a sample. The number of 100 households represented about 10% of the accessible population.
For focus group discussions, Mutethia women group which receives funding was randomly selected and women who do not belong to women groups were purposively selected to corroborate the data collected through interview schedules. The groups consisted of eight members each.

3.6 DATA COLLECTION INSTRUMENTS

The study employed the semi-structured interview schedule and focus group discussion interview guide. (See appendix i-iv)

3.6.1 Interview Schedule

An interview is an oral administration of a questionnaire or an interview schedule whereby data collection is made by asking respondents questions to elicit people’s self reports and opinions. According to Sproull (1988), self-reports are the best source of the desired information.

The researcher chose this method because it enables one to extract very sensitive information and also clarify and elaborate the purpose and the importance of the research. It was administered to women in the sample households. It contained both open-ended and closed items. The questionnaire catered for the women belonging to the two categories included in the sample.
The questionnaire comprised of the following 5 sections, namely:

*Section A* dealt with socio-demographic characteristics of each household. In this section the researcher sought to know the age, marital status, type of household, household size, education and occupation of the respondents.

*Section B* was concerned with sources of household income as relates to household food security and household expenditure. The researcher sought to find out the sources of income for the respondents and how such incomes were spent.

*Section C* focused on household food sources and consumption patterns. In this section the researcher sought to know the food sources, the types of food and the consumption.

*Section D* considered generating activities for women in self-help groups and non-members. The researcher sought to investigate the sources of credit, the amounts advanced and how the women invested the money. For those not in women self-help groups, it sought to investigate their sources of income.

### 3.6.2 Focus Group Discussion Guide

Focus group discussion is a collection method in which a group discussion is conducted to tackle a certain issue. Each member is allowed to comment, criticize or elaborate views by others. Eight members were involved in each group. This method was used for women in the two categories. Two focus
group discussions were conducted; one for women in self-help groups and the other for women who did not belong to self help groups.

Some of the women interviewed at the household level were included in the focus group discussion. Consent was sought from the participants to audio tape the interviews. The focus group discussions were used in crosschecking and reinforcing information obtained through the interview guide. The researcher conducted the discussions, which were carried out in respondents’ meeting places.

3.7 PRE-TESTING OF INSTRUMENTS

Pre-testing of the instruments was carried out in the Kaaga sub-location on a sample of 5 households from each of the two categories of women, which had similar characteristics as the study population. However, they were not included in the final sample. Pre-testing was done in order to enhance clarity, reliability, and validity of the instruments and also to familiarize the researcher with the instruments. Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials, while validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under the study (Mugenda & Mugenda, 1999).

3.8 DATA COLLECTION PROCEDURES

Women from the selected households were interviewed in a face-to-face setting. Appointments through prior visits to the respective women self-help
groups on when to conduct interviews with each respondent had been made at a time convenient for them. For the women not in self-help groups, the researcher conducted the interviews without prior appointments. However, the researcher sought consent of the respondents before the interviews were done. The researcher prior to the interview, assured respondents of the confidentiality of their responses. The respondents' answers were recorded in the previously prepared questionnaire. The questionnaire was translated to Kimeru by the researcher for the convenience of the illiterate women. Using the help of the women group leaders, the focus group discussions were organized and conducted in Kimeru. The discussions were audio taped. The researcher conducted the interviews and the focus group discussion with the help of two trained research assistants. The researcher selected two research assistants of O-level education. They were then trained for the purpose this study. They were trained on how to ask questions and how to probe for answers. During the pre-testing of the instruments the researcher was able to assess their ability to perform the tasks.

3.9 DATA ANALYSIS

Quantitative data collected were analyzed using the Statistical Package for Social Sciences (SPSS). It was used to establish the presence or absence of relationships between variables. Descriptive statistics was used to describe and organize data. Means were used to summarize data. Data were presented in the form of frequency distribution tables, pie charts and bar graphs.
The Pearson Product Moment Correlation was used to examine how the continuous variables were related to each other. Pearson product moment correlation was used to determine the strength and direction of variables (Sproull, 1988). Chi-square test of independence was used to test the statistical significance between food security status of the households belonging to women in self-help groups and non-members of self-help groups included in the sample. Chi-square was also used to establish relationships between variables which are categorical in nature. Logical regression analysis was used to show how and the extent variables such as credit, education, among others, affect household food security. Independent t-test was used to determine whether any significant difference exist in household food security among the households belonging to women of different educational levels.

The qualitative data obtained from the focus group discussions and the interview schedule was coded. After coding, the researcher categorized data into distinct categories and emerging themes, which had already been identified and arose during data collection. Once the categories, patterns and themes were identified the researcher evaluated and analyzed data to determine the adequacy of information, its credibility and usefulness.

3.10 MEASUREMENT OF VARIABLES

Dependent Variable

*Household Food security:* The ability of a household to produce or purchase enough food to last all year round or from one season to another.
Precursors such as income, household food expenditure, storage estimates and household budget were correlated.

**Independent Variables**

*Food available:* Amount of food stored by household. This was checked to find out whether it could last until the next season. This was measured against the Ministry of Agriculture standards.

*Food from own production:* The respondent was asked to indicate the amount of food that she produces from her farm. This was measured against the Ministry of Agriculture standards to find out if it is sufficient to make a household food secure.

*Household food expenditure:* The respondents were asked to indicate the amount of income they spent on food per month. The percentage of income spent on food was used as an indicator of financial accessibility for food. Households that spend more than sixty percent of their income on food were considered food insecure (Mugo, 1995).

*Household Income:* It was taken to mean all sources of household income including that from credit through women self-help groups.
Influence of women self-help groups: This was measured by the activities the women in these groups were involved in, to increase food available whether directly or indirectly.

Education: This was the highest level of schooling a respondent had reached. This was to find out whether level of education influenced household food security in any way.

Credit: The respondents were asked to indicate the institutions they get credit from, the purpose of credit and the amount and the mode of payment.

Land ownership: The respondents were asked to indicate whether they own land or not and were required to indicate the land size. The researcher used this to find out whether owning or not owning land influenced household food security.
CHAPTER FOUR

4.0 FINDINGS AND DISCUSSION

This chapter presents findings and discussion on the influence of women self-help groups on household food security. It compares the food security situation of households belonging to women in self-help groups, which had access to credit and those for women who did not belong to women self help groups.

The study investigated the socio-economic status of respondents, compared their food security status, their household expenditure patterns and the influence of women self help groups' activities on household food security.

Data are presented under the following sub-topics: -
Socio-economic characteristics of respondents’ households, sources and expenditure of household's income as it relates to household food security, household food sources and consumption patterns, women self-help groups' income generating activities and their relationship to household food security, difficulties and attitudes towards belonging and not belonging to women self-help groups and its relationship to household food security.

4.1 SOCIO-ECONOMIC CHARACTERISTICS

In order to determine the socio-economic characteristics of the respondents, interviews were conducted using an interview schedule shown in appendix 1.
The researcher’s aim was to find out the socio-economic characteristics of the respondents and how these influence household food security.

4.1.1 Age, Marital Status and Household Head

Age, marital status and household head of the respondents is presented in Table 4.1.

Table 4.1 Age, marital status and household head of the respondents

<table>
<thead>
<tr>
<th>Variable</th>
<th>Women in self-help</th>
<th>Women not in groups</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n.</td>
<td>%</td>
<td>n.</td>
</tr>
<tr>
<td>age</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>20-29</td>
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<td>30-39</td>
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<td>40-49</td>
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<td>50 yrs. and above</td>
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<td>5</td>
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<td>Divorced</td>
<td>0</td>
<td>00</td>
<td>1</td>
</tr>
<tr>
<td>Separated</td>
<td>1</td>
<td>02</td>
<td>1</td>
</tr>
<tr>
<td>household head</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male headed</td>
<td>27</td>
<td>54</td>
<td>30</td>
</tr>
<tr>
<td>Female headed</td>
<td>23</td>
<td>46</td>
<td>20</td>
</tr>
</tbody>
</table>

\[N = 100\]

Majority of the respondents (41%) were aged between 20 and 29 years while 33% were between 30 and 39 years of age. The proportion of respondents aged 40 to 49 years and those above 50 years were equal at 13% each. These results show that most of the respondents were in their reproductive years. However, it is important to note that majority of the respondents were between
ages 20 to 39 years. These women are in their childbearing age and hence are most likely to be involved in taking care of the children apart from other activities in the household.

As indicated above, 82% of the respondents were married while 12% were single. About 3% of the respondents were widowed while 1% and 2% were divorced and separated respectively. About 57% of households were male headed while 43% of them were female headed and hence they managed the resources in their households. There were no differences in age, marital status and the household head between women in groups and those not in groups. This study concurs with many studies done in developing countries which show that women contribute as much or more than men do to family food security and child nutritional status when unpaid work like childcare is included in the estimation (Engle, 2001).

Marital status influences variables related to household food security. These variables include sources of income and household income expenditures. The household heads will determine how much money will be allocated for food, education and other household needs. The respondent’s household head will tend to influence and determine who makes decisions with regards to the use of income and the sources. It also influences who makes decisions on the use of land. These statistics go way above the FAO findings, which indicated that women head 31% of the households in sub-Saharan countries. The type of household head influences household food security in that the burden of
feeding the family is entirely on one person and the access to productive resources is limited to the female-headed households (FAO, 2002a).

According to FAO (2002a), the number of female-headed households is increasing significantly in the rural areas in many developing countries as rural men migrate due to lack of employment and income generating opportunities. Female-headed households are concentrated among the poorer strata of society.

4.1.2 Education Levels

The majority of the respondents (60%) had attained between 1-8 years of education, while 34% of the respondents had spent more than nine years in school. About 40% of the respondents in women self-help groups had more than 9 years in school as opposed to those not in self-help groups whereby only 28% had more than 9 years in school. Thus women in groups had higher levels of education compared to those not in groups.

Table 4.2 shows the number of years spent in schooling by the respondents.

Table 4.2 Number of years spent in school

<table>
<thead>
<tr>
<th>No. of Years</th>
<th>Women in Self-help Groups</th>
<th>Women not in Self-help Groups</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>1 – 8</td>
<td>28</td>
<td>56</td>
<td>32</td>
</tr>
<tr>
<td>Above 9</td>
<td>20</td>
<td>40</td>
<td>14</td>
</tr>
</tbody>
</table>
The respondent’s level of education tends to influence and determine the respondent’s attitude towards joining groups which have access to credit or not. It also influences how the credit will be utilized. Apart from this, it also influences the type and nature of meals prepared in the household and even the source of income. One’s level of education influences household food security because according to Quisumbing (1995), women’s lower educational levels have serious implications on agricultural productivity and incomes that have a dimension to household food security.

4.1.3 Occupation of the Women and their Spouses

The respondent’s occupation is an important variable as it tends to influence the nature and amount of income and subsequently the ability to adequately cater for household needs like food choice, types of food and nature of meals consumed by the household. In this research, occupation of the women is indicated in Table 4.3.

Table 4.3 Occupation of Women

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Women in groups</th>
<th>Women not in groups</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Farming</td>
<td>36</td>
<td>72</td>
<td>28</td>
</tr>
<tr>
<td>Business</td>
<td>30</td>
<td>60</td>
<td>15</td>
</tr>
<tr>
<td>Housewife</td>
<td>05</td>
<td>10</td>
<td>08</td>
</tr>
<tr>
<td>Casual laborer</td>
<td>00</td>
<td>0</td>
<td>02</td>
</tr>
</tbody>
</table>

Information in Table 4.3 indicates that a greater proportion (60%) of women in groups were businesswomen against 30% of women not in groups who
were businesswomen. About 72% of the women in groups were farmers while 54% of women not in groups were also farmers. Most of the respondents were involved in both running businesses and farming. This was attributed to the fact that the community, apart from relying on farming, had ventured into business because of the small farms that could not sufficiently support their households with sufficient food. Only two respondents (4%) were casual laborers.

The respondent's husband's occupation is an important variable in that it tends to influence the nature and amount of the household income. Figure 4.1 shows the distribution of the occupations of the husbands of both women in and not in groups.

**Figure 4.1. Occupation of the husbands**
Twenty four percent of the respondents' husbands were farmers while 17% were businessmen. The spouse's occupation has a dimension in the household's income and subsequently influences the ability of a household to cater for its needs such as school fees, food, and rent, which apparently may also influence the food expenditure, hence influence household food security.

### 4.1.4 Household Size

The number of children in a household is one of the determinants of the number of meals and the type of household meals prepared. Table 4.4 indicates the number of people in a household.

<table>
<thead>
<tr>
<th>No. of people in a household</th>
<th>Women in groups</th>
<th>Women not in groups</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>1-3</td>
<td>30</td>
<td>21</td>
<td>51</td>
</tr>
<tr>
<td>4-6</td>
<td>18</td>
<td>26</td>
<td>44</td>
</tr>
<tr>
<td>Above 6</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

The information in Table 4.4 indicates that 51% of the households had 1-3 persons while 5% had above six persons in a household. Most of the households generally had small household sizes. A t-test was performed to find out whether there was any statistical significant difference in mean household size between women who belonged to groups and those who did not. Women not in groups had significantly bigger families than those in groups \( t = 2.287, \ p = 0.024, \text{df}=98 \).
Household size influences food habits and nutrition. According to Hartog & Staveren (1985), with increase in the size of the household, consumption of the animal foods decreases, cheaper ones replace staple foods, while the intake of proteins may also decrease.

Household size influences household food security because apart from affecting the dietary pot as indicated earlier, it influences the amount of food allocated for the individuals in the household, the quality of the food and the number of meals for a household per day. Households of low socio-economic status with more children or relatives tend to be more food insecure as opposed to those with smaller household sizes.

4.2 HOUSEHOLD INCOME

Household income is an important determinant of food choice, purchasing power and preparation and therefore influences the household food security status of the household. In this research the sources of income for the household were investigated.

4.2.1 Sources of Household Income

The largest number of respondents (41%) had farming as the source of income. Thirty six percent sourced their income from business while husbands’ occupation had 21%. Casual labor had the lowest percentage of 2%. The types of businesses the respondents were involved in included selling second hand clothes, operating kiosks, vegetable vending, and selling of
charcoal. Table 4.5 shows the sources of income for the two groups of respondents.

**Table 4.5. Sources of Income**

<table>
<thead>
<tr>
<th>Sources of income</th>
<th>Women in groups</th>
<th></th>
<th>Women not in groups</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Farming</td>
<td>21</td>
<td>42</td>
<td>20</td>
<td>40</td>
<td>41</td>
</tr>
<tr>
<td>Business</td>
<td>20</td>
<td>40</td>
<td>16</td>
<td>32</td>
<td>36</td>
</tr>
<tr>
<td>Husbands Occupation</td>
<td>9</td>
<td>18</td>
<td>12</td>
<td>24</td>
<td>21</td>
</tr>
<tr>
<td>Donations &amp; Casual Labor</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

The study found out that 42% of the women in groups and 40% of those not in groups had farming as their source of income. Forty percent of the women in groups had business as their source of income while only 32% of those not in groups had this source of income. Husbands' occupation as a source of income had 18% of women in groups and 24% women not in groups.

This data shows that women in self-help groups are more financially independent than those not in groups because there was less reliance on their husbands' income. This has a dimension in household food security because according to (GOK, 2000b), women play key roles in maintaining food production and acquisition thus boosting household food security. Mutoro (1997) argues that women groups are attractive and useful to women of low-income households. Women self-help groups provide income generating activities and investment opportunities for the poor and single women managing their households in difficult situations.
4.2.2 Monthly Household Income

The role that household income plays in household food security is of cardinal importance. This is because household income is a vital determinant of food habits and nutrition. The respondents were asked to give their monthly incomes so as to establish their income levels. Table 4.6 shows the respondents' monthly incomes.

Table 4.6 Monthly Income

<table>
<thead>
<tr>
<th>Amount of income (Kshs)</th>
<th>Distribution of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>1000 - 2000</td>
<td>9</td>
</tr>
<tr>
<td>2001 - 3000</td>
<td>15</td>
</tr>
<tr>
<td>3001 - 4000</td>
<td>8</td>
</tr>
<tr>
<td>4001 - 5000</td>
<td>12</td>
</tr>
<tr>
<td>Above 5000</td>
<td>56</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

As indicated in Table 4.6, majority of the respondents (56%) were earning a monthly income of above Kshs 5,000 while only nine people were earning Kshs 2000 and below. Table 4.7 shows the incomes for women in groups and women not in groups.
Table 4.7 Monthly Incomes for the two groups of respondents

<table>
<thead>
<tr>
<th>Monthly income (Ksh)</th>
<th>Women in groups</th>
<th>Women not in groups</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>1000 – 5000</td>
<td>9</td>
<td>18</td>
<td>35</td>
</tr>
<tr>
<td>5001 – 50,000</td>
<td>41</td>
<td>82</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
<td>50</td>
</tr>
</tbody>
</table>

About 73.2% of the women in groups had monthly incomes higher than Kshs. 5000 as compared to 26.8% of those not in groups. However, 20.5% of women in groups had incomes lower than Kshs. 5000 as compared to 79.5% of those not in groups. This shows that women in self-help groups who had benefited from credit generally had higher amounts of monthly income. This can be attributed to the fact that this credit was used to improve the farming or was used to boost their businesses.

Monthly income has a significant influence on household food security because it determines the amount of money to be allocated for food. An independent t-test was run to test whether there was a significant difference in the amount of income earned by the respondents at 95% confidence level. There was a significant difference in monthly income between the two groups of respondents (t = -1.768, p = 0.002). Comparing with the number of years spent in school using means of income, women who had spent more years in school had higher incomes as shown in Table 4.8.
**Table 4.8 Comparison of number of years spent in school using average Income**

<table>
<thead>
<tr>
<th>Number of years spent in school</th>
<th>Number of respondents</th>
<th>Average income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-8</td>
<td>60</td>
<td>6240.00</td>
</tr>
<tr>
<td>Above 9</td>
<td>34</td>
<td>7900.00</td>
</tr>
</tbody>
</table>

Using Pearson Product Moment Correlation Coefficient it was established that there was a significant positive relationship between years of schooling and monthly income of women belonging to women self-help groups. The computed r-value was 0.290 and the p-value was 0.041. From the computed r-value (0.290) it can be inferred that the higher the years of schooling the higher the monthly income in about 29% of the target population. The study however found no significant relationship between years of schooling and amount of income among women who did not belong to women self-help groups. The relationship was approximately at $r = -0.002$ and the p-value was 0.989. Therefore, according to the data, high levels of education have an influence on monthly income to women who belonged to groups only. This study confirms a study by Fritschel and Mohan (2001), which found out that, women's lack of education limits their ability to earn money, get credit and to participate in decision making in their families and communities.

**4.2.3 Household Income Expenditure**

The respondents indicated that their monthly income was spent on paying school fees, medical, house rent, buying food and other miscellaneous
expenses. According to the findings, there were no statistical significant
differences in the expenditure patterns of the two groups of women.

Pearson Product Moment Correlation was performed to find out the
relationship between monthly income and the amount of money spent on
school fees, medical expenses, rent and other expenses. This was done to
determine whether the amount of monthly income influences or does not
influence the amount of money allocated for these expenses. Table 4.9 shows
the relationships between amount of monthly income and amount spent on
school fees, medical, rent and other expenses

Table 4.9 Relationship between monthly income and amount spent on
school fees, medical, rent and other expenses

<table>
<thead>
<tr>
<th>Monthly income</th>
<th>Money spent on school fees</th>
<th>Money spent on medical expenses</th>
<th>Money spent on rent</th>
<th>Money spent on other expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>r = 0.146</td>
<td>r = 0.183</td>
<td>r = 0.269</td>
<td>r = 0.300</td>
<td></td>
</tr>
</tbody>
</table>

$r = $Correlation coefficient

$p = 0.05$

Pearson Product Moment Correlation was performed to find out the
relationship between monthly income and money spent on rent found that the $r$
was 0.269. This shows that there was a weak relationship between money
spent on rent and monthly income.
Pearson Product Moment Correlation was performed to find out the relationship between medical expenses and monthly income found out that there was a weak relationship between medical expenses and monthly income \((r = 0.183)\). Pearson Product Moment Correlation was performed to find out the relationship between money spent on monthly expenses and monthly income found out that there was a strong relationship between money spent on monthly expenses and monthly income \((r = 0.300)\).

Pearson Product Moment Correlation was performed to find out the relationship between money spent on school fees and monthly income. It was found out that a very weak relationship between money spent on school fees and monthly income \((r = 0.146)\) existed.

From the correlations done it was evident that the monthly income strongly influences the amount of money spent on rent and monthly expenses. However it weakly influences the amount spent on medical expenses and school fees. The amount of Income spent for various needs in households largely depends on the amount of income available.

**4.2.3.1 Household Food Expenditure**

The percentage of income spent on food is an indicator of financial accessibility to food. The researcher sought to find out the percentage of income spent on food. This was done by finding out the respondents' expenses and then from this data the researcher was able to derive the percentage of
income spent on food. Table 4.10 indicates the percentages of income spent on food by the two groups of respondents.

Table 4.10 Percentage of income spent on food

<table>
<thead>
<tr>
<th>Percentage of income</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-19</td>
<td>20</td>
<td>20.0</td>
</tr>
<tr>
<td>20-39</td>
<td>21</td>
<td>21.0</td>
</tr>
<tr>
<td>40-59</td>
<td>29</td>
<td>29.0</td>
</tr>
<tr>
<td>Above 60</td>
<td>30</td>
<td>30.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

According to Mugo (1995), if a household spends more than 60% of its household income on food then the household is food insecure. Using this percentage it was found out that among all the respondents, 70% spent less than 60% of their monthly income on food hence can be said to be food secure while 30% spent more than 60% of their monthly income on food hence are food insecure.

A chi-square test was performed to test the relationship between food security and belonging or not belonging to a women self-help group. The results are shown in Table 4.11. The researcher sought to test the hypothesis that there was no significant relationship between household food security and membership to women self-help groups using food expenditure as a household food security indicator.
Table 4.11 Relationship between household food security and belonging or not belonging to a women self-help group

<table>
<thead>
<tr>
<th></th>
<th>Food Secure</th>
<th></th>
<th>Food Insecure</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Belonged to women groups</td>
<td>46</td>
<td>92</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Did not belong to groups</td>
<td>24</td>
<td>48</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>Total</td>
<td>70</td>
<td>70</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

$x^2$=23.048  $df = 1$  Significant value $p = 0.000$

According to the results there was a significant relationship between household food security and membership to women self-help groups. Slightly over half (52%) of the women not in groups were found to be food insecure as opposed to only 8% of those in women groups ($p = .005$, $x^2 = 23.048$). This indicates that belonging or not belonging to women self-groups influences household food security hence the null hypothesis is rejected. This finding concurs with a study by World Bank (1998), which found out that earnings generated by self-help groups' activities are instrumental in increasing the physical well being of the household.
4.3 HOUSEHOLD FOOD SOURCES AND CONSUMPTION

The researcher sought to find out the different sources of food from the respondents. Consumption patterns of the respondents were also sought.

4.3.1 Sources of Food

The households got food from different sources, which included own farm production, buying, donations, and from friends. Households bought foods from the markets to supplement the foods they produced. Likewise, households bought those foods that were in season and which were therefore inexpensive in the market. Figure 4.2 shows the different sources of food for the respondents.

Figure 4.2 Sources of foods
All the respondents, be they in women self-help groups or not supplemented the food they produced with food from the market. This indicates that financial accessibility to food was crucial. This indicates that income is essential for all the households for them to be food secure. Table 4.12 shows the sources of food of women in groups and those not in groups.

Table 4.12 The sources of food for the two groups of respondents.

<table>
<thead>
<tr>
<th>Source of food</th>
<th>Women in groups</th>
<th>Women not in groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Own production</td>
<td>44</td>
<td>88</td>
</tr>
<tr>
<td>Buying</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Donation</td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>Friends</td>
<td>1</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Multiple responses allowed.

The findings show that 88% of the women in groups and 78% of women not in groups had own production as a source of food. Therefore, the women who belonged to groups with access to credit were better placed to accessing food financially and this translates to food security. According to Gittinger (1998), if a household does not produce the food it consumes it is subject to price risks. The sources of food for a household influences household food security because it affects the availability and amount of certain foods in the household.

4.3.2 Types of Foods frequently bought from the market

Households usually will buy foods from the market to supplement the foods they produce or to cater for any deficit. Apart from the 8% who entirely
bought their food from the market, 82% of the respondents supplemented their own produce with buying food from the market. Table 4.13 shows the different types of foods the respondents bought regularly from the market.

Table 4.13 Types of foods bought from the market

<table>
<thead>
<tr>
<th>Food bought</th>
<th>Percentage of the food bought</th>
<th>Food bought</th>
<th>Percentage of the food bought</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat flour</td>
<td>1.6</td>
<td>Tomatoes</td>
<td>20.5</td>
</tr>
<tr>
<td>Bread</td>
<td>4.2</td>
<td>Cabbages</td>
<td>20.8</td>
</tr>
<tr>
<td>Meat</td>
<td>6.2</td>
<td>Carrots</td>
<td>26.6</td>
</tr>
<tr>
<td>Bananas</td>
<td>6.8</td>
<td>Maize flour</td>
<td>45.5</td>
</tr>
<tr>
<td>Cowpeas</td>
<td>6.8</td>
<td>Kales</td>
<td>50.2</td>
</tr>
<tr>
<td>Fruits</td>
<td>8.5</td>
<td>Maize</td>
<td>50.8</td>
</tr>
<tr>
<td>Peas</td>
<td>10.8</td>
<td>Peas</td>
<td>50.8</td>
</tr>
<tr>
<td>Green grams</td>
<td>12.5</td>
<td>Onion</td>
<td>50.8</td>
</tr>
<tr>
<td>Rice</td>
<td>15.2</td>
<td>Potatoes</td>
<td>60.8</td>
</tr>
</tbody>
</table>

When food bought was analyzed, it was found that the most common foods that were bought from the market were potatoes (60.8%), beans (54.2%), kales (50.2%), and carrots 26.6%, all of which can be easily produced in their own farms. Relying on food from the market was attributed to the fact that 90% of the respondents had small farms and few used modern technology to improve on the yields. About 10% of the respondents had no farms at all.

4.3.3 Number of meals prepared per day within a household

Adequate household food security entails access to nutritionally adequate and safe food in terms of quality and quantity. The number of meals prepared in a household in one day is an indicator of both the physical and economic access to food and exponentially its food security status. A majority of the
households indicated that they had three meals a day (80%) while 12% indicated they had two meals and 8% had one meal a day. This therefore implies that the majority of households are able to adequately meet their household food requirements.

4.3.4 Ingredients used in food preparation and their sources

With regard to breakfast, it was found that 95% of the households used milk in its preparation. However more than 50% of these household bought milk from the shop, while 45% of the households utilized milk from their respective farms, presumably from the livestock owned. Ninety-eight and 88% of the households used sugar and tea leave respectively, both of which were brought from the shop. Maize flour was utilized in the preparation of porridge and Ugali by 61% of the households. Among these, 46% of the households obtained the flour from the shop while the rest obtained flour from the posho mill. It is important to note that those households indicated as obtained maize flour from the posho mill actually ground maize which was either bought or from their own production. In terms of lunch and supper, the commonly utilized ingredients were maize and beans with 81 households consuming beans frequently. The maize and beans were obtained from the farm by (40%) households and from the market by (41%). Other commonly used ingredients were kales (68%), cooking fat (98%), onions (96%) and tomatoes (48%). Majority of the ingredients were bought from the market while others were from own production. Figure 4.3 shows the ingredients that women used in preparing food.
4.3.5 Land Ownership

Having access to land has a relationship with food security. This is because it influences the amount of food that is produced. Asked whether they owned the land they farmed on, 84% indicated that they owned it while 6% did not and had either leased or rented it. The rest (10%) of the women did not have access to land hence wholly depended on the market for their food. The respondents indicated that 81.8% of those who did not own land hired it while 18.2% were farming on land that was given by friends.

Land tenure is important in food security in that if the land tenure is secure, the holder can reasonably expect to use the land to its best advantage. It also enables the holder to make management decisions on how land-based
resources will be used for immediate household needs and long term sustainable investment (FAO, 2002b).

### 4.3.6 Relationship between Land Ownership and Food Security

About 75% of those who owned land were food secure while 24.6% were food insecure. It was found out that 52% of those who did not own land were food secure while 47.7% were food insecure. This indicates that accessing land through ownership or otherwise influences household food security. Table 4.14 shows the relationship between land ownership and household food security.

#### Table 4.14 Relationship between land ownership and food security

<table>
<thead>
<tr>
<th>Variable</th>
<th>Food Secure</th>
<th>Food Insecure</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Own land</td>
<td>58</td>
<td>75.0</td>
<td>19</td>
</tr>
<tr>
<td>Do not own land</td>
<td>12</td>
<td>52.0</td>
<td>11</td>
</tr>
</tbody>
</table>

Chi-square value ($x^2$) 5.196

Degree of freedom 1

Significant value (p) 0.023

A chi-square test was performed to establish the relationship between owning land and food security. A significant relationship was found to exist between land ownership and household food security, ($x = 5.196, p = 0.023$). Among
the respondents who owned land, 62% of them belonged to women groups while 38% did not belong to women self-help groups. The women in groups indicated that some had used the credit they received to purchase small parcels of land and to hire land to supplement what they had, which directly influenced household food security. This concurs with a study in India, (Yunus, 1998), which reported that self-help groups have been able to purchase or lease land therefore laying a foundation for enhanced food security and agricultural productivity.

4.3.7 Farm Inputs

The types of farm inputs used influence the amount of farm produce. Table 4.15 shows the different types of farm inputs used by the respondents.

Table 4.15 Types of farm inputs

<table>
<thead>
<tr>
<th>Farm Input</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertilizer</td>
<td>18</td>
<td>21.4</td>
</tr>
<tr>
<td>Manual</td>
<td>32</td>
<td>38.1</td>
</tr>
<tr>
<td>Both</td>
<td>34</td>
<td>40.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>84</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

About 21.4% of the respondents used fertilizer, 38.1% manure and 40.5% fertilizer and manure. It was also indicated that 83.3% of the respondents bought the farm inputs they used, while 16.7% borrowed. Most of these farmers are small-scale farmers who used very little mechanization. This is because women's' access to technological inputs such as improved seeds, fertilizers and pesticides is limited as they often lack the cash income needed to purchase these inputs (FAO, 2002a). Some of the women in groups
indicated that they used part of their credit to purchase farm inputs while the women not in groups lamented that purchasing farm inputs was a problem because of lack of money. This concurs with a study done in Murang’a and Meru which found out that lack of cash kept women from using more fertilizers, seed and other farm inputs (World Bank, 1990).

4.3.8 Food harvested

The respondents indicated that the main foods they produced in their farms in the last season included maize, beans, sweet potatoes and Irish potatoes. The amount of maize produced in 
\[\text{debes}\] ranged between one and twenty five 
\[\text{debes}\] while one to ten 
\[\text{debes}\] of sweet potatoes were produced. Also produced were one to twenty four 
\[\text{debes}\] of beans and one to twenty one 
\[\text{debes}\] of Irish potatoes.

The amount of food sold ranged from 1 to 12 
\[\text{debes}\] of maize, 1 to 5 
\[\text{debes}\] of sweet potatoes, 1 to 12 
\[\text{debes}\] beans and 1 to 5 
\[\text{debes}\] of Irish potatoes. The amount of maize stored for household use was 1 to 10 
\[\text{debes}\], while 1 to 8 
\[\text{debes}\] of sweet potatoes and 1 to 12 
\[\text{debes}\] of Irish potatoes were stored for household use. A correlation was done to find out how many households were having sufficient maize for the household to be said to be food secure. Using the standards by the Ministry of Agriculture, one adult person requires 11/3 bags (7 
\[\text{debes}\]) of maize per year (GOK, 1992).
The correlation revealed that 94% of all the respondents were not able to produce adequate food hence were food insecure while only 6% were food secure.

Asked whether there was any food wastage, 95% of the respondents indicated that there was but could not quantify while 5% indicated that there was no food wastage. Apparently, among all the respondents, none was able to store sufficient food until the next season and this predisposes their households to food insecurity hence the need for financial accessibility to food.

The women in groups were able to produce more food than those not in groups because they were able to access farm inputs. They were also able to hire or buy more land and this influences household food security. Household food security implies physical and economic access to food that is adequate in terms of quality, nutritional quality, safety and cultural acceptability to meet each person's needs (FAO, 1997). Women produce more than 50% of the food grown worldwide according to FAO estimates. In sub-Saharan Africa, they contribute about 60%-80% of the labor in both food harvested and that which is left for household use; this greatly influences household food security (FAO, 1997).
4.4 WOMEN GROUPS' INCOME GENERATING ACTIVITIES AND THEIR RELATIONSHIP TO HOUSEHOLD FOOD SECURITY

The findings of this study show that women groups were involved in income generating activities. Some were involved in operating small enterprises; others were involved in farming while others were involved in both business and farming. All the women in groups indicated that apart from providing extra income, the groups’ activities enhanced household foods security. This concurs with findings by Ongile (1994) who indicated that women groups in Kenya promote national development and provide different avenues for self-employment.

Women’s income is becoming increasingly necessary to households of all types. Despite their role as the backbone of food production and provision for family consumption in developing countries, women remain limited in their access to critical resources and services (FAO, 2002b).

Women groups are attractive and useful to women of low-income households because it is difficult for individual women to access any form of credit from the financial institutions. Reports indicate that self-help programs, often in the form of credit or micro-credit schemes have succeeded in changing the lives of poor women enhancing incomes (Krishnaj & Kay, 2000).
4.4.1 Reasons for Joining Women Self-Help Groups

Fifty seven percent of the respondents indicated that access to credit was the main reason why they joined women groups while 13% and 30% indicated learning from others and benefits of being a member of these groups as the main reason respectively. However, women also agreed that they joined these groups so that they help one another in times of need and for the spirit of togetherness. They indicated that apart from the monetary problems, women have family problems, which required them to be meeting together for the sake of helping each other out.

According to UNICEF (1984), women groups usually serve a significant function in that they increase the purchasing power of women; they also give each member access to emergency income which in a way increases family food security.

4.4.2 Activities of the Groups

The groups were involved in different activities, which included lending credit, merry-go-round and visiting one another. All the women who belonged to groups indicated that the groups they belonged to facilitated them to access credit as the main activity.

4.4.3 Organizations Funding the Groups

Asked whether their groups receive funding, all the groups indicated that they received funding from some organizations. Figure 4.4 shows the organizations that fund women self-help groups.
Figure 4.4 Organizations that fund the groups

KWFT – Kenya Women Finance Trust
YWCA – Young Women Christian Association
K-REP – Kenya Rural Enterprises Program
E-CLOF – Ecumenical Church Loan Fund
STCC – Save the Children Canada

Asked whether one had received credit or not, all the respondents indicated that they had. Kenya Women Finance Trust was the main organization funding this group with 53% of the women having received credit from them while Save the Children Canada had the lowest number (2%).

4.4.4 Credit

The amount of credit received by the women group members ranged from Kshs 5,000 to Kshs 150,000. The women qualified for different amounts of loans depending on one’s ability to repay back. The other members of the
group assessed one’s business premises and/or the household or the farm
determined this. The members’ duration of membership in the group and the
past record in repaying previous loans also determined the amount of loan
given.

Pearson Product Moment Correlation was done to find out whether there was
any relationship between the amounts of credit received and the amount of
money spent on food. There was a statistically significant positive relationship
between the amount of credit received and the amount of money spent on food
\( (r = 0.551, p = 0.000) \). This shows that credit has a positive effect on
household food security.

4.4.5 Utilization of the Credit

The respondents indicated that they utilized the credit they received in
different ways. About 78% of the respondents indicated that they utilized their
credit on business, 5.8% on paying school fees, 53.8% in household use and
60% in farming.

4.4.6 Mode of Payment

All the women in self-help groups indicated that the mode of payment for the
credit was monthly.

4.4.7 Re-investment of Profit

Asked how they reinvested the profit, 78.8% of the respondents indicated that
they re-invested their profit in expanding the businesses while about 82.7%
indicated that they re-invested the profit in improving farming. Sixty two point two percent indicated that they re-invested their profit on household use. Figure 4.5 shows the different ways the women reinvested their profits.

**Figure 4.5 Ways the respondents re-invested their profits**

Re-investing of profits increases the output of the business or the farm produce and this provides the household with more income or food at its disposal respectively and therefore improving household food security. A study by Mutoro (1997) says that the major threat to the already inadequate food consumption of the poor is real income. Therefore reinvesting of the profits properly is alleviating the problem of real income even if it is in a small way.

### 4.4.8 Importance of Women groups’ activities

Eighty four percent of the respondents indicated that the women self-help groups’ activities were important in the household in that they provided the
basic needs such as food, shelter and clothing and provided economic security. About 14% indicated that it improved basic needs while 2% indicated economic security. Figure 4.6 shows the importance of women groups' activities on household food security.

**Figure 4.6 Importance of women groups’ activities to the households**

This study concurs with (FAO, 2002b), which indicated that women’s wage income from farm and non-farm employment, and other income opportunities was of particular importance for the landless and near-landless rural households. It was also indicated that women’s purchasing power might not only be used to buy food and other basic assets, but also to pay for inputs used in food production. Therefore the activities of women self-help groups have a dimension in household food security because through these groups they have been able to access credit which otherwise they could not have. FAO (1998) indicates that efforts to alleviate rural poverty and improve food security will
not be successful unless issues relating to women as food producers and providers of food are taken into account.

Researches in Africa, Asia and Latin America have found that improvements in household food security and nutrition are associated with women’s access to income and their role in household decisions and expenditure (FAO, 2002a). For a long time women have been denied access to credit due to their inability to own land, which is normally used as necessary collateral to acquire loans in banks. However, through women self-help groups’ women have been able to access loans through these groups. Self-help groups intermediated by micro-finance have shown to have positive effects on women. They have played valuable roles in reducing the vulnerability of the women through asset creation and income generation (Zaman, 2001). Earnings generated from such undertakings have been instrumental in increasing the physical well being of the households often through better nutrition (Zaman, 2001)

4.5 DIFFICULTIES OF WOMEN SELF-HELP GROUPS

Asked why they did not belong to women self-help groups, 50% indicated that they did not have money for the monthly contributions. At the same time 40%, said that, they were afraid of being unable to repay the loan which could lead to either their land or property being auctioned to recover the loan given while 10% indicated that these group were not well organized hence no need to join them. People who promised them cows had cheated some of the women not in
groups out of their money and hence this made them skeptical of these women self-help groups.

It was also interesting to find out that some of the women associated women groups which access credit to devil worship. This influences the membership because some women will not benefit from these loans because they fear the source of the money.

The problems associated with women self-help groups have a dimension to household food security. If the problems associated with women self-help groups were addressed amicably more women could join the groups and therefore improve real income of their households.

4.5.1 Problems of Women groups

High interest rates were the main problem being faced by these groups, while the problems of repaying and small loans were the subsequent problems. The women lamented that the interest rates were just too high. One of women leader said: “Loans are given at an interest rate of between 18%-22% per annum which is really high, I wish they were lower”.

Repaying of loans was also a problem. The women lamented that with the poor economy, businesses were not performing well. This brought the problem of loan repayment and when asked how they recovered the loan if one was unable to repay one woman had this to say:
"We just get a vehicle and pick items from the loanees' house or business, which we auction to recover our money".

They also indicated that before one qualifies for any loan, the women group members assess one's financial ability before deciding the amount one can manage to repay. However, they also indicated that most of the women were good in repaying the loans. Figure 4.7 shows the problems women self-help groups face.

**Figure 4.7 Problems faced by women groups**

This concurs with (FAO, 2002b), which shows that the repayment records for women borrowers have been good. A study by Mutoro (1997) showed that many projects for women and women groups in third world countries fail because emphasis is given to the welfare aspect as opposed to the economic aspect. She also indicated that poor administration and lack of technical
expertise led to their failure. The respondents indicated that as much as the groups were a success in some aspects they also had several problems. It is important to note that self-help groups are not a panacea for meeting challenges in economic and social development. This is because some studies have shown that micro-credit will not work in locations that do not have sufficient cash based market activities. They have reduced vulnerability but not lifted the women out of abject poverty or have taken long time to demonstrate any significant impact (UNDP, 1997).

A study by Mutoro (1997) says that women enterprise activities tend to be more effective when it includes a package combining credit, technology and training. It was evident from the respondents that some of the loanees were frustrated since they had misused the loans and had to repay them.

4.5.2 Causes of Food Insecurity

Women have had problems in accessing credit from financial institutions due to lack of the necessary collateral and this has reduced their financial accessibility to food. The respondents indicated that lack of storage facilities for both perishable and non-perishable foods was the main reason for food insecurity. Lack of income was also cited as the other important cause of food insecurity. This was attributed to the fact that women are resource poor and they lack the ability to access credit apart from that from women groups, which at times is very little, or the interest rates are just too high. They therefore indicated that lack of income made it difficult for them to afford
storage facilities, afford farm inputs or even purchase food for their households. Fig 4.8 shows the causes of food insecurity as indicated by the respondents.

**Figure 4.8 Causes of food insecurity**

![](image)

This concurs with research in Africa, Asia and Latin America that has found that improvements in household food security and nutrition are associated with women’s access to income and their role in household decisions on expenditure (FAO, 1998).

**4.5.3 How the Problems can be minimized**

It was important to find out from the respondents how they thought the problems of food insecurity could be solved. Fig 4.9 shows the suggestions...
from all the respondents on how the problem of food insecurity could be solved.

**Figure 4.9 Suggestions on how to minimize women's problems**

When asked how the various problems could be minimized, 37% of the respondents indicated that lowering the interest rates would make it easier for the women to repay the loans and this would increase the borrowing. About 27% of them indicated that they should get access to more loans while 14% of them indicated that they should be given skills on food storage to reduce food wastage.

**4.5.4. Benefits of Women Self-Help Groups**

Both groups of respondents concurred that women self-help groups are very useful to the society because they indicated that they make households have more food, which has a variety that makes the households more food secure.
They also indicated that the groups facilitate the women to access credit making them to be independent financially. This not only improves their purchasing power in buying food but also helps pay for farm inputs used in food production which directly influences household food security.

The findings of this study concur with a study by Mutoro (1997) which emphasized that women groups might provide a springboard for the transformation of rural life if they were redirected towards women’s strategic and pragmatic gender needs and if the problem of income due to lack of credit is addressed.

Some of the respondents reported that the loans had facilitated them to be financially independent and this had improved their relationships with their husbands. They claimed when one kept borrowing money from their spouses it brought a rift between them. This concurs with findings by IFAD, which indicated that women who generated income through self-help groups’ schemes had gained greater respect within the household often with perceptible attitudinal change from the men (Krishnaraj & Kay, 2002).

4.6 RELATIONSHIP BETWEEN HOUSEHOLD FOOD SECURITY AND SOME OF THE INDEPENDENT VARIABLES

Logical regression was carried out to determine how the independent variables influenced the dependent variable (household food security). The variables
included land ownership, monthly income, education, food from own production and credit. Wald statistic in logical regression found out that monthly income scored highest with 9.259, education 2.799, credit availability 0.607, own production 0.109 and land ownership 0.105. The significant values (p) were 0.02, 0.094, 0.436, 0.741 and 0.745 respectively.Apparently only monthly income showed significant positive influence on household food security.

This shows that the households, which had higher monthly income were more likely to be food secure than those which had lower income. Credit had a dimension to household food security because households which had access to credit, were more likely to invest their credit or use it for agricultural production and this could increase their monthly income and the amount of food from own production. Monthly income influences household food security because the households either are able to physically or financially access food.
CHAPTER FIVE

5.1 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1.1 Purpose of the Study

The study investigated the influence of women self-help groups on household food security.

5.1.2 Research Objectives

The objectives of the research were to; investigate the socio-economic status, compare the food security status, compare the household expenditure patterns and investigate the influence of women groups' activities on household food security.

5.1.3 Research Hypothesis

It was hypothesized that there was a positive relationship between household food security and membership to women self help groups.

5.1.4 Methods

A sample of 100 households and two focus group discussions were conducted in Kaaga sub-location of Miriga-Mieru West division in Meru-Central district. The researcher used oral interviews to elicit verbal responses from the respondents. Two focus group discussions from the two categories of respondents were done to crosscheck and reinforce information obtained through the interview guide.
Frequency counts, means and percentages were done to summarize the data while independent t-test, Pearson Product Moment Correlation Coefficient, Logical regression and Chi-square ($x^2$) were used to test for significant differences and relationships respectively. Data were organized and presented in tables and graphs using absolute numbers and percentages.

5.1.5 Major findings

The age of the respondents ranged between twenty to sixty one years old. Most of the respondents' age ranged between 20 – 29 years. From the results, it is clear that the two groups of respondents were in their productive age. Apart from child rearing, they were involved in ensuring their households obtained food either through own production or generating income for buying food. There was no significant difference in age among the two groups of respondents.

The highest number of the respondents (82%) was married while 12% were single. About 59% of the households were male headed while 41% were female headed. This shows that as much as in some households the women were married, the men were defacto’ heads leaving the women with the responsibility of heading the households. This shows that the number of female headed households is increasing and hence the need to empower women economically to facilitate the households to be food secure. There was no difference in age, marital status and household head among the two groups of respondents.
Education levels of the respondents were low because 60% of the respondents had between 1 and 8 years of schooling. This shows that most of the respondents were semi-illiterate and this could have serious implications on agricultural productivity and incomes, which could influence household food security. Apparently women in groups (40%) had more than 9 years in school compared to those (28%) not in groups. Among the women in groups there was a significant positive relationship between education and monthly income ($r = 0.290, p = 0.041$). This shows that those in groups increase in education levels which meant increase in monthly income. However, for the women not in groups there was no significant relationship found between years of schooling and monthly income ($r = -0.002, p = 0.989$).

The main occupation of most of the respondents was farming (64%) and business (45%) while their spouses 24% were farmers and 17% were businessmen. The low education levels could be attributed to their occupation and their economic levels. The women in groups were more involved in business as compared to those not in groups and this could be attributed to the fact that they had credit to facilitate running of the businesses.

The respondents' economic activities included vegetable vending, operating kiosks, charcoal burning and selling, and selling of second hand clothes. These activities were carried out by mainly women of low economic status. However, the respondents in women self-help groups had higher economic levels as compared to those not in groups. The income levels ranged from
Kshs 1000 to Kshs 50,000 per month. Women in groups had significantly higher levels of income than those not in groups (t = -1.768, p = 0.002).

Using Pearson Product Moment Correlation Coefficient it was established that there was a significant positive relationship between years of schooling and monthly income of women belonging to women self-help groups. The computed r-value was 0.290 and the p was 0.041. From the computed r-value (0.290) it can be inferred that the higher the years of schooling the higher the monthly income in about 29% of the target population.

The study however found no significant relationship between years of schooling and amount of income among women who did not belong to women self-help groups. The relationship was approximately at r = -0.002 and the p value was 0.989. Therefore according to the data, high levels of education have an influence on monthly income among women in groups only.

The households' expenditure varied though most of the respondents spent their incomes on food, school fees, medical expenditure, rent and other household expenses. Pearson Product Moment Correlation Coefficient found out that the amount of household income determined the amount spent on food, medical, school fees and other expenses but did not influence the amount spent on house rent. About 70% of all the respondents were found to be food secure since they spent less than 60% of their household income on food while 30% were food insecure because they spent more than 60% of their household income in food.
A chi-square performed found that there was a significant relationship between belonging to women self-help groups and household food security \((x^2 = 23.048, p = 0.005)\). Fifty two percent of the women not in groups were found to be food insecure as opposed to the 8% of the women in groups found to be food insecure. This shows that women self-help groups influenced household food security.

All the respondents who produced food from their farms supplemented it with food from the market. Therefore, women in groups who accessed credit were better placed in accessing food financially than those not in groups. Among the respondents who farmed, 84% owned the land while 6% did not own the land. About 60% of those who owned land belonged to groups. There was a significant relationship between land ownership and food security \((x^2 = 5.196, p = 0.023)\). This means that households which owned land were likely to be food secure than those that did not own land.

A majority of the respondents bought the farm inputs they used while 16.7% borrowed. Women in groups observed that credit was really handy in purchasing farm inputs, which increased food production. While women not in groups lamented that purchasing farm inputs was really hard because of lack of cash. A majority of the respondents were not able to produce adequate food apart from only 6%. This is a sign of food insecurity.
The women self-help groups were involved in income generating activities. Accessing credit was the main reason many joined the groups while other reasons included merry-go-round and visiting one another. The amount of credit received ranged from Kshs. 5,000 to Kshs. 150,000. The respondents qualified for different amounts of loans depending on their repayment ability and number of assets one owned. Pearson Product Moment Correlation done revealed that there is a relationship between the amount of credit one received and the amount of money spent on food. This shows that credit has a positive effect on household food security.

The respondents utilized the credit in business, farming, paying school fees and satisfying other household needs. The activities of the groups were important in the households because they provided basic needs such as food, clothing and shelter. They also provided economic security to the respondents hence making the women to be more financially independent. These activities directly influence household food security because they facilitate the household to have access to more food and more monthly income if the credit is utilized properly.

A logical regression done between household food security and the independent variables such as education, credit, food from own production, monthly income and land ownership revealed that monthly income greatly influences household food security. This means that availability of credit is necessary for the households to enhance monthly income, which will influence
household food security. The respondents also indicated that the groups' main problems included high interest rates and repaying problems, among others. If these problems are addressed then more women will be able to comfortably access credit and this could have a positive effect on household food security.

5.2 CONCLUSIONS

Based on the data collected and analyzed in this study, the researcher arrived at several conclusions.

The most represented age category was that of 20-29 years with 41%. The respondent's age varied from 20 to 61 years. The implications are that most of the respondents were in their child bearing age and were also involved in food production and income generation hence the need to empower them economically. The education levels were generally low though the respondents in groups had a higher percentage of those who had over eight years of schooling. The incomes ranged from Kshs 1,000 to Kshs 50,000. The respondents' economic activities included vegetable vending, operating kiosks, charcoal burning and selling, and selling of second hand clothes. These activities were carried out by mainly women of low economic status.

Incomes were used for paying house rent, school fees, buying food, medical expenses and other expenses. The amount of income spent on food depicts the household food security status. About 70% of the households spent less than
60% of their household income on food hence were food secure while 30% spent more than 60% of their household income on food hence were food insecure.

Women in groups were found to spend less percentage of their monthly income on food as compared to those not in groups. There was a significant relationship between belonging or not belonging to women self-help groups and household food security. About 52% of the women not groups were found to be food insecure while only 8% of those in groups were found to be food insecure. Most of the respondents were not able to produce adequate food to meet their dietary needs; hence they supplemented it with food from the market. Land ownership was found to influence the household food security. There was a significant relationship between land ownership and household food security with those who owned land found to be more food secure as compared to those who did not own land.

The activities of women self-help groups led to economic empowerment of the women making them to be more economically secure and hence were able to purchase among other things basic needs. Among all the variables that influenced household food security, income was the main factor that influenced household food security most.
5.3 RECOMMENDATIONS OF THE STUDY

i) The local leaders should encourage women in the area to organize themselves to form women self-help groups and have them registered by the Ministry of Culture and Social Services so that they can approach micro-finance organizations and NGOs which facilitate women to access credit so that they can improve their economic status. This will go a long way in increasing food production and increasing household income. Sensitizing of local leaders and the members of the community will be done by a follow-up meeting after the study. The research will also make this information available to them by publishing an article on this study in the local publication ‘The Eye’.

ii) The NGOs and micro-finance organizations which are involved with women self-help groups’ credit should combine the package of credit with training the groups on how to utilize the credit for the benefit of the household.

iii) The interest rates should be lowered by the financial institutions to make the credit more attractive to women of low socio-economic status. The government could make this possible by regulating the interest rates charged by the institutions. This could help alleviate the problem of food poverty.

iv) For those with shambas, there is need to reduce over reliance on foods bought at the market. Instead households should be assisted financially and encouraged to be self-reliant. Kitchen gardens for
the production of vegetables ought to be a prerequisite for every household.

5.4 SUGGESTIONS FOR FURTHER RESEARCH

Based on the results of the study the following recommendations have been made for further research.

i) A similar study should be replicated in an urban area in this country.

ii) A similar study should be conducted using a larger sample through inclusion of households from all divisions of Meru Central district

iii) A study should be done using women in formal employment by comparing the household food security situation of those among them in groups which have access to credit and those not in groups.

iv) A similar study should be done in an area where people produce own food and how it would be enhanced by being in women self-help groups.
REFERENCES


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APPENDICES

APPENDIX 1: HOUSEHOLD INTERVIEW SCHEDULE FOR THE WOMEN RESPONDENTS

The researcher will carefully read each of the following questions to the respondent and fill in the response that best describes the respondent’s answer.

Questionnaire No. Location Sub-Location
Village
Name of women self-help group(s) Non-member of women self-help group

SECTION A. SOCIO-DEMOGRAPHIC CHARACTERISTICS OF EACH HOUSEHOLD

1) How old are you?

2) What is your marital status?
   a) Single ( )
   b) Married ( )
   c) Widow ( )
   e) Divorced ( )
   f) Separated ( )

3) Who is the household head?

4) How many children do you have? Give specific number

5) Do you have any other people living with you? Yes ( ) No ( )
   If yes, how many


6) How many years have you attended formal schooling? 

7) What is your occupation? 

8) What is the occupation of your husband? 

SECTION B

SOURCE OF HOUSEHOLD INCOME AS RELATES TO HOUSEHOLD FOOD SECURITY AND HOUSEHOLD EXPENDITURE

9) What is your main source of income?

10) How much money do you get from each sources of income?

11) What is your monthly income? 

12) How do you spend your monthly income? (Indicate the amount of money used for each need)
   a) 
   b) 
   c) 
   d) 

13) Where do you get food?
   a) Buy ( )
   b) Own farm Production ( )
   c) Donations ( )
   d) From friends ( )
14) If you buy, how much money did you use for buying food last month?


15) What types of food do you normally buy for the family? Enumerate them as per last week: - Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

16) How many meals did you prepare for your family per day last week? (Indicate meals per day)

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of meals</th>
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<tbody>
<tr>
<td>Monday</td>
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<tr>
<td>Tuesday</td>
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<tr>
<td>Thursday</td>
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<tr>
<td>Friday</td>
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<tr>
<td>Saturday</td>
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<tr>
<td>Sunday</td>
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</table>

17) Please indicate the ingredients that you used to prepare your household meals in the past 24 hours and their source
<table>
<thead>
<tr>
<th>Meal 1</th>
<th>Meal time</th>
<th>Ingredients</th>
<th>Source</th>
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<table>
<thead>
<tr>
<th>Meal 2</th>
<th>Meal time</th>
<th>Ingredients</th>
<th>Source</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Meal 3</th>
<th>Meal time</th>
<th>Ingredients</th>
<th>Source</th>
</tr>
</thead>
<tbody>
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</table>

<table>
<thead>
<tr>
<th>Snacks</th>
<th>Meal time</th>
<th>Ingredients</th>
<th>Source</th>
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</table>

SECTION C – HOUSEHOLD’S FOOD SOURCES AND CONSUMPTION

18) If you produce your food, do you own the land you farm on?
   Yes ( ) No ( )

19) If no, how have you acquired the farm? ________________

20) What is the acreage of the farm under food production?

21) How much food did you harvest last season? (Indicate in the table below)

22) How much food did you donate last season? (Indicate in the table below).
23) How much food did you sell last season? (Indicate in the table below).
24) How much food did you keep for your household use last season? (Indicate in the table below).
25) How much food was wasted last season? (Indicate in the table below).
26) How much food do you have in storage now from the last season? (Estimate *debes*, Sacks, check in the granary / cupboard)

<table>
<thead>
<tr>
<th>Crop Check</th>
<th>Amount Harvested in <em>debes</em></th>
<th>Amount donated</th>
<th>Amount Wasted</th>
<th>Amount Sold in <em>debes</em></th>
<th>Amount for household use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweet potatoes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Millet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigeon peas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cow peas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irish potatoes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorghum</td>
<td></td>
<td></td>
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</tbody>
</table>

27) What types of farm inputs do you use in your farm?
28) How do you acquire these inputs?

SECTION D - INCOME GENERATING ACTIVITIES (For women belonging to women self help groups which have access to credit - Answer questions 29-47).

29) Which women self help group(s) do you belong to?

Enumerate them ______________________

______________________________

______________________________

30) How long have you been in this group(s)?

<table>
<thead>
<tr>
<th>Group</th>
<th>Length</th>
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</tbody>
</table>

31) What motivated you to join this group(s)?

32) What activities are you involved in, in these group(s)?

<table>
<thead>
<tr>
<th>Women group</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

33) Is your group funded by any organization?
Yes ( ) No ( )

34) If yes, give the organization(s) that funds this group(s)?

35) Have you personally received any funding from these organizations?

Yes ( ) No ( )

36) If yes, give the name(s) of the organization.


37) How have you utilized the loan advanced through these women self help group(s)?

<table>
<thead>
<tr>
<th>Women group</th>
<th>Organization</th>
<th>Utilization</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

38) When and how much money were you given as your first loan? (Indicate for each group)

<table>
<thead>
<tr>
<th>Group</th>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

39) What were the subsequent loans? (Indicate per group)

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</tbody>
</table>
40) What was the mode of payment of the loan? (Indicate per group).

<table>
<thead>
<tr>
<th>Mode of payment</th>
<th>Women group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</table>

41) What profit did you make?

<table>
<thead>
<tr>
<th>Profit</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

42) How did you invest your profits?

43) What is the importance of these activities to your household?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
44) List some of the difficulties you face in your involvement in these groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Difficulties</th>
</tr>
</thead>
</table>

45) What problems do you encounter in trying to make your household food sufficient?

46) How can these problems be minimized?

47) How have women self-help groups’ activities influenced your households’ food security? Explain.

For women not in self-help groups (Skip Questions 24-47)–(Answer Qns 48-49)

48) What problems do you encounter in trying to make your household food sufficient?
49) How can these problems be minimized? (Explain how)

The researcher will conduct an interview with the respondent to identify the
problems and determine the best method to resolve them. The interview

Questionnaire:

Section A. Socio-Demographic Characteristics of Each Household

1) What is the respondent's location?

2) What is the sex of the respondent?

3) What is the marital status of the respondent?

4) What is the education level of the respondent?

5) What is the occupation of the respondent?

6) What is the number of dependents in the household?
APPENDIX II: HOUSEHOLD INTERVIEW SCHEDULE FOR THE RESPONDENTS (Translated to Kimeru)

The researcher will carefully read each of the following questions to the respondent and fill in the response that best describes the respondent’s answer.

Questionnaire No._________ Location_______________ Sub-Location_________
Ntuura________________________

SECTION A. SOCIO-DEMOGRAPHIC CHARACTERISTICS OF EACH HOUSEHOLD

1) Wina miaka ingana?

2) Nuguri kana?
   a) Ntiguri ( )
   b) Inguri ( )
   c) Ntigwa ( )
   e) Intwathukene buru ( )
   f) Intwathukene ( )

3) Nuu munene wa nja iju?

4) Wina twana tungana?

5) Kuri antu bangi ukaraga nabo nja iji? ii ( ) ari ( )
   bangana?____________________

6) Uthomete miaka ingana sukuru?____________________
7) Witaga ngugi iriku? _______________

8) Mukuru waku aitaga ngugi iriku? _______________

SECTION B
SOURCE OF HOUSEHOLD INCOME AS RELATES TO HOUSEHOLD FOOD SECURITY AND HOUSEHOLD EXPENDITURE

9) Witaga mbeca naa?

10) Wonaga mbeca ingana onau witaga? _______________

11) O mweri wonaga mbeca ingana? _______________

12) Utimaggiira mbeca ki mantu jariku?
   a) __________________
   b) __________________
   c) __________________

13) Inaa witaga irio bia nja yaku?
    a) Kugura ( )
    b) Mudene ( )
    c) Kuewa ( )
    d) Kuma kiri acore ( )

14) Kwethirwa kuguraga, utumagira mbeca ingana?

15) Ni iro bikari uguaira famili yaku? Ejana biria wagurire kiumia kiaittiira
16) Warugiira njeku irio jangana o ntuku kiumia kiahira? (Ejana o ntuku)

<table>
<thead>
<tr>
<th>Ntuku</th>
<th>Maita ja irio</th>
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<tbody>
<tr>
<td>Jumatatu</td>
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<tr>
<td>Jumaine</td>
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<tr>
<td>Jumatano</td>
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<tr>
<td>Alamisi</td>
<td></td>
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<tr>
<td>Jumaa</td>
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<tr>
<td>Jumamosi</td>
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17) Ejana into biria utumagiira kuruga irio bia nja yaku mathaa 24 jathiiri na uge naaria ubitaga
<table>
<thead>
<tr>
<th>Irio(1)</th>
<th>Thaa</th>
<th>cia</th>
<th>Into</th>
<th>biria</th>
<th>Kuria</th>
<th>Bithithagia</th>
<th>Kaumo</th>
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<td>Irio(2)</td>
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<td>Kuria</td>
<td>Bithithagia</td>
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<td>Irio(3)</td>
<td>Thaa</td>
<td>cia</td>
<td>Into</td>
<td>biria</td>
<td>Kuria</td>
<td>Bithithagia</td>
<td>Kaumo</td>
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<td>Irio(snacks)</td>
<td>Thaa</td>
<td>cia</td>
<td>Into</td>
<td>biria</td>
<td>Kuria</td>
<td>Bithithagia</td>
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SECTION C – HOUSEHOLD’S FOOD SOURCES AND CONSUMPTION

18) Kwethirwa kurimagi irio, urimagi mundane jwaku?( ii ) (ari)
19) Kwethirwa ti jwaku munda, juu utumagirani jwau?

20) Ni kiasi kingana kia munda juu uandite iro?

21) Okethere iro bingana season yathiira? (Onania kirir table ii iri thi?)

22) Ni iro bingana waejanire season yathiira? (Onania kiri table ii iri thi)
23) Ni iro bingana wenderie season yathiira? (Onania kiri table ii iri thi).
24) Ni iro bingana wakiire bia gutumirwa ni nga yaku season jatiira?( Onania kiri table ii iri thi).
25) Ni iro bingana bienyangiire season yathiira? (Onania kiri table ii iri thi).
26) Ni iro bingana birii store bia kuma season yathiira?
    (Estimate debes, Sacks, check in the granary / cupboard)

<table>
<thead>
<tr>
<th>Tega iro</th>
<th>Binyana bikethi in debes</th>
<th>Binyana biejani in debes</th>
<th>Binyana binyang ite</th>
<th>Binyana biendetue in debes</th>
<th>Binyana bia gutumira nga</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mpempe</td>
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<tr>
<td>Ikwaii bia mukuo</td>
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<tr>
<td>Mungao</td>
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<td>Mwere</td>
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<td>Neugu</td>
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<td>Muyaa</td>
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27) Ni mbolea iriku utumagiira mundane jwaku?

28) Witaga mbolea iji kuu?

SECTION D - INCOME GENERATING ACTIVITIES *(For women belonging to women self help groups which have access to credit - Answer questions 29-47).*

29) Uri wa ikundi kiriku?
   
   Bigwete ______________________
   ______________________

30) Ukariite ikundine bibi igita ringana?

<table>
<thead>
<tr>
<th>Gikundi</th>
<th>Igita</th>
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</table>

31) Ngitumi kiriku giatumire utonya ikundine?

32) Ngugi iriku witaga ikundine bibi?
33) Gikundi kienu nikiejawa mbeca ni kiama kingi?
   ii ( ) ari )

34) Kwethirwa kwibio ejana mariitwa?

35) Kwi mbeca waewa ni kiama giki?
   ii( ) ari( )

36) Kwethirwa ii ejana mariitwa ja biama.

37) Utumagiira mbeca iji atia?
   Gikundi   Kiama   Utumiri

38) Iri na I mbeca ingana waerwe ria mbere ( onania o gikundi)
   Gikundi   Mwaka   Mbeca
39) Ni mbeca waerwe juma ya iu? (Onania o gikundi)

40) Wariaga na igita ringana? (Onania o gikundi).

<table>
<thead>
<tr>
<th>Igita</th>
<th>Gikunda</th>
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41) Wonaga baita ingana?

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<th>Baita</th>
<th>igiita</th>
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</table>

42) Watuumiire baita yaku atia?
43) Ngugi iji cia gikundi ciana gitumi kiriku ki nja yaku?

44) Gweta thiina iria wonaga ikundine bibi

| Gikundi | Thiina |

45) Ni mathiina jariku ukurukiraga ukingania irio nja yaku?

46) Niatia uunbaga kunyiiya mathiina jaja?

47) Niatia ikundi bibi bia ekuru bitethetie nja yaku mantune ja irio? Ariria.

For women not in self-help groups (Skip Questions 24-47) – (Answer Qns 48-49)

48) Ni mathiina jariku ukurukiraga ukingania irio nja yaku?
49) Niatia mathhina jaja jomba kunyiiwa? (Ariria uria jonba kuniiwa)

Q2. What are the objectives of the group?

Q3. How is the group linked to the local or relevant provincial organization that may have been involved in the project?

Q4. What social and network organizations are involved?

Q5. How did you access credit from this organization?


Q7. For what purpose do you get the credit?

Q8. How do the members use the credit?

Q9. Has the group encountered any difficulties with the organization?

Probe for: a) the nature of the problem
   b) Why is it a problem?
   c) How is the problem being resolved?

Q10. How does your group determine the surplus or the profit sharing among the members?
APPENDIX III: FOCUS GROUP: GUIDE FOR WOMEN GROUPS, WHICH HAVE ACCESS TO CREDIT

Q1. What prompted you to start this group?
Probe for -: a) Key personalities, events or issue or organization that may have been involved in time of formation
b) Involvement of the individual members during the group formation

Q2. What are the objectives of your group?

Q3. How are you or do you plan to attain these objectives?

Q4. How do you get funding for your activities?

Q5. Which organization(s) is funding your group

Q6. How did you access credit from this organization(s)?

Q7. How do they fund; - Probe for the mode of funding
-Credit recovery

Q8. For what purposes do you get the credit?

Q9. How do the members use the credit?

Q10. Has the group encountered any difficulties with the agencies?
Probe for: - a) the nature of the problem(s)

   b) Why is it a problem?

   c) How is the problem being resolved?

Q11. How does your groups’ activities influence household food security?

Q12. If it influences, explain in details how?
APPENDIX IV: FOCUS GROUP: - GUIDE WOMEN NOT IN ANY WOMEN SELF HELP GROUP.

Q1. How are you involved in maintaining food security in your household?

Q2. Do you face any problem in trying to provide food for your family?

Q3. How do you think women should be empowered economically to positively influence household food security?

Q4. What are the shortcomings of women self-help groups?
# APPENDIX V: WORK PLAN

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal ready by</td>
<td>January 2002</td>
</tr>
<tr>
<td>Proposal Defense at Department</td>
<td>February 2002</td>
</tr>
<tr>
<td>Proposal Defense at School</td>
<td>July 2002</td>
</tr>
<tr>
<td>Piloting</td>
<td>August 2002</td>
</tr>
<tr>
<td>Data collection</td>
<td>September 2002</td>
</tr>
<tr>
<td>Data analysis</td>
<td>November 2002</td>
</tr>
<tr>
<td>Submission of Thesis to Examiners</td>
<td>June 2003</td>
</tr>
<tr>
<td>Thesis defense</td>
<td>November 2003</td>
</tr>
<tr>
<td>Thesis correction and submission</td>
<td>February 2004</td>
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</tbody>
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APPENDIX VI: BUDGET

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
<th>AMOUNT (Kshs)</th>
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<tbody>
<tr>
<td>Transport</td>
<td>2@ 1500</td>
<td>3,000.00</td>
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<tr>
<td>Typing of proposal</td>
<td>46@25.00(4)</td>
<td>4,000.00</td>
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<tr>
<td>Binding of proposal</td>
<td>15@80.00</td>
<td>1,300.00</td>
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<tr>
<td>Photocopying proposal</td>
<td>15@80.00</td>
<td>1,300.00</td>
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<tr>
<td>Production of questionnaires</td>
<td>150@ 20.00</td>
<td>3,000.00</td>
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<tr>
<td>Data coding and analysis</td>
<td>(Computer use)</td>
<td>10,000.00</td>
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<tr>
<td>Typing, photocopying and binding of thesis</td>
<td>(Copies of draft and final copy)</td>
<td>30,000.00</td>
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<tr>
<td>Fieldwork stationery-note books, pens, 4 tapes, tape recorder</td>
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<td>Research assistant</td>
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<td>Accommodation and food</td>
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<td>Total</td>
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<td>Miscellaneous (5% of total cost)</td>
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<td>GRAND TOTAL</td>
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