GENDER INEQUALITY AND FOOD INSECURITY IN MWINGI DISTRICT

M.A. PROJECT REPORT

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THIS PROJECT REPORT IS SUBMITTED IN PARTIAL FULFILLMENT FOR THE REQUIREMENTS OF M.A. DEGREE IN RURAL SOCIOLOGY AND COMMUNITY DEVELOPMENT

FACULTY OF ARTS
UNIVERSITY OF NAIROBI.
I wish to present this project report in partial fulfillment for a M.A. Degree in rural Sociology and Community Development. I declare that this is my original work.

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ii
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iii
DEDICATION.
I dedicate this work to my late father Nason M. Mutua, my late grandfather Samuel Mutua Ngovi who took me to standard One and initiated me to education, my last born Kelvin Munene Vundi who shares my Worldview and to all humanity who cherish the strong belief in education as the root of life and the endless and tireless effort that they dedicate towards educating the youth.
EPIGRAPH

Hardly a day passes without one hearing talk of food crisis looming over us. ...Africa is notorious for her inability to feed her population and must depend on advanced nations to do that for her. We have no reason to believe famine relief handouts will rescue Kenya from future famines. The day when all Kenyans will have access to adequate food intake is nowhere near.

LIST OF TABLES.

Table 01: Sub-locations and Sub-samples ...................................................27
Table 02: Farmer's level of education ......................................................30
Table 03: Keeping of farm records ............................................................31
Table 04: Reasons for not keeping farm records .......................................31
Table 05: Food policy ...............................................................................32
Table 06: Control of food after harvest ....................................................32
Table 07: Receiving Extension services .....................................................33
Table 08: Effects of not receiving Extension services ...............................34
Table 09: Land ownership .......................................................................34
Table 10: Land sizes ...............................................................................36
Table 11: Knowledge of credit facilities ..................................................37
Table 12: Beneficiaries of credit facilities ...............................................37
Table 13: Reasons for not getting loan ......................................................38
Table 14: Type of credit accessed .............................................................38
Table 15: Farmer's Sex ...........................................................................39
TABLE OF CONTENTS

Signature page ................................................................................................... ii
Acknowledgement ............................................................................................ iii
Dedication .......................................................................................................... iv
Epigraph ............................................................................................................. v
List of tables ....................................................................................................... vi
Table of contents .............................................................................................. vii
Abstract ............................................................................................................ X

CHAPTER ONE.

1.0 INTRODUCTION ....................................................................................... 1

1.1 Background............................................................................................... 1

1.2 Problem Statement .................................................................................... 3

1.3 Objectives .................................................................................................. 6

1.4 Rationale .................................................................................................... 7

1.5 Scope of the Study ..................................................................................... 8

CHAPTER TWO.

2.0 LITERATURE REVIEW .......................................................................... 9

2.1.0 Introduction .......................................................................................... 9

2.1.1 Gender related problems experienced by women farmers ................. 11

2.1.2 Access to land .................................................................................... 12

2.1.3 Credit facilities .................................................................................. 13

2.1.4 Decision making .............................................................................. 14

2.1.5 Division of labour ............................................................................ 15

2.1.6 Illiteracy ............................................................................................. 16

2.1.7 Extension officers' services ............................................................... 17

2.1.8 Caring for the sick .......................................................................... 18

2.1.9 Gender perpetuated violence .......................................................... 18

2.2.0 Theoretical Framework ....................................................................... 20
2.2.1 Marxian Theory ................................................................. 20
2.2.2 Liberal Feminism Theory .................................................. 21
2.2.3 Social Inequality Theory .................................................. 22
2.3 Hypotheses .......................................................................... 23

CHAPTER THREE.

3.0 Research Methodology ...................................................... 24
3.1 Introduction .......................................................................... 24
3.2 The Study Site ...................................................................... 24
3.3 Units of Analysis ................................................................. 25
3.4 Sampling Design ................................................................. 26
3.5 Methods of Data Collection ................................................ 26
3.6 Tools of Data Collection ..................................................... 27
3.7 Sources of Data .................................................................... 28
3.8 Data Analysis ....................................................................... 28

CHAPTER FOUR

4.0 Data Presentation ................................................................. 30
4.1 Introduction .......................................................................... 30
   A) Farmers literacy ............................................................... 30
   B) Decision making ............................................................. 32
   C) Land ownership ............................................................. 34
   D) Access to credit ............................................................... 36
   E) Farmer's Sex ................................................................. 39
4.2 Conclusion .......................................................................... 39
CHAPTER FIVE

5.0 Relationship between variables of study ........................................................... 42
5.1 Introduction ........................................................................................................ 42
5.2 Testing Hypotheses ............................................................................................. 44

CHAPTER SIX

6.0 Recommendations ............................................................................................ 45
ABSTRACT.

This study investigated the linkage between gender inequality and food insecurity in Mwingi district. Most of the earlier studies in the district focused on factors like drought, poor soil, erosion, lack of inputs and poor farming techniques. The study has two hypotheses which were the presuppositions that guided the investigations. Chi square was used to test if they were reasonable statements.

1. Land ownership is not determined by ones gender.
2. There is no relationship between receiving agricultural extension services and gender.

The methodology adopted by this study was survey design. The larger population was 480 and the sample drawn was 96. The source of data was from primary sources, non-participant observation and the discussion with the F.G.Ds and literature review.

The major findings established by the study were: women farmers were the majority in the district, however, they had many limitations. They were limited in decision making, did not access land, finance and quality education. They were highly discriminated and the conditions of their operations were totally unfriendly; like being required to produce title deed to access credit facilities.

The study made the following recommendations. Legal systems should be reviewed to allow women to own and inherit land. Policy makers should be gender sensitive to spread development more evenly among the genders. All forms of discriminations should end in all sectors; people should be evaluated by merits, capabilities and not gender.

Gaps left un tackled by the study were:-
- Factors causing poor performance of the extension workers in Mwingi district.
- Efficiency of the agricultural office in tabulating food needs in the district.
- Strategy in place to empower women farmers to boost their farming in the district.
CHAPTER ONE.

1.0 INTRODUCTION.

1.1 BACKGROUND.
This study sought to investigate the linkage between gender inequality and food insecurity in Mwingi District. Most of the past studies focused on common causes of food insecurity like drought, poor soil, floods, lack of sound food policies, poor quality seeds, lack of inputs like fertilizers, poor farming methods and depleted extension workers (Omiti 2005, Mbaria 2004, Maunder, 1962).

Since the agricultural practice in Africa is women dominated, there is need to establish the implications of that factor. Some scholars like Boserup (1970:16) refers to Sub-Saharan African Agriculture as the "... the region of female farming par excellence." This statement is wanting because the scholar does not objectively present the contributions and role played by men in agriculture. The statement is one sided and unfair presentation of the reality of African farming. Buckley (1970:108) also makes the same assertion like Boserup, he says that women play major part in cultivation in 53% of the societies in the Sub-Saharan Africa. It will be difficult to visualize men doing as little as the scholar implies. Behind the scenes men are involved in major activities that directly or indirectly support the so called women farming par excellence and the major part the women played by the women in 53% of the societies in Sub-Saharan Africa. Men direct agriculture by giving advice, experience, skill, financing, and acquiring the productive means. They may be hidden in the background, but are doing something remarkable, (Mbithi 1974).

It is true that gender can not be trivialized in any society; in Africa it determines how the society is organized and dictates one's role, place and practice in the society. However, not until all factors pointing to food insecurity have been established and the role of each gender verified can we be able to make any objective judgment.

Most of our African societies cherish patriarchal culture which consequently make
women subordinate to men. Logically, all structures in Africa be they economic, legal, religious, governance or agriculture will need to be studied to establish if they have gender biased values which otherwise can lead to poor performance in such sectors (Aseka, 2004). This is exactly what the study set out to do, to find out if there is any linkage between gender and food insecurity. An objective study is needed to establish what the farmers are doing in food production irrespective of their gender. Possibly more light will be shone if it will be established whether their farming is not the same conditions and opportunities alike.

One of the areas causing down turn in agricultural productivity and consequently food insecurity is the neglect of farmers. This is sad because our economy is agricultural based (Mbiti 1974, Boserup 1970, Maunder 1962). Rural farming needs to be understood in relation to division of labour, who owns the productive means, who makes the decision, the importance of the extension workers and how they dispense their services to the farmers.

Explaining and solving gender problems which may pull farmers down will have the effect of improving their production and guarantee food security, (O.E.D.C. 2001:48). World Bank (1997) says there should be a deliberate move to rid the sector of any gender biases which may obviously bring it down; that points to improving the socio-economic and the socio-cultural environment that farmers operate in. To ignore the plight of the farmers in agriculture will mean the agricultural sector will never improve; Chitere et al, (1991) agrees with that when he argues that, "... any social change that does not account for the social constraints compartmentalized culturally for women will definitely fail or stands incomplete." (Chitere and Mutiso, 1991). The term 'women' is used in this study in a generic manner, what is true for women will also be true for men.

The social and physical sufferings that come with food insecurity are enormous as (Odegi and Namai et al, 1994) tabulates. The menace should be tackled from all directions; but it is lamentable that some nations have either ignored food insecurity or have played politics with it as observed by (Odegi and Namai et al, 1994:24)

2
"Experience with elections in Africa has established that the democratic rights of the poor and hungry citizenry have been reduced to mere commodities for sale; a phenomenon which is a real threat to African democracy."

For Kenya as a country, the importance of agriculture can not be overstated, it accounts for 60% of the export earnings and about 80% of our population eke their living from agriculture (Ndolo 2002, Oketch et al 1996, Republic of Kenya, 2002). Republic of Kenya (1991) states that agriculture employs about 50% of the agricultural force (Kathuri and Kituyi et al, 1997). This calls for studies from an angle to save the food industry which is so critical to us as a nation.

It is obvious that food security at household level is directly influenced by agricultural performance of the farmers. There is need to know how the farmers are farming and may be by gender in order to check if there is any gender bias in the agricultural industry. This is where gender inequalities come in, are there farmers whose performance is compromised by gender (Gichira 2002)? And if there are evidences of gender inequality, it is good to establish if there is any linkage between the gender inequality and food insecurity.

1.2 PROBLEM STATEMENT.

The study inquired the possible linkage between gender inequality and food insecurity in Mwingi District. Farmer's personal characteristics, gender roles and place were studied.

Kenyan economy is agricultural based, but the attention that the sector has so far received from the policy and decision makers would at best suggest otherwise. Evidence shows that the sector has been ignored and very little pro-active measure have been taken to guide it; for example, one would wonder if all was well why would there be cases of fake fertilizers, pesticides and seeds (Gichira, 2000). While there is hope for reviving agriculture and realize food security, it has been overly elusive. There exists no known natural or human resource reason why the country cannot reconstruct its agricultural
sector and enhance food security; a dream of all farmers.

In the rural areas, quality farming stands out as one of the interventions which will result in the highest reduction poverty (Kimenyi, 2002). However, in Mwingi district, enough focus on how to realize food security is limited. Talk is limited to concerns like soil erosion, poor rains and drought, outdated farming methods and poor quality seeds. Little concern has been shown on the role, needs and problems which the farmers have (District Agricultural Reports 1998, 1999, 2001 and 2002).

This explains more the concern of the women farmers who tend to be generally trivialized even though they play an important role in farming. Mbithi (1974) agrees with the fact that women play a very crucial role in agriculture. Even though the women were the majority in the sector, their performance remains very limited. They are limited in decision making, owning the productive means mainly land, they can not access the credit facility or new farming techniques.

It can be argued that at the household level food security or insecurity is a woman's affair. Omiti (2001) and Pietla (1990) concur with the same argument for they agree that women produce 70% of the staple food in Africa. That makes women farming very critical in Africa. Buckley (1970:108) also sees the same for he says that women play major part in cultivation in 53% of the societies in the Sub-Saharan Africa. The worrying issue is that despite the importance of women farming in Africa, little has been done to analyze their unique problems; Mwangi (2000) notes in her unpublished M.A. Paper:

"MoALD projects are planned without gender analysis ... in them. Even where they have been mentioned, implementation did not take place." (Mwangi 2000:3).

It also interested the study to establish if all the farmers were accessing and enjoying the services by the extension workers; the government has invested a lot of money to this system in order to boost food production to all the farmers.
The role being played by the women in farming cannot be emphasized then, they do the bulk of farm work. In Kenya they remain marginalized in provision of education, health, access to productive resources such as land and finance. It is therefore clearly unreasonable to expect improvement in agriculture unless there is clear emphasis on the improving the status of the women as farmers (Kimenyi, 2002). The improvement will entail increasing women's access to land, credit, education, reduction of gender inequality which have always worked the women down.

Policy makers will need to step up their work also if food security will be near to become a reality. Currently, two thirds of the extension budget goes to salaries, the remaining one third is inadequate for fieldwork and other costs (Wajama, 2002). That compromises the so called Ministry of Agriculture and Rural Development (MOARD), it was meant to rekindle the extension approach; though a good dream, it will thus remain.

Besides lacking the financial adequacy, MORAD (Ministry of Agriculture) philosophy and approach was also limited by the fact that it was not gender sensitive. It would have done good work if there programmes were broad based so as to reach all the farmers irrespective of their gender (Mwangangi 2000). Being gender blind is lose the majority of the actors in the sector, the whole sector would thrive if the plight of the farmers was looked into critically and equitably.

The District Reports (2000 and 2001) both revealed that demonstration farms and field days are critical avenues to disseminate agricultural information and practice. For that to take place, there a great need to have both women and male farmers attending and participating. Selection of the demonstration farms should be done at random so that at the end they do not only have farms from the same gender. If they all the farmers can be equally recognized, they will be encouraged to work equally hard. If any gender is discriminated, that will reduce their production, hence food insecurity. Even though the same reports continued to say that 50% of the population gets relieve food, adequate causes of the food insecurity were not addressed.
The reports also failed to capture the role that women farmers played in food production in the district. Consequently, the improvement of food production will remain next to impossible since there was no attempt to analyze the implication of gender in food production.

The focus of the study was to expose the linkage between gender inequality and food insecurity in Mwingi district. Gender barriers pointed to those socio-structures which require women to depend on men generally; due to those socio-structures which are promoted by culture deny women from participating in decision making, access some productive means such as land and oxen, quality education and credit simply because of their gender: women.

The study attempted to answer the following questions:-
1. How has gender inequality contributed to food insecurity?
2. What are the gender barriers that hinder food production and security?
3. What is the linkage between these gender barriers and food insecurity?
4. How gender friendly are the services given by the agricultural extension?
5. To what extent are the farmers willing to work hard despite the gender barriers and limitations?

The conclusions made by the study were solely based on the answers made to these questions; answers were also based on the data generated from the field by revisiting the same questions as tabulated in the questionnaire.

1.3 OBJECTIVES.
The broad objective of the study was to understand the gender related barriers experienced by the women farmers and to understand to what extent they caused food insecurity.

1.3.1 SPECIFIC OBJECTIVES.
The study had the following specific objectives:-
1. To show how gender inequality has contributed to food insecurity.
2. To explain the gender barriers that hinder food production and security.
3. To establish the linkages between these barriers and food insecurity.
4. To establish if the services rendered by the extension officers reach all the farmers equally despite their gender.
5. To establish if the farmers are working hard despite their gender limitations.

1.4 RATIONALE..

As stated earlier, it is inescapable to think of Sub-African food insecurity without starting with the farmers. That is because food security/insecurity will always depend upon the farmers' performance. The study sought to understand the personal characteristics of the farmers, their practice in relation to how they farm, the information they have, how they got such information and what they own in terms of productive means. That helped to see if being women/man had any effects on them as farmers (that is, did gender have anything to do with their farming and food insecurity?).

Decision making is critical in all sectors. Most of the African societies being patriarchal, it interested the study to establish if all farmers irrespective of their gender could still access the decision making organs without problems. Excluding any group of farmers based or gender or any other category would generally compromise the production of that group. Harmonizing gender, sectors and professionals concerned with agriculture especially in decision making will guarantee the sector a healthy performance enjoyed by all. It is only through integration and harmonizing all the actors and sectors that will bring about food security. Not participating in decision making or policy making denies the sector the perspective of the excluded group; also the needs and problems of such group will go unattended and that will result in poor performance; hence food insecurity.

Credit facilities could be a blessing in boosting agriculture. Farmers can buy inputs, seeds and access paid labour. Limitations for the farmers in enjoying credit facilities could result in their poor performance and hence food insecurity. The study investigated whether every farmer had an equal chances to enjoy such facilities irrespective of his or her gender. Where such facilities exist to boost farmers productivity, then logically all
farmers should have unlimited access to such facilities: the study sought to establish the reality in accessing credit.

Finally, the study investigated the cause of food insecurity in Migwani Division despite adequate rain in that part of Mwingi District. Earlier studies which rested on problems like soil erosion, poor farming methods, poor seeds and drought have done their part especially the recommendations emanating from such studies. In that the problem of food insecurity still looms in the district; this has consequently called for other studies hence this one on the linkages between gender inequality and food insecurity.

1.5 SCOPE OF THE STUDY.
The study attempted to study the linkage between gender inequality and food insecurity. The focus of the study was on the rural farmers in Mwingi District, those farmers were also household heads. Earlier studies on food insecurity in this district all focused on natural causes of food insecurity such as drought, poor soil and erosion. This study then supplements the earlier studies which were limited in scope (by addressing only issues like soil erosion, drought, poor quality seeds and poor farming methods), this study adds value by looking at the relationship between gender and food insecurity.

There is not study done in Mwingi District to show linkage between gender inequality and food insecurity.
CHAPTER TWO.

2.0 LITERATURE REVIEW.

2.1.0 Introduction.
Gender inequalities refers to the unequal distribution of wealth, power, privileges and opportunities between the sexes (Bahemuka 1993, Massiah 1983). In each case, the women are the disadvantaged. NG (1995) adds that gender inequality entails being poor and resourceless due to the social structures that require women to depend on their husbands, (Bukh 1979, P.S.I 1995, Youri 1990). As NG (1995:5) further states about gender,

"... it reigns in non-industrialized societies as a regulative force that renders inevitable the collective mutual dependence of men and women, setting thereby limits to dominion, exploitation and defeat... while under the reign of gender women might be subordinate, under any economic regiment they are only the second sex."

In trying to find out the source of gender inequalities, different scholars have come up with varied arguments. Okonjo (1976) argues that in Africa, gender inequalities were introduced by the British colonialists. He states, "...There is no valid historical grounds for explaining the present ... matters so often found among African women as being heritage of the past."

Leanock (1972) argues that there was equality among the sexes during the epoch of hunting and gathering in the early agricultural societies only to be lost during the livestock husbandry; this marked the beginning of the first form of private property and male dominance thus creating a new social relations. Gough (1971) and Hafkin et al (1976) see it differently, they both agree that the trivial role of child care assigned to the women (while men took care of defense) in itself typifies some sense of subordination. Personally I find problems with that because division of labour is merely an agreement of who does what and that has nothing to do with who is subordinate or superior. In
Mullings (1972) and Christian (1952), they lay the blame of gender inequality to cultural practices and specifically bride-wealth which limited the woman's freedom to the husband. Such a claim seems to have been borrowed from the colonialists' misunderstanding of the real meaning of some African cultural practices like bride-price. Bride-price was meant to cement the marital status of the husband and wife plus other parties who were brought together by such marriage; these would include all in-laws from either side of the marriage (Mbiti 1974).

For Boserup (1970), she argues that it was the colonial legacy that resulted to the the deterioration of the woman's status relative to that of men. This is in line with Allen (1972), she attributes the decline of women's status to the British colonialists because of their 'Victorian view of women,' they saw politics as a man's concern. In Africa, they then propagated the same values as the norm, the results being disruption of African society as a whole through the imposition of a social structure that subordinated women.

Personally I buy this view; first, we know that during the colonial era women were not given identification cards. And it was only recently that the Government of Kenya did issue the women with identification cards. By denying them identification cards and issuing men with them, that meant women were restricted at home while men had the freedom to go wherever they wished; that to me was demeaning the women. Secondly, women and children were not paying taxes during the colonial era; that by itself put women in the same ranks with the children while men were seen to be in a superior category (Mbiti 1974).

Referring to agriculture, Mullings (1976) observes that the status of the woman was altered further by the process of introducing large scale production for export and making the productive resources private. This by itself disrupted the reciprocal division of labor and made the production of cash crops a men's domain. Boserup (1970) concurs with this view and cites instances whereby the colonial personnel technically excluded women from the cash crop cultivation. They taught men modern technologies and helped them to access machinery to increase the level of production while excluding the women farmers from such services. That was a creation of inequality in agriculture.
Hay et al (1984) in the issue of gender inequality refers to Engels (Ritzer, 2000) who defines gender inequality as the situation whereby the resources of a community are appropriated and operated by a particular group as a private property, thus excluding the other group totally from the social production and resources, (Feld 1996, Bahemuka 1993).

Mbithi (1974) and Thio (1991) hold the view that gender inequality emanates from the kind of socialization one gets. Through ones socialization, one picks and adopts values and norms which will mold his thinking, attitudes, behavior and finally the positions and roles taken in the society either as men or women. This is the perspective held in this paper.

NG, (1982) gives the definition of gender as,

"Gender refers to the social differences between men and women that are learned, gender is a socio-economic variable to analyze roles, responsibilities, constraints, opportunities and needs of men and women in any context." {Italics mine} (NG, 1982).

The women farmers are then caught in this web of relationships and values which kind of dictates what they do, think, own and know (Mueller, 1985). It was only about 30 years ago that women's plight was given attention when 1975-1985 was declared by the UN to be women's decade (NG, 1982). But they still live in gender biased societies in many parts of the world; negatively affected in all sectors where they work.

2.1.1 GENDER RELATED PROBLEMS EXPERIENCED BY WOMEN FARMERS.

Up to this far, it has been established that women are the majority in rural farming, Boserup (1970:16) refers to Africa as the "region of female farming par excellence." This proves the fact that, on their own part, the women farmers are doing the best they can; but what remains is solving their problems which as mentioned before are gender related. When we think of food security for the households we must think of women farmers for the critical role they play (World Bank 1987, Dublin 1979).
2.1.2 ACCESS TO LAND.

African's primary resource is and has been land (Bay 1982); therefore the right of property over land is of great concern to the society. In many socio-cultural settings, women are not allowed to own land directly; it was either placed in the custodian of the clan or owned primarily by men. Women would then only use land but not own it (Mbithi 1974, Wilson 1962, Mwikali et al 1993, Boserup 1970).

In trying to find the root cause of such practices, Boserup (1970) observes that the European colonialists brought the land reforms and put land parcels under the custodian of men as the family heads. Land then continued to be passed on to the male through inheritance, this explains how and why women were left out completely without owning land. World Bank Report (1989) agrees with this by stating that whatever land the women farmers use is either registered under their husbands name or under an adult male relative's name. It simply means that women are and have been temporary land owners in many cultural set ups (Ncube 1994).

The widows, the divorced and the unmarried then are greatly disadvantaged, they can be kicked out of 'their' land any time by the male owners. This explains why in many women farms, they are reluctant to plant trees or build terraces as these are permanent developments which would invoke heavy losses if left behind by the evicted women farmers (Mueller, 1985). Because they do not permanently own the land they farm, the women farmers lack the morale to work hard and step up their food production. World Bank (1989) shows that there is a big decrease of agricultural exports in Africa while there is increase of 7% in food imports a year.

Gopal (2001) blames the rules for inheritance which excludes women; this explains the mystery of women's landlessness and the paradox that they are the majority in food production in the rural areas. By vesting the power of land allocation and ownership to men is in itself a gender inequality. It will end up in making men to subordinate women and make them to depend on them in that they do not own land. This is discouraging to the women farmers, it even explains why some of the women farmers
leave farming and start some businesses like selling of vegetables (Bahemuka, 1983). Eventually, food production will go down.

In Kenya, only 2% of arable land is registered in women's name. Inability to access land, leads to lack of credit facilities because land has to be used as security. We can not pursue sustainable agriculture and rural development without explicitly recognizing the women role in food security hence the need to promote gender based equity in access to and control of productive resources, ignoring the plight of women farmers will lead to starvation (Ochiel, 2004, NG 1987). Family member's efforts towards productivity are not squarely enough, one must have access to the natural resources, land; this is what women farmers have lacked. (Chiuri, 1992).

2.13. CREDIT FACILITY.

According to World Bank report (1997), women are seen to depend upon their husbands for economic resources. Due to this dependency, the women led households and farms are poorer than those led by men. Lack of access to credit facility is directly connected to the women's landlessness. Omiti (2001) suggests that credit is provided on the basis of land as security, this alone inhibits women from accessing loans from commercial institutions for various investment opportunities and consequently forces women to ever be dependent on their husbands (men). Awake (1996) captures this better when he states that:

"... even where women have title to property, some financial institutions require a woman to get her spouse's consent before obtaining the loan..."

Staudt (1976) concurs with Awake(1996) when she states that some lending commercial institutions present similar constraints to women by demanding complex procedural requirements that many women may eventually find too hard and prohibitive.

Without access to credit facilities, women will not boost their farming activities and will remain in the periphery. That limitation will keep them from paid labor, purchase of fertilizers, modern tools, improved seeds and other inputs that they may need. The myth that women can not manage credit facilities is not true, Gopal (2001:44) presents the case
of KWFT (Kenya Women Finance Trust) as a good proof. Founded in 1981 to advance and promote the direct participation of economically active women in business, it has altogether given out credit to 12,000 women since 1992 and so far, not a single loan has been written off.

The poor performance of women farmers can be systematically stemming from the differing forms of disempowerment they constantly experience in their economic strata they form as women (Mullings 1976). Accessing loans will enable the women farmers to expand their farms or crop acreage, this will be commensurate to their being the majority in the sector (World Bank 1997, Boresup 1970).

2.1.4 DECISION MAKING.

In practice, women tend to be excluded and sidelined in decision making organs (OEDC, 2001). This puts the women farmers in a precarious situation whereby, they are always in the receiving end with no ability to influence the decisions being made, or have their unique needs met in these decisions in the sector (agriculture). Mueller, (1985) further argues that due to social stereotypes, women are not recognized as farmers, their opinion is not sought or listened to. Men end up dictating everything like what to plant, where, when how and what to do with the harvest.

Gopal (2001) gives more examples as to how the women are excluded in the decision making organs and institutions. She shows that women do not participate in any meaningful way in the Land Control Boards which are vested with the power to vet transactions in agricultural land. Scarcity of women in the Local Authority and the Parliament are greatly lamentable. When women are absent in such organs that may have the authority to allocate land, will in the end mean that women will exercise very little control over the decisions made relating to allocation and utilization of land resource.

It will be of great help to the women if the customary law and traditional practices that inhibit women's access to decision making institutions can be banned, (Mwikali 1993). Practices to force widow inheritance in order for the widows to continue using the land owned by their dead husbands are defeating. The law should
automatically treat the widows to be direct next of kin and therefore consequently inherit the estate of their dead husbands. Such legal status will effectively shape women's socio-economic position and empower them in their farming, (Naraya 1994).

2.1.5 DIVISION OF LABOUR.

In general practice, all African communities tend to have labor division based on age and sex (Mbithi 1974). Women tend to perform most of the roles and especially in the domestic set up (World Bank 1989). Women tend to work for 13-16 hours per day, this overloading of women will hamper their participation in the agricultural activities (World Bank 1989, Pietla 1990). I agree that women are overworked and that slows their productivity in food production, hence the perpetual food insecurity.

When women's time is consumed by the domestic demands to such high degree, they end up missing essential meetings that would otherwise boost their farming activities (see Mwikali 2000). They will not attend farm demonstrations which would otherwise be ways of accessing recent and relevant farming information. Field days are also very important to farmers, women will not find the time to attend and the few who attend are assigned trivial duties like cooking or preparing the venues. Mueller (1985) shows that during seminars and workshops women may either not find the time to attend or will attend and just be quiet letting men to dominate. Their performance will remain low in the agricultural sector for they do not profit from farm demonstrations and field days which are good opportunities to learn more on farming.

To help the women farmers to have enough time for their farms, equitable division of labour is essential, Mueller (1985) shows that even what looks very natural (division of labour) needs to be investigated to establish its viability. Boserup (1970), for example, argues that women like men can be breadwinners. It is the unfair division of labor that forces women to be overloaded with domestic work and therefore lack sufficient time to work in their farms. Without sufficient time for their farms, women farmers can not spur their production of food to enhance food security.

This unfair division of labor is a pure cultural construct (Mbithi 1974). With efforts and
change of affairs, everybody can participate in any kind of domestic work and co-share the work equitably and effectively. World Bank (1989) shows that the worst part of it is that most of the domestic activities and works performed by women is not counted as work neither is it quantified in monetary value.

2.1.6 ILLITERACY.
Illiteracy is inability to read or write. Illiteracy is a big handicap in food production (World Bank (1987). In Kenya's 64% of the non-literate population is comprised of women in the rural areas (UNESCO, 2001). Illiteracy reduces the understanding of women, impairs them in organizational performance, reduces their managerial abilities and renders them poor communicators. FAO (1987) and Gill (1987) add that 30% of the women in rural Africa can not read or write.

World Bank (1989) points out that many of the women investments in agriculture end up in loss because they can not keep records of their transactions. Their ability to handle credit facilities is also reduced because they lack basic education. The women can not also benefit from the printed materials from the Ministry of Agriculture because of illiteracy, (Mueller 1985, UNAIDS, 2000).

Although women have the right to education, they not fully benefited from it. They continue to be seen as nurturers and as such this requires them to drop out of school to attend to the sick, etc. Where poverty ranges high, the girl child will drop out of school to allow her brothers to continue. She even might work as a house girl to support the education of her brothers. In that women constitute more than half of our population, (50.2%), we can not trivialize their access to education (Gopal, 2001). We will have condemned them to poorly remunerated labor and periphery performance in food production which will consequently perpetuate food insecurity (World Bank 1975).

Recent statistics (Human Development 2001) are scaring. Out of the girls who entered standard one in 1995, only 34% finished primary school. The statistics are higher when we consider those who did not finish high school, 72%. The implications are that women access to education is greatly compromised. A lot of the problems cited can reversed by
our society to allow girls to continue with education; for example, early marriages, lack of fees and poverty which makes girls to be employed at very early age like 9 years or 5. To improve women farming capabilities, it is intertwined with improving their access to education. For the adult women, they can be taken to the adult classes. Dedication and commitment should be extended to the girl child's education by the society.

2.1.7 EXTENSION OFFICERS SERVICES.
The government spends a lot of money in employing the extension officers (World Bank, 989, Baxter 1984). They help the farmers both male and female to access quality seeds, new technologies, research findings, market systems, solve problems and to store their harvest successfully (Mwangangi 2000, Republic of Kenya 1990). While the list can be expanded, non of these services seem to reach the woman farmer (Stauddt 1976, Mueller 1985). The use of extension worker is not new, it was started by the colonial government, the Ministry of Agriculture and Livestock Development implemented it in 2000 and has continued to play a good role in meeting the needs of the small-scale farmers (World Bank 2000, Stauddt 1976, Mueller 1985, Shorter 1998, MoALD 2000).

Up to now, the role played by the women farmers remain largely unrecognized. They are just seen as housewives or just women (World Bank 1989). This makes the male agents to just ignore the women farmers and they rarely visit their farms. Cultural values and norms here are to blame, they prohibit the male agents from talking to women or moving around with them in their farms (Mwangangi 2000). The extension workers are then more comfortable visiting the male farmers. Mostly, when they plan their work like selecting contact farmers; the agents will choose male farmers thus leaving out the female farmers. All sorts of excuses will be given for this, some will say that women are too busy to have the time for farm demonstrations, women are unable to move around due to their domestic works, many demonstrations end up being avenues of decision making which is culturally reserved for men, instead of attending then women can later be briefed by men (Mwangangi 2000, Shorter 1998, World Bank 1987). Other modes of training, seminars or workshops technically limit women from attending, some are taken far from home in some hotels. Woman are never invited due to their lack of time and the cultural implications of sleeping in hotels (Mueller 1985). Women who
frequent towns are seen as lazy, trouble makers or prostitutes (Ritzer 2000). Extension workers then must plan their activities in a manner to allow women farmers to participate in the cultural set up and context. If the extension agents were advising the women farmers adequately, they could have been persuaded to plant drought-friendly crops such as; cassava, sorghum, millet and sweet potatoes (UNEP REPORT, 2000). The women being the majority in farming, need constant and quality guidance by the extension in order to enhance food security.

2.1.8 CARING FOR THE SICK.
Correctly Africa has been described as a sick continent. World Bank (1989) argues that despite all the miracles of modern medicine, many more diseases are finding their home in Africa. Because women and girls are seen as nurturers, nearly the whole burden of caring for the sick is unfairly thrown to them by the society (Collier, 1987). The implication of this is that most of their time and resources that could have gone to farming is diverted to the caring of the sick (Tappia 1988). Activities like planting, cultivating, land preparation and harvesting are always done late; this means low productivity and consequently food insecurity in the society. Medical care goes with a heavy financial undertaking; this means instead of women buying farm inputs will spent most of their money buying drugs for the sick (Goba, 1985). This will not help in improving the food insecurity because inputs could improve food productivity were not bought.

It has been established that whenever women lack the finances which help in nursing the sick, they sell part of their food in order to get the needed money. Due to selling of the food, the available food to be consumed by the household is reduced and this will cause food insecurity (World Bank 2000, Human Development Report 2001).

2.1.9 GENDER PERPETUATED VIOLENCE.
Violence is anything extended to any person against their will (Massia, 1983). When referring to women, violence is extended to them because they are perceived as being weaker or powerless compared to men (Mukholi, 2001).
Comors (1992:2) asserts that, "violence against women is an outcome of the belief fostered in all cultures that men are superior to women..." Naturally, men tend to be stronger than the women physically, this coupled with social-cultural factors which 'allow' men to discipline women through beating makes the practice complicated and hard to stop. The effects of the practice of violence against women affected their production drastically in agriculture where their confidence, peace and concentration are highly needed for success (Bahemuka 1993, Bryceson 1995). Violence is a common experience among the women irrespective of religion, culture, tradition, race, status or nationality (Mwaura, 1998). Violence comes in many versions (spiritual, sexual, psychological, social structural and religious) the effects are the same; fear and immobility in all productive measures.

By physical violence, the women are beaten and battered by men (whether husbands, brothers, brother in-laws, fathers and father in-laws, etc) whenever they seem to make a stand on agricultural issues which otherwise are traditionally perceived to be a man's only zone. If a woman makes demands to be given land to own by her name or wants to have autonomy to control food harvested, all these demands are greeted by untold physical violence to put the woman back where she rightly 'belongs' dependent on man (Boserup 1970). This kills the women morale to work in the farm and this can explain why their food production will be poor and hence food insecurity.

Physical violence against women has the effect of sapping their energy, undermining their confidence and compromises their health; at the end it deprives their productivity in agriculture and their full participation in development (Omiti 2001). Through wife beating or any kind of women beating has the effect of slowing their work down for some time; some suffer broken legs, arms or where it is very severe some are rendered totally lame. Mwaura (1998) lists serious cases like gorging out of eyes, cutting off limbs like arms or legs. This brings women's farming to halt.

Where injuries were not very serious, due to fear of further violence, married women may run away for some time to take refuge in their matrimonial homes; during this
period (can be months or years), their farms suffer and at the end food insecurity will result.

Violence against women has the effect of inducing fear in their lives. Because of fear, they can not work in their farms with all the concentration; the farms that are in the midst of the forests induce fear of being assaulted, raped or even killed by angry husbands, male relatives or any other men who may come into contact with them (Oyekanmi 1997:1). Cornors (1992) gives very high statistics of rape, one woman raped every 30 minutes. Such social environment then becomes very limiting, unfriendly and defeating for any meaningful agricultural productivity for the women.

2.2.0 THEORETICAL FRAMEWORK.
Theory is a set of constructs which explains and predicts observable phenomenon by showing relationship of variables (Peil, 1986). Turner (1991) says that a theory is a 'story' that tells us how and why events occur.

In order to understand the contribution of gender inequalities to food insecurity, two feminism theories will be used in this paper to help us in visualizing the key variables that are important for the study.

2.2.1 MARXIAN FEMINISM THEORY.
The foundation of this theory was laid by Marx and Engels (Ritzer 2000:455). The main focus of the theory is on gender oppression. In this theory, Marx argued that subordination of women is not based on their biological factors but from the social arrangements which have history and could be changed. Marx pointed out that the subordination of women lies on the family structures which otherwise are patriarchal. Commenting on the then economic system of capitalism, Marx noted that women subordination resulted from the new economy that gave way to private ownership of property as a monopoly of men, women and children only contributed to labour and had to be compliant to the demands of man (Gopal 2001).
This theory is relevant to this study. The main thrust of the study is to explain the contributions of gender inequalities to food insecurity. The theory helps to visualize the social structures which are oppressive to the women because they require them to be subordinate to the men; Lyon (1983) calls this de-traditionalisation. Unless there is equal opportunities and women freely participate in production, then conflict emanating from gender inequalities will always result in food shortages because women will not be able to do their best without being fettered by the tentacles of gender inequality. Every society has moral obligation to stop women subordination and help them to enhance meaningful production without exploitation.

Marxian theory blames the family for poor socialization. It is in the family where we find the origin of gender inequalities brought about by socialization which consequently require women and girls to be subordinate to men. There is need for a new socialization for the families where the gender roles compliment each other in role playing. This will end gendered occupational segregation and promote equity among genders (Lyon, 1983). This will have the effect of empowering the women to make decisions and when applied to agriculture, it will lead to food security because the women farmers will be able to do the right thing at the right time and with the correct spirit.

By being liberated from patriarchal domination, women will be free from all economic forms of limitations that exclusively associates men with paid productive work and associated women exclusively with unpaid work (Naye, 1988). This enables women to earn income and own property. Their work (women) will be acknowledge whether family, household or agricultural roles; this will encourage them to competently work in their farms as their male counterpart and the results will be more production which will guarantee food security (Gopal, 2001).

2.2.2. LIBERAL FEMINISM THEORY.
This theory of Liberal Feminism teaches that there should be equality in the sexes. Lyon (1983) argues that women are limited because of sexism which encourages women to become dependent on men thus limiting themselves to housework which is normally
unpaid, being compliant to manipulations by men and performing periphery roles like child care, cooking, hewing fire woods and cooking. Nye (1988) suggests that the prejudices and discriminatory practices against women are purely due to sexism, the peripheral roles assigned to women and the rights denied to them (like property ownership or decision making) have nothing to do with their capabilities but it is totally based on gender. When the same gender is extended to the agricultural sector, the results will be poor performance which means food insecurity. Due to gender, women will not be allowed to own land, make decisions, access credit, or be recognized as a farmer to benefit in the same way as all the other farmers regardless of their gender. This kind of limitations, will also mean limited production hence food insecurity.

According to this theory, to change gender inequalities, women must access more individual freedom and equal opportunities with men. Applied to food production, this gives women same and equal opportunities to work in their farms without any discrimination. This will boost their production and remove food insecurity. Women will own land and access everything and opportunities enjoyed by their male counterparts (Boserup 1970). By eradicating sexism, it means that women can be evaluated by merits and use their talents as farmers; this will be a way of empowering the women socially, psychologically, economically and psychologically (making of decisions) in such environment, the women farmers will be empowered to do their very best to remove food insecurity. The social institutions namely political institutions, legal institutions, economic institutions and the family institution will all then support women in their endeavour to produce food instead of limiting the women by stereotypes, (Gopal, 2001).

2.2.3. SOCIAL INEQUALITY THEORY.
Social inequality theory refers to inequality among individuals. Such inequality is based on issues like caste, religion, race and gender (Diamond and Giddens, 2005). According to this theory, the future of a child is determined by social status rather than brains. Because one is born in a rich family, he/she will be entitled to better things of life like better job, education, health and wealth of which the person born in a poor family can never access easily. The theory also shows that the rich will get richer while the poor become poorer.
Applied in this study, the theory helps to show the fact that circumstances into which a person is born in will determine his/her destiny; if one is born a man, he has all the opportunities for his taking. Being born a woman means condemned to the periphery. The theory points to the fact that it is sexism (gender) which institutionalizes the inequality, it is not the talents or ones ability. Based on the theory, sharing of wealth will not be done broadly but only to the men; owning everything that has economic value while the women either own nothing or only the less valuable (Ritzer, 2000).

If any society is serious in reducing poverty, wealth must be shared more broadly to reach all the sexes. Branko in (World Bank, 1988:133) argues,

"An important aspect of poverty reduction is to promote growth that benefits poor population groups."

It is imperative for the women to:

- Have a stronger participation in economic building at the same level with men.
- Have their human capital raised to improve their economic status, they are poor.
- Have all forms of discrimination against them eliminated in all sectors, even agricultural sector where they dominate in numbers.
- Enjoy sane legal system and socio-cultural values and norms just like the men, one is unable to comprehend why women can not automatically inherit land just like men.
- Be evaluated on merits, talents and abilities just like men and not on gender only.
- Stand up and refuse being seen in the stereotypes that require them to be subordinate to the men who even might have lower IQ and other abilities.

2.3 HYPOTHESES.
Babbie (1975:76) defines hypotheses a statement of specific expectations about the nature of things, usually it is derived from a theory. In research, the hypotheses are tested with a view of determining whether the theoretical expectations can be confirmed by what goes on in the real world. The study had two hypotheses to test.

1. Land ownership is not determined by ones gender.

2. There is no relationship between receiving agricultural extension services and gender.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 INTRODUCTION
This chapter describes in detail the research methods adopted by this study in obtaining the results that will be presented later on. The study adopted survey design. This design entails studying a small sample of the population drawn by random selection and then generalizing to the larger population. To collect data, a structured questionnaire was used in the survey design (Singleton, Karl et al 1988, Babbie 1985). The chapter also shows the method to be used in analyzing and interpreting data.

3.2 THE STUDY SITE
The study was carried out in Migwani division of Mwingi district and the results used to generalize for the larger population of the district. The district is in Eastern province of Kenya. There are four divisions in the district. The estimated population of the district is 245,000 (Agricultural Report, 2002); most of the inhabitants were mainly Kamba people who account for 98% of the population (Chitere, Masinde et al 1991).

The climatic condition of this district is harsh. The government has allocated hardship allowance to its servants working there; this is in itself an indicator of the intolerable conditions in parts of the district. There are two seasons in this district, the long rains stretching from October to December and the short rains ranging from March to June. The mean rain is 600-800 mm (Agricultural Reports, 2003).

In Migwani division, there is high potential of agricultural activities compared to the other divisions. Horticulture and dairy farming are highly practiced compared to all the other divisions (District Reports, 2002). Even with these potentialities, the division has continued to experience food insecurity and has continued to receive food relief from the
government, churches and some NGOs.

It is in Migwani division where we have the best climatic conditions in Mwingi district. This makes the division a potential agricultural center. But, critical studies have shown that about 78% of the people living in this division do not have enough food to feed themselves for the whole year (Government Reports 2001, District Agricultural Reports, 2000).

Like the case of many other parts of the rural areas, women are the majority in the agricultural sector in Migwani division (Boserup 1970, Mbithi 1974). Because the division does not produce any cash crop, men go to the urban centers in search of the wage employment; this leaves the women in charge of the farm activities (Mueller, 1985). Attempt then is being made to see if the food insecurity experienced in this highly agricultural potential area has any linkage with the practices of the women farmers.

I used the five divisions in Mwingi district, Migwani division, Nuu division, Kyuso division, Central division and Ukasi division. For the study, I purposely chose Migwani division because of the following factors:-

i) Proximity... I did not have to incur expenditure on travel or accommodation since I live in the division.

ii) Past experience... The division receives the most rains in the district, it has good agricultural potentialities yet 78% of the population do not have enough food to eat round the year (The District Reports, 2001).

iii) Limited resources ... Due to time and financial constraints, Migwani division proved more favourable to me for carrying out the study.

3.3 UNITS OF ANALYSIS

These are the social entities whose characteristics are studied (Singleton, Karl et al 1988, Kinoti 1998). In this study, the units of analysis was food insecurity. The units of observations were the rural farmers; men and women who were the heads of households.
3.4 SAMPLING DESIGN

Sampling is the process of selecting a small part (sample) of the entire population to be studied, all the elements are given equal chance of being selected and its only chance alone that they end up being selected (Frankel, Hughes et al. 2000, Kinoti 1998).

For the purpose of this study the sampling techniques adopted were both probability techniques and non-probability ones.

This part shows how the cases were selected from the entire population of Migwani farmers. After the division was purposively selected, I worked with the four locations within the division. One location was selected using simple random, that entailed tossing a coin. The four locations were combined into twos; (1,2) and (3,4). In the first round of coin tossing, two locations getting the 'H's were selected, then from the two locations one was selected through further tossing of the coin, the one getting "T" was selected for the purpose of the study.

From the selected location, all the sub-locations falling under it were listed; from the list of the sub-locations a total of three was selected for the study using the systematic sampling technique. The selected sub-locations were Kyamboo sub-location, Kyome sub-location and Kyome sub-location. A random start was established before by tossing a coin so as to be fair in the selection of the three sub-locations.

3.5 METHODS OF DATA COLLECTION

The data for the study was collected from the three selected sub-locations. Since there was no known records existing about the various households/homesteads, I used community mapping which is one of the most current methods of data collection. In this method, the local opinion leaders and the local administrators were used to give the number of the homesteads and households in each village and sub-location at large (Seltz, 1994).

After getting the total number of households/homesteads, then the known methodological
methods were used to sample the homesteads/households. A sample of 96 respondents was selected from the list given by the leaders which totaled to 480 farmers. Systematic sampling design was used to select the individual units of analysis. A starting point was chosen at random between numbers (1, 2, 3, 4, 5, 6, 7, 8, 9, 10) on the list compiled. The ten names were written, folded, put in a hat then mixed very well, one name was picked and that marked the starting point. The interval depended on the number of the elements to be chosen from each sub-location, since the sample was disproportionate as the sub-locations were not likely to have equal number of farmers.

Table 01 below shows the sub-population and sub-sample for every sub-location included in the sample. Below the table is the large population 'N' and the sample 'n.'

**TABLE 01.**

<table>
<thead>
<tr>
<th>Sub-location</th>
<th>Population listed</th>
<th>Sub-sample Drawn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kyamboo sub-location</td>
<td>160</td>
<td>32</td>
</tr>
<tr>
<td>Kyome sub-location</td>
<td>200</td>
<td>40</td>
</tr>
<tr>
<td>Migwani sub-location</td>
<td>120</td>
<td>24</td>
</tr>
</tbody>
</table>

\[N=480\quad n=96\]

### 3.6 TOOLS OF DATA COLLECTION.

The study used the following tools of data collection.

i) Structured questionnaire which was used to interview each of the 96 sampled farmers.

ii) Interview Guide used to collect data from the Focus Group Discussion, 12 farmers who had common or similar interests were involved in the F.G.D.

iii) Semi-structured questionnaire was used for interviewing the Divisional agricultural workers.

iv) Non participant observation. This entailed visiting some of the farmers to observe what they did, conditions they worked in, what they planted and how they planted it, sizes of their farms and any other issues that were related to food insecurity. All significant data observed were recorded and later analyzed to determine their significance, meaning and relevance to explain food insecurity.
3.7 SOURCES OF DATA.

Mainly there were two sources of data:-

i) Primary source: These were from interviewing the 96 respondents (rural farmers). From my discussions with the Focus Group Discussions, I got some more data too. During the non-participation observation periods, this enabled me to get data that were related to food insecurity.

ii) Secondary source: Relevant agricultural reports from previous years and present were read. All other forms of relevant literature were reviewed and data recorded which was relevant to food insecurity and gender inequality.

3.8 DATA ANALYSIS.

Kinoti (1998) sees data analysis as "... systematically looking for patterns in the data and formulating ideas that account for those patterns." She further gives the purpose of data analysis as,

"... to summarize the research data in such manner that these data produce answers to questions that you initially asked when you articulated your research problem." (Kinoti 1998:88)

The analysis began at the same time with data collection because even during data collections, I got some ideas about the analysis (even though final analysis was done at the end). The data I analyzed included field notes I made, observations and the data from all interviews and discussions. Nachimias (1996) tabulates the main steps in data analysis as:-

i) Going over field notes
ii) Organizing the data
iii) Looking for patterns
iv) Checking emergent patterns against data
v) Cross-checking validity of data sources
vi) Making linkages among the various parts of the data
vii) Preparing statistical abstracts.

In all this, I was asking the question "what were my data telling me about the research problem and the objectives? What insights were emerging from the data (Babbie, 1975).
Upon coding all the data, the information was presented in tables and percentages shown for every case. The two hypotheses were also tested for the purpose of checking if the theoretical expectations were confirmed by the data from the field.
CHAPTER FOUR
4.0 DATA PRESENTATION

4.1 INTRODUCTION

The data collected in Migwani division are presented in this section. These data includes most of the aspects of farmer’s gender limitations in relation to food security, farmer's personal characteristics and farmers accessibility to land and credit facility.

Data showing the contribution of gender inequalities to food insecurity are presented in the following sequel with the guidance of the variables mentioned here: education level of the farmers, land ownership, land acquisition, access to credit, access to extension services, preparation of farm records, food policy and decision making.

a) Farmer's literacy.

This study postulated that literacy helps farmers to benefit from the printed agricultural information, keeping of farm records and also calculating their profit and loss in order to farm as a business. Literacy of the respondents is shown below:-

Table 02. Levels of the farmer’s education. (The respondents were to state their level of educational attainment).

<table>
<thead>
<tr>
<th>Farmer's Sex</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non</td>
<td>1</td>
<td>9</td>
<td>1.4</td>
<td>9.4</td>
</tr>
<tr>
<td>Lower Primary</td>
<td>2</td>
<td>28</td>
<td>2</td>
<td>29.7</td>
</tr>
<tr>
<td>Upper Primary</td>
<td>15</td>
<td>11</td>
<td>15.5</td>
<td>11.5</td>
</tr>
<tr>
<td>Secondary</td>
<td>11</td>
<td>8</td>
<td>11.5</td>
<td>8.3</td>
</tr>
<tr>
<td>College</td>
<td>5</td>
<td>2</td>
<td>5.2</td>
<td>2</td>
</tr>
<tr>
<td>University</td>
<td>3</td>
<td>1</td>
<td>3.1</td>
<td>1.4</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>59</td>
<td>38</td>
<td>62</td>
</tr>
</tbody>
</table>

The pattern which is emerging is that most of the women farmers have no education at all that is (Non) 9.4%, those who had gone up to lower primary school, were 29.7%; those
who had gone through upper primary and secondary school were 19.8%. When compared to male farmers, there is a lot of disparity, 27.1% of the male farmers had gone through upper primary school and high school compared to 19.8% of the women farmers. We see a lot of a higher level of illiteracy found among the women.

Some of the consequences emanating from illiteracy are like inability to keep farm records. This is well shown in table 03.

Table 03. Keeping of farm records. (Respondents were asked if they kept farm records). Percentages

<table>
<thead>
<tr>
<th>Farmer's Sex</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kept records</td>
<td>19</td>
<td>10</td>
<td>19.7</td>
<td>10.4</td>
</tr>
<tr>
<td>Did not keep records</td>
<td>18</td>
<td>49</td>
<td>18.8</td>
<td>51</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>59</td>
<td>38.5</td>
<td>61.4</td>
</tr>
</tbody>
</table>

From this table, 51% of the women farmers did not keep farm records. Asked why they did not keep farm records, the study established that the major reason they gave was illiteracy; see table 04.

Table 04. Reasons for not keeping records (Respondents were asked to state why they did not keep records).

<table>
<thead>
<tr>
<th>Farmer's Sex</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not literate</td>
<td>3</td>
<td>37</td>
<td>4.5</td>
<td>52.2</td>
</tr>
<tr>
<td>Not trained to keep records</td>
<td>13</td>
<td>9</td>
<td>19.4</td>
<td>13.4</td>
</tr>
<tr>
<td>Did not see the importance</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4.5</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>49</td>
<td>26.7</td>
<td>73.1</td>
</tr>
</tbody>
</table>

It can be seen on these results that 52% of the women farmers were illiterate, that was the
main reason for not keeping farm records as they stated. Another limitation was that the women farmers could not benefit from the printed matter which otherwise can reach a wider audience much easily.

b) Decision making.
The farmers need to participate on decision making because they are stake-holders in the food production industry. The study sought to establish if the farmers participated in decision making despite their gender. The study established that very small percentage of women farmers were involved in food policy, only 27.1%, in controlling food after harvest, only 18.8% participated. Tables 5 and 6 show those two facts respectively.

Table 05. Food policy (Respondents were asked if they were involved in food policy). Percentages.

<table>
<thead>
<tr>
<th>Farmer's Sex</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involved in food</td>
<td>34</td>
<td>26</td>
<td>35.4</td>
<td>27.1</td>
</tr>
<tr>
<td>policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not involved in</td>
<td>3</td>
<td>33</td>
<td>3.1</td>
<td>34.4</td>
</tr>
<tr>
<td>food policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>59</td>
<td>38.5</td>
<td>61.5</td>
</tr>
</tbody>
</table>

It is clear from this table that majority of women farmers were not involved in food policy, 34.4% compared to only 3.1% of the male farmers who were not involved in food policy.

Table 06. Control of food after harvest (Respondents were asked if they controlled food after harvest).

<table>
<thead>
<tr>
<th>Farmer's Sex</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controlled food</td>
<td>34</td>
<td>20</td>
<td>35.4</td>
<td>18.8</td>
</tr>
<tr>
<td>after harvested</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did not control</td>
<td>3</td>
<td>39</td>
<td>3.1</td>
<td>40.6</td>
</tr>
<tr>
<td>food after harvest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>59</td>
<td>38.5</td>
<td>61.5</td>
</tr>
</tbody>
</table>

32
This showed that most of the women farmers did not control food after harvest, only 40.6% did; interestingly, even though male farmers were fewer than the female farmers, only 3.1% of the men who did not control food after harvest. It is men who controlled food after harvest; the few men who did not control food after harvest, the study established that their main reason was that they did not stay at home most of the time. This implies that had they stayed at home, the control of food after harvest would be their docket. Such limitations will demoralize the women farmers and slow their working hence food insecurity. The main reason for this bad practice is the cultural constraint that stereotypes women as subordinate to men.

Table 07. Reception of the agricultural extension services (Respondents were asked whether they received agricultural extension services).

<table>
<thead>
<tr>
<th>Farmer’s Sex</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received the services.</td>
<td>21</td>
<td>6</td>
<td>21.8</td>
<td>6.3</td>
</tr>
<tr>
<td>Did not receive the services.</td>
<td>16</td>
<td>53</td>
<td>16.7</td>
<td>55.2</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>59</td>
<td>38.5</td>
<td>61.5</td>
</tr>
</tbody>
</table>

Only 6.3% of the women farmers who received the extension services compared to 55.2% who did not. The implication of this in agriculture is very negative, from the extension services the farmers benefit a lot. For example, they can learn how to manage their those who farm in difficult areas like in slopes, learn how to replace the lost nutrients to the land through use of manure or other inorganic fertilizers which are very good. World Development Report (1992:155) shows that there can be no effective farming without linking with the extension officers. Asian farming has thrived more than African farming because of this fact. While in Africa we have recorded low fertilizer and pesticide use, such has increased in Asia. Even the extension officers have learned from the farmers themselves, this has led to complimenting the modern techniques with some effective traditional practices; eg from the traditional grass which is deep rooted, when planted in contours has been very effective in combating soil erosion. The extension officers borrowed a leaf from the tradition farming.
able 08. Effects of not receiving extension services (Respondents asked how not receiving extension services affected them).

<table>
<thead>
<tr>
<th>Farmers Sex</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>It did not affect me</td>
<td>21</td>
<td>6</td>
<td>21.8</td>
<td>6.3</td>
</tr>
<tr>
<td>I lacked current information in farming</td>
<td>16</td>
<td>53</td>
<td>16.7</td>
<td>55.2</td>
</tr>
<tr>
<td>I do not know</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>59</td>
<td>38.5</td>
<td>61.5</td>
</tr>
</tbody>
</table>

Women farmers, 55.2% lacked effective information with which to do meaningful farming.

c) Land ownership

Land ownership is very critical in food production. In this study, this indicator was used to measure if all the farmers had equal access to land and that they possessed the title deed despite their gender. Owning land as one of the productive means in food production enables the farmer to effectively produce food. Equally true, not owning land is detrimental for any farmer. This is the big paradox in Kenyan farming, the women are the majority in small-scale farming, they do not own the land they use yet we call them farmers. To own land means holding the title deed so that one can make permanent investment on that land like planting trees and building terraces without the fear of being kicked out of the land and lose such investment. The table below shows the farmers who owned land and their gender for this study.

Table 09. Land ownership (Respondents were asked if they owned the land they farmed; if they had a title deed for it).

<table>
<thead>
<tr>
<th>Farmer's Sex</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owned land</td>
<td>37</td>
<td>6</td>
<td>100</td>
<td>6.3</td>
</tr>
<tr>
<td>Did not own land</td>
<td>0</td>
<td>53</td>
<td>0</td>
<td>93.7</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>59</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
While 100% of the male farmers owned land and had tittle deeds, only 6.3% of the women had the same status. 93.7% of the female farmers did not own the land they farmed. The 93.7% of the women farmers mostly worked on land which otherwise to either their husbands or other male relatives; such land could automatically be lost in the event of the male's death. Under such circumstances, their morale and output will tend to be low, hence the food insecurity.

It interested the study to probe on how the farmers acquired their land for those who owned land. The results were that 78% of the male farmers inherited their land from their families, 21.5% had bought their land. When these results are compared with those of the female farmers, a lot of disparity is seen; only 4.7% had inherited land, 1.6% had bought theirs; again this leaves 93.7% of the women farmers without permanent ownership of land.

Here the blame for not owning land rests on gender inequalities; that explains why the male children will always inherit land automatically because of their sex while the women will continue not to inherit land also because of their sex. If farming will be boosted for all the farmers equally, then urgent need is their to remove the inequality in land ownership which as of now stands as a big barrier for the women farmers.

Even where women owned land, the study established that they only owned very small chunks of land. Of the 6.9% of the women farmers who owned land, 4.7% owned only 0-5 acres, 1.7% owned only 5-10 acres. This is shown below.
Tables 10. Land sizes owned by farmers. (Respondents were asked to state the size of the land they owned).

<table>
<thead>
<tr>
<th>Farmer's Sex</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 Acres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-10 Acres</td>
<td>2</td>
<td>4</td>
<td>4.7</td>
<td>4.6</td>
</tr>
<tr>
<td>11-15 Acres</td>
<td>4</td>
<td>2</td>
<td>20.9</td>
<td>1.7</td>
</tr>
<tr>
<td>16-20 Acres</td>
<td>7</td>
<td>0</td>
<td>16.2</td>
<td>0</td>
</tr>
<tr>
<td>20 Above</td>
<td>10</td>
<td>0</td>
<td>23.2</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>6</td>
<td>100</td>
<td>6.3</td>
</tr>
</tbody>
</table>

The implication here is that the gender inequalities do not just prohibit women on owning land, but also influence the land size and even at times the quality of land owned by the women. This will consequently reduce the women farmer's production and this will result to food insecurity.

d) Access to credit.

The study postulated that the farmers who could access credit facility were able to increase their food production. This is because they could access inputs like fertilizers, pesticides, improved seeds and paid labour to assist them in their farm activities like weeding.

The results showed that only 23.9% of the female farmers had knowledge of the credit facilities and only 3.1% of the women farmers had benefited from the credit facilities. These two factors are tabulated here below.
Table 11. Knowledge of the credit facilities (Respondents were asked if they knew the farmers credit facilities).

<table>
<thead>
<tr>
<th>Farmer's Sex</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knew of credit facility</td>
<td>31</td>
<td>23</td>
<td>32.2</td>
<td>23.9</td>
</tr>
<tr>
<td>Did not know of credit facility</td>
<td>6</td>
<td>36</td>
<td>6.2</td>
<td>37.5</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>59</td>
<td>38.4</td>
<td>61.4</td>
</tr>
</tbody>
</table>

Lack of knowledge of the existence of the credit facilities will reduce the chances of the women farmers to benefit from such facilities, 37.5% of the women farmers did not know such facilities existed. This factor may explain why so few women 3.1% benefited from the credit facilities.

Table 12. Beneficiaries of the credit facility.

<table>
<thead>
<tr>
<th>Farmer's Sex</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefited</td>
<td>14</td>
<td>3</td>
<td>14.5</td>
<td>3.1</td>
</tr>
<tr>
<td>Not benefited</td>
<td>23</td>
<td>56</td>
<td>24</td>
<td>58.3</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>59</td>
<td>38.5</td>
<td>61.4</td>
</tr>
</tbody>
</table>

An attempt to understand why so few women farmers 3.1% benefited from the credit facilities was further tested to establish if their was any other reason apart from lack of knowledge of the existence of such facilities. The study established that most of the credit facilities demanded a title deed as security, this further limited even the few women farmers 23.9% who knew the existence of such facilities. 37% of the women farmers who knew of the credit facilities attributed their lack of accessing such facilities to the lack of title deeds as security. This proves the fact that until women ownership of land is critically instituted, credit facilities will not be of much help to the women.
farmers.

Table 13. Reasons for not getting loan (Respondents were asked why they did not get credit or loan).

<table>
<thead>
<tr>
<th>Farmer's Sex</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not want to get loan</td>
<td>16</td>
<td>2</td>
<td>29.2</td>
<td>3.7</td>
</tr>
<tr>
<td>Had no security (Title Deed)</td>
<td>0</td>
<td>20</td>
<td>0</td>
<td>37</td>
</tr>
<tr>
<td>Do not know</td>
<td>15</td>
<td>1</td>
<td>27.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>23</td>
<td>57.4</td>
<td>42.6</td>
</tr>
</tbody>
</table>

The second reason why women farmers have had very little access to the credit facilities is tabulated here on Table 13, the women have not title deeds as required by such facilities. The 37% of those who knew the existence of such facilities cited lack of title deeds as the barrier to their accessing such facilities. In trying to understand this point more deeply, study probed the kind of credit facilities accessed by farmers. It was found that the credit facility accessed by women farmers were those which did not require a title deed to get a loan. These findings are tabulated below.

Table 14. Type of credit facility accessed (Respondents asked to state the credit facility accessed).

<table>
<thead>
<tr>
<th>Farmer's Sex</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank loan</td>
<td>10</td>
<td>2</td>
<td>58.8</td>
<td>11.8</td>
</tr>
<tr>
<td>Society loan</td>
<td>1</td>
<td>1</td>
<td>5.9</td>
<td>5.9</td>
</tr>
<tr>
<td>Farmer's Loan (AFC)</td>
<td>3</td>
<td>0</td>
<td>17.6</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>3</td>
<td>82.3</td>
<td>17.7</td>
</tr>
</tbody>
</table>
For those facilities which require a title deed only like the AFC, 0% is recorded for the women farmers’ column; that is to say none benefited.

e) Farmer’s Sex

The study did establish that women were the majority of small scale farmers in Mwingi district. This makes their farming very important to the policy makers, government and any other interested party in food production in Mwingi district. Alone women accounted for 61.4% of the total farmers while men formed only 38.5%. Going by statistics, urgent need is there then to improve women farming. Table 15 shows the details.

Table 15. Farmers Sex

<table>
<thead>
<tr>
<th>Farmer’s Sex</th>
<th>Frequencies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>37</td>
<td>38.5</td>
</tr>
<tr>
<td>Female</td>
<td>59</td>
<td>61.4</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>100</td>
</tr>
</tbody>
</table>

The critical place and role of the women farmers in Mwingi district can be seen from this table; they can not be ignored for any effective improvement of agricultural production in Mwingi District.

CONCLUSION.

The theme of gender inequalities in this study can not be overemphasized. Women farmers operate under very harsh and hostile environment of gender inequalities which constantly works them down in their food production hence food insecurity.

What women farmers are (personal characteristics) and have (wealth) is directly influenced by gender inequalities. Even where abilities and merits should determine ones position: gender has continued to be the determining factor for the women. A good example here is in education, the majority of the women farmers 29.7% only have lower primary educational level. It is not just the abilities of the women that determines her
continuity with education. A gifted girl can be asked by her parents to drop out of school in favour of her brother who is not equally bright. In such circumstances, the low level of education forced on such women will show itself in farming where they will show a lot of limitations like keeping records where 51% did not keep farm records, understanding instructions coming with pesticides, their managerial skills in farming and adopting modern methods of farming.

In some matters like land ownership, it is very sad to note that only 6.3% of the women farmers owned land compared to 100% of the male farmers. Women will not make any debut in farming unless they start owning land. This calls for the reversal of any inhibiting beliefs and practices be they cultural, social or even legal which deny women ownership of land as a factor of food production. Women will not do any better without owning land and holding tittle deeds.

The study states and articulates that there is nothing else to blame for the poor performance of women farmers who are still the majority of small-scale farmers 61.4% in Mwingi other than gender inequalities. To tackle the perennial food insecurity in that district, there is then an urgent and critical need to tackle all forms of gender inequalities there. Due to gender inequalities, women farmers rarely benefit from facilities like credit facilities: only 3.1% benefited, 37.5% did not know such facilities existed and from those who knew of their existence 37% could not access credit facilities because they lacked tittle deeds which were demanded for effective transaction. Had the women owned land, they could bring tittle deeds but due to gender inequalities they did not own land. Another example is the oxen ownership, women do not own such due to gender inequalities. They are important means for tilling the land, 55.2% did not own oxen, their farming then is jeopardized.

Much efforts, resources and time have been in the past put in worthy areas like combating soil erosion, introduction of improved seeds, better farming methods and techniques. By putting equal efforts, resources and time to tackle the gender inequalities singled out in this study, a lot of improvement in terms of food production will be
realized thus ending the food insecurity in the district.

Finally, the policy makers must face the fact that women farmers are the majority in small-scale food production. This calls for solving their gender problems, making tailored programmes suitable to their peculiar situation and putting more efforts to correct the ills they have had to work under as farmers. Neglecting women in policy making and planning is suicidal, as shown on table 15, women farmers account for 61.4% in Mwingi district. The study established that only 34% of the women were involved in food policies. This needs urgent reconsideration.
CHAPTER 5.

5.0 RELATIONSHIP BETWEEN VARIABLES OF STUDY.

5.1 INTRODUCTION.

The data presented previously are analyzed in this chapter to decipher the relationships between various variables of the given study. There is also an attempt to answer the various questions the study was investigating. The questions are answered using the data presented in chapter four.

The study established that the women farmers were the majority in food production (small scale food producers), they accounted for about 61.8%. Due to the cultural belief that women find satisfaction in marriage, about 9.6% were married before reaching 20 years of age. Such early marriages denied and dropping out of school denied the women the chance of completing school which would in future mean their managerial skills in farming would be compromised thus resulting to low food production and consequently food insecurity.

Looking at the level of education, the study exposed that there was a big disparity among the women farmers compared to the male farmers; 9.4% of the women had Non education, 29.7% had only completed lower primary school and only 19.8% had gone through secondary school. This explains the fact why many of the women farmers could not keep farm records 51%, for any serious farmer, record keeping is critical. With such handicap, it would be difficult for women farming to be improved; at best their farming will remain stagnant or go down hence food insecurity. The attainment of low education for the women is just a gender inequality, it has nothing to do with capabilities or merit but because of their sex.

Credit facilities exist for all the farmers' benefits: to boost their farming. For the women
farmers, two factors inhibited them from accessing the credit facilities, these are ignorance and unfriendly conditions. The study established that only 23.9% of the women farmers knew of these credit facilities, women can not access what they do not know; that reduced their chances of benefiting from the credit facilities. Since only 6.3% of the women farmers owned land and had title deeds for the land, the majority found the requirement to produce title deed as a security very unfriendly. Due to such limitations, only 3.1% of the women had benefited from such facilities which would otherwise boost their farming. The women farmers could not buy inputs or hire labour in their farms using the credit. Their food production remained low hence food insecurity.

The existence of the credit facility did not boost women farmers farming as expected. This means food insecurity will still continue despite the existence of these credit facilities.

Although women farmers are key stakeholders in food production, they are the stakeholders in food production, they are not involved in the food policy. This demoralizes them and technically works them down and lowers their production. Only 27.1% were involved in food policy and decision making. Lack of involvement in policy making leaves the women out in planning. That means their problems are not addressed, even their experiences are not put into consideration. In that kind of socio-climate, their production will remain low thus guaranteeing food insecurity always.

The importance of land in agriculture is obvious and cannot be overemphasized. Land is one of the key factors of production in the food industry. Due to the cultural overtones that treat land as the monopoly of men, women are not allowed to own land. Acquisition of land is mainly through inheritance, the study found that while 100% of the men inherited land; only 4.7% of the women farmers had inherited land.

The study established that while 100% of men owned land, only 6.3% of the women farmers owned land. Even where women owned land, the land parcels were small, for example 29% of the women farmers owned only 0-5 acres of land 6-10 acres were only
4.6%. It was only due to gender inequality that women did not own land. By not owning land made them to be depended upon the men. Also they could not make permanent investments on the land which they can lose any time. Due to such demoralizing situation, their food production would always remain low hence food insecurity.

Gender inequalities force women not to own oxen as that is men's only 'zone.' Oxen are very important means of tilling the land. Not owning them then will mean women will always plant late. This will lower their production and eventually result in food insecurity. The study found that only 6.3% of the women owned oxen. 76.8% of the women farmers said by not owning oxen, their planting was always delayed and that lowered their harvest; so it can be seen that this gender inequality directly lead to food insecurity.

Whereas the government spent a lot of money by employing the extension workers, women farmers did not benefit much from such services. Only 10.4% of the women farmers knew of the existence of such services no wonder only 3.1% of the women received the extension services. Key factor for not receiving them was discrimination, they only visited male farmers farms; that is gender inequality. Those services that would boost food production did not reach the women farmers for example, information on new farming techniques, improved seeds, field days and farm demonstrations or even research information. This made women farmers to remain low in production hence food insecurity.

5.2 TESTING HYPOTHESES.

This section shows in details how the study hypotheses were tested. $X^2$ was used. The purpose of the $X^2$ test is to compare what actually happened in the field to what hypothetically would happened if 'all things were equal.' This helps to determine the degree of confidence in accepting or rejecting the hypotheses (Babbie 1975:424-425).
The formula used is as follows

\[ X^2 = \frac{\sum (O-E)^2}{E} \]

**Testing the first hypothesis.**

**H₀:** Land ownership is not determined by ones gender.

**H₁:** Land ownership is determined by ones gender.

The study assumed 5% level of significance. For the decision rule, I picked the tabulated \( X^2 \) based on the level of significance and the dfs (degree of freedom) whereby:

\[ X^2(5\%, 1\text{df}) = 3.841 \]

In order to get the **Expected** value for each cell, I used this formula:

\[ \frac{Rt \times Ct}{Gt} \]

where \( Rt = \) Row totals, \( Ct = \) Column totals, \( Gt = \) Grand totals.

Cell 1. \( \frac{43 \times 37}{96} = 16.57 \)

Cell 2. \( \frac{43 \times 59}{96} = 26.43 \)

Cell 3. \( \frac{53 \times 37}{96} = 20.43 \)

Cell 4. \( \frac{53 \times 59}{96} = 32.57 \)

To calculate the value of \( X^2 = \frac{\sum (O-E)^2}{E} \)

Cell 1. \( (37 - 16.57)^2 = 25.19 \)

\[ 16.57 \]

45
Cell 2. \( (6 - 26.43)^2 = 15.79 \)
\[ \frac{26.43}{2} \]

Cell 3 \( (0 - 20.43)^2 = 20.43 \)
\[ \frac{20.43}{2} \]

Cell 4 \( (53 - 32.57)^2 = 12.82 \)
\[ \frac{32.57}{2} \]

Contingency table 01.

<table>
<thead>
<tr>
<th>OBSERVED</th>
<th>EXPECTED</th>
<th>0 - E</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>16.57</td>
<td>25.19</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>26.43</td>
<td>15.79</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>20.43</td>
<td>20.43</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>32.57</td>
<td>12.82</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>( X^2 \text{ Value} ) 74.23</td>
<td></td>
</tr>
</tbody>
</table>

Conclusion.

Since the \( X^2 \text{e} (74.23) > X^2 \text{t}(3.841) \), the Ho is rejected and the H1 hypothesis accepted at 5% significance level.

Therefore, land ownership is determined by ones gender.

Testing the second hypothesis.

\( \text{Ho: There is no relationship between receiving agricultural extension services and gender.} \)

\( \text{H1: There is relationship between receiving agricultural extension services and gender.} \)

The study adopted 5% level of significance. For the decision value, I picked the tabulated \( X^2 \) based on the level of significance and the dfs (degree of freedom), so the value was:-

\( X^2 \text{t}(5\%, 1 \text{ df}) = 3.841 \)

To calculate the value of \( X^2 \) the formula below was used.

\( X^2 = \frac{\sum (0 - E)^2}{E} \)
The formula for getting the Expected value is:
\[
\frac{R_t \times C_t}{G_t}
\]
where \( R_t = \) row totals, \( C_t = \) Column totals, \( G_t = \) Grand totals.

Cell 1. \( 27 \times 37 = 10.41 \)
\[
\frac{96}{10.41}
\]

Cell 2. \( 27 \times 59 = 16.59 \)
\[
\frac{96}{16.59}
\]

Cell 3. \( 69 \times 37 = 26.59 \)
\[
\frac{96}{26.59}
\]

Cell 4. \( 69 \times 59 = 42.41 \)
\[
\frac{96}{42.41}
\]

In calculating the value of \( X^2 \) the formula used was:

\[
X^2 = \frac{\sum (0 - E)^2}{E}
\]

Cell 1. \( \frac{(21 - 10.41)^2}{10.41} = 10.77 \)

Cell 2. \( \frac{(6 - 16.59)^2}{16.59} = 6.76 \)

Cell 3. \( \frac{(16 - 26.59)^2}{26.59} = 4.22 \)

Cell 4. \( \frac{(53 - 42.41)^2}{42.41} = 2.64 \)

47
Contingency table 02.

<table>
<thead>
<tr>
<th>OBSERVED</th>
<th>EXPECTED</th>
<th>0 - E</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>10.41</td>
<td>10.77</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>26.59</td>
<td>6.76</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>16.59</td>
<td>4.22</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>42.41</td>
<td>2.64</td>
<td></td>
</tr>
</tbody>
</table>

\[ X^2_c \text{ Value is } 24.39 \]

Conclusion.

Since \( X^2_c (24.39) > X^2 (3.4841) \), \( H_0 \) is rejected and \( H_1 \) accepted at 5% significance level.

Therefore there is relationship between receiving agricultural extension services and gender.
CHAPTER SIX.

6.0 RECOMMENDATIONS.

The study found out that farmer's gender had a lot to do with success or failure in food security. As the literature review concluded, African farming is women farming par excellence. In Mwingi district, women farmers play a critical role in that they are the majority. The recommendations made by the study therefore focused directly or indirectly to the women farmers.

Educational level influences ones performance as it is aimed to better any performance. In that women had a low level of education generally, the study recommends that the government put more efforts to uplift the level of women's education; that will end up in uplifting their farming and it will consequently reduce food insecurity. Low level limits women farmers in every transaction they undertake; when selling their produce, they can not tell how many kilos the produce weighs or even accurately calculate the total amount to be paid. The women then are cheated by the buyers who mostly are men.

As the study articulated, about 93.6% of the women farmers do not own the land they farm. The little number of those who own land is very small 6.3%. This creates dependency of women on men; as such their morale to work hard and desire to make long term investment are badly compromised. The government, NGOs, Churches, Mosques and any other serious organization should work hard to make sure women's right to own land is put in place the soonest. The Parliament needs to pass that kind of legislation and end this gender inequality which is the key factor that brings food insecurity. The legal system that gives men the right to own and inherit land needs a quick change to give the women legal backing to start owning and inheriting land.

Credit facilities exist to enable the farmers to boost their production to guarantee food security. However, this has not been the case with the women farmers. Only 23.9% of the
women farmers knew that such facilities were in existence. The government needs to put extra efforts in educating the women about the existence and purposes of such facilities. As the study established, only 3.1% of the women farmers had benefited from the credit facilities, this is a very low percentage. The main reason given by those who knew of these facilities and did not access them was lack of security. This means if all the women farmers had tittle deeds to use as security more than the 3.1% would have accessed the credit facilities. Accessing the credit facility would mean empowering the women farmers to boost their farming and that would reduce food insecurity in Mwingi district.

Policy makers are important in any organization. The study noted that the women farmers were excluded in policy and decision making. This will affect farming because the women's unique needs and problems will not be addressed and this will reduce their production and result to food insecurity. Equally true, ignoring and excluding the women farmers in food policies will mean the policies made will remain irrelevant to them, the policies should be focusing on the majority of the producers but due to gender inequalities that is not done. The agricultural sector will always get low results in production hence food insecurity.

It looked like the agricultural office did not advice the government adequately in terms of the overall food needs in the district. Effective tabulation of the actual amount of food needed in the district should be done annually and the government advised. Some of the food insecurity in the district were very severe resulting to immense sufferings.

All the institutions of socialization starting with the family, church, schools and places of work should work tirelessly to end gender inequalities. Gender inequalities work women down in any sector. Harmony should be cultivated for the tow sexes to stay and work together without putting a lot of emphasis on their difference in gender and the different roles and place they occupy in the society.

Like any other player in the food industry, women need to be evaluated not by gender but by their capabilities, hard work and merits. To make up the loss which has been incurred,
the government needs to put in place tailored programmes for the women so as at least to put them in the same level with the other players (men).

Other key players in the industry are the extension workers. These should see women farmers as true farmers and not just women. They should see the women farmers like any other farmer, answer their questions and pass any information they have that would improve their farming. When making programmes like farm demonstrations or field days, they should plan them with women in mind. The information should be given directly to women, when male farmers are left to invite the women farmers, the information will not reach the women farmers. At times the women farms which are doing very well should be targeted as demonstration farms, this will encourage the women to produce more and control food insecurity.
APPENDIX 1

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APPENDIX 2
DATA COLLECTION TOOLS.

Social Demographic Characteristics.

Introduction

Good morning/Afternoon/Evening?

I am conducting a study on food insecurity. I have visited your village for that purpose and I kindly ask if you can answer the following questions for me. Over and above being an academic exercise, the study will assist the government in solving the problem of food insecurity in this region and elsewhere. Thank you.

I. PERSONAL INFORMATION.

Respondent's gender 1. Male 2. Female

1. How old are you?
5. If you are engaged in a gainful employment, what is your monthly income according to the schedule below?
   a) 3,000 - 5,999
   b) 6,000 - 9,000
   c) 10,000 - 14,999
   d) 15,000 - 19,999
   e) 20,000 - 29,999
   f) 30,000 - 39,999
   g) 40,000 Above.
6. Are you employed?
   1. Yes 2. No.
7. Do you do any business?
   1. Yes 2. No.
8. If yes to above, what do you do in your business?

PART II. ACCESS TO LAND.
(Land has been registered and tittle deeds issued in Migwani Division)

1. Do you own land which is registered in your name? 1. Yes 2. No.
2. If yes, how many acres?
   a) 0 - 5 Acres
   b) 6 -10 Acres
   c) 11-15 Acres
   d) 16-20 Acres
   e) 20 Above
3. If you do not own land, why is that so?
   a) I was not allocated land by my parents
   b) I was not allocated land by my husband
c) I am fine the way I am

d) Because of cultural beliefs that women should not own land.
e) I do not have money to buy

4. If you own land, how did you acquire it?
   a) I inherited it
   b) I bought it
   c) I was given as a gift

5. If you do not own the land you occupy, how did you access it?
   a) I am leasing the land
   b) I was given by a relative temporarily
   c) It belongs to my husband

6. What is the size of the land you own (if you do)?
   a) 0 - 5 acres  b) 6 - 10 acres  c) 11 - 15 acres  d) 16 - 20  e) 20 & Above

PART III. ACCESS TO CREDIT.
1. Do you know Farmers Credit Facilities (Any facility that gives loans)?
   1. Yes  2. No
2. If you know, have you been a beneficiary of any?
   1. Yes  2. No
3. If yes to the above, in what form?
   a) Bank loan using tittle deed as security
   b) Society loan (eg seeds, pesticides, fertilizers)
   c) Farmers loan (AFC)
4. If you were not a beneficiary to Farmers Credit Facilities, why is that so?
   a) I do not have access to such facilities
   b) I do not have security (title deed)
   c) I do not know

PART IV. DECISION MAKING.
1. Are you involved in food policy matters in your family?
   1. Yes  2. No
2. If no to above, why?
   a) I do not stay at home
   b) Decisions are made by the household head.
   c) We do not have food policies in our family
   d) I do not know
3. Who controls the food after harvest?

4. a) My father
   b) My husband
   c) My wife
   d) My mother
   e) Myself

PART V. DIVISION OF LABOUR.
1. In your own view, who are more actively involved in food production?
   1. Male  2. Female
2. Indicate who is most likely to perform the following farm activities.
   a) Planting ........... (Male, Female, Both)
   b) Cultivation ......(Male, Female, Both)
   c) Harvesting ........(Male, Female, Both)
   d) Threshing .........(Male, Female, Both)
   e) Storage ..........(Male, Female, Both)
   f) Clearing fields .... (Male, Female, Both)
   g) Making terraces ..(Male, Female, Both)
   h) Ploughing with oxen (Male, Female, Both)

PART VI. LITERACY FACTORS.
1. Do you keep your farm records?
   1. Yes  2. No
2. If you don't then why?
   1. I can not read and write
   2. I am not trained to do so
   3. I do not see the importance
3. Are you aware of the new farming techniques?
   1. Yes  2. No
4. If you are, which ones?
   1. Crop rotation
   2. Use of fertilizers
   3. Hybrid seeds
   4. Use of farm chemicals
5. If you are not aware, what do you do?
   1. Farm the traditional way  2. Learn from neighbours  3. I don't know.
6. Do you apply those techniques in your farm?
   1. Yes  2. No

PART VII. AGRICULTURAL EXTENSION SERVICES.
1. Do you know something called Agricultural Extension Services?
   1. Yes  2. No
2. If yes, are they available in your area?
   1. Yes  2. No
3. If they are available, which services do they offer?
   a) Soil conservation
   b) Crop production
   c) Irrigation services
   d) Farm management
   e) Food preservation and security
   f) Livestock production
4. If you as a farmer, have you received any of the agricultural extension services?
   1. Yes  2. No

PART VIII. VIOLENCE FROM THE OPPOSITE SEX.
1. Have you ever been a victim of gender violence?
   1. Yes  2. No
2. Was the violence related to farming (e.g. food production, selling of food etc.)
   1. Yes  2. No
3. Being subjected to violence, how did it affect your farming?
   a) It did not affect me
   b) I was forced to flee and leave the home and farm unattended for some weeks.
   c) I was unable to work for some time due to injuries received

4. What caused the violence?
   a) Unfaithfulness  b) Money affairs  c) Land disputes  d) About oxen for planting.
   d) I do not know.

5. Who carried out the violence?
   a) Father, husband, brother, brother-in law, uncle.
   b) Wife, mother, sistaer, aunt.
   c) Other.

PART IX. NURTURING AND CARE FOR THE SICK.

1. Whenever some one is unwell for some time, who is likely to nurture the sick?
   1. Male  2. Female

2. Did caring for the sick affect your farming?
   1. Yes  2. No

3. How did it affect your farming?
   a) I do not know.
   b) I planted late
   c) I did not do farm activities at all
   d) I was not affected.
   e) It reduced my my productivity in that season

4. If the caring for the sick affected you, why was that so?
   a) I do not know
   b) It was just by chance
   c) My time and money was used in the nursing.

CLOSING REMARKS.

Thank you very much for your time, cooperation and help, whatever was shared by yourself will be held in confidence, your name will not be featured anywhere.
Thank you.