

THE ROLE OF WOMEN IN SUSTAINABLE LAND MANAGEMENT IN GATANGA SUB-COUNTY, MURANG'A COUNTY, CENTRAL KENYA

by Mary Kajuju

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**THE ROLE OF WOMEN IN SUSTAINABLE LAND MANAGEMENT IN GATANGA
SUB-COUNTY, MURANG'A COUNTY, CENTRAL KENYA**

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**A PROJECT PAPER SUBMITTED TO THE INSTITUTE OF ANTHROPOLOGY,
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DECLARATION

This project paper is my original work and has not been submitted for a degree in any other University

Signature..... Date

Mary Kajuju Mbaabu

The projectpaper has been submitted for examination with my approval as the university supervisor.

Signature Date.....

Prof. SimiyuWandibba

DEDICATION

To all the women in Kariara and Kigoro wards in Gatanga Sub-County, Central Kenya, who took time off their busy schedules to be interviewed for this study

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ABSTRACT

The study was carried out to explore the role that women play in sustainable land management in Gatanga Sub-County of Murang'a County, Central Kenya. It sought to answer the basic research question by documenting these roles. The ⁵⁵ general objective of the study was to explore the role played by women in sustainable land management in the Sub-County. The study was carried out in two wards of the Sub-County, namely, Kariara and Kigoro.

The study was cross-sectional and descriptive. The study findings indicate that although women play a major role in sustainable management, they lack the capacity to adopt modern farming methods as this requires finances and some technical training, which they do not have. Women also continue to face historical injustices often influenced by cultural beliefs that do not allow them to inherit land. In addition, women carry a huge labour burden as they have to juggle between farming activities and household chores. Finally, the study indicates that decisions on how to plan and implement SLM lies with the household heads, who are men.

One of the main conclusions of the study is that women play important roles in sustainable land management in Gatanga Sub-County but most of these roles go unnoticed. Secondly, women face many barriers to successful implementation of these roles. Thirdly, these barriers are due to the patriarchal nature of their society. The study, therefore, recommends that stakeholders in the Sub-County working in sustainable land management should work more closely in order to have a harmonized approach towards capacity building for the women groups working in this area.

Two, the women groups should reach out to agricultural extension workers at the Sub-County level for enhanced training and technical inputs.

ABBREVIATIONS AND ACRONYMS

AfDB	African Development Bank
BCFC	Building Capacities of Forest Communities Project
ECA	Economic Commission for Africa of the United Nations
ECOSOC	Economic and Social Council of the United Nations
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
GAD	Gender and Development
GEF-SGP	Global Environmental Facility Small Grants Programme
GOK	Government of Kenya
ILO	International Labour Organization
LASCOR	Landslide and Siltation Control and Re-afforestation Project
NGO	Non-Governmental Organization
PRESCA	Pro-Poor Reward for Environmental Conservation Services in Africa
SACDEP-Kenya	Sustainable Agriculture Community Development Programme
SEAGA	Social, Economic and Gender Analysis
SHG	Self Help Group
SRA	Strategy for Revitalizing Agriculture
SLM	Sustainable Land Management
TOR	Terms of Reference
TNC	The Nature Conservancy
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
WB	World Bank

Chapter One

Background to the Study

1.1 Introduction

24 Sustainable land management (SLM) is the foundation of sustainable agriculture and a strategic component of sustainable development, food security, poverty alleviation and ecosystem health. From time immemorial, women have been known to be the backbone of every country's economic development. They carry out multiple roles of procreation, care-giving and production. Yet women have suffered historical injustices the world over especially when it comes to land ownership and management (Woolf, 1997; Hoff, 1994). Women as farmers and pastoralists in many developing countries, have the 1 primary responsibility for household food production. They are also the principal users and managers of land (UNDP, 2007: 5). However, they are allotted the smallest portions with least secure tenure rights at family level.

78 Women play a critical role in conservation, especially in the agricultural sector. They provide the bulk of labour in the agricultural sector, with the majority being small-scale farmers. However, despite this scenario, women hardly own the means of production and are disadvantaged in the actual ownership of land and other natural resources. The men 6 control most of these resources and have the final say in earnings both at commercial and domestic levels (Anagloet al., 2014). 37 It is important, therefore, to investigate the role of women in unsustainable land management in Central Kenya. 1 As pastoralists and agriculturalists, women are disproportionately affected by land degradation (UNDP, 2007). This UNDP study goes on to explain that 1 when water resources are damaged by high levels of silt in river waters (a typical side-effect of increased soil erosion from degraded land), women and girls are often more severely affected as they are usually

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responsible for fetching water to meet household needs. Furthermore, agricultural expansion, unsustainable cultivation methods, overgrazing and deforestation are the primary causes of land degradation in rural areas (UNDP, 2007: 5)

This research is a follow-up on another one (TNC, 2015) carried out by The Nature Conservancy (TNC) which worked in Kariara Ward with a local NGO Sustainable Agriculture Community Development Programme (SACDEP-Kenya). TNC and SACDEP-Kenya carried out an assessment in early 2015 to document the involvement of women and youth in conservation activities, identify benefits derived as well as key lessons and best practices in gender involvement and participation. Findings from this assessment indicate that men were more involved in project activities than women and the youth. Land is owned by families and hence access and control is left to household heads who are adult males while the youth lease land outside family land where they make decisions on activities to be carried out. Women have limited roles in sustainable land management. The assessment recommended that a gender analysis be considered before any project involving communities is initiated.

Major issues of land management such as quality of soils, erosion and loss of vegetation cover are mainly aggravated by poor land management and human-induced pressure on the land (Beniteset *al.*, 1983). Sustainable land management enhances production of goods and services, including food, water, wood, industrial production and biological diversity.

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It is worth noting that “gender equality” and women’s empowerment are essential elements towards achieving meaningful sustainable development. Scholars such as Gathenya (1999) have published works on sustainable land management but have not emphasized on the role played by women.

Previous research has shown that the systematic assessment of sustainability of current planned land uses can be hampered by too many detailed data that are difficult to interpret, lack of baseline information from which to compare change, or data that are inconsistent over time or over geographic areas (Benites *et al.*, 1994). There was need to study women's role in sustainable land management in order to identify the gaps when it comes to training and capacity building, influencing policy change in land utilization matters and land ownership in general. The farming activities upstream amongst other catchment conservation efforts, such as tree planting and terracing, formed a good part of the investigations. Since women provide the bulk of the labour force in the agricultural sector, this study focused on their role in sustainable land management in Gatanga Sub-County, Muranga County of Central Kenya.

1.2 Statement of the Problem

The key land use in Gatanga Sub-County is integrated farming involving mixed crop and livestock enterprises. Women's contribution to sustainable land management has gone unnoticed due to historical injustices. Lack of land tenure has resulted in lack of interest in engaging in more technologically advanced farming systems by women. However, it is women who constitute the bulk of small-scale farmers in the rural areas. Women also play an important role in SLM and these roles are neither appreciated nor accurately documented.

Women also play a major role in conservation efforts as they are the main consumers of natural resources such as forest products (fuelwood), water for domestic use and agricultural production. Careful utilization of land through kitchen gardens, manuring of the land and basic sustainable agricultural practices such as terracing have made a huge contribution to sustainable land

management. Poor agricultural methods applied by most of the small-scale farmers in central Kenya have contributed to the poor quality of water from the Chania River sub water-shed and land degradation. With poor agricultural practices, the quality of soils is compromised resulting in low yields and little earnings for the population around this region. It is noteworthy that most of these farmers are women trying to eke out a living for their families. Women face many challenges when it comes to access to information, knowledge, skills, and technologies and recommended practices that can improve their participation in SLM. Women need to have equal land rights as enshrined in the Kenya Constitution, 2010, to enable them play a bigger role in sustainable land management.

Therefore, this study sought to answers to the following two ³⁶ questions:

What roles do women play in sustainable land management in Gatanga Sub-County?

What constraints do these women face in carrying out these roles?

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1.3 Objectives of the Study

1.3.1 General Objective

To explore the role played by women in sustainable land management in Gatanga Sub-County.

1.3.2 Specific Objectives

To determine the role played by women in planning and implementing SLM in Gatanga Sub-County of Central Kenya.

To identify the challenges that women face in executing these roles.

1.4 Assumptions of the Study

- 6
- a) Women play a significant role in sustainable land management but these roles have not been fully documented.
 - b) Women face challenges in performing these roles.

1.5 Justification of the Study

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Though a lot of research has been done on sustainable land management, the role of women has not been fully documented. Findings from this study can be used by government departments involved in conservation efforts. These findings can also inform Water Users' Associations on the need to include women in their committees. The study can also help donors in gender mainstreaming for environmental conservation projects right from the project planning stages. The study is important as it identifies gaps in capacity building in as far as sustainable agriculture and conservation efforts are concerned. Information gathered from the study can be used to compliment what has already been done by other researchers with a view to improving policies that affect women's land use. Agricultural extension workers who work directly with the farming communities can also use these findings to identify such gaps.

Donors such as UNDP who disburse environmental grants to local community-based organizations (CBOs) can also benefit from this study as they are already working in the Central Kenya region. As a result, we can expect improved food security, improved economic welfare

of our rural communities, as well as clean and sustainable water resources for agricultural and domestic use. The findings from this research can possibly influence policy and offer guidelines on areas that need amendment or strengthening. These findings are also expected to help lessen the burden that is currently being placed on women in terms of division of labour as the findings can be used during capacity building workshops aimed at empowering both ³⁵ men and women.

The results of this study are expected to contribute towards establishing the roles played by the women in sustainable land management. Other researchers will also find the information useful in their efforts to come up with solutions to ensure improved use of natural resources and to promote long-term sustainability of such resources. The results are also expected to assist in building the capacity of rural women in sustainable agricultural practices. This will boost food production and improve their economic welfare as well as that of their families. The study has come up with simplified data or sustainability indicators which could assist experts in the agricultural sector and other researchers come up with solutions for sustainable land management. The researcher will ensure that the findings are available by sharing the reports with organizations such as TNC and SACDEP who are familiar with the groups and other donor forums.

This research is important because of a number of reasons. There are stakeholders who have carried out studies in Gatanga Sub-County and a follow-up study is bound to strengthen such studies. ⁴³ The United Nations Development Programme (UNDP) through the Global Environment Facility (GEF) and the Ministry of Agriculture, Livestock and Fisheries under the State Department of Livestock Production, have initiated feasibility studies in this region and

therefore a study on the role of women in sustainable land management will complement their findings. The study findings will therefore assist them in coming up with strategies that factor the concerns of women and the youth in development planning.

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1.6 Scope of the Study

The study was conducted in the Thika-Chania sub-catchment area located in Gatanga Sub-County, Central Kenya. The Thika-Chania sub-watershed borders the Sagana and Maragua water catchment area. The study has focused on the roles of women in SLM and the challenges that they face as they undertake those roles. The study has brought out those critical roles that women play in SLM, challenges and lessons learnt that previously went unnoticed. The study was guided by the gender analysis framework, and adopted a cross-sectional descriptive research design.

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1.7 Limitations of the Study

This study was limited by the fact that respondents withheld useful information due to the sensitive nature of the questions. This was solved by framing indirect questions during interviews. Secondly, in most African cultures, women take a back seat and may be reluctant to respond to questions for fear of repercussions from their male spouses. This was often the case in some group discussions. Another limitation was the seasonal nature of agricultural activities. Thus, availability of subjects to be interviewed was affected by the time and date of the planned interview sessions. To solve these limitations, interviews were arranged when most respondents had some spare time. The fact that farmers rarely keep written records was a limitation and

affected accuracy of the information since it was recalled information. Illiteracy among rural women was also a limitation hence affecting perceptions. This was resolved through use of interpreters who understood both the local language and the researchers' mode of communication.

1.8 Definition of Terms

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Sustainable Land Management (SLM): This can be defined as the use of land resources, including soils, water and plants for the production of goods to meet changing human needs while simultaneously ensuring the long-term productive potential of these resources and maintenance of their environmental functions (UN Earth Summit, 1992).

12

Gender analysis: This is a systematic gathering and examination of information on gender differences and social relations in order to identify understand and redress inequalities based on gender (Reeves and Baden, 2000:2).

30

Gender and development: A development approach that focuses on socially constructed differences between men and women. This approach emphasizes a need to challenge existing gender roles and relations.

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Sustainable agriculture: Sustainable agriculture involves production of food, plant or animal products through farming techniques that are environmentally friendly. This means that the

methods must protect the environment, factor in public health and sanitation and be safe for human communities and animal welfare.

Sustainable development: Sustainable development is the type of development that allows us to meet present needs without compromising the ability of future generations to meet their own needs.

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Chapter Two

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Literature Review

2.1 Introduction

This chapter reviews literature relevant to the research problem. The review starts by describing the historical injustices that women have suffered in matters related to land use, access and ownership. It then proceeds to look at what has been documented at the global level and narrows down to the continental, regional and national levels for each of the areas of interest. The section ends by discussing the theory that guided this research.

2.2 Literature Review

2.2.1 Sustainable Land Management

SLM is very important if a country has to provide food security for its citizenry. SLM leads to enhanced goods and services including, among others, food, water, wood, fiber, industrial products, ecosystem resources and functions, carbon sequestration, bio-energy, biological diversity and eco-tourism. According to UNDP (2007:5), land degradation affects more than 900 million people worldwide. It is noted that when land is degraded, it no longer supports crops or pasture and therefore women are forced to find alternative land for food production. Therefore, we can conclude that as pastoralists and agriculturalists, women are greatly affected by land degradation. Poor agricultural methods have also resulted in increased siltation of river water due to soil erosion. This in turn affects the water quality. Studies done in Nepal (UNDP,

2007:9) indicate ¹ gender disparities in literacy rates, 52 percent of males are literate as compared to 24 percent of females. The study goes on to state that this would therefore mean that ¹ using printed manuals for capacity building would exclude 75 percent of the target population, thus reducing potential for uptake of proposed SLM solutions.

¹ Studies have shown that involving women in participatory land management promotes sustainable land use and results in improved socioeconomic conditions (Aswani and Weiant, 2004:7). According to a World Bank (2008) report, ¹⁹ SLM is a knowledge-based procedure that aims at integrating the management of land, water biodiversity and other environmental resources to meet human needs while sustaining ecosystems services and livelihoods. With improved research in agriculture, farmers are able to learn new technology that is aimed at improving the quality of soil and water (sustainable agriculture).

Women agriculturalists are involved in traditional farming techniques such as terracing to control soil erosion and afforestation. At the local level, The Green Belt Movement has engaged many women in the rural areas in afforestation through tree planting activities, especially in the Mt. Kenya and the Aberdares forest regions. Studies done earlier (UNDP, 2007:7) also indicate that ⁵ in order for women to use land sustainably and to protect its ecological health, and thereby contribute to long-term environmental and food security, they need equal access to land ownership and control of land-based resources.

Poor land management practices have resulted in siltation ⁷⁴ as seen in the case of Sudan's Blue Nile, negatively impacting on electricity generation (Conway and Hulme, 1996; Conway, 2005).

It has also been noted that ¹ despite women's role in household food production in most developing countries, they have limited ownership and control over land resources (UNDP, 2007:7).

2.2.2 Gender Mainstreaming

Gender is defined as a social relationship that defines roles and responsibilities between men and women, as prescribed by society. ⁶ The term distinguishes the socially constructed from the biologically determined attributes of being male and female (WB, 2002). ² Gender is also a means of identifying the different roles, responsibilities, constraints and expectations of both women and men in societies and cultures, which affect their ability and incentive to participate in development projects, and lead to a different project impact for women and men. These roles, which are learned, change over time and vary widely within and between cultures (FAO/ILO /SEAGA, 1997; UNDP 2007). ⁴ 'Gender' refers to the socially constructed rather than biologically determined roles of men and women as well as the relationship between them in a given society at a specific time and place. These roles and relationships are not fixed, but can and do change.

²⁷ Gender mainstreaming is a development strategy which ensures that the needs, entitlements and experiences of men and women are taken into account in every project, programme and within institutions. ¹⁵ It is a strategy for making the concerns and experiences of women as well as men an integral part of the design, implementation, monitoring and evaluation of policies and programs in all political, economic and social spheres. ⁸¹ According to the United Nations (2002:v), "*Gender mainstreaming is the process of assessing the implications for women and men of any planned action, including legislation, policies or programs, in all areas and at all levels*". On the other

hand, a ⁶¹ UN Women guidance note on *Gender Mainstreaming in Development Programming*, “Gender mainstreaming is a globally accepted strategy for promoting gender equality” which “integrates gender equality components in national public and private organizations, in central or local policies, and in services and sectoral programs”.

According to the Ministry of Agriculture’s Gender Mainstreaming Strategy in the Agricultural Sector (GOK, 2010 b), ⁴ gender refers to men’s and women’s different roles as defined by society. ⁴¹ These roles are culturally defined and therefore dynamic. In nearly all cases, the relationship between men and women is unequal in terms of labour contribution, access to and control over resources, benefits and overall power relations. Because gender is socially constructed, it varies within and between cultures and also overtime.

¹⁶ New evidence demonstrates that when women and men are relatively equal, economies tend to grow faster, the poor move more quickly out of poverty, and the well-being of men, women, and children is enhanced (WB, 2002).

⁸ Men and women farmers have different roles and responsibilities in agricultural production systems (FAO, 2004). ⁸ These differences in gender roles are not always obvious, but they must be recognized if production is to be increased, especially among small-scale farmers. ⁸ Studies show that women have less access, than men have, to critical productive resources and services, including credit, farm inputs (e.g.seeds, fertilizers and pesticides), marketing facilities, extension

and information (FAO, 2004). The study also states that mainstreaming a gender perspective is the process of assessing the implications for women and men of any planned action. It is a strategy for making women's as well as men's concerns and experiences an integral dimension in the design, implementation, monitoring and evaluation of policies and programs in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality (ECOSOC, 1997).

There are other gender terms that are considered when aiming at mainstreaming gender in development. Gender and development addresses the specific roles, responsibilities and expectations of women and men in development efforts. The focus is on the relation between the different actors in the field. A lot of studies have been done on GAD. These indicate the role of women in all sectors and include division of labour, women and afforestation, and women's health. Studies have been done in Ghana on women and fuel wood collection in different ecosystems (Henshall, 2004:124); on division of labour on small farms in the Caribbean (Henshall, 2004:146); on gender roles and time use in rural Burkina Faso (Henshall, 2004:160); and on women's role in re-afforestation in Kenya (Henshall, 2004:122). Articles have been published on GAD by the United Nations Research Institute for Social Development (UNRISD) that cover land tenure reforms and gender equality and on gender impacts of globalization on employment and social protection.

Gender groups are groups of men and women of different socio-cultural and socio-economic categories. They include: the youth; male and female headed households; orphan-headed

households; people with disabilities; widows/widowers; the aged; and resource poor men and women by Tolbert et al. (1999).

²⁶ Gender relations refer to a complex system of personal and social relations of domination and power through which women and men are socialized. These relations affect access to power and material resources. Study findings indicate that ¹ UNDP has a key role to play in addressing gender dimensions of managing land, natural resources and the vital services provided by natural, healthy, intact ecosystems (UNDP, 2007:11).

¹⁷ Gender analysis is a method that explores and highlights the relationships of women and men in society and the inequalities in those relationships. The analysis seeks the following information:

Who does what, who has what, who decides, how? Who gains? Who loses? Gender issues identified form the basis for gender mainstreaming. Research by Goldberg et al. (2004:2) indicates that the ¹² main goals of gender analysis are to better understand our communities through a “gender lens” and ³³ to promote gender equality through our work as the analysis helps us make decisions in our poverty reduction strategies. It is this work that sets the state for gender equality.

⁵⁴ The ability to perceive existing gender stereotypes, issues and inequalities and taking appropriate action is referred to as gender sensitivity. ⁴⁹ Gender sensitive planning uses specific methods and tools to provide women and/or men (whoever is disadvantaged) ¹⁸ more opportunities for their

participation in the development process and to measure the impact of planned activities on women and men. A study by Aufhausen et al. (2003:3) on:

Gender-sensitive regional development' may be understood as a concept for the design of spatial development processes aimed at bringing about the co-existence of women and men on an equal footing and in particular at contributing towards the improvement of the possibilities of female self-determination and participation. Concepts that require precise definition include gender equality, the characteristics of regional development as a policy area and the points of contact between gender equality on the one hand and regional development policy on the other hand.

Gender equality is a situation where women and men are seen to be equal, provided with equal opportunities in the society, enjoying equal benefits and are treated the same before the law. Study findings from a world survey on the role of women in development, gender equality and sustainable development (United Nations, 2014:12), commissioned by UN Women, indicates that there is synergy between gender equality on the one hand and economic, social and environmental sustainability on the other. This is an important aspect in studying the role of women in SLM as it also touches on issues of land tenure. Women make up the bulk of small scale farmers and yet it is the men who control the resources.

Gender equity is about fairness and justice, about people receiving their worth in relation to their input and contribution. Equity measures, such as the affirmative action, are used to correct historical imbalances in development.

Practical gender needs are those that are related to immediate needs, often related to inadequacies in living conditions such as water, health, energy, food, etc. They make existence

more tolerable but often change the status quo of target groups. Studies have shown that SLM is critical for sustainable livelihoods. UNDP (2007:5) helps us understand the direct impact of land degradation on agricultural livelihoods. The publication also suggests that *“increased siltation of river waters due to land erosion and degradation renders water unusable, forcing women and girls to spend more time and travel farther to fetch water”*, (UNDP2007:5).

Strategic gender needs refer to factors and systems that initiate and sustain gender inequalities. Addressing these factors leads to transformation of existing imbalances that exist because of women’s subordinate social status. These needs are often influenced by culture, attitudes and behavior, policies and legal rights, among others.

²¹ Empowerment is the systematic gathering and examination of information on gender differences and social relations, in order to identify, understand and redress inequalities based on gender.

³¹ Gender budgeting demonstrates sensitivity to different needs and privileges, rights and obligations, which men and women have in society and an effective approach to gender mainstreaming. A gender budget will consider mobilization of resources and recognize the ⁶ different needs of men and women and their respective contribution in production of goods and services and human labour. The budget exercise is guided by who is affected, who is doing what, who is contributing what and how much. Such sensitivity will minimize the possibility of using the budget and the budgeting process as a tool to further increase gender gaps in a given society.

³⁹ Findings from a study by the Canadian International Development Agency (CIDA, 2012:47) on “Gender Responsive Budgeting and its application to planning in Kenya”, concluded that *“despite existence of policies, laws, legislative reforms, plans and programs, gender disparities*

still exist in legal, social, economic and political levels of participation in decision making, access to and control of resources, opportunities and benefits”.

2.2.3 Role played by women in planning and implementing SLM

A study carried out by UNECA, AfDB and World Bank in 2000 reported that gender inequalities impact negatively on families and the larger economy and that gender inequality is both a social and economic issue. The study concluded that greater gender equality could be a potent force for accelerated poverty reduction in Africa (ECA, 2004).

Okali(1991) indicates in his study on the Nigerian environment that the involvement of women in environmental management will not only ensure their active participation, but would also aid the participation of men as they exercise a lot of influence on men. He further observes that conservation and management of natural resources must be promoted among women who in their gender roles play a crucial role in preservation of resources and also establish a balance between population growth and resources.

Blackden and Bhanu (1998), in their Status Report on Poverty in the Sub-Saharan Africa, state that in Burkina Faso, shifting resources between men and women plots within the same household could increase output by 10-20%. They also observe that reducing the time burden of women in Tanzania, could increase household cash incomes by 10% for small holder farmers. The authors also report that if women in Zambia enjoyed the same overall level of capital investment in agricultural inputs including land as their men counterparts, output could increase by 15%. As for Kenya, they suggested that giving women farmers the same level of agricultural

inputs and education as men could increase yields by women by more than 22% (Blackden and Bhanu, 1998:11).

A report by FAO's Natural Resources and Environment Department, titled ²⁹ **Land Condition Change Indicators for Sustainable Land Resource Management**, takes a critical look at major issues of land management. These include “*decline of quality of soils as rooting environments; erosion and loss of topsoil by wind and water; loss of vegetation cover, acidification, soil fertility decline; and plant nutrient depletion*” (UNDP, 2007:5).

2.2.4 The challenges women face in SLM

There is a limited number of studies on the challenges women face when participating in SLM.³ Although women in Kenya supply 70 percent of the labour in the agricultural sector, they hold only about one percent of registered land titles, with 5 to 6 percent of registered titles held in joint names (WB, 2004a). Women's limited ability to own land and property negatively affects their ability to participate in producer groups, receive cash remuneration for their labour, and benefit from agricultural extension services. Boserup (1970:52) observes that “*In the course of development more and more rural families combine production and sale of one or more products or services with subsistence production of foods, services and some non-agricultural products such as a combination of subsistence production and products for sale is the predominant way of life for most rural families*”. Therefore, this study is critical in identifying the gaps in SLM in order to identify the role played by women in SLM in Gatanga Sub-County and the challenges they face in executing these roles.

The Nairobi Water Fund, an initiative of The Nature Conservancy (TNC), has also published several articles on the Upper Tana. This initiative aims at restoration and protection of the Upper Tana River watershed. According to their study, the Upper Tana basin covers an area of about 17,000 square kilometres and is home to 5.3 million people. TNC is therefore working with government, businesses, partners and communities to restore watersheds in order to ensure there is clean water supply for all. This watershed provides most of the water consumed at household level and in industries in Nairobi. Since women are the main small scale agricultural producers, a study of sustainable land management practices in Gatanga Sub-County is crucial for investigations on the role of women in SLM in the Sub-County. *“The fund supports several projects that not only conserve water, but empower women, reverse de-forestation, provide a voice to rural farmers and a platform for communities to come together and ensure a safe, sustainable supply of water for future generations”* (The Nature Conservancy, undated).

The literature review indicates that a study has also been documented on the Sasumua watershed, Kenya, by the Pro-Poor Rewards for Environmental Services in Africa (PRESA). This case study looked into institutional and policy requirements for payments for watershed services in Kenya. Some destructive activities upstream have resulted in soil erosion, and soil infertility thus leading to low agricultural yields. A cost benefit analysis showed that *“establishing terraces and 10-metre grass strips costs US\$560 and US\$315 respectively in the first year. In the subsequent years, low-level, regular maintenance is required. The cost of implementing grass filter strips, excluding transaction and opportunity costs of farmers, was estimated at US\$312.5 per hectare*

in the first year, with reductions in subsequent years”, (PRESA, 2011:3). The cost implications for such interventions are a major challenge to women’s participation in SLM.

2.2.5 Policies and strategies that promote women’s roles in SLM

The World Bank’s Country Assistance Strategy recognizes that “women are more likely to be poor and vulnerable to adverse shocks than men” (WB, 2004:26). With the enactment of the new Constitution of Kenya, a marked improvement in the participation of women in all sectors of the economy has been realized (GOK, 2010a). Women now have a voice in, for example, land inheritance, control of resources, and equity and equality in leadership slots. The Constitution of Kenya, 2010, has ensured that gender mainstreaming issues are covered in all spheres of society and thus accorded women an opportunity to participate in sustainable land management just like their male counterparts. Women and men have the right to equal treatment, including the right to equal opportunities in political, economic, cultural and social spheres.

Kenya is also a signatory and implementer of the Millennium Development Goals and particularly goal number 3 that aims at promoting gender equity and empowerment of women.

The fact that the role of women in SLM has gone unnoticed means that there has been no gender equity in access to land resources as men are the main decision makers at household level. According to the UN Secretary General’s report for 2014, “States must not only eliminate all forms of discrimination against women, including structural and historic discrimination, by building on the foundations of formal or legal equality, but ensure the realization of their rights”.

The Kenya ³ government has institutionalized its commitment to addressing gender inequalities by creating a National Gender and Equality Commission in 2012 and a Ministry of Gender, Sports, Culture and Social Services in 2004, as well as initiating Gender Desks in various ministries (GOK, 2011).

2.3 Theoretical Framework

2.3.1 Harvard Analytical Framework

This study was guided by the Harvard analytical framework. This theory is a step-by-step process that helps the researcher raise questions, collect information, analyse the information and come up with strategies or interventions which aim at increasing ⁶ women's and men's participation in programs and projects. ³² The theory was developed by researchers at Harvard Institute for International Development in collaboration with the WID office of USAID, consisting of three women experts on WID work in collaboration with James Austin at Harvard University in the 1980s. ⁴⁷ The theory demonstrates the need for development projects to allocate resources to ²⁸ women as well as men for enhanced economic growth. The framework has been used for projects that are agricultural or rural based and that adopt a sustainable livelihood approach to poverty reduction (Moser, 2002).

The tool used in this study was *activity profiling*. An activity profile looks at the actual activities being carried out by the population sampled for the study. This was useful in

identifying relevant *productive* activities such as agriculture, income generation and employment in order to respond to the questions on who does what.

2.3.2 Relevance of the theory to the study

The Harvard analytical framework advocates for both men and women to have access and control over resource allocation and for both genders to participate in the project design and decision-making processes. It helps identify and address existing gender inequalities, allocation of resources and defining roles and responsibilities that impact on gender relations. The theory was therefore useful in capturing both qualitative and quantitative data for further analysis. In this research, the theory was used to specifically study the role of women in SLM.

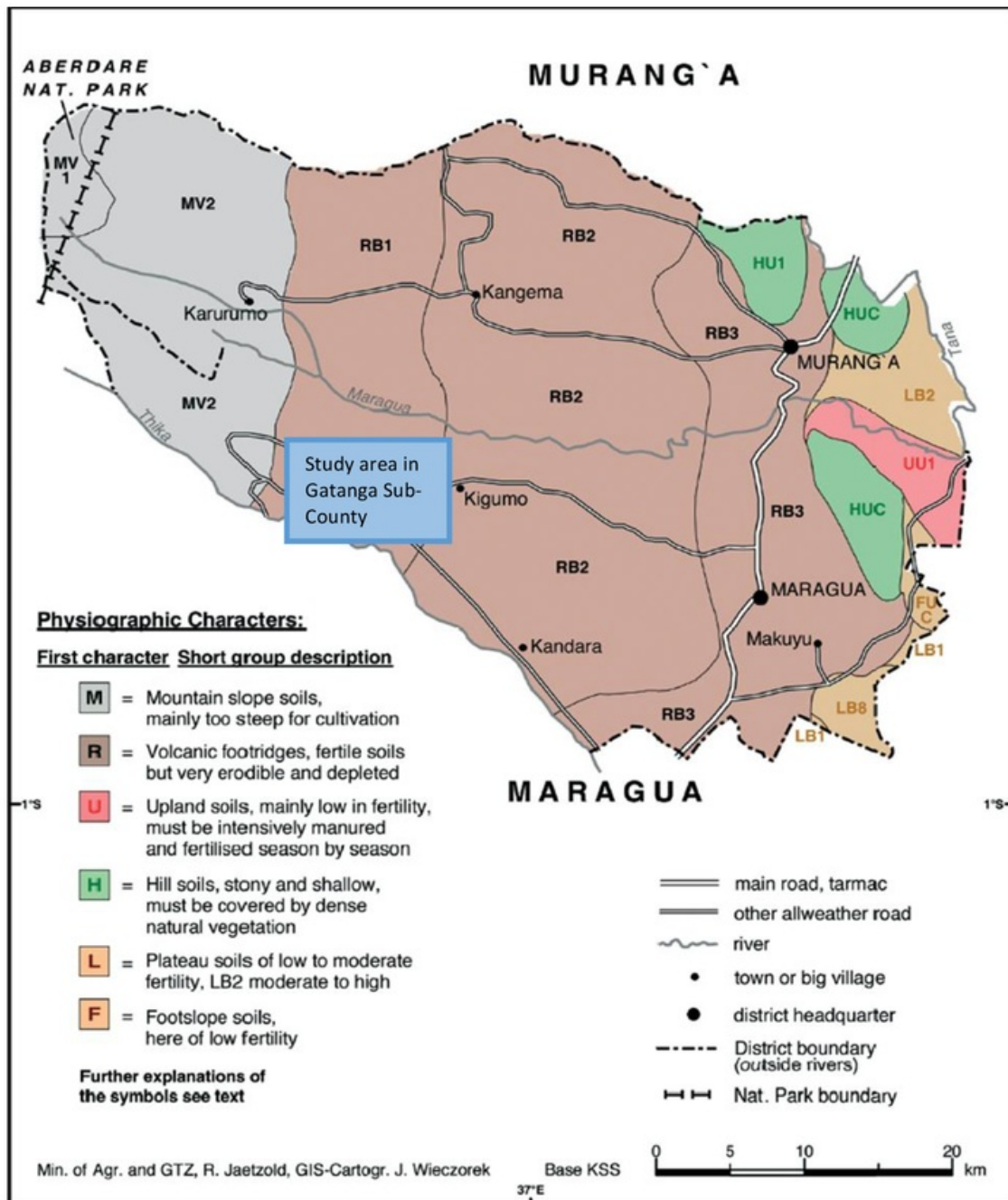
Methodology

3.1 Introduction

This chapter describes the methods that were used in this study. Research methodology gives direction that the researcher must follow in order to get answers to issues that are of concern (Leedy and Ormond, 1993). The components of the methodology discussed here include the research site, research design, the target population and unit of analysis, as well as the sample size and sampling procedure. It also includes the data collection methods, and data processing and analysis. The chapter ends with a discussion of ethical considerations.

3.2 Research Site

Gatanga Sub-County is one of the seven sub counties of Murang'a County, central Kenya (Map 3.1). In 2009, Murang'a County had an approximate population of 942,581 while Gatanga Sub-County had a population of about 163,597 (GOK, 2009). The Sub-County is composed mainly of small scale farmers whose livelihoods depend mainly on sale of small agricultural produce. The closest markets are Kihumbuini and Kariara. The region is generally wet and humid due to the influence of the Nyandarua ranges to the west and Mt. Kenya forests further to the north. This research focused on conservation groups located in Kariara and Kigoro Wards of the Sub-County.



Map 3.1: Soil map of the research site (ringed in blue).

The average land holding is 0.72 hectares per household and is free hold in ownership. Land is usually registered in the names of household heads and was acquired mainly through inheritance. In traditional society, land was inherited by sons, but in today's society daughters are also inheriting land though in smaller portions where they can cultivate kitchengardens. The key land use is mixed farming. This includes rain-fed small subsistence agriculture and livestock farming. The key cash crops are tea, macadamia and avocado, as well as coffee in some lower areas. Livestock farming includes keeping of dairy goats and cattle. The farmers also rear chicken and keep rabbits.

Most households are led by men, although a few are led by women, both single and widowed. The adult members of the households belong to socio-economic groups which include "merry-go-rounds" investment groups, faith-based groups and self-help groups. Both men and women belong to environmental conservation groups and agricultural produce marketing associations.

3.3 Research design

A research design is a planned structure that has been designed by the researcher to enable him or her obtain answers to various research questions. This design structure guides the gathering of information and interpretation of the same. It is descriptive, analytical and cross-sectional. Semi-structured interviews were used to collect both qualitative and quantitative data. Quantitative data from semi-structured interviews were analysed using the Statistical Package for the Social Sciences (SPSS) and Excel software. On the other hand, qualitative data from

respondents, key informant interviews and focus group discussions, were coded according to the various themes.

3.4 Study Population and Unit of Analysis

The study population was drawn from women in small scale agriculture in Gatanga Sub-County, central Kenya. The unit of analysis was the individual woman aged 18 years and above.

3.5 Sample Size and Sampling Procedure

The first selection criterion was to collect a list of 25 Self-help Groups that are engaged in conservation efforts in the area and was generated from the group registers after which 10 groups were selected for this study. The selection was done randomly by listing the 25 groups and then taking every 3rd group from the list. From the list of 10 groups 7 women were selected randomly from each group again using simple random sampling. The result was that 70 respondents were earmarked for interviews. However, during the actual interviews, 5 respondents could not be reached and hence they were not interviewed. The rate of return for questionnaires, were therefore, 93%.

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3.6 Data Collection Methods

3.6.1 Semi-structured Interviews

These interviews were conducted using a semi-structured questionnaire with open-ended and closed questions (Appendix 2). The questions elicited views of the roles of women in

SLM, confirmed and clarified activities that may not be observed but that usually happen. The questionnaires had 4 sections. Each section was based on the objectives of this study with section 1 being background information, section 2 roles of women; section 3 challenges faced, and section 4 lessons learnt and suggested solutions.

3.6.2 Focus Group Discussions

Focused group discussions (FDGs) were held with 2 groups. The researcher carried out FDGs using a focus group discussions guide (Appendix 3) to seek information on membership and leadership from a gender perspective. The discussions were conducted using English, Kiswahili and Kikuyu languages. There were 8 discussants in each group.

3.6.3 Key Informant Interviews

These were administered through a key informant interview guide (Appendix 4). The questions sought to capture expert knowledge on the role played by women in SLM and the challenges they face in implementing these roles. The informants included professionals, development agents and gate keepers who have first-hand knowledge and understanding of the community in relation to SLM. These included two women group leaders, one from TNC, one County Social Development Officer (CSDO), one project manager, one chairperson of a self-help group and one SACDEP technical expert with vast experience in conducting trainings on SLM.

3.6.4 Observation

The researcher used observation to give a systematic description of events and behaviour. This allowed the researcher to view the participants as they went about their daily chores. The researcher was able to capture and record the information as it occurred. The researcher used an observation checklist (Appendix 5) to record the kind of crops being planted and where they were being planted.

3.6.5 Secondary Data

Available works were reviewed to establish what is already known regarding women in SLM. Scholarly articles were used to identify the research problem for this study. Other secondary data were obtained from books, development organizations such as UNDP, published research articles, theses/project papers on SLM, NGO publications, the internet and both electronic and print media reports. Articles from the local dailies on conservation in agriculture gave useful insights into the parameters of SLM.

3.7 Data Processing and Analysis

The collected data were sorted out in various categories and computed. Qualitative data obtained from key informants and focus discussion groups was transcribed and analysed thematically through coding and categorization of data. This was done manually. Quantitative data

were processed and analysed using both excel and the Statistical Package for the Social Sciences (SPSS) computer software. This enabled the researcher run the frequency and percentage of responses.

3.8 Ethical Considerations

Carrying out research demands that the researcher obtains informed consent and cooperation of the participants. A consent form was therefore provided to the participants before conducting the interviews. The form indicated the research topic, objectives of the study and potential use of such findings. The participants were informed of their right to remain anonymous. Their privacy, freedom of participation, respect and fairness was emphasized. To conceal the identity of the participants, pseudonyms were used as necessary. Thus privacy and confidentiality was observed. Participation in the study was voluntary. The researcher has been objective in reporting her findings. The participants were also informed that the findings of the study will be disseminated through a final report that will be made available at the University of Nairobi library and also shared out with a few shareholders.

Chapter Four

The Role of Women in Sustainable Land Management in Gatanga Sub-County

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4.1 Introduction

This chapter presents the findings of the study. Detailed demographic data, findings on roles of women in SLM as well as the challenges they face are presented through graphs and charts. These are in line with the objectives of the study.

4.2 Demographics of respondents

It was important to understand the demography of the respondents so that these could be correlated with their responses. The demographic information sought was on age, gender, educational background, household size and land where SLM is practised. Since this study targeted capturing the responses from women 100% of all respondents were women. Out of the total number of respondents, 98% were mothers while 2% were daughters in those households.

4.2.1 Age

It was important to compare the age differences of the respondents as different age groups have different perceptions. The study found that 23% of the respondents were aged between 42

and 47 years, while those aged above 58 years accounted for 19%. Those aged 48-53 years accounted for 14% while those aged 24 to 29 years and 36 to 41 years each accounted for 12%. These findings were presented in Figure 4.1 below.

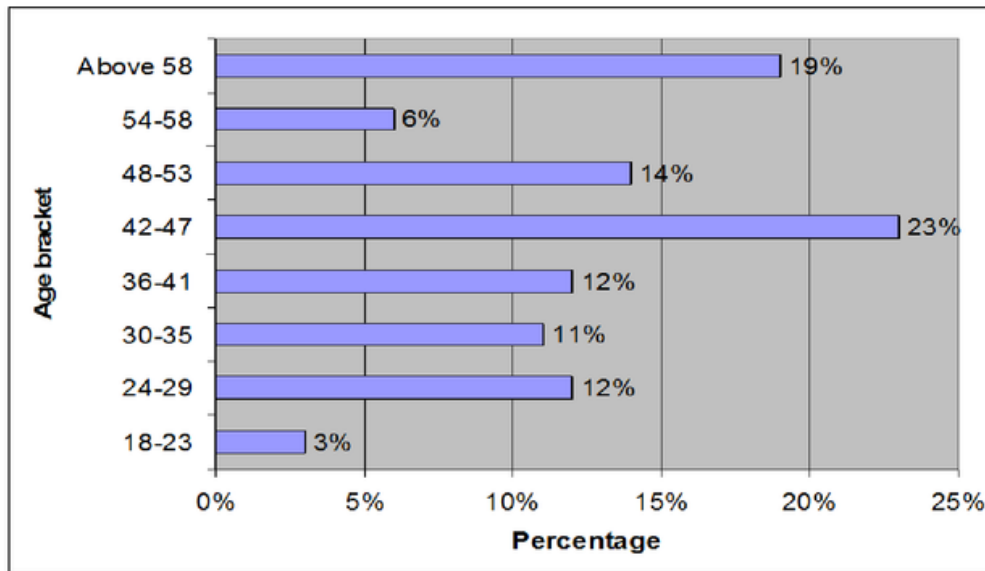


Figure 4.1: Respondents' age distribution

4.2.2 Marital Status

It was also important to record the marital status of the respondents, as this has significant bearing on their roles in SLM and the challenges that each category faces. This is because single rural women rarely have as much decision making power as their married counterparts. This

can be attributed to cultural norms that look down on unmarried women. The analysis on marital status indicated that the majority (63%) were married, 19% were single, 16% were widowed and 2% were divorced (Fig. 4.2).

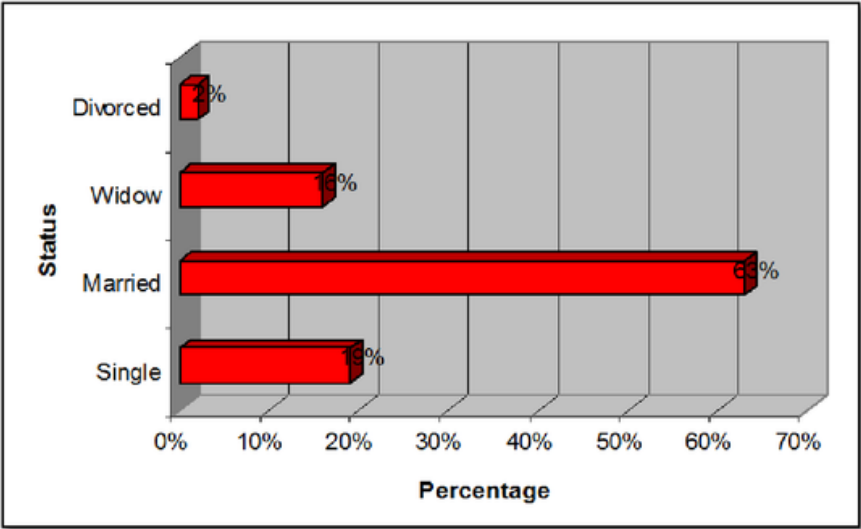


Figure 4.2: Respondents' marital status

4.2.3 Education level

The highest level of education attained by the respondents was categorized into three: informal; primary certificate and secondary certificate. The findings indicate that the majority (57%) had attained primary education while 35% had attained secondary education as their highest level. Only 8% did not have any formal education. These findings are summarized in Figure 4.3 below.

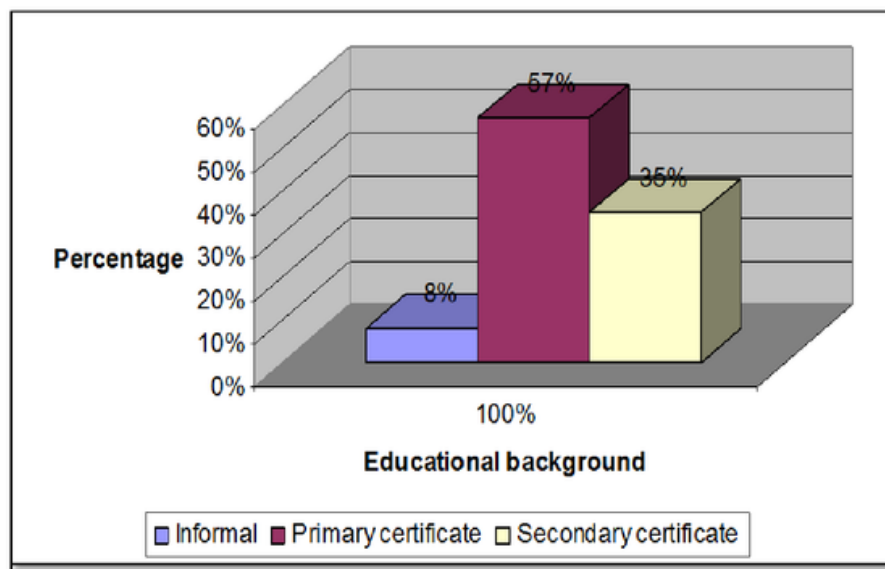


Figure 4.3: Respondents' education levels

4.2.4 Farm size

It was important to establish the size of the farms owned by each household in order to find out the percentage owned by women. The study established that the majority (58%) of the respondents own less than 0.8 ha of land, while 40% ownland measuring between 0.8 and 2 ha.

Very few (2%) had farm sizes measuring 2 ha and above. These findings are presented in Figure 4.4 below.

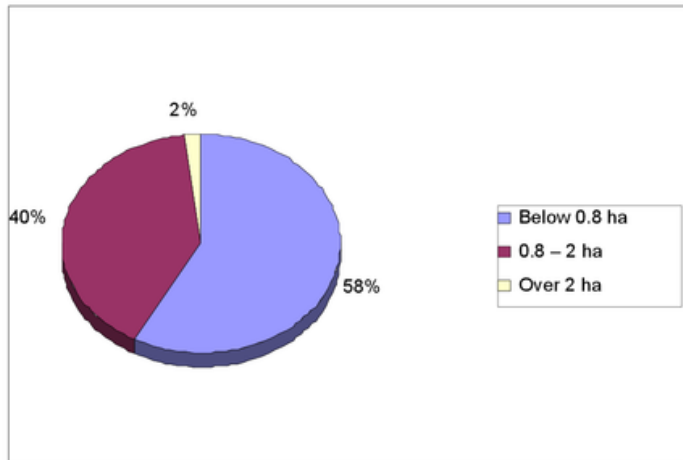


Figure 4.4: Average farm size per family

4.3 Main farming practices on the farm

The researcher documented the main farming practices on the farms. It was noted that about half (49%) of the respondents practise tea farming. Those practising horticultural production accounted for 23%, while 45% practised livestock production (dairy, goat, poultry and bee keeping). The remaining 28% practised a mixture of agroforestry, livestock and subsistence food production.

4.4 Land acquisition and ownership

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The respondents were asked to indicate how they acquired the family land on which they practise SLM. The results indicate that 94% of the respondents were farming on land inherited by the family while a minority (6%) had purchased their piece of land.

The study also sought to establish who the registered owners of the land were. The majority (80%) of the respondents said that the land was owned by the family while 15% stated that it was owned by the household head. Only 5% indicated the respondents themselves owned the land (Fig. 4.5).

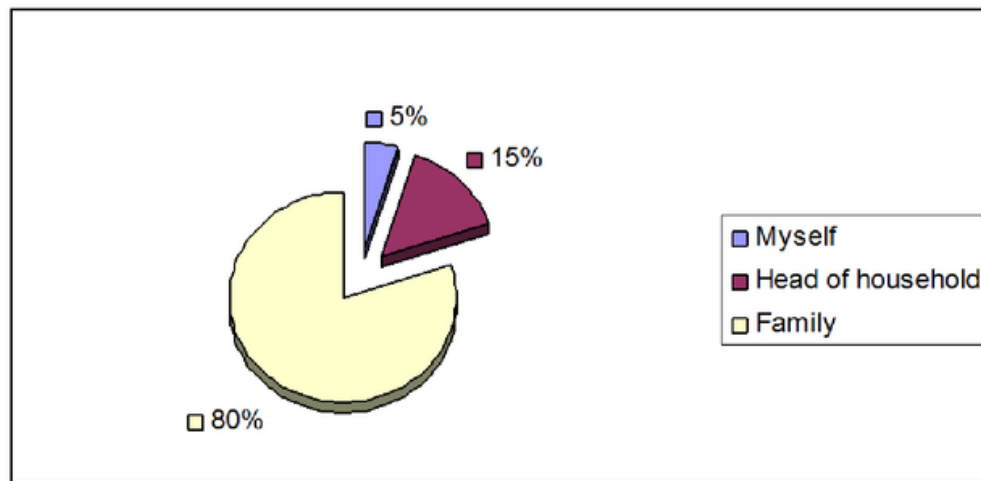


Figure 4.5: Land ownership

4.5 Membership to groups and leadership

The study revealed that most women belonging to Self-Help Groups were involved in SLM activities. It was also noted that many of the women held leadership positions in these groups, with 40% indicating that they are group leaders and thus executive committee members, while 60% are ordinary members.

4.6 Decision making and activities on SLM at household level

It was important to understand the roles played by women in SLM at household level, with a special focus on decision making and actual implementation. This was in order to establish the significance or impact of such roles when it comes to SLM.

4.6.1 Decision-making on SLM activities at household level

The study found that 64% of the respondents made decisions on the kind of farm activities they wished to undertake towards SLM, while 34% indicated that they did not have the authority to make such decisions. This was left to the males in the households. This can be attributed to lack of confidence on the most part. However, such decisions were limited to activities on small portions where the respondents practised subsistence agriculture. The respondents made decisions on the kind of animals they wanted to keep and the numbers. Most of them kept dairy goats, practised poultry keeping and reared rabbits. It was noted, however, that many of the women did not understand the difference between normal agricultural practice and what would be regarded as sustainable land management. This is presented in Fig. 4.6 below.

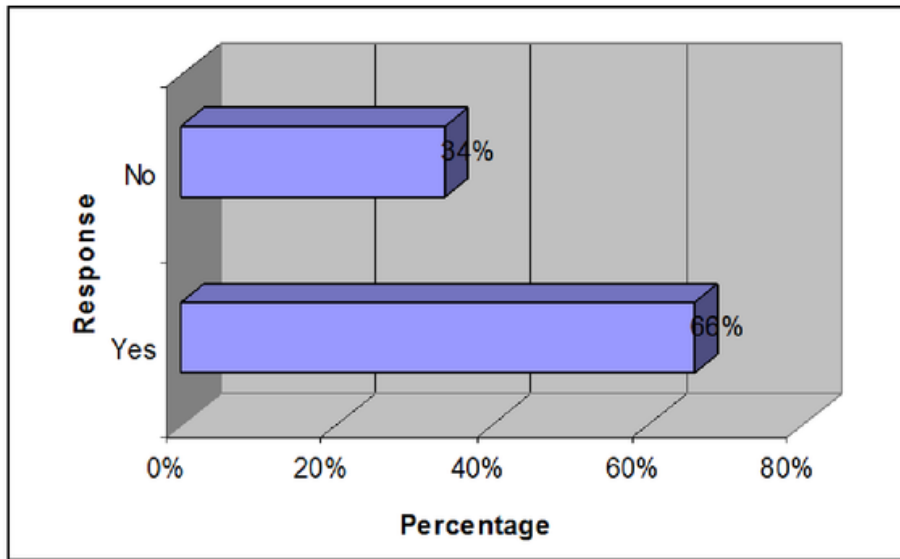


Figure 4.6: Involvement in decision making on SLM activities at household level

4.6.2 Decision-making on farm inputs

Farm inputs play a big role in productivity and sustainable agricultural practices. Such inputs include planting materials, fertilizers and pesticides. The majority (72%) of respondents indicated that they make decisions on the type of inputs for their use, while 28% indicated that

they did not have the leeway to make decisions (Fig. 4.7). Due to lack of financial capacity, they left such decisions to their spouses or other males in their households.

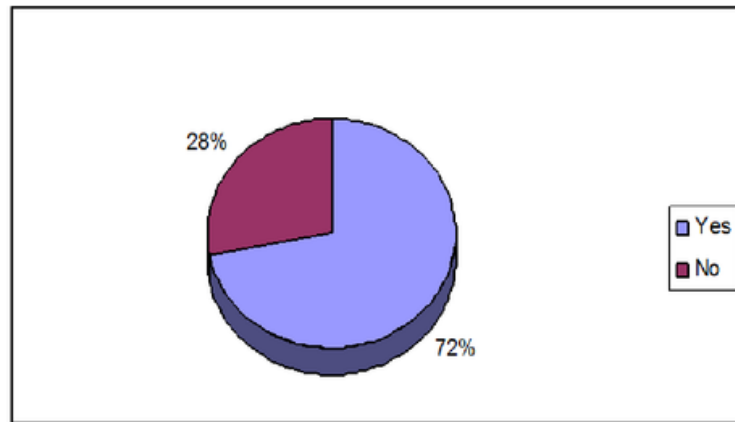


Figure4.7: Decision-making on farm inputs

4.6.3 Decision-making on where to source finances

The study revealed that 54% of the respondents make decisions on where to source finances for implementation of SLM activities while 46% do not make such decisions (Fig. 4.8), leaving it to the mature male family members or heads of households. These finances mostly include small loan advances from the cooperative societies that they belong to or merry-go-round kitties. The money is used to purchase seedlings, fertilizers and pesticides.

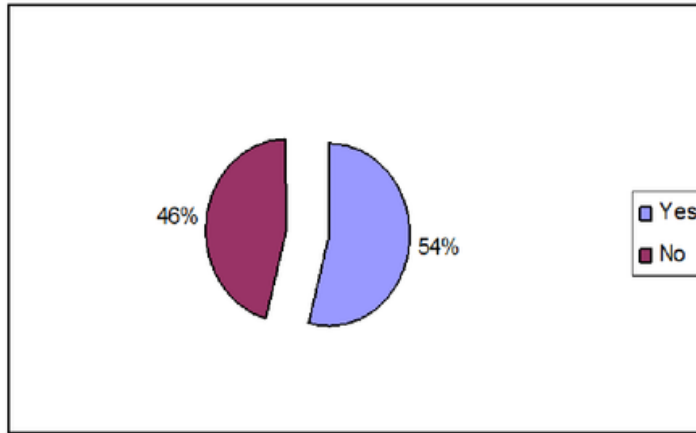


Figure 4.8: Decision making on where to source for finances SLM activities

4.6.4 Decision-making on where to setup soil conservation structures

Laying and constructing soil conservation structures is an important activity in SLM, especially for areas like Gatanga Sub-County which is characterized by steep slopes. The study found that the majority (57%) of respondents were involved in decision-making on where to set up soil conservation structures. However, 43% indicated that they were not involved in such decisions. This was left to their spouses or mature male family members (Fig. 4.9). In any case, it was mostly the men who were involved in digging trenches to curb soil erosion amongst other soil conservation structures.

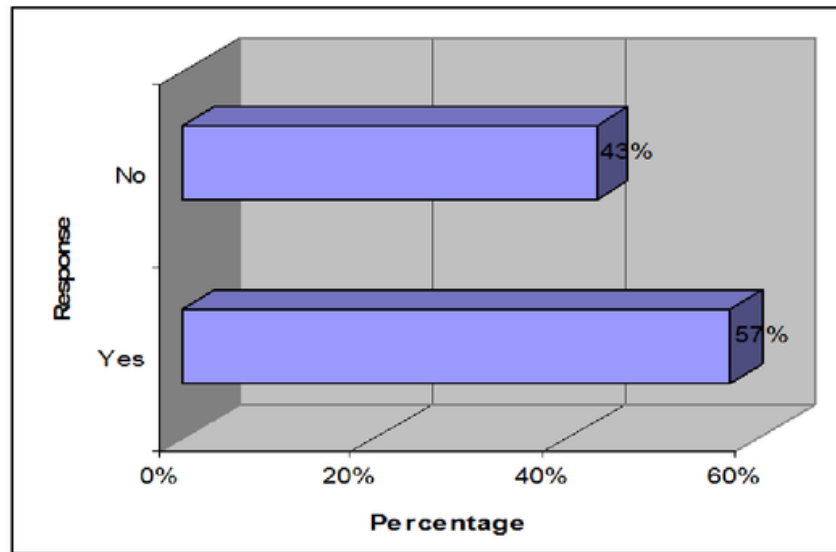


Figure 4.9: Decision-making on where to setup soil conservation structures

4.6.5 Decision-making on type of tools for use at the farm

The purchase of tools and implements for use at the farm level also requires enough finances. However, the tools that women mostly require are very basic and affordable since women are not involved in tasks that require hard labour, such as digging trenches and curing manure. This is where wheelbarrows and spades which are quite expensive would be a needed. Most of the respondents said they use simple tools like fork jembes, pangas and pruning shears. It is therefore not surprising that the majority (85%) of respondents are in a position to decide on the type of tools they use at the farm. However, 15% indicated that they do not make decisions on such matters. This is an indicator of the low level type of decision making that is left to women in SLM implementation at the household level.

4.6.6 Involvement in planting conservation vegetation for SLM

The researcher sought to find out if the respondents were empowered enough when it comes to selection of the correct vegetation cover for different sections on their farms as this is an important factor in soil conservation. Findings indicated that 71% of the respondents are engaged in planting indigenous and exotic trees, fruit trees, ground cover, Napier grass and fodder shrubs. These are planted along bench terraces and river riparian areas. The remaining 29% indicated that the planting of conservation vegetation in wood lots, along fences and fodder farms, is done by men in their households.

4.6.7 Involvement in manure generation

Manure is important for soil fertility management on small holder farms. The study revealed that most of the respondents were not involved in manure generation at household level. The majority (61%) indicated that they were not involved in livestock rearing for manure production. However, in some households, curing manure was done by the older males as it required hard labour and frequent turning to completely cure the manure. It was noted that since most farms were small and kept few livestock, the farmers had to resort to buying of manure from other areas.

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4.6.8 Involvement in construction of soil and water conservation structures

Construction of soil and water conservation like bench terraces, grass strips, cut-off drains and retention ditches, is important for SLM in Gatanga Sub-County as most of the farms sit on steep

slopes. The study found that 68% of the respondents were not involved in these activities and viewed this as a man's job as it required a lot of energy. Yet it is worth noting that these are major activities when it comes to SLM. This would explain why women's major roles in SLM go unnoticed as they are overshadowed by such major activities that are carried out by men.

4.6.9 Involvement in raising tree seedlings

Production of seedlings for trees, fruits and shrubs is important for establishment of woodlots and agro-forestry systems. The study found that 92% of the respondents were not involved in establishment and raising of tree seedlings. Only 6% said that they were involved. It was noted that those who establish tree nurseries do it for indigenous and exotic species, fodder and shrubs and fruit trees.

4.7 Decision-making and implementation of SLM at group level

The respondents are all members of self-help groups that are involved in SLM activities. It was therefore important to establish the roles that each respondent played at group level. This is because development agencies that provide interventions in SLM do so through such groups. Local NGOs like SACDEP have done a lot of training with self-help groups in the area. It was revealed that although women were in the project implementation committees, most of the decision making was done by male group members.

4.7.1 Role played at group level in planning and implementing of SLM activities

Respondents were asked what roles they play in decision-making on implementation of SLM activities. Findings indicate that 57% of them do not make decisions on group activities in SLM

while 43% do so. Some donor funding organizations such as the GEF Small Grants Programme of UNDP channels grants for environmental conservation through community-based organizations (CBOs). The programme emphasizes the need for gender balance in the composition of the project implementation committees. This is a good strategy that aims at ensuring that women are involved in leadership and decision making processes at group level.

4.7.2 Decision-making at group level on inputs for use in group activities

The study revealed that the majority (58%) of the respondents indicated they are not involved in making decisions on what inputs to use. However, 42% were involved in making such decisions at group level (Fig. 4.10).

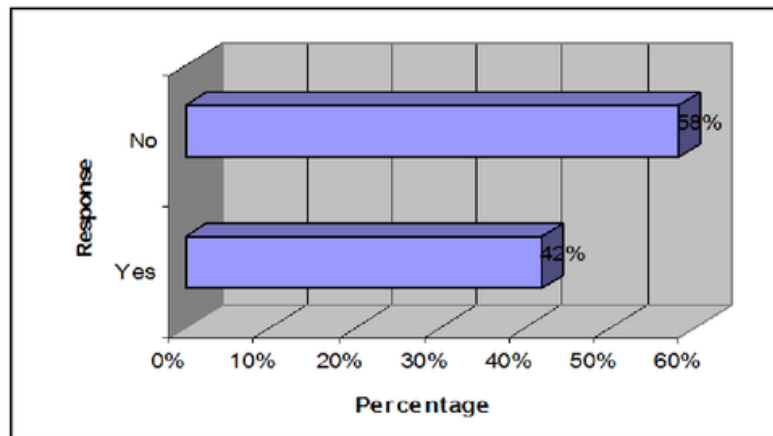


Figure 4.10: Involvement in decision making on inputs for use at group level

4.7.3. Decision-making at group level on where to source finances for SLM activities

Findings were that the majority (66%) of the respondents were not involved in decision making on where to source finances while 34% were involved in making these decisions. This is an indication that women are not empowered to participate in major decisions especially where finances are involved. This was one of the major challenges revealed by this study. Despite being in critical group leadership positions (treasurer), many women still take a back-seat when it comes to decisions that have financial implications. This is probably for fear of being victimized in case things go wrong.

4.7.4 Decision-making at group level on where to set up soil conservation structures

The study indicates that only 31% of the respondents were involved in decision-making on where to set up soil conservation structures. This means that the majority (69%) of the respondents did not participate in decision-making.

4.7.5 Decision-making on type of tools to be used for group work

The study findings indicate that less than half (46%) of the respondents were involved in making decisions on the type of tools that should be purchased for group activity. On the other hand, more than half (54%) of the respondents were not involved in making such decisions.

4.8 The challenges that women face in implementing these roles

It was important for this study to capture the challenges that women face in SLM in order to make recommendations on the best way forward and to trigger interventions from other players in the development sector, stakeholders, relevant county government departments and national government ministries. These challenges were documented at both the household and group levels.

4.8.1 Challenges and suggested way forward at household level

The study findings indicate that the main challenge faced in implementation of SLM activities at household level was lack of finances. This accounted for 28% of the responses. It was followed by lack of empowerment (19%), lack of markets for nursery products and lack of manure (both at 12%), lack of labour for SLM activities (7%), issues related to changing and unpredictable climate and lack of quality planting materials at 5% each, while lack of access to decision-making and access to inputs accounted for 6%. Limited involvement in decision making accounted for 6% of the respondents. These results are presented in Figure 4.11 below.

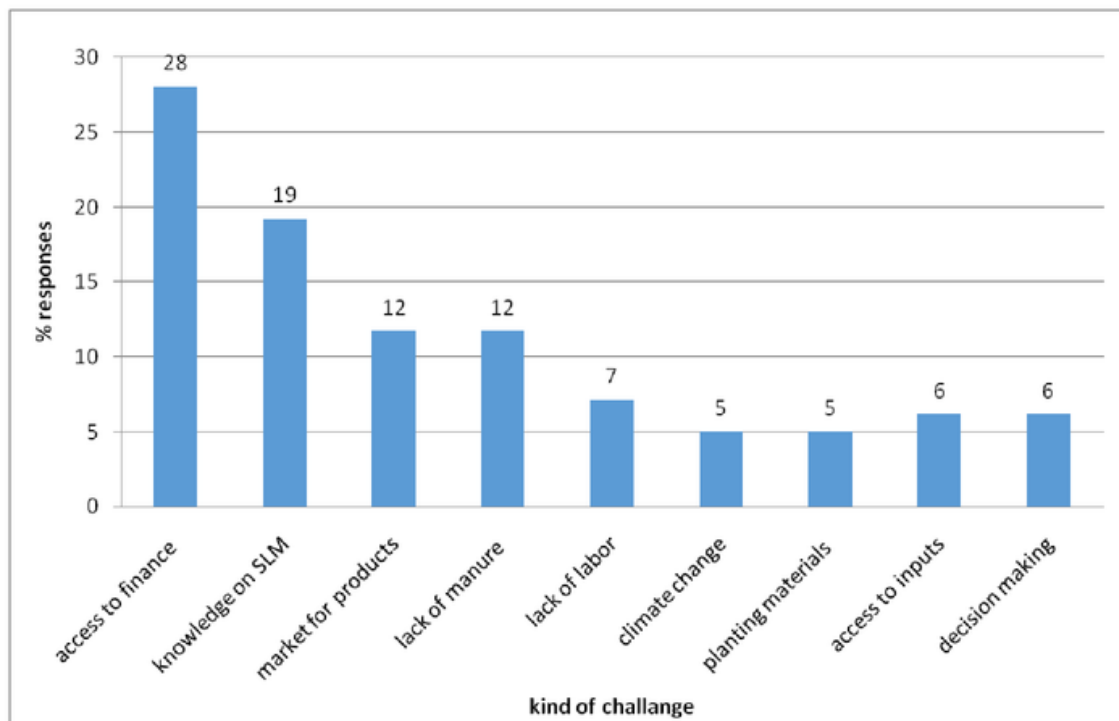


Figure 4.11: Challenges faced by women in SLM at household level

A total of 45.8% of the respondents said that the best way forward is financial empowerment to enable women access loans and other farm inputs. Another 33.8% of the respondents indicated that acquisition of knowledge and technical support was crucial. Introduction to organic farming, access to technologies that save on labour, involvement of women in decision-making, and

access to markets for seedlings raised accounted for 8.5%, 4.2%, 5.6% and 2.1%, respectively.

These findings are presented in Figure 4.12 below

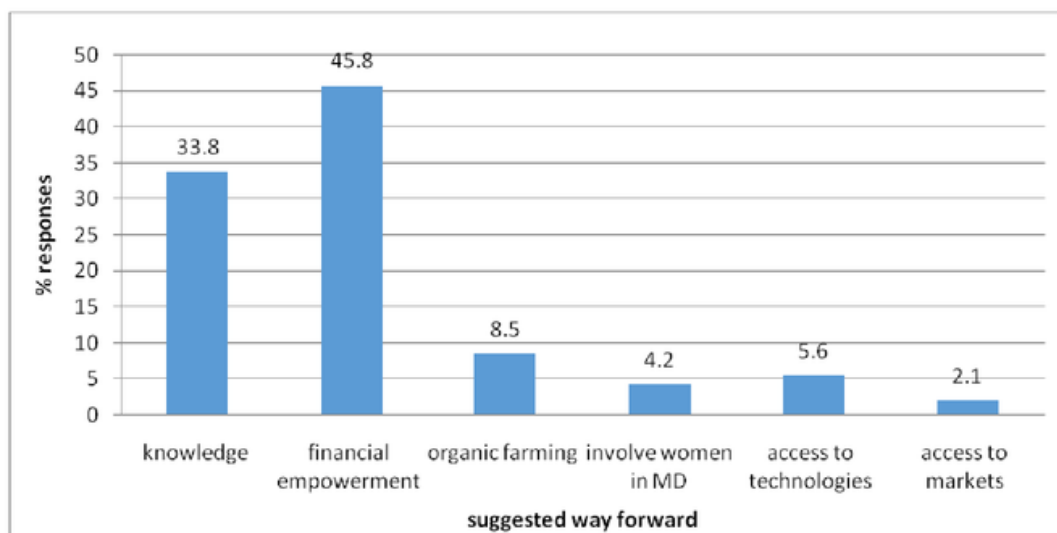


Figure 4.12: Solutions to such challenges at household level

4.8.2 Challenges relating to SLM and the way forward at group level

The study sought to find out the challenges that women face at group level and their suggestions on the way forward. Lack of awareness accounted for 37.2% of the respondents while lack of finances accounted for 34.5%. Involvement of members in decision-making was third at 13%

while access to manure, inputs and markets for nursery products each had 5.1% of the respondents. This is presented in Figure 4.13 below.

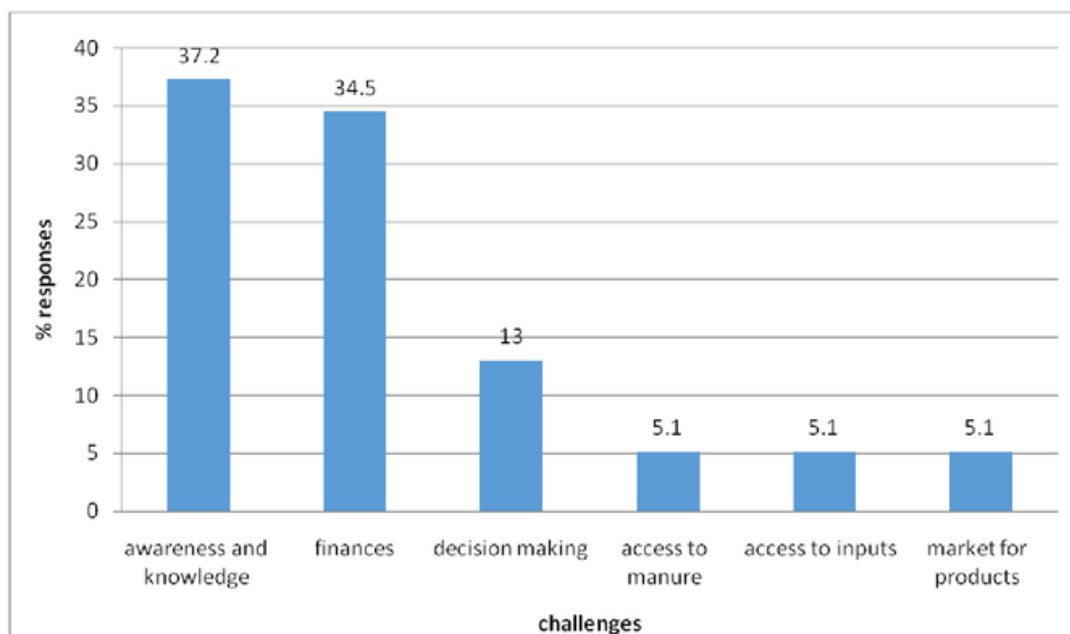


Figure 4.13: Challenges in SLM at group level

When asked to suggest the best way forward on these challenges, 61% of the respondents indicated that awareness creation and linking women activities to expertise was the best way forward. About 30% of the respondents indicated that the leadership of the groups should be linked to government departments and donors who fund such projects. Seeking markets for nursery products, enhancing group leadership, involvement in decision making and embracing appropriate technology accounted for 3% each (Table 4.1). These findings were supported by

findings from key informants and focus group discussants. Two key informants from two different NGOs that have worked with women in the area of study also stated that women need more opportunities to participate in training workshops.

Table 4.1 suggested interventions at group level

Suggested Solutions	% Responses
Linkage with technical expertise	61
Linkage of leadership with supporters	30
Access to markets	3
Involvement in decision making	3
Access to appropriate technology	3
Total	100

4.9 Lessons learned and recommendations for improved SLM

The respondents shared their experiences on SLM implementation and how these lessons could be used for future interventions. Findings are that 48% of the respondents said that embracing good practices in SLM like use of farmyard manure instead of inorganic fertilizers, improves production. Another 9% indicated that by participating in exchange visits, they learnt more than

in normal training sessions. Other lessons learnt were the importance of linkages with donors by the group leadership and the importance of good group leadership in SLM practices.

On recommendations, 62% of the respondents stated that capacity building for group leaders should be given priority. Another 14% recommended enhancement of financial empowerment and linkages, while 12% felt that seeking technical assistance would build the necessary skills for sustainable agriculture. Finally, about 9% recommended inclusion of women in decision-making.

Finding from the focus group discussions indicate that most of the women practising SLM were young mothers with standard eight level of education and had married at an early age. This made them face many challenges in carrying out their activities on the farm as they had to look after young children and at the same time work on the tea farms. Handling of farm chemicals also put their young children at risk. With busy household chores, many did not even have time to spare for visits to clinics, resulting in poor health. The fact that they were overburdened also contributed to their lack of interest in sustainable land management practices. Their priority was to feed their families and not necessarily best practice when it comes to SLM.

The discussions were in agreement that the men should allocate more slots for training to the women and that they also needed to ease the burden of labour that currently rests on their women by taking on more chores at the household level. The men need to be more involved in linking

women up with markets for their farm produce rather than leaving the entire burden to them. It was also noted that women needed to be empowered further through involvement in decision-making especially within the self-help committees.

Key informants indicated that land ownership and access was a major challenge for women. The informants were in agreement that although women had been allocated very small portions of land by their spouses or families, they had played a big role in maximizing the agricultural outputs and gone ahead to promote a value chain that included food processing. A good example was production of arrow-root crisps. Most of the women also managed to feed their families through small agricultural activities such as goat keeping, poultry keeping and cultivation of multi-story gardens. One of the key informants had worked with most women groups in the area and had assisted in linking them up with markets, on handling of pesticides especially for those with young children who were previously reluctant to work on the farms.

The key informants also concurred on many of the challenges that women faced such as lack of decision-making at both household level and Self-Help Group management levels. They also felt that there were too many players on the ground in terms of development partners thus causing confusion on the ground. This is especially so when it comes to alternative and safer methods of farming such as organic farming. It was noted that commercial interests from agricultural fertilizer and chemical producers often collided with those intent on promoting organic farming. Most of the key informants shared their knowledge on the role of Water User's Associations (WRUAs), Kenya Forest Service, various government Ministries ⁵⁷ such as

Ministry of Agriculture, Ministry of Gender and Sports, Ministry of Environment and Natural Resources and other NGOs working with the women on the ground. The key informants had all played a role in capacity building and empowerment of the women through various trainings and counselling workshops. It was felt that women needed to be linked to markets and potential donors for technical expertise in SLM practices.

A key informant stated that their organization had worked with women groups in the area on organic farming. Another key informant said that his organization had worked with most of the women groups on tree planting activities, rehabilitation of riparian areas and improved agricultural techniques. According to most of the respondents, key informants and focus group discussants, two of the main challenges facing women in SLM are land ownership and lack of finances to engage in modern agricultural practices.

Both the key informants and focused group discussants emphasized the need for training and capacity building for successful implementation of SLM. The respondents also highlighted these two as some of the challenges that they faced in implementing SLM activities.

Chapter Five

40

Discussion, Conclusion and Recommendations

5.1 Introduction

This chapter discusses the findings of the study. Conclusions are made from these findings and recommendations made on how to tackle the identified challenges.

5.2 Discussion

The study confirms that women play a major role in SLM, although this has gone unnoticed. Findings of this study indicate that SLM activities are mainly carried out through Self-Help Groups. Most of the re-forestation activities carried out in the Aberdare Forest with assistance of NGOs like The Green Belt Movement, have mostly involved women groups.

In terms of education level, the study found that most of the women went up to class 8 level and got into early marriages. This would have a significance in decision making at household and group levels because with limited education, one is slower to appreciate the importance of SLM and hence to embrace it fully. Even though there was a good number of women in group leadership, they did not play any key role in decision-making when it comes to the type of activities that needed to be carried out in SLM. However, at household level, there was greater decision-making with the study indicating that 66% of the women make decisions. It was,

however, noted that most of these decisions involved basics such as farm inputs, where to set up soil conservation structures, and where to source for finances.

The findings of this study indicate that women were aware of the type of soil conservation crops that needed to be cultivated and on what areas. In the sloppy areas, women were growing sweet potatoes and nappier grass which contributed greatly to checking soil erosion. The study also found that women were more engaged in community tree planting activities in schools and other areas than their male counterparts. One of the women group leaders had also initiated a giant bamboo tree nursery on her farm and had participated in many awareness creation workshops on the same.

In terms of land ownership, the study found most of the land was owned by the family, but controlled by men as heads of households. This indicates that women still have a long way to go in overcoming traditional barriers that hinder women from owning land. However, the study concurs with a previous report (GOK, 2010a) that with the enactment of the Constitution of Kenya 2010, a marked improvement in the participation of 20 women in all sectors of the economy has been realized. The study findings also suggest that women's decision making at group level had improved.

A study by Henshall (2004:124) shows that women bear most of the work in SLM and especially in regard to re-afforestation, which this study has confirmed. The study has also confirmed that land resources are owned by men in most households. Findings from the respondents indicate that only a small portion of the land is owned by women. However, women have been allocated

small parcels of family land on which to grow horticultural crops as the larger portions of the family land are mainly covered with tea bushes. A previous study (UNDP, 2007:7) indicates that ⁵ in order for women to use land sustainably and to protect ecological health, contribute to long-term environmental benefits and food security, they need equal access to land ownership and control. The research findings concur with the study as it was noted that women were indeed struggling to practise mixed farming on very small portions of land. However, the level of involvement of ⁶⁸ women in decision-making in households has been a slow and gradual process. With improved levels of education since independence, one would expect a higher level of women in decision-making especially at group level but the study suggests that this is not the case. Although the Constitution of Kenya, 2010 has given land ownership and access to women, there is a lot of empowerment needed before women can assert themselves.

³⁹ Findings from a study by the Canadian International Development Agency (CIDA, 2012:47) on gender responsive budgeting and its application to planning in Kenya indicates that that indeed there are major obstacles towards women's participation in SLM despite there being policies, laws and legislative reforms aimed at removing such barriers. This study confirms that women need capacity building and empowerment to enable them understand how government policies are made; how they affect them and how they can make their voices heard ⁶⁷ at all levels of decision-making. The study found that women did not fight for their right to land inheritance despite changes in the constitution of Kenya 2010, that now allows them to. Only 5% of the women owned the land on which they farm.

Access to labour is still a challenge for women not only in subsistence farming but also in SLM. Activities such as trenching and construction of soil conservation structures require hard labour and hence the goodwill from the male family members. There is therefore need for technology that is needs-based and tailored towards reducing labour requirements for women. SLM activities are also resource intensive and if women do not have access to either seed money for those investments or access to markets for products, then they will be slow to embrace appropriate SLM strategies. The study concurs with a World Bank Country Assistance Strategy paper (WB, 2004:26) that indicates ³ that women are more likely to be poor and vulnerable to adverse shocks than men. Most of the respondents cited lack of finances as a draw-back to their full participation in SLM as they had to juggle between feeding their families with the little income from their small vegetable gardens and putting their money into improved seeds and fertilizers for greater productivity.

The key lessons learnt are that the groups are the best vehicles for disseminating SLM strategies. These strategies include use of farmyard manure instead of inorganic fertilizers as this improves farm productivity, use of proper seedlings and appropriate technology. Another lesson learnt is that participating in exchange visits is more educational than classroom training. In addition, it was clear that linkages with donors by the group leaders are quite important. The findings also suggest that good governance in group leadership is key to the success of SLM implementation. The need for enhanced capacity building through trainings that include both men and women was suggested by key informants from both NGOs and group leaders. It was felt that this would make men more understanding when it comes to division of labour and hence reduction of the burden placed on women. A study by Aswani and Weiant (2004:7) indicates ¹ that involving

women in participatory land management promotes sustainable land use and results in improved socio-economic conditions. The study findings suggest that there is a gap in terms of training that needs to be filled in order to achieve the full participation of women.

This study also revealed that there are many players on the ground including NGOs, UN agencies and other donors working with the self-help groups, but there is no coordinated effort, leading to some confusion on the way forward in SLM activities. One of the key informants recommended a structured approach. This is because various stakeholders have different interests and this results in confusion on the ground in SLM practices. Some were only interested in marketing their products such as pesticides for farm use while others were trying to promote safer technology through organic farming. Observations on the ground indicated that women were growing mainly sweet potatoes and nappier grass on the slopping sections of their farms. This helps control soil erosion on the slopes and is an indicator that women have some general knowledge on the importance of soil conservation structures.

5.3 Conclusion

Findings from this study confirm that women play a major role in SLM in Gatanga Sub-County of Central Kenya. Most of these roles have, however, gone unnoticed as evidenced by the poor support accorded to women in capacity building and empowerment from the local authorities. The findings also indicate that there are many barriers to the full participation of women in SLM. Most of these challenges revolve around decision-making and finances. However, it was noted that women's involvement in decision-making has gained some prominence unlike in the past.

The study concludes that women play a major role in SLM. They are the majority in the self-help groups that were studied and are involved in almost all the activities undertaken at the household and group levels. However, they face many challenges due to lack of training as it is usually the men who participate in most of the trainings organized by NGOs and other donors. Women also bear a huge labour burden as they have to do small subsistence farming to feed their families, and market some of the produce to acquire other provisions for domestic use, amongst other household chores. The women also have to work in the family tea farms despite having to look after young families.

Most of the women marry young and have standard eight level of education. With many tasks to juggle, women are more often than not, more concerned with growing just enough to feed their families than adoption of appropriate technology for SLM practices. This study complements another by Maan Envi Consultants which was commissioned by TNC to do an assessment of involvement and participation of women and youth in the LASCOR and BCFC projects in Gatanga Sub-County by emphasizing the importance of the role of women in SLM.

5.4 Recommendations

1. NGOs, donors and other development partners should come up with a harmonized approach in enhancing women's leadership and decision making skills to enable them participate fully in SLM.
2. The developers of technologies used in SLM should carry out technology needs assessment studies before rolling them out to the community. This will enhance the appropriateness of the technology to the end users who are mostly women.
3. Women groups should work more closely with local agricultural extension workers for expert advice, empowerment and awareness creation on the importance of SLM practices.

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APPENDICES

Appendix 1: Consent form

I would like to introduce myself, Mary Mbaabu, a ⁵² Master's student in Gender and Development Studies at the University of Nairobi. I would like to seek your permission as participants to my study on the Role of Women in Sustainable Land Management in this Sub-County. This is an important study that will capture the all-important role that women in agriculture at the rural household level play in livelihoods and conservation efforts in this country. These critical roles have not been fully documented by past researchers and it is hoped that this study will add great value to the studies done in the past in order to bring out these important roles that you are doing towards economic and social growth of our country.

All your contributions will be treated with total confidentiality and all your views and contributions are important and highly valued. Your participation in this study is voluntary. However, your participation no matter how small will be invaluable. The interview time will be kept to the minimum (15 mins per participant) in view of your very busy schedules.

If you agree to be interviewed, kindly sign this consent form. Do not feel under pressure; it is voluntary.

Signature:

Date:

Thank you very much for your time and cooperation.

Appendix 2: Semi-structured Questionnaire

1. Background information

- a) VillageSub location.....Ward
- b) Household Name
- c) Number of household members.....
- d) Respondent’s position in household (Mother..... Daughter
- e) Age of respondent –tick as appropriate

Age group (years)	18-23	24-29	30-35	36-41	42-47	48-53	53 -58	Above 58
Female								

- f) Formal education background (*Tick as appropriate*)

None Primary certificate Shday certificate Cdge certificate/Diploma
 University degree

66

- g) Marital status: Single Married Widowed..... Divorced.....

- h) Total farm size under household (hectares)

- i) Main enterprises on the farm:

.....

- j) Who owns the land you are using? Myself (....) Head of household (....) family (....) Clan (....) Others

- k) How was your land acquired? Inheritance (...) Purchase (....) Leased (....) Others
- l) What is the name of your group?.....
- m) What is your position as a group member? Leader....., ordinary member

2. The role played by women in SLM

- a) Which activities do you carry out relating to SLM in your farm?

- b) Which activities do you carry out relating to SLM in your group projects

- c) Which of the following roles do you play in planning and implementing SLM activities in your home? Tick yes or no.

Role	Yes	No
i) Deciding on what to do in SLM		
ii) Deciding what inputs (manure, fertilizer, seeds,) to use		
iii) Deciding where finance for farming will be sourced from		
iv) Deciding where soil conservation structures will be set at the farm		
v) Deciding what tools (jembes, panga, pump e.t.c.) will be used at the		

farm			
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d) Which of the following roles do you play in planning and implementing SLM activities at group level? Tick yes or no.

Role	Yes	No
i) Deciding on what the group activities will be in SLM		
ii) Deciding what inputs (manure, fertilizer, seeds,) to use for group activities		
iii) Deciding where finance for SLM activities will be sourced from		
iv) Deciding where soil conservation structures will be set		
v) Deciding what tools (hand tools e.t.c.) will be used for the group work		

3. Challenges faced in SLM

a) What are your current **three** important challenges /concerns relating to SLM at farm level?

- i)
- ii)
- iii)

b) How would you like the challenges you face on your farm to be addressed by the household head?

i) _____

ii) _____

c) What are your current **three** important challenges /concerns relating to SLM at group level?

i)

ii)

iii)

d) How would you like these challenges you face in your group to be addressed by the group leadership?

i) _____

ii) _____

e) What lesson would you like other people to learn from your roles in SLM?

f) What should be done differently in future to enhance women participation in SLM?

Thank you for sparing your time for this interview.

Appendix 3: Focus Group Discussions Guide

1. Gender composition of group members, including management committees.
2. Key priority areas for SLM for the group.
3. Types of sustainable land management practices that women are engaged in in Gatanga Sub-County
4. Notable benefits for women engaged in SLM practices from a male perspective.
5. Challenges faced in planning and implementing these SLM activities.
6. Role played by male members of the group in enhancing the capacity and access to land resources for women in Gatanga Sub-County.

Appendix 4: Key Informant Interview Guide

1. Have you worked or interacted with self-help groups involved in SLM in Gatanga Sub-County?
2. If so, what do you think are the roles played by women in SLM in Gatanga Sub-County?
3. What particular SLM activities are these women involved in?
4. Which stakeholders/partners working in the area of SLM in the Gatanga Sub-County, including county and national government have you interacted with?
5. What role have you played in enhancing the capacity of women to participate in SLM in the region or other parts of the country?
6. What do you think are the major challenges in tackling issues that affect the full participation of women in SLM in Gatanga Sub-County?
7. What would you suggest as the way forward in removing the barriers faced by women in SLM?

Appendix 5: Observation Checklist

1. What kind of crops are you planting?
2. Where are these being planted?

THE ROLE OF WOMEN IN SUSTAINABLE LAND MANAGEMENT IN GATANGA SUB-COUNTY, MURANG'A COUNTY, CENTRAL KENYA

ORIGINALITY REPORT

% 14	% 14	% 4	% 6
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	commdev.org Internet Source	% 2
2	www.unodc.org Internet Source	% 1
3	www.ifc.org Internet Source	% 1
4	www.ukessays.com Internet Source	% 1
5	www.rema.gov.rw Internet Source	% 1
6	siteresources.worldbank.org Internet Source	% 1
7	cleancookstoves.org Internet Source	% 1
8	web.hcsps.sa.edu.au Internet Source	<% 1

9	www.idosi.org Internet Source	<% 1
10	lemcogroup.net Internet Source	<% 1
11	www.itc.nl Internet Source	<% 1
12	Submitted to University of Birmingham Student Paper	<% 1
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