

**INFLUENCE OF WOMEN PARTICIPATION ON SUSTAINABILITY OF THE  
COMMUNITY CONSERVATION PROJECT IMPLEMENTED BY JALDESA  
COMMUNITY CONSERVANCY IN MARSABIT COUNTY, KENYA.**

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**A Research Project Report Submitted in Partial Fulfilment of the Requirements for  
the Award of Master of Arts Degree in Project Planning and Management of the  
University of Nairobi**

**2020**

**DECLARATION**

I declare that this research project is my original work and has not been submitted for award of degree in any other university or college for examination or academic purposes.

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This research project has been submitted for examination with my approval as the University Supervisor.

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## **DEDICATION**

This research project is dedicated to my late Father, David Roba who always dreamt of me being called Dr. Roba someday; I wish he was here to witness this and to my mother who has been my lifetime cheerleader.

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## **LIST OF ABBREVIATION AND ACRONYMS**

ADMADE	Administrative Management Design for Game Management Areas
AWDF	African Women's Development Fund
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CBD	Convention on Biological Diversity
CBNRM	Community-based natural resource management
CBO	Community Based Organization
CBS	Community Baboon Sanctuary
CCP	Convention Concerning the Protection
CCS	Community Conservation Service
CDD	Community Driven Development
CFUGs	Community Forest User Groups
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Conservation of Migratory Species of Wild Animals
FAO	Food and Agricultural Organisation
FIDA	Federation of Women Lawyers in Kenya
KWCA	Kenya Wildlife Conservancies Association
KWFT	Kenya Women Microfinance Bank
KWH	Kenya Women Holding
KWS	Kenya Wildlife Service
MCA	Member of County Assembly
NACOSTI	National Commission of Science Technology and Innovation
NGOs	Non-Governmental Organisations
NRT	Northern Rangelands Trust
RAMSAR	Convention on Wetlands of International Importance, especially the Waterfowl Habitat
SADC	Southern Africa Development Community
TWF	The Wildlife Foundation
UNCED	United Nations Conference on Environment and Development
UNESCO	United Nations Educational and Cultural Organization

USAID	United States Agency for International Development
WBOED	World Bank's Operations Evaluation Department
WCL	Wildlife Lease Conservation
WCMA	Wildlife Conservation and Management Act of 2013
WCNH	World Cultural and Natural Heritage.

## ABSTRACT

Community-based resource management has different costs and benefits across genders. While there is benefit of women participation, achieving equitable participation has been difficult. It is also becoming increasingly known that gender equity is key to conservation effectiveness and sustainability. The purpose of this study was therefore to examine the influence of women participation on sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya. The study had four research objectives that included determination of how women participation in decision making, their participation in implementation of the project, their participation in access and control of resources, and finally how their participation in capacity building activities influenced the sustainability of the community conservation project. The design for this study was a cross-sectional survey and employed a mixed mode of research encompassing qualitative and quantitative research. The study was guided by Participatory Theory and Ecological Feminism Theory. The target population was 19,860 and a sample of 443 respondents selected from the population using probability and non-probability sampling criteria. A Pilot study was conducted using similar respondents and reliability analysis done using Cronbach's Alpha coefficient. Primary data was collected by the researcher using questionnaires and focus group discussions. Data was analysed by descriptive statistics using SPSS version 25. Pearson's moment correlation was used to establish the relationship between the independent and the dependent variables. The study revealed that there was a significant and positive relationship between dependent and independent variables. It was recommended that the national government and the county government of Marsabit should improve on ways of increasing women participation in decision making. It was additionally recommended that women should be more involved in the implementation of the projects. Further, women should be empowered to have more access and control of resources. Lastly, the researcher recommended that there should be a lot of capacity building for women. Based on the limitations and delimitations of the study, the researcher suggested that studies on influence of government policies on sustainability of community conservation projects, role of county government on sustainability of community conservation projects and a study on influence of public private sector collaboration on sustainability of community conservation projects should be conducted.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the study

Growing population and technological advancement are continuously putting a strain on the environment and on global and countries' natural resources. Over-exploitation of any country's resources like land, water, fuel etc. has resulted in degradation of resources mainly due to industrial pollution, soil erosion, deforestation, and urbanization. Hence, it is of utmost important to conserve and protect the natural resources and environment. According to Wilson (2009), it is apparent that the progress towards women participation in the sustainability of development projects has encountered obstacles at the institutional level in all countries of the world. Among traditional societies of the world, men and women were assigned different roles.

Throughout the 1970s and 1980s, conservationists increasingly recognized that strict enforcement was not successful in slowing the degradation of protected area resources (Berkes, 2015). For one thing, this strategy was unrealistic, given the sheer numbers of humans inhabiting protected areas. For example, sources suggest that as many as 85% of the protected areas in Latin America are inhabited (Colchester, 2014). At about the same time, *Our Common Future*, a report authored by the World Commission on Environment and Development (1987) introduced the concept of sustainable development- 'development that meets needs of the present without compromising the ability of future generations to meet their own needs' to a wider audience. The authors of the report suggested that economic development could be achieved without depleting natural resources or degrading the environment.

The drive to conserve biodiversity has resulted in concerted efforts at the global, national, and local levels to control and minimise loss of biodiversity. These efforts have been directed towards conservation within the natural environment (in-situ conservation) or elsewhere in an artificial environment under artificial conditions (ex-situ conservation), such as in gene and seeds banks. At the global level, Agenda 21, Section II of the United Nations Conference on Environment and Development (UNCED 1992, addresses the issue of conservation and management of resources, including biodiversity for development.

Other agreements at the level of the United Nations Conference on Environment and Development (UNCED) about biodiversity conservation include the Convention on Biological Diversity (CBD), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention on the Conservation of Migratory Species of Wild Animals (CMS). Further agreements under the CMS include the Convention on Wetlands of International Importance, especially the Waterfowl Habitat (RAMSAR) and the United Nations Educational and Cultural Organization (UNESCO) Convention Concerning the Protection of the World Cultural and Natural Heritage.

Many of the late nineteenth and early twentieth-century national parks established worldwide were 'directly inspired' by the US National Parks system, specifically Yellowstone (Pearson and Ryan, 2002). The management of many of these parks included restrictions against people hunting, herding, farming, gathering, felling trees, and even collecting medicinal plants (Stevens 1997). The implementation of the national parks system and the corresponding regulations and restrictions was successful in the United States because it was supported by the dominating social consensus of individuals.

The history of national parks and protected areas began in the United States with the establishment of Yellowstone National Park in 1872. (Nash, 2015). The intended goal was to prevent private acquisition and exploitation of the park's unique landscape. Later, the intention was to preserve the land from human impact (Keller and Turek 2014). Although native peoples had been a part of natural ecosystems for hundreds of years, the view was that, by isolating humans from the environment, natural wilderness could be preserved and maintained in its inherently wild, untouched state.

Studies show that Nepal has witnessed a trend of deforestation throughout its history, as forest lands have been converted to croplands. By 1951, most of the land suitable for agricultural production in the hills of Nepal had been deforested (Ives & Messerli, 2012). One-third of the total forest and cultivated lands of the country, primarily in the Terai region, were under birtal tenure with 75 per cent of that area belonging to the Rana family (Regmi, 2015). The nationalization of forest lands also led to a tragedy of the common scenario where, in the absence of government control, forests were rapidly exploited.

By the 1970s there was a growing international concern over the rate of deforestation in Nepal. Initially, control of forest resources rested with the local Panchayat government. It took the change of control from local government to recognized Community Forest User Groups (CFUGs), composed of those communities who are traditional users of a patch of forest relating to economic costs and benefits.

During the 1980s and 1990s, conservation policies and agencies in Africa came under severe criticism. In several countries, the evidence of increased poaching in the 1970s and 1980s pointed to the inability of wildlife departments to manage their habitats and wildlife populations. Critics argued that government departments had relied on top-down bureaucratic approaches that excluded local communities, making wildlife management especially difficult outside protected areas and on private lands (Hulme & Murphree, 2001).

In Africa, these approaches are commonly referred to as community-based conservation. Some of these initiatives that have been institutionalised include the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in Zimbabwe; Administrative Management Design for Game Management Areas (ADMADe) in Zambia; Community Conservation Service (CCS) in Tanzania; and the Northern Rangelands Trust (NRT) in Northern Kenya.

In Zimbabwe, the CAMPFIRE programme had a significant impact on wildlife conservation. Communal areas contain 56% of Zimbabwe's population, but until 1982 only private farmers were given Appropriate Authority (AA) to use the wildlife on their land (Gujadhur, 2000). In Namibia, studies have observed that Community-based natural resource management (CBNRM) was started in the 1980s with the Integrated Rural Development and Nature Conservation (IRDND), whose main aim was to combat poaching and to increase the benefits of wildlife tourism to local communities (Gujadhur, 2000).

In Northern Kenya, The Northern Rangelands Trust (NRT) was registered in 2004, as a community-led not-for-profit organisation, whose members represent politically and socially marginalised pastoralist communities of northern and coastal Kenya. Drought and famine are constant threats in this region where people are predominantly dependent on

livestock. Alternatives are now evolving providing stability, employment and investment in an area historically neglected. NRT was established by communities and conservationists, recognizing the need for an umbrella organisation that could assist communities to use conservation as a means of improving and diversifying livelihoods.

The community-based conservation approach has spread very fast recently. It relies on the active participation of the local people in conservation interventions and entails not only giving local communities (and indigenous people) user rights but also obligations, responsibilities, and managerial know-how (Barrow & Murphree. 2001). The local communities in various parts of the world have moved a step ahead by claiming exclusive rights, or at least claiming access, to natural resources found in what they consider their land, to the crop and wildlife diversity found on this land and to the knowledge that informs the uses of these resources. These desires of the local communities to reclaim their rights find official expression in the Convention on Biological Diversity (CBD) which has created an impetus for community-based conservation. However, while these current conservation approaches endeavour to address pertinent issues related to the socio-economic imperatives of the local communities, protectionism continues to play a pivotal role in conservation policies in terms of control and regulation (KWS 1990). The conservation authorities such as the Kenya Wildlife Service (KWS) in Kenya, the international and local Non-Governmental Organizations and scholars in the field of biodiversity, wildlife and forest management endeavour to design and redesign appropriate strategies for conservation and management.

A study was done by Jill (2008) In Amboseli National Park; focused on the region surrounding the park, which is a crucial dispersal zone for wildlife, making it of great interest for community conservation initiatives. Approximately 70% of the region's wildlife lives outside the park and use the area for migration between Amboseli, Chyulu Hills, and Tsavo West National Parks (Mburu, 2003). The type of tenure largely determines the land uses, which in turn influence the ecosystem's flora and fauna.

In many areas of sustainable development including land and natural resources governance, it is becoming increasingly well known that gender equality and equity is key to conservation effectiveness and sustainability. The Convention on Biological Diversity



recognises the vital role women play in conservation and sustainable use of biological diversity. It also affirms the need for the full participation of women at all levels of policymaking and implementation to achieve effective biological diversity conservation (Terry,2009)

Women in Kenya are not only underrepresented in access to education and training, political decision-making and leadership but are also marginalized in access and control of the benefits from investment in natural resources in their communities. According to a study conducted by Federation of Women Lawyers in Kenya (FIDA), shows that even though 32% of households in Kenya are headed by women, they own only 1% of Kenya's land and 5-6% is held under joint names usually with a husband. Women lack information on land ownership, including the right to consent to the sale of land bought jointly with their husbands. The Matrimonial Property Act 2013, gave women new set of rights in relation to land ownership, including the right to consent to the sale of land bought jointly with their husbands. However, Lack of awareness stop many women from accessing their fair share of land and property especially in cases of inheritance.

Community-level participation similarly can often leave women's voices and concerns unacknowledged. Cultural norms and beliefs have limited women from attending meetings or events, women may not sit with male elders, speak before male elders, and they may not be or feel free to voice their opinions and their needs may not be taken seriously. However, the Wildlife Conservation and Management Act of 2013 (WCMA) is supportive and gives formal recognition to the collective voice of conservancies at the landscape national levels.

Community conservancies are providing opportunities for women empowerment through enterprise projects in conservancy lodges that empower them financially such as beadwork and livestock businesses. Further, some conservancies such as Jaldesa, Biliqo-Bulesa and Sera community conservancies under the Northern Rangelands Trust umbrella have elected women in conservancy leadership positions. This progress is due to legal reforms regarding women's inclusion in governance structures and women's land inheritance rights. Also, conservancies work with women to defuse resource-based conflicts among conflicting communities restoring peace and security. Progress in school enrolment for

girls has increased as a result of education bursaries collected as revenue from conservancy fees or conservation philanthropy.

Women's participation in community-based development projects is conceptualized in this study as being women's active involvement in the community. According to the Kenya Wildlife Conservancies Association, women involved in the 102 community conservancies management as at the year 2019 are eight female managers, two female chairpersons and there are 6 community conservancies with women enterprise projects (KWCA, 2019). This is considered a milestone as the figures were zero 10 years ago. Non-governmental organizations such as the Northern Rangelands Trust have been on the front line in trying to empower and support women in 39 community conservancies across Kenya in matters conservation through training, project implementations and governance of these conservancies. However, women do not seem to have taken active role in various projects of Jaldesa Community Conservancy for example out of the board that runs the conservancy, only four women are involved. Jaldesa Community Conservancy project was registered as a Community Based Organization (CBO) in 2013. The conservancy has a board comprising of eight men and four women that is responsible for the running of the project. The board gives feedback to the community from the conservancy.

## **1.2 Statement of the problem**

Community-based sustainable development has become a central approach to rural development and natural resource and biodiversity management in developing countries. But this emerging global consensus tends to overlook both ecological variability and the social differentiation and potential for conflict within local communities. Several studies have been carried out on role of women in conservation. Limited focus has been placed in Kenya and, especially on the Jaldesa Community Conservancy. Panwar et al., (2011) study on role of women in environmental conservation in India revealed that conservation of natural resources and promotion of environment cannot be done without involving the women in planning and training for promoting the values for conservation and promotion of environment.

Islam and Chuldhury (2016) in their study on the role of rural women in environment conservation: a case study of Bangladesh Village, suggested that involvement of women

to a larger extent in such activities can augment the socio-economic development of Bangladesh and it is imperative for preserving sustainable development. Olalekan, et al (2019) revealed that there is close association between women and natural resources especially among women of rural areas. The study concluded that women need to be empowered to take active role in conservation. Additionally, Naganag (2014) revealed that women have vital role in conservation and management of sustainable eco-system.

Kaeser (2016) in her study on the Attitudes and Barriers to Women 's Participation in a Proposed Community-Based Conservation (CBC) Program in Western Belize determined that a CBC program designed especially for women should be successful. Some of the aspects of a program that women expressed was a desire for more conservation and forest education. However, contrary to their assumption that women would require an income to participate, the study found that it was a matter of needing free time and gaining some education that would influence their increased participation.

From the empirical studies reviewed above such as Panwar et al., (2011), Islam and Chuldhurry (2016), Naganag (2014), and Kaeser (2016), none of them focused on the influence of women participation on sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya. This study therefore sought to fill in the gap. The study examined the influence of women participation on sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya.

### **1.3 Purpose of the study**

The purpose of this study was to examine the influence of women participation on sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya.

### **1.4 Objectives of the study**

The study was guided by the following research objectives

1. To determine how women participation in decision making influences sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya.

2. To determine how women participation in implementation of project influences sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya.
3. To determine how access and control of resources by women influences sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya.
4. To determine how women participation in capacity building activities influences sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya

### **1.5 Research questions**

The study was guided by the following research questions

1. How does women participation in decision making influence the sustainability of community conservation projects implemented by Jaldesa Community Conservancy in Marsabit County, Kenya?
2. How does women participation in implementation of the project influences sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya?
3. How does women access to and control of resources by women influences sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya?
4. How does women participation in capacity building activities influence the sustainability of community conservation projects implemented by Jaldesa Community Conservancy in Marsabit County; Kenya?

### **1.6 Significance of the study**

The findings of this study may be important in many ways. First, the study may show how women participation in decision making influences sustainability the community conservation project implemented by Jaldesa community conservancy. In doing so, measures may be taken to ensure more women participate in decision making so as to influence sustainability of the community conservation project in Jaldesa community conservancy. The study may provide information on how access and control of resources

by women influence the sustainability of community conservation projects. The findings of the study may also establish how women participation in implementation of the project influences sustainability of Jaldesa community conservation project. If the study reveals that women participation in implementation of the project influences sustainability of the community conservation project, different stakeholders may therefore be involved in the empowering women so that they can have more impact in conservation. The study will also establish how women participation in capacity building influence the sustainability of Jaldesa community conservancy hence women could be empowered more in matters conservation. The study may also enable different partners to improve their practices in the conservancy.

### **1.7 Assumptions of the study**

The study assumed that the women involved in the conservancy have the required knowledge about the project and were willing to give the right information as required and that the respondents were reachable without much difficulty. The study assumed that the existing conditions remain as they are even with the uncertainty of the COVID-19 pandemic.

### **1.8 Limitations of the study**

Despite all the effort, there may be limitations to this study that may be noted. The major limitations of the research are social stratifications. The respondents may not give information freely especially women due to cultural issues. However, this may be overcome by treating the information with high confidentiality. The vastness of the area and the dispersed settlement may pose a great challenge in reaching the respondents. Another limitation is that some respondents at other times may be unwilling to be interviewed. The researcher will, however, utilize the good relations with the community conservancy management so as to get the necessary information.

## **1.9 Delimitation of the study**

The study was carried out in Jaldesa Community Conservancy. Although many factors affect the sustainability of the community conservation project, the study focused on women participation in decision making, women participation in project implementation, access to and control of resources by women, and women participation in capacity building activities. The study sought information from Conservancy board members, Government officials, Women respondents, Conservancy Staff, Department in County government and Conservancy partners. Although there are 102 community conservancies in Kenya, the study will delimit itself to the Jaldesa community conservancy.

## **1.10 Definitions of significant terms**

Below is a definition of key significant terms that are widely used in this study. The purpose of these definitions is to make clear the terms that are used in the study.

**Access and control of resources by women** refers to right of ownership and utilization of resources that the women need in their contribution to the sustainability of Jaldesa conservancy.

**Capacity building for women** refers to the empowerment of women through training towards their role of conserving the Jaldesa conservancy.

**Community participation** is an organized process where the communities around the conservancy to participate in the conservation of Jaldesa conservancy.

**Conservation** is defined as preservation of species or wildlife community within Jaldesa conservancy natural habitat.

**Decision making** refers to the capacity of women to contribute to decisions concerning the management and the running of Jaldesa conservancy.

**Participation** refers to involvement of women in the running of the conservancy

**Resource contribution** refers to financial of material contribution kind contribution in kind towards conservation of Jaldesa conservancy.

**Sustainability** refers to the simultaneous pursuit of sustained or enhanced environmental quality, economic growth, and social justice in Jaldesa conservancy.

### **1.11 Organization of the study**

This study is organized into five chapters. Chapter One consists of the background of the study, statement of the problem, the purpose of the study, objectives of the study, research questions, significance of the study, limitations of the study, delimitations of the study, basic assumptions and definitions of significant terms. Chapter two covers the literature review based on the objectives of the study. The chapter also presents the theoretical framework, conceptual framework, gaps in reviewed literature and summary of the literature. Chapter Three presents research methodology which includes research design, target population, sample size and sampling procedure, research instruments, validity and reliability of the research instruments, data collection procedure, data analysis techniques and ethical considerations. Chapter Four presents data analysis, presentation, and interpretation while Chapter Five focuses on the summary of the findings, discussions, conclusions and recommendations. Suggestions for further study are presented in this chapter.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presents the review of literature for the study. The chapter covers the concept of sustainability of community conservation projects, women participation in decision making and sustainability of community conservation projects, women participation in project implementation and sustainability of community conservation projects, access and control of resources by women and sustainability of community conservation projects, women participation in capacity building activities and sustainability of community conservation projects. The chapter also presents the review of studies on women participation and involvement in sustainability of development projects, theoretical framework, and conceptual framework of the study.

#### **2.2 Concept of sustainability of community conservation projects.**

While sustainability is widely recognized in the literature, the concept itself is inconsistently defined (Western & Wright, 2016) given the multiple dimension and stakeholders involved (Zargar et.al 2011). Abrams (2018), defines sustainability as “whether or not something continues to work over time”. Further some scholars such as Western & Wright (2016) consider sustainability, as addressing the program continuity in its entirety. Additionally, others define sustainability as addressing continuity of specific program components, improvement of community capacity, programs institutionalisation or the capacity of the program to continuously respond to community issues (Gruen, et al 2018). These divergent definitions attest that definite consensus has not been made, and congruent sustainability factors are considered by various scholars or practitioners.

The sustainability concept can be viewed within time and varying political, social and economic circumstances. Williams, (2003), reveals that sustainability is manifested in the community’s ability to fit to unfamiliar circumstances and cope with change. A project which may be seen as being sustained now may tend not to be sustainable in coming years. Nevertheless, veritable resources are localized to develop and also maintain the women group projects although relatively not much is known concerning sustainability of these projects and what determines their success or failure (Williams, 1997). There is not enough



information and understanding of what sustains projects, making various scholars to keep on focusing on how to sustain a community-based project past their initial funding position and advance their length of life in aiming at the necessary needs of the society. Mburu (2013), points out that several projects have been supported by the development aid to Kenya all driven towards development hence making some of the projects successful.

Until recently, the practice of conservation emphasized creating protection for threatened biodiverse landscapes through categorizations that restrict human use or encroachment in ways that allow other species to thrive. In recent decades, the global environmental conservation community has come to appreciate that their initiatives must engage with local people if they are to succeed. Further, a growing body of evidence suggests that paying attention to improving local peoples' well-being, particularly in the rural tropics, can enhance environmental sustainability because local communities can and do act as stewards of the natural resources that secure their livelihoods (Colchester 2009). The core issue that remains to be addressed is how policymakers, nongovernmental organizations (NGOs), and indigenous organizations can best engage local communities in conservation to realize these synergies in ways that benefit both humans and nonhumans in forest ecosystems.

In line with implementation of projects, project sustainability is the probability that the project will continue to nourish for long time even after the external support has been stopped. The community in which the project exists, the project outcomes and the external assistance must always be taken into consideration when talking of sustainability of any project. A project can be said to be sustainable if its members/ beneficiaries and community are able to manage on their own without relying on external support from donors and other financiers. Some indicators of project sustainability are the projects financial strength, recorded growth, project meeting its objectives, improvement in the standards and also profitability especially when the donors exit. Women groups receive funds from World Bank, Kenya Women Microfinance Bank (KWFT), African Women's Development Fund (AWDF), Kenya Women Holding (KWH) among others to help to elevate poverty both in urban and rural areas. The indicators of sustainability used in this study are; financial strength in the projects, recorded growth, objectives of the projects met, improved standards, and recorded profitability.

Project sustainability is one of the most critical aspects for all grassroots, national and international development agencies. The first review of project sustainability conducted by the World Bank's Operations Evaluation Department (WBOED) found that only nine out of twenty-seven of the agriculture projects studied were classified as "sustained," eight more were "doubtful," and the remaining ten were "not sustained" (Western & Wright, 2016). Additionally, out of seventeen education projects covered by the same study and a later study by the World Bank, nine were classified as likely to be sustained, five were doubtful, and three were unlikely to be sustained. Khan (2000) notes that project sustainability is a major challenge in many developing countries. Large number of projects implemented at huge costs often tend to experience difficulties with sustainability. This means that huge expenditures are being incurred in implementing projects while communities are deprived of the benefits and return of these investments due to sustainability issues.

Women play a critical role in managing natural resources at family and community levels and are most affected by environmental degradation. In communities around the world, women manage water, sources for fuel, and food, as well as both forests and agricultural terrain. Women produce 60 to 80 per cent of food in developing countries, while inheritance laws and local customs often prevent them from owning or leasing land and securing loans or insurance. From the high level to the grassroots, the 1992 UN Earth Summit, India's Chipko movement and Kenya's Green Belt Movement all highlighted the role of women's voices and perspectives in sustainable development.

Women participation and involvement in the sustainability of development projects in the community is recognized as a poverty reduction intervention in both low-income and high-income countries (Pearson, & Ryan, 2002). Apart from the expansion of community development interventions and their increasing popularity among policymakers, there is a lack of reliable data about the success of women participation in community development programs. Women participation in development issues is a global phenomenon which is being discussed and analysed in every country. All over the world, a review of progress achieved by women in community development is of great concern (Parker et. al, 2009). However, there is still an imbalance between women and their male counterparts in the workplace in the world today.

Women in the developing world are predominantly responsible for the management and conservation of resources for their families. Women spend vast amounts of time collecting and storing water, securing sources of fuel, food and fodder, and managing land be it forest, wetlands or agricultural terrain. As women are primary caregivers to children, the elderly and the sick, whole communities rely on them. Their traditional and generational knowledge of biodiversity, for example, supplies communities with medicines, nutritional balance and crop rotation methods. When drought, erratic rainfall or severe storms affect access to these basic resources, women's lives and their families' lives can be intensely affected. Studies have shown that natural disasters disproportionately hit women, lowering female life expectancy rates and killing more women than men, especially where levels of gender equality are low.

Islam and Chuldhury (2016) carried out a study on the role of rural women in environment conservation: a case study of Bangladesh Village. The study explored the participation of rural women in conservation of environment in rural Bangladesh. The survey was conducted on some randomly selected rural women in a typical coastal based rural area. It demonstrates that women are mostly involved in the activities relating to the conservation of environment along with their traditional household activities. They are interested in such activities because they obtain substantial benefits as food security, income, health care and above all in maintaining a sustainable and balanced eco system. Findings suggest that involvement of women to a larger extent in such activities can augment the socio-economic development of Bangladesh and it is imperative for preserving sustainable development.

Naganag (2014) carried out a study on the role of indigenous women in forest conservation in Upland Kalinga Province, Northern Philippines. The study aimed at describing the interrelatedness of women and the environment, especially the indigenous women. The findings revealed that women have vital role in conservation and management of sustainable eco-system. Since time immemorial women are traditionally involved in protecting and conserving their natural resources in mountain areas. With their extraordinary skills and traditional knowledge, women have proved how land, water, forest, and other natural resources can be used and managed. They have their own devised system and ways to sustain and manage the resources which are the basis of survival for their families and communities.

Studies in Botswana observed that, by putting communities in charge of local conservation and development priorities and encouraging partnerships with the private sector, community-based natural resource management sought to give communities more power to improve conservation and development outcomes. In a study done by Matiko (2014), the Wildlife Lease Conservation (WCL) program was initiated to ensure that wildlife could move freely between the Nairobi National Park and Kitengela- Athi-Kaputie Plains. This program is currently managed by The Wildlife Foundation (TWF), a locally incorporated Non-Governmental Organization (NGO). The wildlife conservation lease program is a model that is aimed at providing incentives to the Maasai community in return to hosting wildlife in their privately-owned land parcels south of Nairobi National Park which is payable three times a year, in January, May and September.

In Summary, while there is no consensus definition of sustainability, the general understanding is that Sustainability means meeting our own needs without compromising the ability of future generations to meet their own needs. Sustainability is not just environmentalism and in addition to natural resources, there is also need for social and economic resources. Embedded in most definitions of sustainability, there are also concerns for social equity and economic development. While there is general understanding that women need to be involved in conservation efforts, most of the studies on the women participation and involvement in sustainability of development projects have focused mainly on general conservation and impacts of urbanization on the park and the role of community conservation in park management. The role of community-based initiatives has not been explored in detail. This study aims at bridging the gap left by the studies through women participation that entails devolving decision-making power to the project stakeholders particularly, the beneficiaries. It calls for recognition and respect for local knowledge, experience, and people's ability to judge their own experience with a reasonable measure of objectivity.

### **2.3 Women involvement in decision making and sustainability of community conservation projects.**

Across the globe, women are heavily involved in the environmental sector, including in agriculture, fisheries, forestry, and in adapting to and mitigating climate change. However,

study by Aguilar (2012) discusses that women's participation and representation in decision-making processes that pertain to themselves and their families' environmental well-being are often restricted. Further, he discusses that traditional gender roles reflecting men's participation in commercial spheres and women's in domestic spheres have disadvantaged women in their ability to engage in environmental decision making. Men, more often than women, use natural resources commercially, which contributes to the formal economy, making men's activities more visible to policy makers, economists, scientists, and planners. He concludes that because of men's dominant presence in the commercial sphere, historically, early anthropologists, ecologists, and environmentalists paid little attention to the gender dimensions of knowledge systems pertaining to the environment (Aguilar, 2012).

An empirical evidence by Benjamin (2010) has shown that community utilization contributes to forest sustainability in Thailand. Six in-depths interview and 124 comprehensive survey showed that women were continuously dominated. There were only three women representatives out of 20 forest committee members. Even though women are the source of food security in the households, they are not well represented in forest conservation initiatives. Benjamin cited that lack of knowledge exchange and exclusion of women from management in community forestry are critical issues that undermine universal forests (Benjamin,2010)

Men tend to dominate in the newly emerging decision-making and policy arenas of climate change and bio energy. Philipsson et.al (2011), discusses that women's limited participation in decision making processes at international and local levels restricts their capacity to engage in political decisions that can impact their specific needs and vulnerabilities. It was agreed that decision- making of intervention measures meant to improve such resources availability is patriarchal as men control both nature and women. Despite numerous efforts to mainstream gender, development agencies find these efforts particularly difficult in the agriculture and natural resource arenas due to pre-existing TI's. For example, extension personnel in agriculture and natural resources frequently speak only to men, often erroneously expecting that the men will convey information to their wives.

Generally, women have had fewer opportunities to participate in making environmental decisions. As a result, their perceptions and interests are sometimes ignored or excluded when policies are designed (Naganag, 2014). The study attributes absence of opportunities to cultural restrictions, women's lack of schooling and low self-esteem, while logistical reasons may be the factor in other circumstances.

The management and protection of common property resources such as forests, water or fishing grounds have been central issues in development economic policies in recent years. Increased scarcity of these resources poses serious concerns not only in terms of environmental sustainability but also for rural populations reliant on environmental resources for their livelihoods. Over the few decades local level collective action institutions emerged as ways to protect the resources as well as sustain local development. Over the years these institutions were deemed to be successful for environmental resources protection, though more recent concerns started to emerge on their correct functioning. However, studies conducted have shown that unequal gender mainstreaming could interfere with these collective efforts. It was concluded that the existence of socio-economic heterogeneity and gender inequality within community institutions may indeed lead to a failure of collective action mechanisms (Adhikari et. al 2004; Baland et al., 2007).

In summary, several studies have shown that women are directly involved in community conservancy projects just by the virtue of assigned roles. However, they have minimal or no power in decision-making and the inequality in decision-making affects conservancy efforts. The extent of women's participation in politics and women's access to decision-making is the key indicator of gender equality in a society. Gender equality in decision-making is to be viewed in the context of whether women can make or influence public decisions on the same footing as men. While related studies have been done, none of the study explores decision-making and its relation to sustainability in conservation in Kenya and more so Marsabit.

#### **2.4 Women participation in project implementation and sustainability of the project**

Quisumbing et al., (1988), conducted a study on genders issues for food security in developing countries. They found that women do play crucial role through the three pillars of food security including nutritional security, food production and economic access to

food. The empirical evidence showed that income controlled and implemented by women have greater impact on general food security than controlled by men. They further discussed that despite the importance of women, failure to involve them in implementation of food security measures, led to constraints in productivity, environmental sustainability, and efficiency. The study concluded that different approaches should be taken to make designs for projects to be gender sensitive.

Resource contribution for implementation of projects involves, acquiring financial resources, mapping human resources, acquisition of physical resources, community involvement and participation, accountability and transparency, financial accounting, and management (Githinje, 2013). The types and amount of physical resources women groups have greatly affects the sustainability of the women group projects. Product-based organizations use physical resources for providing the goods for sale and for the operation of the business. Service-based organization use physical resources to facilitate the delivery of the service, such as having a space to work,

Although there is significant improvement shown by the trend with project implementation, the sustainability after implementation is somehow disappointing due to very few projects being sustained. Several factors have been identified to be liable for poor sustainability of the projects. Some of them are simple while others are a bit involving since some have been classified to be under the project management control team, while others come as foreign menace (Owino, Towet, Kirui&Luvega, 2015). Sustainability of a project is a great challenge in most developing countries including Kenya. Evidently, it is sustainability that differentiates between women group projects that have succeeded and ones that have failed. Women group projects need resources to enable them to continue providing the services to members and the community at large. Women groups have for long time relied on the donor funding in order to support their project activities through donations and grants. However, this funding is at times not enough to cater for the project operations and project implementation and later the sustainability of these projects.

According to Sera and Susan (2007), several streams of project financing can improve its flexibility and independence on implementation, controlling and managing organizations projects thereby reducing over-reliance on foreign funding. Due to ever increasing

competition for the few available resources, coming up with and creating alternative ways of funding can help an organization have an easy time in managing its projects thereby making its projects sustainable. Generating resources from the business activities in an organization can lead to increased financial resources in an organization. Insufficient financing to implement project prevents it from ability to be sustainable (Bamberger & Cheema, 2010). However, the ability of a project to be sustained can be linked to numerous ways of funding. Holder and Moore (2012) suggest that local resources have to be developed for enhanced sustainability especially when the donors cease to support external funding, in case funding delays or even when the external funding is inadequate.

Resources can either make or break a project; they have therefore to be used efficiently and effectively. The main reason behind this is that the resources are hard to obtain, expensive or even at times both (Zerner & Kennedy, 1996). Resource contribution by women can have a major influence on project sustainability. There is ever increasing competition on the environment on which the resources are mobilized. This occurs mainly due to the rise of development actors, coupled with scarcity of resources resulting from the recent global economic crisis (Lithgow, 2015). Resource contribution therefore demands a mix of knowledge and skills since it has become an exercise with lots of challenges. Resource contribution for implementation is a fundamental component to project or programme delivery and impact.

## **2.5 Access and control of resources by women and sustainability of community conservation projects.**

Women manage natural resources daily in their various roles, such as farmers, seafood harvesters, and household providers, and therefore carry unique and critically important knowledge about the environment (FAO, 2014, 2013, & 2011). Typically, women are responsible for subsistence food harvesting, e.g., growing crops, collecting edible forest plants, or gleaning near shore for shellfish (FAO, 2014, 2013, and 2011). Women also provide other services for the family, such as collecting fuel wood and water, for which rural girls and women walk substantial distances in sometimes unsafe conditions (FAO, 2014). However, even today, despite their daily interaction with and dependence on natural resources, women have less access to and control over them than men. For example, in



fisheries, due to the nature of women's work in near shore capture, processing, and marketing seafood rather than offshore fishing, the participation of the nearly 90 million women worldwide (47% of the fisheries workforce) remains informal and invisible (FAO, 2013). The under-acknowledgement of women's roles in natural resource management has not only led to an undervaluation of the domestic sphere and unpaid work, but also an underestimation of the economic and societal benefits that women provide to the environmental sector.

Women in the developing world are predominantly responsible for management and conservation of resources for their families. Women spend vast amounts of time collecting and storing water, securing sources of fuel, food and fodder, and managing land be it forest, wetlands or agricultural terrain. As women are primary caregivers to children, the elderly and the sick, whole communities rely on them. Their traditional and generational knowledge of biodiversity, for example, supplies communities with medicines, nutritional balance and crop rotation methods. When drought, erratic rainfall or severe storms affect access to these basic resources, women's lives and their families' lives can be intensely affected. In fact, studies have shown that natural disasters disproportionately hit women, lowering female life expectancy rates and killing more women than men, especially where levels of gender equality are low.

Due to economic, social, institutional and legal factors, the right to access and control natural resources, such as land and forests, is different for men and women. Women have generally experienced greater restrictions, particularly with respect to independent ownership and access to land. This may partially explain why the majority of the world's poor are women who depend on natural resources for subsistence (Gruen, 2018). Insecurity regarding land tenure has an effect on how much time women and men are willing to spend on sustainable development practices. Lack of land and other constraints mean that women generally have fewer opportunities to obtain credit and support services, unless these are provided for the explicit purpose of overcoming women's disadvantages (Gruen, 2018).

Pastoral women are often financially dependent on men or do not have control over economic resources. When it comes to water for instance often women are main users, providers and managers of water yet men have a greater role than women in public decision

making as concerns matters of water supply. Unfortunately, in Kenya and especially rural Kenya, women have little access and sometimes no control over resources and this inadequacy hinders women participation in resource management for development. These challenges arise from different gender roles, rights, access and control to natural resources of women and men, access to information and technology related to resource management, with most related initiatives targeted for men and traditional norms become a great cause of women being absent in resource management decision making processes at all levels.

In Africa, rights to factors of production are gendered. Gender gaps are widespread in access to and control of resources in economic opportunity, power, and political voice. Women and girls bear the largest and most direct costs of these inequalities (World Bank, 2001). In Botswana, Lesotho Namibia, and Swaziland, women are under the permanent guardianship of their husbands and have no independent right to property. While female-headed households form about one-third of all households in Zambia, they (women) are underrepresented among the larger farms, with only a fourth of farms larger than two hectares owned by women (World Bank, 2001).

In Kenya, female-headed households own less than half the farming equipment than male-headed ones (World Bank, 2001). The significance of this for access and control of resources is that the benefits of land-improving conservation technologies are perceived differently by men and women, and women may, quite rationally, be indifferent to long-term strategies for land improvement since they may feel being used for the benefit of men. It is argued here that women's usufruct ownership should be transformed into real co-ownership, which will give women power to effect whatever conservation changes they may deem necessary without unnecessary questioning from their male counterparts.

A study of water access during the 1991-1992 drought in Nkayi District, Zimbabwe found that female users of borehole water had to give precedence at water points to (male) cattle watering (Elson and Cleaver, in World Bank, 2001). That is to say, when water supply is under stress, gender divisions of labour put women at the sharp end of water shortage. According to a research done by the world bank in gender and this for access and control of resources for natural resource management, rural women's and men's different tasks and responsibilities in food production and provision result in different needs, priorities,

and concerns. Although rural women's and men's roles and responsibilities vary across regions and cultures, they often follow similar gender divisions of labour.

In the mountain areas of east Africa, women spend most of their time collecting and supplying water to their homes and communities. This further goes to show gender discrimination in this for access and control of resources. In most societies women typically have fewer ownership rights than men (Rocheleau 1996). Women frequently have de facto or land-use rights as compared to men's de jure or ownership rights. Women often have user rights that are mediated by their relationships with men. How men and women use resources reflects gendered access. For example, women may collect branches and limbs from trees, whereas men may have rights to harvest trees. Women household heads remain at a particular disadvantage in terms of access to land, water, and other natural resources. Equal participation in community-based decision making remains a complex and difficult goal to achieve, especially in the contexts of highly unequal gender and class relations. At the local level, more this for access and control of resources emphasize community-level participation. Careful and thoughtful planning in relation to gender must be exercised in the design of participatory projects. Community-level participation often leaves women's voices and concerns in this for access and control of resources unacknowledged. Even when women attend meetings or events, they may not feel free to voice their opinions, or their opinions and needs may not be taken seriously (Agarwal 2003; Prokopy 2004). Community participation often favours local elites, usually men, but sometimes elite women's concerns directly conflict with and override poor women's access to resources such as fuel and water (Sultana 2006). Despite attempts to mainstream gender at the national and international levels, few women participate.

Women's access to, and use of, natural resources is likely to differ from that of men's, as a result of the gender division of labour. The impact of natural resource development projects and environmental degradation on women and men will also differ. Women often have customary access to agricultural land for food and cash crop production, and to forests for foraging and fuel collection. However, women rarely have legal tenure. Any changes in land use patterns can seriously undermine women's customary and statutory rights as well as their access to resources necessary for household subsistence (Hunter 1997). When

declining soil fertility or cash crop production results in the clearing of new land, women's access to fertile land or forest resources may be constrained.

Limited access to land, forest and water resources can leave women with little choice but to engage in harmful environmental practices. As environmental degradation increases, more labour is needed for basic subsistence production, fuel and water collection tasks. This has a detrimental effect on both girls' educational and women's economic opportunities. The poorest people are generally most seriously affected by environmental degradation, and the majority of the poorest people are women and their children. The impact of conservation projects on men and women may also differ. For example, forest conservation plans may conflict with women's need for fuel collection or income-generation, unless women are directly involved in project planning and management.

Conclusively, studies have shown that generally women have minimal access to and control over resources. Where women have access to and control over resources, it is largely within circumstances of female headed households, through inheritance for instance, of resources like land when women have an education or background training that has led to securing a dependable income. Despite these factors influencing rural women access to and control of natural resources, taboos and cultural perceptions look down on women's ability to manage resources especially at communal level.

## **2.6 Capacity empowerment for women and sustainability of community conservation projects.**

Empowerment means different things in different projects sustainability. An analysis of the narrative around empowerment in project documents reveals that most programs refer to a dimension of empowerment that relates to the definitions provided in the general literature even if the emphasis is on a few specific dimensions (most frequently the economic one, especially when it comes to indicators included in the results framework), not all of them (Daley, C. (2014). Capacity development or empowerment is the process through which individuals, organisations and societies obtain, strengthen and maintain their capabilities to set and achieve their own development objectives over time. Components of capacity include skills, systems, structures, processes, values, resources and powers that together, confer a range of political, managerial and technical capabilities.

Gender empowerment enables both men and women to accept each other as development partners (DiGirolamo, 2012). Gender analysis models, like the Harvard Model, need to be applied at household and community level; the roles of men and women, their needs, resources used, time, and labour invested and how these impacts each gender.

Planning, implementation, and monitoring of intervention projects should be gender responsive, that is, taking action to correct gender biases through gender aware policies. To ensure this, there should be campaigns that raise the awareness of gender issues among all stakeholders, including communities at grassroots level, civil servants, and community leaders right up to the national level (Bone, 2018). There should also be representation of women in resource management boards and administrative structures. Environmental policies should, therefore, interface with gender policies for sustainable development to be achieved.

Involving communities and empowering them to take control of decisions regarding their own development is both the means to achieve better development outcomes and an outcome in its own right. Women empowerment is embedded in the whole approach and at all stages of the results chain: “targeted community-driven approaches devolve control and decision making to poor women and men, which empowers them immediately and directly.” (World Bank 2003). It is both a final objective and a functional one to achieving other project objectives for example, to increase income and access to services (Jorgensen 2005). Thus, it is a process to achieve other outcomes and an outcome in itself. This distinction is important as we assess empowerment in relation to projects (Sara, 2018).

Empowerment has different interpretations. The World Bank, defining its approach to empowerment for economic growth and poverty reduction, describes empowerment as “... the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives” (World Bank 2002; Narayan 2005). This definition highlights the dimensions of choice, action, and ability to influence institutions. According to Alsop, Bertelsen, and Holland (2006), empowerment is about strengthening individuals’ asset-based agency and their ability to change the institutional rules that shape human behavior and social interactions. Community members who are able to participate in making key decisions and effectively

exercise their voice and choice are empowered and this is an outcome that Community Driven Development (CDD) interventions have the potential to pursue for the community as a whole, for its male and female members, and for the poor and other traditionally excluded groups, such as ethnic minorities.

Panwar et al., (2011) carried out a study on role of women in environmental conservation in India. Their findings revealed that conservation of natural resources and promotion of environment cannot be done without involving the women in planning and training for promoting the values for conservation and promotion of environment. Hence, attempt has been made to assess the role of women in conservation and promotion of environment along with suitable strategy for the same.

Olalekan, et al (2019) carried out a study on women role in environmental conservation and development in Nigeria. The study found that women should be trained in matters conservation, their need to be empowered and given the necessary financial support to enable them play a key role in conservation. Tiwari (2015) carried out a study on role of women's' in conservation and sustainable natural resource management in Chhattisgarh. The study explored and analysed women's role in development and conservation of forest for its sustainable development. Findings revealed that there is close association between women and natural resources is than valid primarily in rural context especially among women of rural areas. The study concluded that women need to be empowered to take active role in conservation.

## **2.7 Theoretical framework**

The study will be guided by the Participatory Theory Participation, and Ecological Feminism Theories.

### **2.7.1 Participatory Theory**

The study will be guided by Participatory Theory. The proponent of the Participatory Theory is Putnam (1993). The theory suggests to promotes citizens' including women involvement in decision making as a means of encouraging community members to consider issues of common interest. The theory shows that there are many potential benefits especially for women. Foremost these include the ability of women to build local skills,

interests and capacities that are on-going. Others include the ability to improve outcomes by extending the range of values and inputs into the decision-making process, and the increased probability of acceptance and successful implementation when decisions are seen by those involved as responsible and appropriate. Involvement, it is argued, enhances cooperation, as cooperation is strongly influenced by the possibility of individuals having to deal with each other repeatedly.

In addition, identification with a group, association, or cause, elevates common interests, even if individuals' motives for membership are self-serving. One reason for this development is that the power of the traditional command and control' hierarchical government is being eroded by information and communications advancements. Organisations and citizens can access much of the information that governments use, and increasingly governmental decisions are being questioned. This has resulted in the emergence of a more diverse and assertive political culture lobbying for greater participation and empowerment. A decline in public confidence in government combined with greater demands on government resources has resulted in a shift towards a more community-based form of governance.

Edwards and Foley (1998) in their criticism of Putman's theory, concluded that civil society is only useful in normative or polemical context. However, attempting to differentiate it from other sectors of society create remarkable disputes over what society is and how it is different from "state" and "market". Nonetheless, Participation theory has assimilated social capital and civic culture model and encompasses norms and values of the earlier democratic theory. Other research based on this theory, has shown that inequality in participation impacts various dimensions of group. A study in rural Tanzania has shown that participation inequality at village level impacts negatively on the likelihood that participants are members of any group. The impact is even wider for wealthier group, both when the wealth is measured objectively and when it is defined subjectively. Based on this theory, inequity in decision-making, access and control of resources, implementation, and capacity building, negatively impact projects and their sustainability (La Ferrara, 2002). Additionally, the theory is relevant to study in that it encourages women to work together to achieve goals such as sustainability of community conservation projects in Jaldesa conservancy, that are broader than those that can be achieved by

individuals. Where citizens are jointly involved, this necessitates agreements for sharing responsibility and decision-making authority. Increasingly the concept of partnership is promoted, where organisations, agencies and citizens work together as equals (despite differences in power and resources) to achieve agreed objectives. In this respect, the participatory theory is the key theory that this study invokes.

### **2.7.2 Ecological Feminism Theory**

The theoretical underpinning that informed this study traces its roots from ecological feminism. The proponent of the theory is a French feminist Françoise d'Eaubonne in 1974. Ecofeminism is a branch of feminism that sees environmentalism, and the relationship between women and the earth, as foundational to its analysis and practice. Ecofeminist thinkers draw on the concept of gender to analyse the relationships between humans and the natural world. Ecofeminist theory asserts that a feminist perspective of ecology does not place women in the dominant position of power, but rather calls for an egalitarian, collaborative society in which there is no one dominant group.

The primary belief of eco feminism is that the domination of women (as studied in traditional feminism) parallels the domination of nature and that this mutual domination has led to environmental destruction by the controlling patriarchal society. Within feminism, most scholars believe that a historical, symbolic, and theoretical connection exists between the domination of nature and women. This philosophy is based on four principles. One, that there are vital connections between the oppression of nature and women, two, understanding these connections are necessary to understanding the two veins of oppression, three feminist theory must include an ecological perspective, and four, ecological problems must include a feminist perspective. Eco feminism claims that both women and nature are dominated and thus stresses the need for a more interdependent worldview. Eco feminists believe that all living things are essential to the wellbeing of the planet and that humans are not separate or superior.

Warren (1996) critically reviewed several evidences that link feminism and environment. Evidently, there are various health and risk factors arising from pesticides, radiation, environmental pollutants that affect women and children disproportionately. Warren further points out that first world development policies on forest, food and water contribute

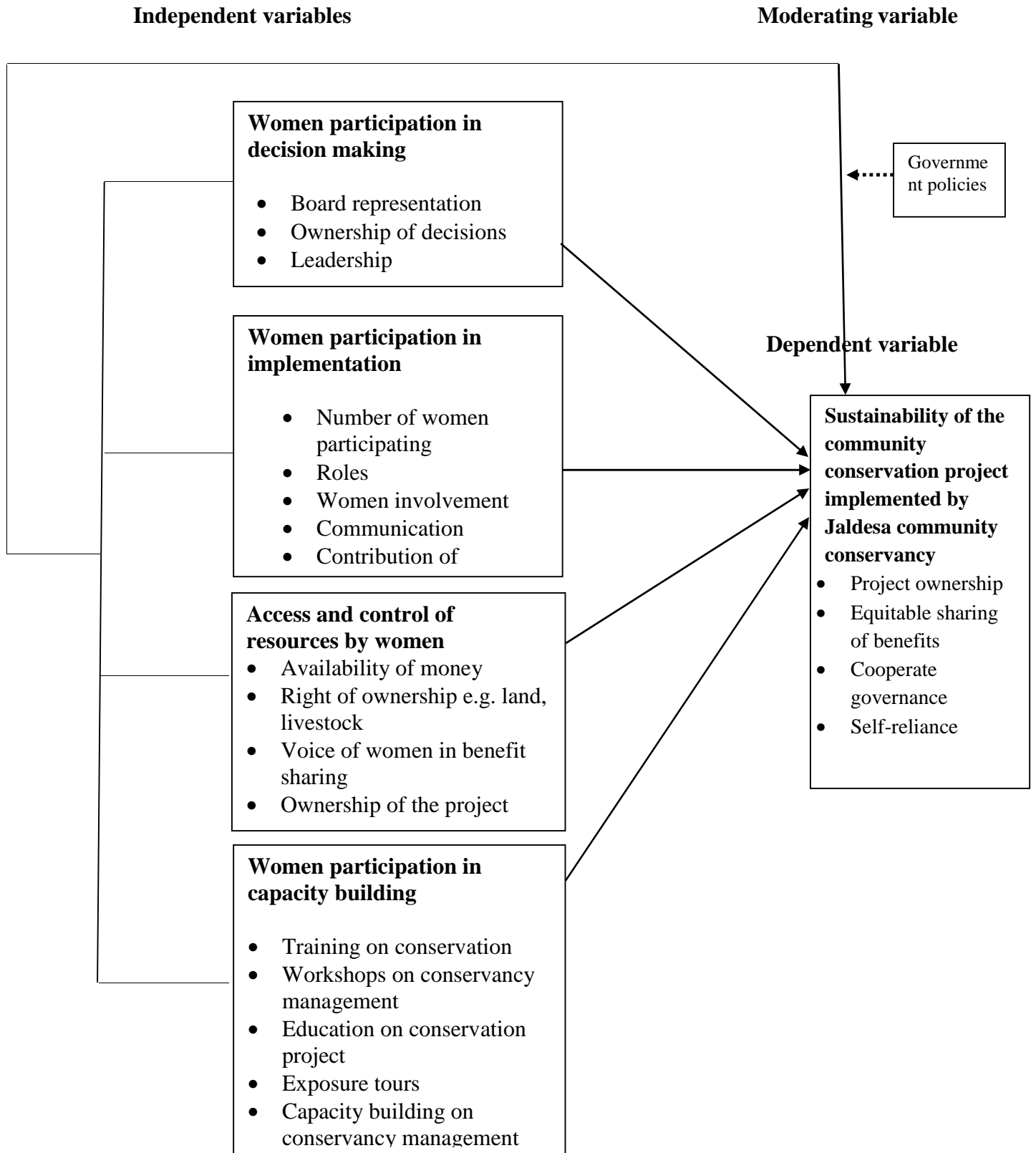


to inability of women to cater for themselves adequately. Additionally, her evidence shows that many aspects of environment are tied to patriarchal practice and concept. Appeals to such empirical evidence documents real and felt connections between dominations of women and nature and to further motivate feminist to critically analyse existing environmental concerns. This study links to this theory in that it fits well in the Warren's criticism of the ecological feminist theory by documenting important contributions of creating post-patriarchal world views and liberating aspect of conservancy that will be integral in the project of " feminism and environment" and environmentalism. Additionally, this theory is relevant in this study since women contribution to the sustainability of community conservation projects in Jaldesa Community Conservancy requires a more nurturing and caring role for women, therefore that caring nature places women closer with the Jaldesa Community Conservancy environment. The knowledge of nature is shaped by the experiences an individual has. Women have a distinct knowledge of the natural resources yet are excluded from decision making of development on that Jaldesa Community Conservancy. This is prominent in many developing countries where the responsibility of collecting fuel and fodder is placed upon the women. Both the resources and the meanings are taken into consideration with environmental feminism. There is a challenge to not only focus on the women participation but also in the access and control of resources, resources mobilization and lack of capacity empowerment. In other words, there is not simply an inherent connection between women and Jaldesa Community Conservancy; rather there are material realities that exist.

## **2.8 Conceptual framework**

Figure 1 presents the diagrammatical framework for the study on influence of women participation on sustainability of community conservation projects implemented by Jaldesa Community Conservancy, Marsabit County, Kenya. The framework shows that independent variables which are women involvement in decision making and which are indicated by participation in decision, involvement in meetings and ownership of decisions; access and control of resources by women as indicated by availability of money, ownership of the project and poverty levels; women participation in resource contribution as shown by monetary and non-monetary contributions and volunteership and lastly capacity building for women as indicated by training on conservancy, workshops on conservancy and education on conservancy. These factors, according to the conceptual framework have a direct influence on Sustainability of community conservation projects implemented by

Jaldesa community conservancy. The conceptual framework for the study is presented in Figure 2.1



**Figure 2.1: Conceptual Framework**

**Table 2.1 Summary of research gaps**

<b>Author</b>	<b>Gap in Knowledge</b>	<b>Methodology used</b>	<b>Findings</b>	<b>Focus of the Study</b>
Benjamin (2010)	Limited respondents where only 6 in-depth interviews were done. Further, the study was carried out in Thailand and is not representative of the current study location.	An empirical study	Women are not well represented in forest conservation initiatives with only 16% of them being in forest committee	Women in community forestry organizations
Quisumbing et al., (1988),	The study analysed general gender issues in food security pillars and not on conservation sustainability.	An empirical study	Income controlled and implemented by women have greater impact on general food security than controlled by men. Despite the importance of women, failure to involve them in implementation of food security measures, led to constrains in productivity, environmental sustainability, and efficiency	Gender Issues for Food Security in Developing Countries: Implications for Project Design and Implementation.
Panwar et al., (2011)	The study did not focus on the variables similar to this study hence the gap the current study seeks to fill.	Descriptive survey method	Conservation of natural resources and promotion of environment cannot be done without involving the women in planning and training for promoting the values for conservation and promotion of environment	Role of women in environmental conservation in India
Islam and Chowdhury (2016)	The study was carried out in a different setting (Bangladesh) the current study will	Survey design.	Involvement of women to a larger extent in such activities can	Role of rural women in environment conservation: a

	be carried out in Kenya.		augment the socio-economic development of Bangladesh and it is imperative for preserving sustainable development	case study of Bangladesh Village
Olalekan, et al (2019)	The study did not focus on other three variables of this study hence the gap the current study seeks to fill.	Descriptive survey design.	Women should be trained in matters conservation, their need to be empowered and given the necessary financial support to enable then play a key role in conservation.	Women role in environmental conservation and development in Nigeria
Tiwari (2015)	The study did not focus on specific role of women in community conservancy hence the gap the current study seeks to fill	Descriptive survey design	There is close association between women and natural resources is than valid primarily in rural context especially among women of rural areas	role of women's' in conservation and sustainable natural resource management in Chhattisgarh
Naganag (2014)	The study was carried out in a different setting, but the current study will be carried out in Kenya.	Descriptive survey design	Women have vital role in conservation and management of sustainable eco-system	Role of indigenous women in forest conservation in UPLAND Kalinga Province, Northern Philippines
Aguilar, M. (2012).	The study did not focus on the variables that is addressing.	Descriptive survey design	Women empowerment has an influence of how they use forests	Forest peoples, customary use and state forests: the case for reform. Forest People's Programme

Argaw, D.; Fanthahun, M.; Berhane, Y. (2012)	The study was carried out in a different setting, but the current study will be carried out in Kenya.	Descriptive survey design	Women effectively play a role in in community-based programs such as reproduction health care among others	Sustainability and factors affecting the success of community-based reproductive health programs in rural Northwest Ethiopia
Gujadhur, T., (2000)	The study did not focus on the variables that is addressing. The study was also conducted in a different setting.	Descriptive survey design	Organisations and their approaches in Community-based Natural Resource Management	Organisations and their approaches in Community-based Natural Resource Management in Botswana, Namibia, Zambia and Zimbabwe

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the research methodology. The chapter provides a detailed explanation of the study methodology covering the philosophical orientation, study design, target population, sample and sampling procedure, data collection methods and instruments, research instruments, data collection procedures, validity of research instruments and reliability of data collection instruments, data collection procedures, data analysis techniques and ethical considerations and operationalization of variables.

#### **3.2 Research Design**

The design for this study was cross-sectional survey. Cross-sectional survey design is a type of observational study design where the researcher collects data to make inferences about a population of interest (universe) at one point in time. Cross-sectional surveys are aimed at determining the frequency (or level) of a particular attribute. According to Levin (2006), cross-sectional surveys are used to gather information on a population at a single point in time. In this type of research study, either the entire population or a subset thereof is selected, and from them, data are collected to help answer research questions of interest. Fowler contends that cross-sectional design helps to deal with various categories or cases simultaneously and this matches with the use of mixed methodology for this research. The design relies on existing phenomenon at the time of data collection than change resulting from interventions. Cross-sectional design was preferred because of its ability to deal with various cases and variables, and its suitability with quantitative and qualitative research methods.

#### **3.3 Target Population**

The target population for this study involved people and institutions that are directly involved in the community conservation project. These were Conservancy board members, Government officials, Conservancy staff, Department of county government, Conservancy partners and Women respondents. There are 24 members of Board of Management comprising of the previous and the current ones. Fifteen members of conservancy staff; 10 members of the department of Environment, Water and Natural Resources in the County

Government of Marsabit; 16 government officials. The target also involved 19781 women respondents from 19781 households and the representation of 14 conservancy partners namely NRT, CIFA, KFS, KWS, KCDF, PACIDA and BOMA. The target population therefore be 19,860 respondents who were deemed to be directly involved and/or are benefiting from the community conservation project implemented by Jaldesa Community Conservancy (Wiesmann et al., 2014). Table 3.1 presents the summary of target population.

**Table 3.1 Target population**

<b>Category</b>	<b>Population</b>
Board of Management	24
Staff members of conservancy	15
Department in the county government	10
Women respondents	19781
Government officials	16
Conservancy partners	14
<b>Total</b>	<b>19860</b>

### **3.4 Sample size sampling procedure**

This section focuses on how sample size was determined. It further explains the sampling technique with clear indication of a sampling frame.

#### **3.4.1 Sample size**

Sample size is one element of research design that investigators need to consider as they plan their study. Sufficient sample size is the minimum number of participants required to identify a statistically significant difference if a difference truly exists. The sample size for the study was 443 respondents.



### 3.4.2 Sampling procedure

Probability and non-probability sampling were used in the study. The probability sampling was used for the women respondents while non-probability sampling namely the census was carried out for the other categories of respondents. In sampling the Conservancy board members, Government officials, Department in the county government, Conservancy staff and Conservancy partners; census will be used. This is because the numbers are less ( 30). The researcher picked all the population in the categories deemed to be directly involved in the management of the conservancy. Table 3.2 provides the sampling matrix.

**Table 3.2 Sampling frame**

<b>Category</b>	<b>Target Number</b>	<b>Number sampled</b>	<b>Percentage sampled</b>
Board of Management	24	24	100
Staff members of conservancy	15	15	100
Department in the county government	5	5	100
Women respondents	19781	377	-
Government officials	15	15	100
Partners	7	7	100
<b>Total</b>	<b>19847</b>	<b>443</b>	

To sample the women respondents, the researcher used the table suggested by Krejcie and Morgan (1970). (Appendix VI). According to the table, 19781 is near to 20000 where a sample of 377 should be taken. The sample was divided with the number of 8 sub-locations in Jaldesa community conservancy yielding 47 respondents. This implies that the researcher sampled 47 women respondents from each of the 8 sub-locations and in some instances 48. This was done by simple random sampling in which the researcher upon visiting a sub-location got a list of the households from the assistant chief who with the

help of the village elders assisted the researcher get a list of the households from which the researcher selected 47 households where the women respondents were drawn.

### **3.5 Data collection instrument**

Data was collected using questionnaires and focus group discussions. A questionnaire is a written or printed list of questions to be answered by a number of people, especially as part of a survey. It is a form containing a set of questions, especially addressed to a statistically significant number of subjects, and is a way of gathering information for a survey. It is used to collect statistical information or opinions about people. The questionnaires were used for women respondents, some board members, staff members of the conservancy, department in the county government, conservancy partners and the government officials while focus group discussions were designed for the Board members.

The researcher developed Likert scale type questionnaires for women respondents, some board members, staff members of the conservancy, department in the county government, conservancy partners and the government officials. A Likert scale assumes that the strength and or the intensity of an attitude is linear, that is on a continuum from strongly agree to strongly disagree and makes the assumption that attitudes can be measured. Likert Scales have the advantage that they do not expect a simple yes / no answer from the respondent, but rather allow for degrees of opinion, and even no opinion at all. Therefore, quantitative data is obtained, which means that the data can be analysed with relative ease. The focus group discussions were conducted for the members of the board of management of the community conservancy.

#### **3.5.1 Pilot testing of the instrument**

A pilot study is one of the essential stages in a research project. The term 'pilot studies' refers to mini versions of a full-scale study (also called 'feasibility' studies), as well as the specific pre-testing of a particular research instrument such as a questionnaire or interview schedule. A pilot study can be defined as a 'small study to test research protocols, data collection instruments, sample recruitment strategies, and other research techniques in preparation for a larger study. A pilot study is one of the most important stages in a research project and is conducted to identify potential problem areas and deficiencies in the research instruments and design prior to implementation during the full study. For this study, the

pilot study was conducted in Kalama community conservancy in Samburu county where every category of respondents in the current study were picked for pilot test.

### **3.5.2 Validity of the instrument**

Validity refers to the utility of a tool, data or information. Mugenda and Mugenda (2003) define validity as the accuracy and meaningfulness of inferences that are based on research results. Validity refers to how well an instrument measures what it is intended to measure. The study used content validity. The content validity was done by checking on the responses from the questionnaires, to see if they would give the intended answers to the research questions. Based on the analysis of the pre-test and review and confirmation by the research supervisor, the researcher was able to make corrections, adjustments and additions to the research instruments.

### **3.5.3 Reliability of the instrument**

Instrument reliability is a way of ensuring that any instrument used for measuring experimental variables gives the same results accurately when administered a number of times (Shuttleworth, 2018). The extent to which results are consistent over time and that the results of a study can be achieved in the same way is referred to as reliability. Donald, Delno and Tromp (2006) define reliability of research instrument as the consistence of scores obtained and have two aspects: stability and equivalency. To ensure reliability, the researcher used test and retest method at an interval of two weeks. The same group of respondents completed the instrument at two different points in time to establish how stable the responses are. The correlation coefficient between the 2 sets of scores describes the degree of reliability. A Cronbach (Alpha) reliability coefficient that ranges between 0 and 1 generated to measure the reliability. Cronbach (1951) indicates that Cronbach Coefficient is used to test internal consistencies of samples of a given population when research instrument with Likert type scales with multiple responses are used for data collection. For the purposes of this study, where  $< 0.7$ , the research instrument would have been revised.

### **3.6 Data collection procedure**

The researcher first obtained an introduction letter from the University of Nairobi. The researcher sought for a research permit from the National Commission of Science Technology and Innovation (NACOSTI) and then proceeded to seek permission from the conservancy management to conduct research in the conservancy. The researcher visited the respondents, sat with them to fill in the questionnaires since most of them are illiterate and hence needed assistance in filling the questionnaire. This gave participants sufficient time to go through the questionnaire and respond to questions adequately. The researcher also organised with the members of the conservancy management and conducted the focus group discussions with the community conservancy board.

### **3.7 Data analysis techniques**

Bowen (2009) describes data analysis as the process of bringing order, structure and meaning to the mass of collected data. Best, and Khan (2002) conclude that the analysis and interpretation of data represent the application of deductive and inductive logic to the research. Analysis of data started with editing and inspection of data pieces in order to identify any spelling mistakes and any other wrongly answered or un-responded to items. The study used Likert type items. Likert-type items fall into the ordinal measurement scale. Descriptive statistics recommended for ordinal measurement scale items include a mode or median for central tendency and frequencies for variability. Likert scale data are analysed at the interval measurement scale. Likert scale items are created by calculating a composite score (sum or mean) from four or more Likert-type items; therefore, the composite score for Likert scale was analysed at the interval measurement scale.

#### **3.7.1 Quantitative analysis**

Quantitative methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. Quantitative research focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon.

The questionnaire has a 5-point Likert scale which was used to measure perception. Each objective had several questions that sought the respondent's perception towards each variable. The scales were converted to 1-5 scale where 1 had the least value and 5 the highest value. The 1-5 scale was used to accommodate all possibility of respondents that would not be willing to take positions hence the allowance for the 'neutral'. In all the 10 questions a cumulative mean was calculated so as to get the single mean and a single standard deviation and hence an overall perception. In analysing each research objective, the researcher converted the Likert scale into means where a mean of 1 – 1.4 is within the range of strongly disagree, 1.5 - 2.4 is within a range of disagree, 2.5 – 3.4 is a range for the undecided, 3.5 – 4.4 representing a range of agree while 4.5 to 5.0 is a range of strongly agree. From the tables on the research objectives, a composite mean and a standard deviation were calculated in each of the tables. The mean scores and the standard deviation were used to calculate the Pearson's moment correlation to establish the relationship between the independent and the dependent variables.

### **3.7.2 Qualitative analysis**

Qualitative data refers to non-numeric information such as interview transcripts, notes, video and audio recordings, images and text documents. The analysis of qualitative data was done in three steps. Step one was developing and applying codes. Coding are explained as categorization of data. A 'code' can be a word or a short phrase that represents a theme or an idea. All codes were assigned meaningful titles. The second step was identifying themes, patterns and relationships. Step three involved summarizing the data where at this last stage the researcher linked research findings to research objectives.

### 3.8 Operationalization of variables

Table 3.3 presents the operationalization of variables

**Table 3.3 Operationalization of variables**

Research objectives	Independent variable	Indicators	Dependent variable	Indicators	Measurement Scale	Type of analysis
To determine how women involvement in decision making influences the sustainability of Jaldesa community conservancy, Marsabit County, Kenya.	Women involvement in decision making	<ul style="list-style-type: none"> <li>• Participation in decision</li> <li>• Levels of involvement</li> <li>• Ownership of decisions</li> <li>• Leadership</li> </ul>	Sustainability of Jaldesa community conservancy	<ul style="list-style-type: none"> <li>• Project ownership</li> <li>• Equitable sharing of benefits</li> <li>• Cooperate governance</li> <li>• Self-reliance</li> </ul>	Nominal and ratio scales	<ul style="list-style-type: none"> <li>• Percentages</li> <li>• Frequencies</li> <li>• Pearson's Moment Correlation</li> </ul>
To determine how access and control of resources by women influence the sustainability of Jaldesa community conservancy, Marsabit County, Kenya.	Access and control of resources by women	<ul style="list-style-type: none"> <li>• Availability of money</li> <li>• Ownership of the project</li> <li>• Right of ownership e.g. land, livestock</li> <li>• Voice of women in benefit sharing</li> </ul>	Sustainability of Jaldesa community conservancy	<ul style="list-style-type: none"> <li>• Project ownership</li> <li>• Equitable sharing of benefits</li> <li>• Cooperate governance</li> <li>• Self-reliance</li> </ul>	Nominal and ratio scales	<ul style="list-style-type: none"> <li>• Percentages</li> <li>• Frequencies</li> <li>• Pearson's Moment Correlation</li> </ul>
To establish how women participation in resource contribution influences the sustainability of Jaldesa community conservancy, Marsabit	Resource contribution	<ul style="list-style-type: none"> <li>• Monetary contribution</li> <li>• Non-monetary contributions</li> <li>• Volunteership</li> <li>• In kind contribution</li> <li>• Decisions of resource</li> </ul>	Sustainability of Jaldesa community conservancy	<ul style="list-style-type: none"> <li>• Project ownership</li> <li>• Equitable sharing of benefits</li> <li>• Cooperative governance</li> </ul>	Nominal and ratio scales	<ul style="list-style-type: none"> <li>• Percentages</li> <li>• Frequencies</li> <li>• Pearson's Moment Correlation</li> </ul>

County, Kenya.				<ul style="list-style-type: none"> <li>• Self-reliance</li> </ul>		
To determine how capacity building for women influences the sustainability of Jaldesa community conservancy, Marsabit County, Kenya.	Capacity building for women	<ul style="list-style-type: none"> <li>• Training on conservancy</li> <li>• Workshops on conservancy</li> <li>• Education on conservancy</li> <li>• Exposure tours</li> <li>• Capacity building on conservancy</li> </ul>	Sustainability of Jaldesa community conservancy	<ul style="list-style-type: none"> <li>• Project ownership</li> <li>• Equitable sharing of benefits</li> <li>• Cooperative governance</li> <li>• Self-reliance</li> </ul>	Nominal and ratio scales	<ul style="list-style-type: none"> <li>• Percentages</li> <li>• Frequencies</li> <li>• Pearson's Moment Correlation</li> </ul>

### 3.9 Ethical considerations

The researcher considered the willingness of the respondents and requested only those who were willing to participate in the survey. By explaining the purpose, content, duration, and benefits of the study to the respondents, the respondents were able to give informed consent, and that they were free to answer the questions they preferred although the researcher requested them to make every effort to answer all the questions. The respondents were assured by the researcher that their responses were treated with anonymity and confidentiality. If a researcher assures anonymity, it means that the researcher is unable to link respondents' names to their surveys. Participants were treated with dignity and courtesy and their rights was and will be protected. When applying for authorization to carry out research in Kenya, one is required to submit two copies of the research proposal, for review. The research was approved by the NACOSTI hence authorization was sought from NACOSTI.

## **CHAPTER FOUR**

### **DATA ANALYSIS, PRESENTATION, AND INTERPRETATION**

#### **4.1 Introduction**

This chapter presents the data analysis, presentation, and interpretation of the study findings. The chapter focused on the questionnaire return rate, the characteristic data of the respondents and analysis of the data based on the research objectives.

#### **4.2 Questionnaire return rate**

According to Mugenda and Mugenda (2003), questionnaire return rate refers to the number of respondents who returned usable instruments for the study out of the total number contacted for study. In this study, out of 443 questionnaires issued to the respondents, 389 responded to the questionnaires. This was 87.8% which was deemed adequate for data analysis. According to Mugenda and Mugenda (2003) a response of more than 70 percent, is considered very good. The high percentage is attributed to the fact that the researcher administered the questionnaires personally with the help of enumerators. The high response rate was also largely attributable to the fact that all the targeted respondents were adequately briefed about the purpose of the study in advance. This greatly enhanced the confidence between the respondents and the research team. Piloting of the research instrument before the actual study also contributed significantly to the high response rate since it helped to identify and eliminate the ambiguous questions. As such, the respondents were in a position to answer as many questions as possible with minimal difficulty. The return rate provided the required information for purposes of data analysis hence this enhanced sample representation and meaningful generalization, for the response rate implies a very good representation.

#### **4.3 Reliability Analysis**

The researcher conducted a pilot study in Kalama community conservancy in Samburu County, where the researcher administered 30 questionnaires to the same categories of respondents in a similar setting as this study. The reliability analysis was conducted using the Cronbach's Alpha. This measures the internal consistency by determining if certain items within a scale measured the same construct. A Cronbach (Alpha) reliability



coefficient ranging between 0 and 1 was generated to measure the reliability. Table 4.1 summarizes the results of the reliability analysis.

**Table 4.1 Summary of the reliability analysis**

<b>Construct</b>	<b>Cronbach's Alpha</b>	<b>Verdict</b>
<b>(IV)</b>		
Participation in decision making	0.853	Reliable
Participation in implementation of project	0.796	Reliable
Access and control of resources	0.832	Reliable
Participation in capacity building	0.789	Reliable

The analysis was done using the results of pilot study. The Cronbach's Alpha ( ) was established for every objective on the set of the questionnaires administered to the respondents for construct where participation in decision making had =0.853, participation in implementation of project had =0.796, access and control of resources =0.832 while participation in capacity building had =0.789. The reliability analysis indicates that all the variables were reliable with reliability figures above the minimum threshold of above 0.70 recommended by Tavakol and Dennick (2011).

#### **4.4 Characteristic information**

Characteristic information of the respondents refers to the personal characteristics of the population under study that the researcher intended to study. This section presents the characteristic information of the respondents, which comprised of the gender, age, work area, level of education and years of involvement in the conservancy.

##### **4.4.1 Gender of the respondents**

Table 4.2 presents the data on the respondents' gender.

**Table 4.2 Distribution of respondents by gender**

<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
Male	11	2.8
Female	378	97.2
<b>Total</b>	<b>389</b>	<b>100.0</b>

Data on the gender of the respondents indicated that majority 378(97.2%) were females and only 11 (2.8%) were males. Women were majority because of the researcher's bias towards interviewing the female gender as the study involved women participation. Further, the females were available for interviews because of the nature of gender roles assigned to them.

#### **4.4.2 Age of the respondents**

Table 4.3 presents the data on the age of the respondents.

**Table 4.3 Distribution of respondents by age**

<b>Age in years</b>	<b>Frequency</b>	<b>Percent</b>
Below 25 Years	67	17.2
26-35 Years	150	38.6
36-45 Years	133	34.2
46-55 Years	19	4.9
Above 56 Years	20	5.1
<b>Total</b>	<b>389</b>	<b>100.0</b>

Data on the age of the respondents indicated that most of the respondents were aged between 26 and 35 years (38.6%), 133 (34.2%) were aged between 36 and 45 years while 39 (10%) were aged above 46 years.

#### 4.4.3 Work area

Table 4.4 presents the work area of the respondents

**Table 4.4 Distribution of the respondents by where they worked**

<b>Work area</b>	<b>Frequency</b>	<b>Percent</b>
Conservancy board of management	20	5.1
Department in county government	4	1.0
Government officials	3	0.8
Conservancy partners	6	1.5
Women respondents	346	88.9
Staff members of the conservancy	10	2.6
<b>Total</b>	<b>389</b>	<b>100.0</b>

Data showed that majority of the respondents as indicated in the table were women respondents, totalling to 346 and making 88.9% of the respondents. Others were respondents from the conservancy board of management (5.1%), department in county government (1%), government officials (0.8%), conservancy partners (1.5%) and staff members of the conservancy (2.6%). The data shows that all the respondents were represented in the study sample.

#### 4.4.4 Level of education

The level of education is represented in Table 4.5

**Table 4.5 Distribution of respondents by level of education**

<b>Highest level of education</b>	<b>Frequency</b>	<b>Percent</b>
None	264	67.9
Primary	47	12.1
Secondary	28	7.2
Graduate	37	9.5
Post-Graduate	13	3.3
<b>Total</b>	<b>389</b>	<b>100.0</b>

Data presented in table 4.5 on the level of education of the respondents indicated that majority of the respondents 264 (67.9%) had not received any formal education. Forty-seven (12.1%) had primary education, 28 (7.2%) had secondary education. Only a small percentage of the respondents 9.5% and 3.3% were graduates and post graduate education respectively. The reason as to why majority had no formal education could be attributed to their lifestyle of pastoralism and for the fact that illiteracy and poverty levels are still too high in Arid and Semi-arid regions of Kenya.

#### **4.7 Influence of access and control of resources by women on sustainability of the community conservation projects**

To establish the influence of access and control of resources by women on sustainability of the community conservation projects, the respondents were asked to indicate the extent to which they agreed or disagreed with statements that sought to establish whether access and control of resources by women influenced the sustainability of the community conservation projects. The responses are presented in Table 6.

**Table 4.6: Responses on the influence of access and control of resources by women on sustainability of the community conservation projects**

<b>Statement</b>		<b>SA</b>	<b>A</b>	<b>U</b>	<b>D</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>
Lack of money hinder women participation in Jaldesa Community Conservation project	<b>F</b>	161	179	13	34	2	1.80	.886
	<b>%</b>	41.4	46.0	3.3	8.7	0.6		
Lack of ownership of land hinders women participation in Jaldesa Community Conservation project	<b>F</b>	210	157	4	6	12	1.56	.782
	<b>%</b>	54.0	40.4	1.0	1.5	3.1		
Women lack the right to access and control natural resources for the conservancy	<b>F</b>	200	187	1	1	0	1.49	.516
	<b>%</b>	51.4	48.1	0.3	0.3	00		
Poverty hinders women's' participation in the community conservation project	<b>F</b>	227	162	0	0	0	1.42	.494
	<b>%</b>	58.4	41.6	00	00	00		
Women do not have resources for the community conservation project	<b>F</b>	213	176	0	0	0	1.45	.498
	<b>%</b>	54.8	45.2	00	00	00		
Access to and control of resources hinder women's contribution to the sustainability of Jaldesa community conservation project	<b>F</b>	196	193	0	0	0	1.50	.501
	<b>%</b>	50.4	49.6	00	00	00		
	<b>F</b>	195	194	0	0	0	1.50	.501

Women household heads remain at a particular disadvantage in terms of access to and control of resources	%	50.1	49.9	00	00	00		
Women have no voice on access to and control of resources in sustainability of the community conservation project implemented by Jaldesa community conservancy	<b>F</b>	150	224	1	7	7	1.71	.733
	%	38.6	57.6	0.3	1.8	1.8		
Women do not have ownership of the Jaldesa community conservancy	<b>F</b>	83	69	13	155	69	3.15	1.46
	%	21.3	17.7	3.3	39.8	17.7		
Women have no right to resources for the sustainability of the community conservation project implemented by Jaldesa community conservancy	<b>F</b>	51	84	7	163	84	3.37	1.37
	%	13.1	21.6	1.8	41.9	21.6		

Data presented in the table shows that majority 161 (41.4%) strongly agreed that lack of money hindered women participation in Jaldesa Community Conservation project while 179 (46.0%) agreed to the statement. The item had a mean of 1.80 and sd of 0.886. Data also showed that lack of ownership of land hindered women participation in Jaldesa Community Conservation project as shown by 210 (54%) who strongly agreed and 157 (40.4%) who agreed. The statement had a mean of 1.56 and sd of 0.782. Respondents agreed that women lack the right to access and control natural resources for the conservancy as shown by 200 (51.4%) who strongly agreed and 187 (48.1%) who agreed to the statement which had a mean of 1.49 and sd of 0.516. It was also revealed that poverty hindered women's' participation in the community conservation project as it was indicated by 227 (58.4%) who strongly agreed and 162 (41.6%) who agreed. The statement had a mean of 1.42 and sd of 0.498. Majority of the respondents strongly agreed 213 (54.8%)

and agreed 176(45.2%) that women do not have resources for the community conservation project. The statement had a mean of 1.42 and sd of 0.494. Majority of the respondents 213 (54;8%) strongly agreed that women do not have resources for the community conservation project while 176 (45.2%) agreed to the statement which had a mean of 1.45 and sd of 0.498.

Findings also indicated that majority of the respondents 196 (50.4%) strongly agreed that access to and control of resources hinder women's contribution to the sustainability of Jaldesa community conservation project while 193 (49.6%) agreed. The statement had a mean of 1.50 and sd of 0.501. It was a strongly agreed to by 195 (50.1%) that women household heads remain at a particular disadvantage in terms of access to and control of resources while 194 (49.9%) agreed with a mean of 1.50 and sd of 0.501. Most of the respondents 150 (38.6%) strongly agreed that Women have no voice on access to and control of resources in sustainability of the community conservation project implemented by Jaldesa community conservancy while 224 (57.6%) agreed. The statement had a mean of 1.71 and sd of 0.733.

Data further revealed that 155 (39.8%) strongly disagreed that women have no voice on access to and control of resources in sustainability of the community conservation project implemented by Jaldesa community conservancy with 69 (17.7%) strongly disagreeing to the statement. The statement had a mean of 3.15 and sd of 1.46. Lastly it was revealed that 163 (41.9%) of the respondents disagreed that women have no right to resources for the sustainability of the community conservation project implemented by Jaldesa community conservancy while 84 (21.6%) strongly disagreed to the statement which had a mean of 3.37 and sd of 1.37.

Asked how access and control of resources by women influences sustainability of the community conservation project during the focus group discussion, it was revealed that women have access and control of some of the resources in Jaldesa community conservancy. One of the respondents affirmed "*Women have a say in some project activities like distribution of boda-boda*". They have a voice in benefits sharing, although

this is limited to the women representatives in the board. There is a trickle-down effect of the proceeds of the project from the staffs of the project to the society/community at large.

To establish the correlation between access to and control of resources by women and sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Pearson’s correlation coefficient was carried out. The data is presented in Table 4.7 .

**Table 4.7: Pearson’s correlation between access to and control of resources by women and sustainability of the community conservation project**

<b>Variables relationship</b>		<b>Access to and control of resources by women</b>	<b>Sustainability of conservation projects</b>
<b>Access to and control of resources by women</b>	Pearson Correlation	1	.711 **
	Sig. (2-tailed)		.000
	N	389	389
<b>Sustainability of conservation projects</b>	Pearson Correlation	.711 **	1
	Sig. (2-tailed)	.000	
	N	389	389

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The results revealed that there was a significant and positive relationship between access to and control of resources by women and sustainability of the community conservation project. In the table above, we can see that the Pearson correlation coefficient,  $r$ , is 0.711,  $n = 389$  and that it is statistically significant ( $p = 0.01$ ). The correlation was a strong and positive relationship between access to and control of resources by women and sustainability of the community conservation project.



#### 4.7.1 Years involved in the conservancy

Table 4.8 presents data on the years that the respondents were involved in the conservancy

**Table 4.8: Years involved in the conservancy**

<b>Years involved in the conservancy</b>	<b>Frequency</b>	<b>Percent</b>
Less than 1 Year	41	10.5
1-2 Years	92	23.7
\3-4 Years	194	49.9
Above 5 Years	62	15.9
<b>Total</b>	<b>389</b>	<b>100.0</b>

Data indicates that majority of the respondents 194 (59.9%) had been involved in the conservancy for between 3 and 4 years, 92 (23.7%) for between 1 and 2 years while 62 (15.9%) had been involved for over 5 years. The data shows that most of the respondents had been involved in the conservancy for a considerable long time for them to provide information on participation of women in the community conservation project.

#### 4.8 Women participation in decision making and sustainability of the community conservation project

To establish the influence of women participation in decision making and sustainability of the community conservation project, the respondents were asked to indicate the extent to which they agreed or disagreed with statements that sought to establish how women participation in decision making influenced the sustainability of the community conservation project. The data is presented in table 4.9.

**Table 4.9: Responses on the influence of women participation in decision-making and sustainability of the community conservation project**

<b>Statement</b>		<b>SA</b>	<b>A</b>	<b>U</b>	<b>D</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>
Jaldesa Community Conservancy is representative of all stakeholders	<b>F</b>	161	181	17	13	17	1.83	.978
	<b>%</b>	41.4	46.5	4.4	3.3	4.4		
Women have a good share of representation and take up leadership roles in the Jaldesa community conservancy board	<b>F</b>	8	26	11	176	16	4.21	.934
	<b>%</b>	2.1	6.7	2.8	45.2	43.2		
Women take up leadership in the decision-making regarding sustainability of the Jaldesa community conservation project	<b>F</b>	180	181	12	13	3	1.66	.762
	<b>%</b>	46.3	46.5	3.1	3.3	0.8		
Women attend meetings on decision making for the Jaldesa conservancy	<b>F</b>	224	141	13	9	2	1.52	.720
	<b>%</b>	57.6	36.2	3.3	2.3	.5		
Women own up the decisions of the management of Jaldesa conservancy	<b>F</b>	181	172	14	11	9	1.70	.858
	<b>%</b>	46.5	44.2	3.6	2.8	2.3		
Management gives opportunity to the women to freely express their opinions concerning Jaldesa community conservation project	<b>F</b>	201	166	10	11	1	1.57	.706
	<b>%</b>	51.7	42.7	2.6	2.8	.3		
Women are aware of the decisions made by the conservancy board	<b>F</b>	250	115	7	13	4	1.71	.724
	<b>%</b>	64.3	29.6	1.8	3.3	1.0		
Women are well versed on the decision-making processes of Jaldesa conservancy	<b>F</b>	154	210	8	16	1	1.44	.697
	<b>%</b>	39.6	54.0	2.1	4.1	0.3		
Women have fewer opportunities in leadership of the conservancy	<b>F</b>	169	150	52	14	4	1.59	.718
	<b>%</b>	43.4	38.6	13.4	3.6	1.0		
Women are on the front in Jaldesa conservancy management policy decisions	<b>F</b>	24	13	12	127	21	4.26	1.096
	<b>%</b>	6.2	3.3	3.1	32.6	54.8		

Data indicated that majority of the respondents agreed that Jaldesa Community Conservancy is representative of all stakeholders as shown by 161 (41.4%) who strongly agreed and 181 (46.5%) who agreed. The statement had a mean of 1.83 and sd of 0.978. Asked whether women had a good share of representation and take up leadership roles in

the Jaldesa community conservancy board 176 (45.2%) disagreed while 168 (43.2%) strongly disagreed. The statement had a mean of 4.21 and sd of 0.934 meaning that women did not a good share of representation and take up leadership roles in the Jaldesa community conservancy board.

The respondents also agreed that women took up leadership in the decision-making regarding sustainability of the Jaldesa community conservation project as shown by 180 (46.3%) who strongly agreed and 181 (46.4%) who agreed. The statement had a mean of 1.66 and sd of 0.762. In the issue of attendance of meetings on decision making, 224 (57.6%) of the respondents disagreed with a further 141 (36.2%) who agreed. The statement had a mean of 1.52 and sd of 0.70 meaning that women attend meetings on decision making for the Jaldesa conservancy. Data further indicated that women owned up the decisions of the management of Jaldesa conservancy as shown by 181 (46.5%) who strongly agreed and 172(44.2%) who agreed. The statement had a mean of 1.70 and sd of 0.858.

Results from the table further indicated that the management gave opportunity to the women to freely express their opinions concerning Jaldesa community conservation project as shown by 201 (51.7%) who strongly agreed and 166 (42.7%) who agreed and a mean of 1.57 and sd of 0.706. Data further established that, women are aware of the decisions made by the conservancy board as shown by 250 (64.3%) who strongly agreed and 115 (29.6%) who agreed. The statement had a mean of 1.71 and sd of 0.724. It was also established that the respondents agreed that women were well versed on the decision-making processes of Jaldesa conservancy as shown by 154 (39.6%) who strongly agreed and 210 (54%) who agreed. The item had a mean of 1.44 and sd of 0.697.

The respondents also agreed that women had fewer opportunities in leadership of the conservancy as indicated by 154 (39.6%) who strongly agreed and 150 (38.6%) who agreed. The statement had a mean of 1.59 and sd of 0.718. Data further showed that respondents agreed that women had fewer opportunities in leadership of the conservancy as indicated by 169 (43.4%) who strongly agreed and 150 (38.4%) who agreed. Data finally revealed that the respondents disagreed that women are on the front in Jaldesa conservancy

management policy decisions as indicated by 127 (32.6%) who disagreed and 213(54.8%) who strongly disagreed. The statement had a mean of 4.26 and sd of 1.096.

In the focus group discussion, the respondents indicated that there was participation of women in decision-making. However, the level of participation in decision making is only at the board level. Their participation in decision-making creates a sense of ownership of the project. One of the members said, *“the only women who are involved in decision making are the three women in leadership position”* The women representatives also use their position to seek gender equality and more women representation in decision-making to ensure sustainability of projects. *“Having women in decision making position will give us power to lobby for women representation.”* Added another.

To establish the correlation between decision making and sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya; Pearson’s correlation coefficient was carried out. The data is presented in Table 4.9.

**Table 4.9: Pearson’s correlation between decision making and sustainability of project**

<b>Variables relationship</b>	<b>Participation of women in decision making</b>	<b>of</b>	<b>Sustainability of project</b>
<b>Participation of women in decision making</b>	Pearson Correlation	1	.774 **
	Sig. (2-tailed)		.000
	N	389	389
<b>Sustainability of project</b>	Pearson Correlation	.774 **	1
	Sig. (2-tailed)	.000	
	N	389	389

\*\* . Correlation is significant at 0.01 level (2-tailed).

As shown in Table 4.3, A Pearson correlation analysis was conducted to examine whether there is a relationship between decision-making and sustainability of Jaldesa community conservation project. In this, it can be observed that the Pearson correlation coefficient,  $r$ , is 0.774, and that it is statistically significant ( $p = 0.01$ ). These results revealed that there was a significant and positive relationship between participation of women in decision making and sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya ( $r = .774$ ,  $N = 389$ ). This implies that decision-making was associated with the level of sustainability of Jaldesa community conservation project.

#### **4.9 Influence of women participation in implementation on sustainability of the community conservation project implemented by Jaldesa conservancy**

In order to establish the influence of women participation in implementation on sustainability of the community conservation project implemented by Jaldesa conservancy, the respondents were asked to indicate the extent to which they agreed or disagreed with statement that sought to establish the influence of women participation in implementation for sustainability of the community conservation project implemented by Jaldesa conservancy. Their responses are presented in table 4.10.

**Table 4.10: Responses on women participation in implementation for sustainability of the community conservation project implemented by Jaldesa conservancy**

Statement		SA	A	U	D	SD	Mean	SD
Few women participate in the implementation of the community conservation project in Jaldesa	F	186	203	0	0	0	1.52	.500
	%	47.8	52.2	00	00	00		
Women have minimal roles in the implementation of the community conservation project in Jaldesa	F	243	142	3	0	0	1.38	.501
	%	62.5	36.5	0.8	00	00		
Few women are involved in the implementation of policies of Jaldesa community conservation project decisions	F	188	196	1	4	0	4.18	.840
	%	48.3	50.4	0.3	1.0	00		
Women receive updates on the progress of the projects during implementation	F	2	17	45	169	156	1.54	.562
	%	.5	4.4	11.6	43.4	40.1		
Women have physical resources to contribute to sustainability of the Jaldesa community conservation project	F	2	10	2	137	238	4.54	.690
	%	0.5	2.6	0.5	35.2	61.2		
Resource contribution by women influence project sustainability	F	251	138	0	0	0	1.35	.479
	%	64.5	35.5	00	00	00		
Women have the capacity of implementing decisions for the conservancy	F	127	197	5	57	3	2.00	.999
	%	32.6	50.6	1.3	14.7	.8		
Women receive timely communication concerning project implementation	F	4	15	2	168	200	4.40	.779
	%	1.0	3.9	0.5	43.2	51.4		
Contribution of resources hinder women's role in project implementation	F	266	122	0	1	0	1.32	.484
	%	68.4	31.4	00	0.3	00		
There are clear roles for women in the implementation plans for the Jaldesa community conservation project	F	4	3	47	175	160	4.24	.773
	%	1.0	0.8	12.1	45.0	41.1		

Data on women participation in implementation for sustainability of the community conservation project implemented by Jaldesa conservancy revealed that majority of the respondents indicated that few women participated in the implementation of the community conservation project in Jaldesa as was shown by 186 (47.8%) who strongly agreed to the statement and 203 (52.2%) who agreed. The item had a mean of 1.52 and sd

of 0.5. Data also revealed that majority of the respondents, 243 (62.5%) and 142 (36.5%) strongly agreed and agreed respectively that women had minimal roles in the implementation of the community conservation project in Jaldesa. The statement had a mean of 1.38 and sd of 0.501.

It was also revealed from the data that few women were involved in the implementation of policies of Jaldesa community conservation project decisions as was indicated by 188 (48.3%) who strongly agreed to the statement and 196 (50%) who agreed. The statement had a mean of 4.18 and sd of 0.840. It was also revealed from the data that 169 (43.4%) strongly agreed and 156(40.1%) agreed that women received updates on the progress of the projects during implementation. The statement had a mean of 1.54 and sd of 0.562. It was also revealed from the data that 137 (35.2%) strongly disagreed that women had physical resources to contribute to sustainability of the Jaldesa community conservation project. In the same statement 238 (61.2%) strongly disagreed. The statement had a mean of 4.54 and sd of 0.690. On the issue whether resource contribution by women influenced project sustainability, 251 (64.5%) strongly agreed while 138 (35.5%) agreed. The statement had a mean of 1.35 and sd of 0.479.

Further data revealed that 127 (32.6%) strongly agreed that women had the capacity of implementing decisions for the conservancy with 197 (50.6%) who agreed and a mean on 2 and a sd of 0.999. Asked whether women received timely communication concerning project implementation, 168 (43.2%) disagreed and 200 (51.4%) strongly disagreed. The statement had a mean of 4.4 and sd of 0.779. Majority of the respondents 266 (68.4%) and 122 (31.4%) agreed that contribution of resources hindered women's role in project implementation with a mean of 1.32 and sd of 0.484. It was also revealed that majority 175 (45%) disagreed and 160 (41.1%) strongly disagreed that there were clear roles for women in the implementation plans for the Jaldesa community conservation projects. The statement had a mean of 4.24 and sd of 0.773.

Responses from the FGD revealed that women participation in implementation ensured that they took ownership of the project. Further, when women participate in implementation activities say, being awarded contracts in construction projects, the

activities are done with better sense of accountability and direct proceeds shared among families. One respondent said *“If women are given project implementation activities like being awarded tenders for construction of structures, they are more accountable and share the proceeds of the contract with the families, villagers and even the entire community”*

To establish the correlation between participation in implementation on sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit, Pearson’s correlation coefficient was carried out. The data is presented in Table 4.11

**Table 4.11: Pearson’s correlation between participation in implementation on sustainability of the community conservation project**

<b>Variables relationship</b>		<b>Participation in implementation</b>	<b>Sustainability of project</b>
<b>Participation in implementation</b>	Pearson Correlation	1	.712 **
	Sig. (2-tailed)		.000
	N	389	389
<b>Sustainability of project</b>	Pearson Correlation	.712 **	1
	Sig. (2-tailed)	.000	
	N	389	389

\*\* . Correlation is significant at the 0.01 level (2-tailed).

In this the results showed that the Pearson correlation coefficient,  $r$ , was 0.71,  $n = 389$  and that it is statistically significant ( $p = 0.01$ ). The results as presented in table 4.9 revealed that there was a significant and positive relationship between participation of women in implementation and sustainability of project. The correlation was a strong and positive relationship between participation in implementation and sustainability of the community conservation project. Levels of sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya were associated with higher levels of women participation in implementation of projects.

#### **4.10 Women participation in capacity building and sustainability of the community conservation project**

To establish the influence of women participation in capacity building on sustainability of the community conservation project, the respondents were asked to respond to statements that sought to establish the same. The data is presented in table 4.12.



**Table 4.12: Influence of women participation in capacity building on sustainability of the community conservation project**

Statement		SA	A	U	D	SD	Mean	SD
Women have often received training on implementation of conservation projects	F	4	24		305	56	3.99	.696
	%	1.0	6.2		78.4	14.4		
The conservancy has had workshops for women in matters conservation	F	8	20	5	148	208	4.36	.900
	%	2.1	5.1	1.3	38.0	53.5		
Women are well endowed with management of Jaldesa conservation	F	12	18	1	166	192	4.31	.931
	%	3.1	4.6	0.3	42.7	49.4		
Lack of empowerment hinder women's participation in the sustainability of the community conservation project	F	166	223				1.57	.495
	%	42.7	57.3					
Women have received capacity building including skills in sustainability of the community conservation project	F	8	16	2	139	224	4.43	.866
	%	2.1	4.1	0.5	35.7	57.6		
Women have received capacity building including Systems in sustainability of the community conservation project	F	6	14	2	16	351	4.78	.765
	%	1.5	3.6	0.5	4.1	90.2		
Women have received capacity building including Structures in sustainability of the community conservation project	F	14	31	3	92	249	4.37	1.087
	%	3.6	8.0	.8	23.7	64.0		
Women have received capacity building including Processes in sustainability of the community conservation project	F	5	20	161		203	4.38	.837
	%	1.3	5.1	41.4		52.2		
Women have received capacity building including Values in sustainability of the community conservation project	F	3	17	2	172	195	4.39	.777
	%	0.8	4.4	0.5	44.2	50.1		
Women have received capacity building including Resources in sustainability of the community conservation project	F	6	33	1	151	198	4.29	.953
	%	1.5	8.5	0.3	38.8	50.9		
Women are aware of their roles in sustainability of the community conservation project	F	99	229	3	58		2.05	.926
	%	25.4	58.9	0.8	14.9			
Women have choices in participating in capacity building activities of Jaldesa community conservation project	F	1	2	2	252	132	4.32	.538
	%	.3	.5	.5	64.8	33.9		
Women are provided with exposure tours concerning the conservation projects	F	16	11	2	103	257	4.48	.962
	%	4.1	2.8	0.5	26.5	66.1		
Women have the bargaining power in sustainability community conservation project	F	67	276	17	29		2.02	.718
	%	17.2	71.0	4.4	7.5			
Women have the competencies for sustainability of the community conservation project	F	41	143	8	136	61	3.08	1.33
	%	10.5	36.8	2.1	35.0	15.7		

Data presented in table 4.13 on the influence of women participation in capacity building on sustainability of the community conservation project revealed that 305 (78.4%) disagreed that women have often received training on implementation of conservation

projects while 56 (14.4%) strongly disagreed. The statement had a mean of 3.99 and sd of 0.696. Data further showed that majority of the respondents disagreed that the conservancy has had workshops for women in matters conservation as indicated by 148 (48%) who disagreed and 208 (53.5%) who strongly disagreed to the statement which had a mean of 4.36 and sd of 0.900. It was further revealed that 166 (42.7%) and 192 (49.4%) disagreed and strongly disagreed respectively that women are well endowed with management of Jaldesa conservation the statement had a mean of 4.31 and sd of 0.931.

Further, the findings indicated that lack of empowerment hindered women's participation in the sustainability of the community conservation project as it was observed by 166 (42.7%) who strongly agreed and 223 (57.3%) who agreed. The statement had a mean of 4.43 and sd of 0.866. Majority of the respondents disagreed that women have received capacity building including skills in sustainability of the community conservation project as was shown by 139 (35.7%) who strongly disagreed and 224 (57.6%) who strongly disagreed. The statement had a mean of 4.43 and sd of 0.866. They further denied that women had received capacity building including systems in sustainability of the community conservation project as was shown by 351 (90.2%) who strongly disagreed with a mean of 4.78 and sd of 0.765.

Majority of the respondents 249 (64%) strongly disagreed that women have received capacity building including structures in sustainability of the community conservation project the statement had a mean of 4.3 and sd of 1.08. A further majority 203 (52.2%) strongly disagreed with the statement that women had received capacity building including Structures in sustainability of the community conservation project. A relative number of respondents 161 (41.4%) were undecided with the statement. One hundred and seventy-two (44.2%) disagreed that women had received capacity building including values in sustainability of the community conservation project while 195 (50.1%) strongly disagreed. The statement had a mean of 4.39 and sd of 0.777. Data also revealed that majority of the respondents 151 (38.8%) and another 198 (50.9%) disagreed and strongly disagreed that women had received capacity building including Resources in sustainability of the community conservation project. The statement had a mean of 4.29 and sd of 0.953.

From the table, it was further revealed that women were aware of their roles in the sustainability of the community conservation project as shown by 99 (25.4%) who strongly agreed with the statement and 229 (58.9%) who agreed. The statement had a mean of 2.05 and sd of 0.926. Majority of the respondents disagreed that women have choices in participating in capacity building activities of Jaldesa community conservation project as was shown by 252 (64.8%) who disagreed and 132 (33.9%) who strongly disagreed. The statement had a mean of 4.32 and sd of 0.538. Majority of the respondents disagreed that women were provided with exposure tours concerning the conservation projects as was shown by 103 (26.5%) who disagreed and 257 (66.1%) who strongly disagreed. The statement had a mean of 4.48 and sd of 0.962.

Data further indicated that women have the bargaining power in sustainability community conservation project as shown by 67 (17.2%) who strongly agreed to the statement and 276 (71%) who agreed, and a mean of 2.02 and sd of 0.718. Lastly, data showed that there were mixed reactions on whether women have the competencies for sustainability of the community conservation project. This was shown by 143 (36.8%) who agreed, 136 (35%) who disagreed and 61 (15.7%) who strongly disagreed. The statement had a mean of 3.08 and sd of 1.33.

In the focus group discussion, it was revealed that women do participate in a few capacity-building activities. *“We are rarely involved in training activities; those activities are usually attended by our women leaders mostly”* said a female participant. Such activities are largely a reserve for the women in leadership positions. Rarely are the larger women involved in capacity building in areas like exposure tours, conservancy workshops, systems, and processes of the projects. It was discussed that women participation in capacity building helps perpetuate knowledge along generations. Further, capacity building activities help them to be aware of the happenings of the projects and measure what happens against what they were taught/trained on.

Other factors that were discussed, which affect women participation in the sustainability of the community conservation projects implemented by Jaldesa Community Conservancy included gender roles that dictated by the Cushitic society limits the women. For example,

most of the employees of the conservancy who work as rangers (and in many other positions) are males just by virtue of their gender. There is also a limitation of women in access to finances as there is preference of youth and men over them.

To establish the correlation between women participation in capacity building and sustainability of the community conservation project, Pearson's correlation coefficient was carried out. The data is presented in Table 4.13.

**Table 4.13: Pearson's correlation between women participation in capacity building and sustainability of the community conservation project**

<b>Variables relationship</b>		<b>Women participation in capacity building</b>	<b>Sustainability of the community conservation project</b>
<b>Women participation in capacity building</b>	Pearson Correlation	1	.765 **
	Sig. (2-tailed)		.000
	N	389	389
<b>Sustainability of the community conservation project</b>	Pearson Correlation	.765 **	1
	Sig. (2-tailed)	.000	
	N	389	389

\*\* . Correlation is significant at the 0.01 level (2-tailed).

A Pearson correlation analysis conducted to examine whether there is a relationship between women participation in capacity building and sustainability of the community conservation project. The results revealed that there was a significant and positive relationship between women participation in capacity building and sustainability of the community conservation project, it can be concluded that the Pearson correlation coefficient,  $r$ , is 0.765,  $n = 389$  and that it is statistically significant ( $p = 0.01$ ). The results explain that the women participation in capacity building is vital in sustainability of the community conservation project and the better they function the greater the chance of successful sustainability.

**CHAPTER FIVE**  
**SUMMARY OF FINDINGS, DISCUSSION, CONCLUSION AND**  
**RECOMMENDATIONS**

**5.1 Introduction**

This chapter gives a summary of the study findings, conclusions drawn from the study findings and recommendations in relation to the study variables. The section also presents the suggestions put forward for further research.

**5.2 Summary of the findings**

The study found that there was a significant and positive relationship between participation of women in decision making and sustainability of the community conservation project implemented by Jaldesa Community Conservancy with an average mean of 1.961, average standard deviation of .7249 and a Pearson correlation coefficient of  $r = .774$ .

On women participation in implementation of the project, the standard deviation was 0.667 and a mean of 2.647 with a Pearson correlation coefficient of 0.71. This revealed that there was a significant and positive relationship between participation of women in implementation and sustainability of project.

The results also revealed that there was a significant and positive relationship between access to and control of resources by women and sustainability of the community conservation project with a Pearson correlation coefficient of  $r = 0.711$ . The standard deviation was 0.7742 and a mean of 1.895.

A Pearson correlation analysis conducted revealed that there was a significant and positive relationship between women participation in capacity building and sustainability of the community conservation project. It was concluded that the Pearson correlation coefficient,  $r$ , is 0.765 that it is statistically significant ( $p = 0.01$ ). It had a mean of 5.682 and a standard deviation of 1.2769.

### **5.3 Discussion of findings**

This section presents the presentation and discussion of findings

#### **5.3.1 Women participation in decision making and sustainability of the community conservation project**

The findings of the study on the influence of women participation in decision making and sustainability of the community conservation project indicated that women participation in decision making had an influence on sustainability of the community conservation project. Pearson correlation analysis revealed a correlation coefficient,  $r$ , is 0.774, and that it is statistically significant ( $p = 0.01$ ). This result revealed that there was a significant and positive relationship between participation of women in decision making and sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya ( $r = .774$ ,  $N = 389$ ). This implies that decision making was associated with the level of sustainability of Jaldesa community conservation project. The extent of women's participation in policies and women's access to decision-making can be seen as the key indicators of gender equality in a society. Gender equality in decision-making is to be viewed in the context of whether women are in a position to make or influence public decisions on the same footing as men.

The women do not have a good share of representation and do not take up leadership roles in the Jaldesa community conservancy board. Women own up the decisions of the management of Jaldesa conservancy. Women attended meetings on decision making for the Jaldesa conservancy. Naganag, (2014) opines that generally, women have had fewer opportunities to participate in making environmental decisions. As a result, their perceptions and interests are sometimes ignored or excluded when policies are designed. Women were aware of the decisions made by the conservancy board and were well versed on the decision-making processes of Jaldesa conservancy. This is in line with Mwasi, (2001) who found that men tend to dominate in the newly emerging decision-making and policy arenas of climate change and bio energy. Women's limited participation in decision making processes at international and local levels restricts their capacity to engage in political decisions that can impact their specific needs and vulnerabilities. The conservancy management gives opportunity to the women to freely express their opinions concerning

Jaldesa community conservation project. However, results indicated that women had fewer opportunities in leadership of the conservancy. The above findings agree with Mwasi, (2001) who noted that women's limited participation in decision making processes at international and local levels restricts their capacity to engage in political decisions that can impact their specific needs and vulnerabilities.

### **5.3.2 Influence of women participation in implementation on sustainability of the community conservation project implemented by Jaldesa conservancy.**

Findings on the influence of women participation in implementation on sustainability of the community conservation project implemented by Jaldesa conservancy revealed that there was a significant and positive relationship between participation of women in implementation and sustainability of project. The correlation was a strong and positive relationship in both participation in implementation and sustainability of the community conservation project. The findings implied that levels of sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya were associated with higher levels of women participation in implementation of projects.

Data revealed that women were not involved in the implementation of projects. For instance, only few women participate in the implementation of the community conservation project in Jaldesa. Women had minimal roles in the implementation of the community conservation project in Jaldesa. Mavoko (2013) notes that financial resources refer to funds that are required by project implementers to buy the necessary equipment and machinery required in running of projects and also meet other expenses related to the project such as salaries and wages for the workers. Few women are involved in the implementation of policies of Jaldesa community conservation project decisions. Women did not receive updates on the progress of the projects during implementation although they had the capacity of implementing decisions for the conservancy. They did not receive timely communication concerning project implementation. There were no clear roles for women in the implementation plans for the Jaldesa community conservation project. Githinje (2013) notes that implementation of projects involves; acquiring financial resources, mapping human resources, acquisition of physical resources, community

involvement and participation, accountability and transparency, financial accounting and management.

### **5.3.3 Access and control of resources by women and sustainability of the community conservation projects**

Findings on the influence of access and control of resources by women on sustainability of the community conservation project revealed that there was a significant and positive relationship between access and control of resources by women and sustainability of the community conservation project. In the table above, we can see that the Pearson correlation coefficient,  $r$ , is 0.711,  $n = 389$  and that it is statistically significant ( $p = 0.01$ ). The correlation was a strong and positive relationship between access to and control of resources by women and sustainability of the community conservation project.

Results indicated that lack of money and lack of ownership of land and poverty hinder women participation in Jaldesa Community Conservation project. Women do not have resources for the community conservation project. It was also revealed that women household heads remain at a particular disadvantage in terms of access to and control of resources. Pastoral women are often financially dependent on men or do not have control over economic resources. Lack or no voice among women on access to and control of resources hindered their participation in sustainability of the community conservation project implemented by Jaldesa community conservancy. Lack of right to resources and lack of ownership of the Jaldesa community conservancy hindered women in their participation in the sustainability of the community conservation project. The above findings are in line with Gruen (2018) who found that women have generally experienced greater restrictions, particularly with respect to independent ownership and access to land. This may partially explain why the majority of the world's poor are women who depend on natural resources for subsistence. Rocheleau (1996) found that women frequently have de facto or land-use rights as compared to men's de jure or ownership rights. Women often have user rights that are mediated by their relationships with men. How men and women use resources reflects gendered access.

The findings are also in line with a World Bank study (2001) in Botswana, Lesotho Namibia, and Swaziland, that found women are under the permanent guardianship of their



husbands and have no independent right to property. While female-headed households form about one-third of all households in Zambia, they (women) are underrepresented among the larger farms, with only a fourth of farms larger than two hectares owned by women.

#### **5.3.4 Women participation in capacity building and sustainability of the community conservation project**

Findings on the influence of women participation in capacity building on sustainability of the community conservation project revealed that there was a significant and positive relationship between women participation in capacity building and sustainability of the community conservation project, it can be concluded that the Pearson correlation coefficient,  $r$ , is 0.765,  $n = 389$  and that it is statistically significant ( $p = 0.01$ ). The results explain that lack of women participation in capacity building hindered the sustainability of the community conservation project.

The findings agree with Olalekan, et al (2019) who found that women should be trained in matters conservation, they need to be empowered and given the necessary financial support to enable them to play a key role in conservation. The findings further agree with Tiwari (2015) who revealed that there is close association between women and natural resources is than valid primarily in rural context especially among women of rural areas. The study concluded that women need to be empowered to take active role in conservation.

For example, Women have not received training on implementation of conservation projects. The conservancy had no workshops for women in matters conservation. Women were not endowed with management of Jaldesa community conservancy. Lack of empowerment hinder women's participation in the sustainability of the community conservation project. Women had no choices in participating in capacity building activities of Jaldesa community conservation project. Further, lack of capacity building including skills in sustainability, systems in sustainability, structures in sustainability of the community conservation project, processes in sustainability of the community conservation project, values in sustainability of the community conservation project and resources in sustainability of the community conservation project hindered their participation in sustainability of the project. Lack of awareness of their roles in the

sustainability of the community conservation project, lack of exposure tours concerning the conservation projects, lack of bargaining power in sustainability community conservation project and lack of competencies for sustainability of the community conservation project hindered their participation in sustainability of projects.

The above findings are in line with Panwar et al., (2011) that found that conservation of natural resources and promotion of environment cannot be done without involving the women in planning and training for promoting the values for conservation and promotion of environment. Hence, attempt has been made to assess the role of women in conservation and promotion of environment along with suitable strategy for the same.

#### **5.4 Conclusion**

The study established that there was a significant and positive relationship between participation of women in decision making and sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County. The study therefore concludes that decision making was associated with the level of sustainability of Jaldesa conservancy project. Letting women have a good share of representation and take up leadership roles in the Jaldesa community conservancy board, having them own up the decisions of the management, having them attend meeting, having them aware of the decisions made by the conservancy board and were well versed on the decision-making processes and having management giving opportunity to the women to freely express their opinions concerning Jaldesa community conservation project would improve sustainability of project.

The study also established that there was a significant and positive relationship between participation of women in implementation and sustainability of project. This made the conclusion that levels of sustainability of the community conservation project implemented by Jaldesa Community Conservancy in Marsabit County, Kenya were associated with higher levels of women participation in implementation of projects. The study concludes that lack of involvement of women in the implementation of projects, having only few women participate in the implementation of the community conservation, having women have minimal roles in the implementation of the community conservation project would,

lack of updates for women, and lack of timely communication concerning project implementation hinder the implementation of project.

Findings also revealed that there was a significant and positive relationship between access and control of resources by women and sustainability of the community conservation project. The correlation was a strong and positive relationship between access to and control of resources by women and sustainability of the community conservation project. The study therefore concluded that lack of money and lack of ownership of land, poverty, lack or no voice among women on access to and control of resources and lack of right to resources and lack of ownership of the Jaldesa community conservancy hindered women participation in Jaldesa Community Conservation project.

The study also revealed that there was a significant and positive relationship between women participation in capacity building and sustainability of the community conservation project. It was therefore concluded that lack of women participation in capacity building hindered the sustainability of the community conservation project. Lack of training on implementation of conservation projects, lack of workshops for women in matters conservation, lack of empowerment hindered women's participation in the sustainability of the community conservation project. Further, lack of capacity building including skills in sustainability, systems in sustainability, structures in sustainability of the community conservation project, processes in sustainability of the community conservation project, values in sustainability of the community conservation project and resources in sustainability of the community conservation project hindered their participation in sustainability of the project. Lack of awareness of their roles in the sustainability of the community conservation project, lack of exposure tours concerning the conservation projects, lack of bargaining power in sustainability community conservation project and lack of competencies for sustainability of the community conservation project hindered their participation in sustainability of projects.

## **5.5 Recommendations**

Based on the findings of the study, the study recommends that the national government and the county government of Marsabit should improve on ways of involving women in decision making. This could be through letting women have a good share of representation

and take up leadership roles, having them own up the decisions of the management, having them attend meeting, having them aware of the decisions made by the conservancy board and making them well versed on the decision-making processes.

The study also recommends that women should be more involved in the implementation of the projects. This could be done by having only more women participate in the implementation of the community conservation, having women have more and clear roles in the implementation of the community conservation project would, providing them with on implementation and having timely communication concerning project implementation hinder the implementation of project.

The study also recommends that women should be empowered to have more access and control of resources. This will include empowering them financially, giving them voice on access to and control of resources and giving them right to resources and ownership.

The study also recommends that there should be a lot of capacity building for women. This could be by way of having women participate of workshops for women in matters conservation, providing them with skills, systems, structures, processes values in sustainability of the community conservation project, making them aware of their roles in the sustainability, giving them tours concerning the conservation projects.

## **5.6 Suggestions for Further Research**

The researcher suggests that further research should be conducted on:

- i. Influence of government policies on sustainability of the community conservation project
- ii. Role of county government on sustainability of community conservation projects
- iii. Influence of public private sector collaboration on sustainability of community conservation projects

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## APPENDICES

### APPENDIX I: LETTER OF TRANSMITTAL

Rufo Roba Halakhe  
Department of Extra Mural  
Studies  
University of Nairobi  
15<sup>th</sup> April, 2020

The Management,  
Jaldesa Community Conservancy Management

Dear Sir / Madam,

#### **RE: PERMISSION TO COLLECT DATA**

I am a post-graduate student at the University of Nairobi. I am currently carrying out a research as part of my final year thesis project. This research is a requirement of the Master's programme. My study is on the **“Influence of women participation on sustainability of community conservation projects implemented by Jaldesa Community Conservancy, Marsabit County, Kenya”** Your organisation has been selected to participate in this study. I hereby humbly request your office to accord me any assistance that will make the study a success.

Yours faithfully,  
Rufo Roba Halakhe

## **APPENDIX II: QUESTIONNAIRE FOR THE HOUSEHOLDS**

This is a research questionnaire which is aimed at identifying and collecting data about the influence of women participation on sustainability of the community conservation project implemented by Jaldesa community conservancy in Marsabit County; Kenya. In order to ensure confidentiality, do not write down your name on the questionnaire, or include any information that might identify you as the respondent. However, you are encouraged to answer to questions as honestly as possible.

### **Section A: General information of the respondent**

Tick [ / ] where appropriate and fill your responses in the spaces provided

1. Gender/Sex
  - i. Female [ / ]
  - ii. Male [ / ]
2. Age of the respondent
  - i. Below 25 years [ / ]
  - ii. 26-35 years [ / ]
  - iii. 36-45 years [ / ]
  - iv. 46-55 years [ / ]
  - v. Above 56 years [ / ]
3. Indicate your position
  - i. Conservancy board of Management [ / ]
  - ii. Department in the county government [ / ]
  - iii. Government officials [ / ]
  - iv. Conservancy partners [ / ]
  - v. Women respondents [ / ]
  - vi. Staff members of conservancy [ / ]
4. Highest level of academic qualification
  - i. None [ / ]
  - ii. Primary [ / ]
  - iii. Secondary [ / ]
  - iv. Graduate [ / ]

v. Post Graduate [ ]

5. How long have you been involved in conservancy matters?

Less than 1 year [ ]

1-2 years [ ]

3-4 years [ ]

Above 5 years [ ]

**Section B: Women participation in decision making for sustainability of the community conservation project implemented by Jaldesa conservancy**

Indicate by use of a tick [ ] your level of agreement or disagreement with the following statements regarding women participation in decision making and sustainability of Jaldesa Community Conservation Project, where:

SA=Strongly Agree; A = Agree; U = Undecided; D = Disagree and SD = Strongly Disagree

SN	Statement	SA	A	U	D	SD
1	Jaldesa Community Conservancy is representative of all stakeholders	5	4	3	2	1
2	Women have a good share of representation and take up leadership roles in the Jaldesa community conservancy board	5	4	3	2	1
3	Women take up leadership in the decision-making regarding sustainability of the Jaldesa community conservation project	5	4	3	2	1
4	Women attend meetings on decision making for the Jaldesa conservancy	5	4	3	2	1
5	Women own up the decisions of the management of Jaldesa conservancy	5	4	3	2	1
6	Management gives opportunity to the women to freely express their opinions concerning Jaldesa community conservation project	5	4	3	2	1
7	Women are aware of the decisions made by the conservancy board	5	4	3	2	1

8	Women are well versed on the decision-making processes of Jaldesa conservancy	5	4	3	2	1
9	Women have fewer opportunities in leadership of the conservancy	5	4	3	2	1
10	Women are on the front in Jaldesa conservancy management policy decisions	5	4	3	2	1

6. In your view, how has women participation in decision making affected sustainability of Jaldesa Community Conservation project?

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**Section C: Women participation in implementation for sustainability of the community conservation project implemented by Jaldesa conservancy**

3. Indicate by use of a tick [ ] your level of agreement or disagreement with the following statements regarding women participation in implementation for sustainability of the community conservation project implemented by Jaldesa conservancy, where:

SA=Strongly Agree; A = Agree; U = Undecided; D = Disagree and SD = Strongly Disagree

SN	Statement	SA	A	U	D	SD
1	Few women participate in the implementation of the community conservation project in Jaldesa	5	4	3	2	1
2	Women have minimal roles in the implementation of the community conservation project in Jaldesa	5	4	3	2	1
3	Few women are involved in the implementation of policies of Jaldesa community conservation project decisions	5	4	3	2	1

4	Women receive updates on the progress of the projects during implementation	5	4	3	2	1
5	Women have physical resources to contribute to sustainability of the Jaldesa community conservation project	5	4	3	2	1
6	Resource contribution by women influence project sustainability	5	4	3	2	1
7	Women have the capacity of implementing decisions for the conservancy	5	4	3	2	1
8	Women receive timely communication concerning project implementation	5	4	3	2	1
9	Contribution of resources hinder women's role in project implementation	5	4	3	2	1
10	There are clear roles for women in the implementation plans for the Jaldesa community conservation project	5	4	3	2	1

4. In your view how has women participation in implementation affected sustainability of the community conservation project implemented by Jaldesa conservancy

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**Section D: Access and control of resources by women for sustainability of the community conservation project implemented by Jaldesa conservancy**

3. Indicate by use of a tick [ ] your level of agreement or disagreement with the following statements regarding influence of women participation in access to and control of resources on sustainability of the community conservation project implemented by Jaldesa conservancy, where:



SA=Strongly Agree; A = Agree; U = Undecided; D = Disagree and SD = Strongly Disagree

SN	Statement	SA	A	U	D	SD
1	Lack of money hinder women participation in Jaldesa Community Conservation project	5	4	3	2	1
2	Lack of ownership of land hinders women participation in Jaldesa Community Conservation project	5	4	3	2	1
3	Women lack the right to access and control natural resources for the conservancy	5	4	3	2	1
4	Poverty hinders women's' participation in the community conservation project	5	4	3	2	1
5	Women do not have resources for the community conservation project	5	4	3	2	1
6	Access to and control of resources hinder women's contribution to the sustainability of Jaldesa community conservation project	5	4	3	2	1
7	Women household heads remain at a particular disadvantage in terms of access to and control of resources	5	4	3	2	1
8	Women have no voice on access to and control of resources in sustainability of the community conservation project implemented by Jaldesa community conservancy	5	4	3	2	1
9	Women do not have ownership of the Jaldesa community conservancy	5	4	3	2	1
10	Women have no right to resources for the sustainability of the community conservation project implemented by Jaldesa community conservancy	5	4	3	2	1

4. In your view how has women participation in access to and control of resources affected sustainability of the community conservation project implemented by Jaldesa conservancy?

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**Section E Women participation in capacity building for sustainability of the community conservation project implemented by Jaldesa conservancy**

3. Indicate by use of a tick [ ] your level of agreement or disagreement with the following statements regarding influence of women participation in capacity building on sustainability of the community conservation project implemented by Jaldesa conservancy, where:

SA=Strongly Agree; A = Agree; U = Undecided; D = Disagree and SD = Strongly Disagree

<b>SN</b>	<b>Statement</b>	<b>SA</b>	<b>A</b>	<b>U</b>	<b>D</b>	<b>SD</b>
1	Women have often received training on implementation of conservation projects	5	4	3	2	1
2	The conservancy has had workshops for women in matters conservation	5	4	3	2	1
3	Women are well endowed with management of Jaldesa community conservancy	5	4	3	2	1
4	Lack of empowerment hinder women's participation in the sustainability of the community conservation project	5	4	3	2	1
<b>5</b>	<b>Women have received capacity building including:</b>					
a	Skills in sustainability of the community conservation project	5	4	3	2	1
b	Systems in sustainability of the community conservation project	5	4	3	2	1
c	Structures in sustainability of the community conservation project	5	4	3	2	1
d	Processes in sustainability of the community conservation project	5	4	3	2	1

e	Values in sustainability of the community conservation project	5	4	3	2	1
f	Resources in sustainability of the community conservation project	5	4	3	2	1
6	Women are aware of their roles in the sustainability of the community conservation project	5	4	3	2	1
7	Women have choices in participating in capacity building activities in Jaldesa conservancy	5	4	3	2	1
8	Women are provided with exposure tours concerning the conservation projects	5	4	3	2	1
9	Women have the bargaining power in sustainability the community conservation project	5	4	3	2	1
10	Women have the competencies for sustainability of the community conservation project	5	4	3	2	1

4. In your view how has women participation in capacity building influenced sustainability of the community conservation project implemented by Jaldesa conservancy?

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### **APPENDIX III: FOCUS GROUP DISCUSSION**

1. How does women participation in decision-making influence sustainability of the community conservation project implemented by Jaldesa Community Conservancy? (The researcher to probe discussants in areas of participation in decision, levels of participation, ownership of decisions and leadership)
2. How does women participation in the implementation of the project influence sustainability of the community conservation project implemented by Jaldesa Community Conservancy? (The researcher to probe discussants on number of women participating, roles played, women involvement, communication and contribution of resources)
3. How does access and control of resources by women influence sustainability of the community conservation project implemented by Jaldesa Community Conservancy? (The researcher to probe discussants in areas availability of money, ownership of the project, right of ownership e.g. land, livestock and voice of women in benefit sharing.
4. How does women participation in capacity building influence sustainability of the community conservation project implemented by Jaldesa Community Conservancy? (The researcher to probe discussants in areas of training on conservancy, workshops on conservancy, education on conservancy, exposure tours and capacity building on conservancy)
5. What other factors affect women participation in sustainability of the community conservation project implemented by Jaldesa Community Conservancy? (The researcher to encourage the participants to discuss any other factors that affect women participation in sustainability of Jaldesa Conservancy that may have not been discussed)

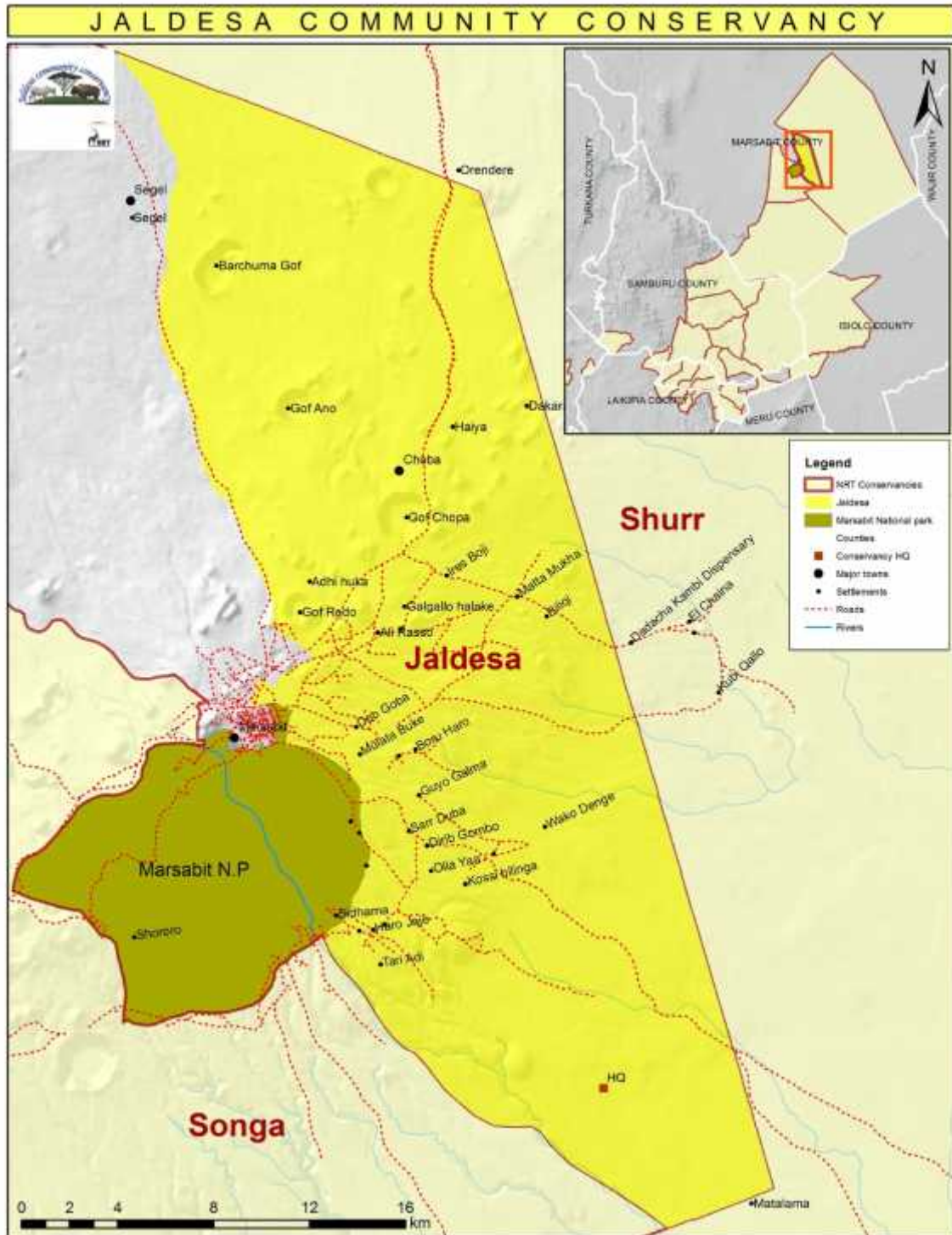
**APPENDIX VI: TABLE FOR DETERMINING SAMPLE SIZE FROM A GIVEN POPULATION**

<b>N</b>	<b>S</b>	<b>N</b>	<b>S</b>	<b>N</b>	<b>S</b>
10	10	220	140	1,200	291
15	14	230	144	1,300	297
20	19	240	148	1,400	302
25	24	250	152	1,500	306
30	28	260	155	1,600	310
35	32	270	159	1,700	313
40	36	280	162	1,800	317
45	40	290	165	1,900	320
50	44	300	169	2,000	322
55	48	320	175	2,200	327
60	52	340	181	2,400	331
65	56	360	186	2,600	335
70	59	380	191	2,800	338
75	63	400	196	3,000	341
80	66	420	201	3,500	346
85	70	440	205	4,000	351
90	73	460	210	4,500	354
95	76	480	214	5,000	357
100	80	500	217	6,000	361
110	86	550	226	7,000	364
120	92	600	234	8,000	367
130	97	650	242	9,000	368
140	103	700	248	10,000	370
150	108	750	254	15,000	375
160	113	800	260	20,000	377
170	118	850	265	30,000	379
180	123	900	269	40,000	380
190	127	950	274	50,000	381
200	132	1,000	278	50,000	382
210	136	1,000	285	100,000	384

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N is Population size, S is Sample size.  
 Source: Krejcie. R.V. and Morgan, D. (1970).

APPENDIX VII: MAP OF THE RESEARCH SITE




**APPENDIX VIII: RESEARCH PERMIT**

Republic of Kenya  
Ministry of Education, Science and Technology  
National Commission for Science, Technology and Innovation

Ref No: 745248

**RESEARCH LICENSE**




**License No: NACOSTI/P/20/6384**

745248  
Applicant Identification Number

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NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY &  
INNOVATION

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Date of Issue: 26/August/2020

This is to Certify that Miru ruffa halakhe roba of University of Nairobi, has been licensed to conduct research in Marsabit on the topic: **INFLUENCE OF WOMEN PARTICIPATION ON THE SUSTAINABILITY OF COMMUNITY CONSERVATION PROJECTS IMPLEMENTED BY JALDESA COMMUNITY CONSERVANCY IN MARSABIT COUNTY, KENYA.** for the period ending : 26/August/2021.