

**COMMUNITY PARTICIPATION IN ENVIRONMENTAL CONSERVATION
PRACTICE IN GURI'EL, GALMUDUG STATE, SOMALIA**

BY

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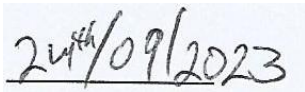
**A RESEARCH DISSERTATION SUBMITTED IN PARTIAL FULFILMENT
OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE
OF MASTER OF SCIENCE IN ENVIRONMENTAL
MANAGEMENT OF KAMPALA
INTERNATIONAL
UNIVERSITY**

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DECLARATION

I, Mohamed Yusuf Ali, declare that the content of this research report is mine, and to my knowledge it has not been submitted to any other institution of higher learning or University, and all the sources of materials used for this thesis have been properly acknowledged.

Signature: 

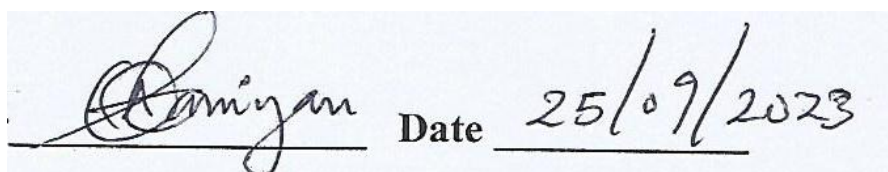
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APPROVAL

I acknowledge that this research report titled “**Community Participation in Environmental Conservation Practice**” has been done under my guidance and supervision and is due for submission to Kampala International University in Partial fulfillment of the requirements for the award of Master’s degree in Environmental Management.

A handwritten signature, "Ademola Olaniyan", is written in black ink over a horizontal line. To the right of the signature, the word "Date" is printed, followed by the date "25/09/2023" written in black ink over another horizontal line.

Dr. Ademola Olaniyan

DEDICATION

This research is dedicated to my beloved parents my sisters and my brothers who have contributed immeasurably to my studies.

ACKNOWLEDGEMENT

The success in producing this work is attributed to such a number of people, to whom I wish to acknowledge my thanks. The completion of this piece of work has been such a task that would not have been a success when handled solely.

I first of all thank the Almighty Allah, who gave me abundant health, strength, and courage to be able to complete this work.

My sincere gratitude goes to my supervisor Dr. Ademola Olaniyan whose commitment, patience and guidance, gave form to this piece of work. By the same token, I wish to thank the lecturers and all staff in the Department of my study.

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ABSTRACT

This study established the contribution of community participation in environmental conservation practice, examined the challenges faced by the communities in environmental conservation practice, and also proposed mechanisms that can be employed in environmental conservation practice in Guirel District. The study adopted a quantitative research method in which questionnaires were used to gather data from 171 respondents, with the use of descriptive statistical analysis to answer the research questions. The research hypothesis was tested at a 0.005 alpha level of significance. The study established that environmental conservation in the district is done through several mechanisms including the provision of seedlings to the community by the Government, periodic tree planting, provision of land for tree planting, the establishment of tree schemes by the Government, and provision of seedlings for reforestation by NGOs. Therefore, communities play a big role in the implementation of conservation programs in the district through the actual planting of trees and monitoring of the conservation programs. However, involved communities were challenged with a lack of financial support, limited information on conservation, lack of accessibility to the reforestation schemes, and a low level of awareness and this limited their support of the programs. The study therefore, recommends that a forest management plan that is involving community members in every stage and also making them play a key role in the management of the forest should be made so that they would argue what they want and how they want it done for a better understanding of the forest management. The study recommends that there is a need for government to popularize unknown species so that communities can benefit from their commercial exploitation.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This section provides background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, and scope of the study, significance of the study and operational definitions of key terms.

1.1 Background of the study

The background of the study is dimensioned into four perspectives of historical, theoretical, conceptual and contextual Perspectives.

1.1.1 Historical Perspective

The discussion assessment of community participation in environmental conservation practice architecture, first initiated in the 1960s, became a buzzword in mid-1970s after the sites and services housing schemes received funding and acceptance by the World Bank in the developing countries. However, it is important to understand the meaning of community participation as it has been misused and abused in many projects claiming to have community participation as a project component. First understanding the meanings of the words ‘community’ and ‘participation’ individually can best explain the term ‘community participation’. Nick Wates defines the word community in the Community Planning Handbook, as a group of people sharing common interests and living within a geographically defined area (184). Nabeel Hamdi in his book (with Reinhard Goethert), Action Planning for Cities: A Guide to Community Practice, points out that the term community has both “social and spatial dimensions” and that generally the people within a community come together to achieve a common objective, even if they have certain differences (Burger et al., 2015).

Globally, community participation and environmental conservation practice growing attention has been paid to the sharing of responsibility and rights among stakeholders in the protected area management concerning the complexity of land tenure. Communities have been taking part in practice since the 1960s. Some approaches emerged and have been gradually adopted. Community-based Nature Resource Management (CBNRM) as a term and approach emerged in the early 1990s, referring to the collective use and management of

natural resources in rural areas by a group of people with a self-defined, distinct identity, using communally owned facilities. This approach is applied in many practice projects through local sustainable natural resource use. Integrated Conservation and Development Project (ICDP) was mainstreamed in 1992 and grew to a standard management approach for international non-governmental organizations (NGOs) and development agencies, such as participatory forestry by the Food and Agriculture Organization of the United Nations (FAO). Community-based Conservation (CBC) became notable in 1982 at the World National Parks Congress and was considered to have several distinct phases. ICDPs were somewhat interchangeable with the early stage of CBC in the 1980s, while as many of them rarely concerned practice and development at the same time, later CBC went further by trying to establish a direct linkage between practice and local benefit. Global experience both in developing and developed countries has confirmed that community participation in protected area management can be adapted to different social-ecological conditions with different practice targets. Research has also revealed that many factors can impact the success of community participation, such as formulation and implementation of laws and regulation, acceptance of local knowledge and development demand, provision of social welfare, etc. (FAO, 2020).

In Africa, public participation and environmental conservation practice is currently a political principle of the constitution and it is an important factor in the second growth and transformation plans (GTP II) all aspect of project management and sustainability. Ethiopia, in the last two decades, has implemented comprehensive and cross-cutting political and administrative programs intended not only to institute but more so to spread and deepen the culture of decentralization. The main reason for this has been to ensure grassroots participation in decisions that affect their physical well-being and socio-economic development. Therefore, this study sought to investigate public participation in Local development projects in Galmudug State, The Somali Constitution shows a strong recognition of the importance of participation in achieving the much sought social and economic development in the country. It declares the establishment of devolved local governments as a milestone for promoting mass participation, local democracy and well-being of communities through provision of a wide range of social and economic services (Unhcr, 2008).

Somalia's major environmental practice challenges constitute over dependency on trees for energy and charcoal exports, increasing population pressures and urbanization and natural

resource-based conflicts. Degradation of water catchments, rangelands, agricultural lands and the marine environment, combined with illegal fishing and logging remain critical and urgent issues to address. Traditionally, Somalis used wood collected from forests for fuel but charcoal is now the preferred local source of fuel and has become a lucrative export commodity, ranking second behind livestock. As a result of charcoal production, trees in traditional grazing areas of Northern Somalia were devastated and the damage continued as the industry moved south. Public policy, regulations and the institutional capacity to implement, monitor and enforce will need rebuilding along with programmers to inform and enlist people's participation. Alternative energy sources are needed to reduce the demand for charcoal and wood for fuel. Other income earning opportunities will also help to limit poor people's reliance on destructive forest exploitation. Today, about 60% of all Somalis are nomadic or semi-nomadic pastoralists who raise cattle, camels, sheep, and goats. About 25% of the population is settled farmers who live mainly in the fertile agricultural zone between the Juba and Shebelle Rivers in southern Somalia. The remainder of the population (approximately 15%) is urban (Nugraha & Maryono, 2018)

1.1.2 Theoretical Perspective

The study was guided by Arnstein participation theory popularly known as a ladder of citizen participation theory. In this theory, Arnstein (2004) highlighted eight levels of participation namely manipulation, therapy, informing, consulting, placation, partnership, delegated power and citizen control. According to the theory participation of community in environmental practice are intended to attain efficiency in the development and forest resources management, the community involvement in planting, practice and implementation of the practicing through planting is necessary for enabling the development of community management stakes. In some communities their participation only ends at the first four levels, and the community members will think that they have actually participated in project. However, active participation occurs at the last three levels of this ladder where the citizens have maximum control over resources and have achieved dominant decision-making authority. Community participation is important since it aims at mobilizing the people for collective action and community building (Adeleke & Adepoju, (2010).

1.1.3 Conceptual Perspective

Community participation in development activities is the process by which individuals, families or communities assume responsibility for their own welfare and develop a capacity to contribute to their own and the community development; it is an active process whereby beneficiaries influence the direction and execution of development. (Tschentscher, 2016). community participation in international development discourse is commonly used to refer to the involvement of local people in decision making process and evaluation of development projects, and is associated with empowerment and the respect for also the use of local knowledge (Unhcr, 2008).

Community participation is the active involvement of people from communities preparing for, or reacting to, disasters. Community participation is the basis of successful health promotion. Community participation in the study is provided based on the community involvement in tree planting, reforestation and mechanisms developed to enable the practice of the environment.

Environmental practice is the practice of us humans saving the environment from the loss of species, and the destruction of the ecosystem, primarily due to pollution and human activities. Practice refers to the responsible management of the environment and its resources for present and future use. (Adeleke & Adepoju, 2010).

Environmental practice is a practice that paves the way for protecting the environment and natural resources on the individual, organizational as well as governmental levels. There are various core environmental issues that are taking a heavy toll on human lives. Ranging from overpopulation, hydrological issues, ozone depletion, global warming to deforestation, desertification and pollution, all these issues pose a severe threat to the existence of humankind. Unless environmental practice is becoming an effective mass movement, it is futile to expect positive growth especially in the age of digital media which holds the potential to bring a revolution to save our planet from destruction. (Mushemeza, 2019).

1.1.4 Contextual Perspective

In Somali like other developing countries has been experiencing the challenges in environmental conserving in urban areas such as Guri'el district. In Guri el district, there is a

huge challenge that the community is not aware of the importance of conserving the environment, they are cutting down trees, making charcoal, all of those barriers the researcher will be discuss. (Gossory, 2020).

The problem is common to both formal and informal settlements in the formal settlements, community participation are encroached and or change use that is initiated and accelerated by the rich, political leaders and retired government officials “who can bend the rules and regulations” which results to the residents to do the same under the feeling that they will be under protection (Radu & Radisic, 2012). That might happen when there is a lack of the spirit of ownership by the surrounding households due to the disappearance of the designated use value of community in particular area. There is clear evidence to the disappearance of the use value of community participation, such that playgrounds for children and social gathering have been converted to commercial/residential housing, encroached by small trade dwellers and others to solid waste collection centres (Ojambo, 2017).

1.2 Statement of the Problem

Environment conservation is not only done with a view to ensuring the survival of the ecosystem but also to gaining benefits associated with it. Environmental practice is essential for the organizations and all communities across the globe, the environmental practice mechanisms especially aimed at reducing tree planting, reforestation and use of renewable energy. Community in Somalia is supposed to be involved in the environmental practices. However, there are cases of environmental destruction coupled with tree cutting, low levels or lack of reforestation and non-use of renewable energy, pollution, waste disposal, climate change, global warming, the greenhouse effect and Environmental degradation which is one of the ten threats officially cautioned by the High-level Panel on Threats, Challenges and Change of the United Nations. The state of the occurrence can only be possible if the government and different community stakeholders are involved in the practice of the environment vast affecting the environment and economics yet not much has been documented on the same.

It is worth mentioning that the key successes and contributions in the area, have not been adequately captured by the available record of research studies conducted so far on the same. Besides, it is observed that community social organization and educating the public on human rights are the main activities undertaken by a number of community-based organizations in

Somalia and not much attention has been directed towards environment conservation as such, hence, resulting into the birth and existence of numerous challenges posed to the country due to inadequate or lack of environment management. Hence, it is against the aforementioned background that the present study was conducted with a view to highlighting the key role Guriel community livelihood association has been and is playing directed towards environmental conservation in area.

1.3. Objectives of the study

1.3.1 General objective of the study

The purpose of the study was to examine the role of community participation in environmental conservation practice in Guriel district, Galmudug state Somalia.

1.3.2 Specific objectives

- 1) To establish the contribution of the community participation in environmental conservation practice in Guriel district, Galmudug state Somalia.
- 2) To examine the challenges faced by the communities in environmental conservation practice in Guriel district, Galmudug state Somalia.
- 3) To propose mechanisms that can be employed in environmental conservation practice in Guriel district, Galmudug state Somalia.

1.4 Research Questions

1. What is the contribution of the community participation in environmental conservation in Guriel district Galmudug state Somalia?
2. What are the challenges faced by the communities in environmental conservation practice in Guriel Galmudug state Somalia?
3. What are the mechanisms that can be employed in environmental conservation practice in Guriel district, Galmudug state Somalia Galmudug state Somalia?

1.5 Hypothesis

H₀₁ There is no statistically significant relationship among contribution, challenges and mechanisms of the environmental conversation practices in Guriel district, Galmudug state Somalia.

1.6 Scope of the study

1.6.1 Geographical Scope

The study was conducted in Guri'el District. Guri'el district is bordered by Abudwaq District to the north-west, Mataban District to the north-east, ceelbur District to the east, maxaas District to the south, dhusamreb District to the south-west, and ceel dheer District to the north-West. Guri'el, the main municipal, administrative, and commercial center of the district, is approximately 64 kilometres by the capital of the region. The study chose Guriel district because this is where Somalia government is trying to implement the environmental practice project.

1.6.2 Subject Scope

The study examined the role of community participation in environmental conservation practice in Guriel district, Galmudug state Somalia. Specifically, the study intended to; establish the contribution of the community participation in environmental conservation practice in Guriel district, examine the challenges faced by the communities in environmental conservation practice in Guriel district and propose mechanisms that can be employed in environmental conservation practice in Guriel district.

1.6.3 Time Scope

The study was conducted for the period from April to November, 2022. The study focused on the situation of Guri'el district “between 2011 to 2021”. The study period was deemed to be sufficient enough to enable the data collection and presentation of findings to attain the information for both academics and decision-making based on the period of 10 years

1.7 Significance of the study

The study is fundamental since it aid policy makers in incorporating the local community in environmental conserving in areas such as Guri'el. The study further provides guidance to the area of policy on designing effective mechanisms for handling the community in practice. And finally, the study intends to iron out deficiencies in administration by establish the role that the community can play as a third sector to support government in environmental practice.

The findings of this study would help the government in coming up with laws policies that stipulate the role the citizenry will play in practice, how to reduce dependency on environment and how to encourage people to participate in practice keeping in mind how they perceive the process.

Also, on reviewing these literatures on the subject matter on practice in particular Guri'el district, this study picks out the specific areas that will help the government input in policy formulation.

Without effective mechanisms and strategies to ensure local-level participation in environmental policy dialogue, development and implementation, there cannot be long-term commitment to survival of the environment.

The study would act as a source of reference to the future researchers regarding governance and environmentalist.

1.8 Operational definitions of key terms.

Participatory planning is a process by which a community undertakes to reach a given socio-economic goal by consciously diagnosing its problems and charting a course of action to resolve those problems. Experts are needed, but only as facilitators.

Community participation in actual activities: Community participation can be loosely defined as the involvement of people in a community in projects to solve their own problems. People cannot be forced to 'participate' in projects which affect their lives but should be given the opportunity where possible, Volunteering can provide a healthy boost to your self-confidence, self-esteem, and life satisfaction. You are doing well for others and the community, which provides a natural sense of accomplishment. Your role as a volunteer can also give you a sense of pride and identity

Community participation in monitoring: Participatory Monitoring provides an ongoing picture that allows the community to determine whether activities are progressing as planned. It may also show when activities are not leading to objectives, so that early adjustments can be made, Participatory Monitoring is the systematic recording and periodic analysis of information that has been chosen and recorded by insiders with the help of outsiders. The main purpose of Participatory Monitoring is that it provides information during the life of the project, so that adjustments and/or modifications can be made if necessary.

Reduction in tree cutting: also referred to as a drop-crotch cut shortens a branch by removing a stem back to a lateral branch that is large enough to resist extensive dysfunction and decay behind the cut. This is generally interpreted as cutting back to a lateral branch that is at least one-third the diameter of the cut stem.

Reforestation: By planting the right species, reforestation helps makes our forests more resilient to future challenges like climate change and wildfire.

Use of renewable energy: All sources of renewable energy are used **to generate electric power**. In addition, geothermal steam is used directly for heating and cooking.

Reforestation: By planting the right species, reforestation helps makes our forests more resilient to future challenges like climate change and wildfire.

Use of renewable energy: All sources of renewable energy are used **to generate electric power**. In addition, geothermal steam is used directly for heating and cooking

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The purpose of reviewing literature for this study is to obtain relevant information that is available about the research topic. Literature review provides essential background knowledge about similarities and differences between the present study and prior research study that had been done. Different websites especially websites of major international organizations working in areas related to community participation and sustainable local economic development such as the ILO, FAO, WHO and WB have been searched. Lists of references from original research publications or reports have been also reviewed for additional relevant study.

2.1 Theoretical Review

The study employs Arnstein participation theory popularly known as a ladder of citizen participation theory which was developed by Arnstein (2004). This theory highlights eight levels of participation namely manipulation, therapy, informing, consulting, placation, partnership, delegated power and citizen control. In some communities their participation only ends at the first four levels, and the community members will think that they have actually participated in project. However, active participation occurs at the last three levels of this ladder where the citizens have maximum control over resources and have achieved dominant decision-making authority. Community participation is important since it aims at mobilizing the people for collective action and community building (Charlton et al., 2010). The needs to conserve the environment in most developed countries has been realized when their scarcity, values and some factors threaten in the community were revealed. In developed country like America the government in collaboration with non-beneficial organizations and community created funds raising programed for improving and acquiring private land for new practice establishment, (UNEP, 2015). The efforts to conserve towards community in developed countries have been successfully compared to developing countries. The main reason is the presence of proper urban planning policy and strong coordination between governments, non-beneficial organizations and local community. In addition, positive attitude, perception and knowledge on the values and rules governing conserving has been motivating community living in developed countries to conserve the environment local

conservation initiatives, many projects were launched around China, however, the use of relevant terms referring to certain participatory practice is somewhat random and even not matching practice in the real world. Furthermore, these terms, as well as those concrete forms of practice (such as trusted management), were not clearly summarized based on theory to an institutional level for governance improvement or so. Admittedly, with more than half a century's conservation practice, the role of community continues to change as manifested by loads of cases to impact conservation outcomes. (HLPE, 2017). It is thus necessary and also urgent to draw some lessons and enlightenment by identifying the fundamental participation modes. Recently, some scholars tried to identify modes from limited cases. However, it may have also added confusion by juxtaposing cases representing different scales of practices and approaches together as if they belong to the same scale, such as juxtaposing Protected Area Friendly System, which is basically a production model with criteria and certification procedures for products from protected areas, and Community Participatory Management, (Tschentscher, 2016).

2.2 Conceptual review

The concept of participation in development activities is certainly not a new one. According to Caroline, in rural development, community participation has been recognized as an essential component since the early 1950s. The importance of participation in urban development activities has lagged behind. One reason may be that rural projects are mainly production oriented, and it is quite evident that the beneficiaries as producers must be involved in the development of production systems. In urban projects, beneficiaries have been seen primarily as consumers of services, and their role in developing supply systems has therefore been accorded less importance. Benefits derive not only from cost reduction and resource mobilization, but also from better targeting of project measures to peoples' real needs through their involvement in the planning phase. Furthermore, participation enhances the ownership of the facilities by the user community and thus ensures more extensive and efficient use of facilities, better maintenance, and more reliable operation (Kircher, 2020). Participation is now widely recognized as a basic operational principle of development, but the debates around this approach are fervent. Conventionally, the participatory approach is considered as the reaction to the shortcomings of top-down development practices, externally imposed and expert oriented, (Bade, 2022). The advantage of these new approaches is that they are centered on the role of the local community as a primary actor that should be

allowed and enabled to influence and share the responsibility and possibly the costs of the development process affecting their lives. (Arikan, 2016)

According to Arnstein participation is the sensitization of people to increase their receptivity and ability to respond to development projects. concurs with this notion, and uses the term coined by Paulo Freire conscientization, a process whereby poor and oppressed people become politically and socially aware that their living conditions are not „natural“ but the result of the exploitative policies implemented by the state and their country’s elites. Central to this concept is that this awareness is achieved through active participation in educational/political/social organizations in conjunction with fellow citizens and will enable oppressed people to actively change their lot (Tschentscher, 2016). In the context of this research, the term participation is regarded as the ability of the community to identify their challenges and needs and then take charge of their scenario. Participation also refers to “empowering people to mobilize their own capacities, be social actors, rather than passive subjects, manage the resources, make decisions, and control the activities that affect their lives.” (International Institute for Environment and Development, IIED, 2010:13). Change agents are only there as catalysts, and the community members are at the center of development, (Environmental Protection Authority, 2011).

Environmental Practices are defined as those actions that seek to reduce the negative environmental impact caused by activities and processes through changes and improvements in the organization and development of actions. The usefulness of the Good Practices is well proven and lies in its low cost and simplicity of implementation, as well as the fast results obtained. Therefore, this Guide of Good Environmental Practices is the agglutinative document that collects the institutional environmental management criteria of Social Promotion, as recommended by the tool of indicators of transparency and good governance for social action NGOs. The implementation of Good Environmental Practices is assumed by the Foundation and understood as a whole, committing itself to continuous improvement in its application. From Social Promotion, this Guide and its implementation are considered as a tool to improve the transparency, competitiveness and integral development of the beneficiaries of the activities. (Utama, 2017).

According to a recent Sanitation Communiqué (2008), delegates at the Building Lives through Improved Sanitation in Somalia Symposium agreed to take action on sanitation woes in the country. According to the petition, there must be a change from the „business as usual“

approach, to the need to address critical community issues. It is important to note that delegates agreed on the necessity of meeting the MDG target by 2015. One of the resolutions of the Sanitation Communiqué was to “open up a menu of sanitation technology options allowing for community led incremental development” (Sanitation Communiqué, 2008). From this assertion, one can conclude that the government is committed to sanitation projects, which take into cognizance of active community participation. (FATUMA, 2016). The Communiqué’s commitment to resuscitating water and sanitation institutions at all levels, including water and sanitation sub-committees at national, provincial, district and sub-district levels, shows national effort towards addressing sanitation problems. Of concern though is the fact that most of these commitments might not materialize if not accompanied by full community participation as well as financial commitment. Research has shown that strategies developed at national level without proper consultation at grassroots level are sometimes not successful. Additionally, Jackson (2005) reported that many governments and agencies in Africa are exploring the role of community’s participation in their environmental practicing and hygiene improvement programs (Alter et al., 2017). However, despite convincing environmental and economic reasons to support this approach, acceptance of the technology has been limited so far. Due to lack of adequate research into the actual social causes of this scenario, researchers concur that more need to be done (Mwiru, 2015).

2.3 Conceptual framework

Independent Variable

Community Participation

Community Participation in Planning
Community participation in actual activities
Community practice in monitoring

Dependent variable

Environmental practice

- Reduction in tree cutting
- Reforestation
- Use of renewable energy

Source: Researcher, 2021

From the above Conceptual framework, it is clear that community participation as an independent variable (as measured by: Community Participation in Planning, Community participation in actual activities and Community practice in monitoring) environmental conservation practice as dependent variable (as measured by: Reduction in tree cutting, Reforestation and Use of renewable energy).

2.4. Review of Related Literature

2.3.1 Contribution of the community participation

According to WBG (2006) community participants, local community groups, private sector and national institutions contribute to the development of local communities in specific ways: direct spending and employment: players make various purchases that contribute to demand in the local economy in addition to creating many jobs. Workforce development: through the partners' instruction, they increase the skills of local workers, which in turn increase the employment and earning opportunities of these workers. Generally, community colleges tailor their programs to meet specific local needs, and their curricula tend to change continuously to reflect shifting needs (Mubita et al., 2017). Business attraction: the development of local human capital leads to increases in local productivity. The community participation is crucial to the sustainability of timber supply and maintenance of environmental stability which to large positively affect growth of human practicing, food security and quality of life. The environment within which man lives continues to experience changes the world over due to the exploitation of environmental practice. The efforts of the communities should involve of several stakeholders including government, development partners and Civil Society Organizations (CSOs) both local and international such as International Union for Conservation of Nature and Natural Resources. (Agriculture, 2015). A stakeholder in tree planting is an individual, interest group, or organization, who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome related to tree planting. Stakeholders in forest conservation could be farmers who own the planted forests, farm workers who provide labor for tree planting, middle men for tree products, extension workers, environmentalists, politicians, the forestry authority (NFA), government, CSOs, academics and researchers, donors, consultants and community-based organizations. This system of decision tree planting decisions for example when and which tree species to plant. (Mushemeza, 2019)

The community has different power, influence and importance. According to Mayers (2016), importance of a community is understood in terms of their role in achieving anticipated results. Influence is judged in terms of the power they can exert over tree planting process and outcome. Community power can be understood as the extent to which community are able to persuade or coerce others into making decisions and following certain courses of action. Power may derive from the stakeholders' position or possession (*Food and Agriculture Organization of the United Nations*, 2022).

For any tree planting program, stakeholder identification and their eventual participation should be considered at the beginning of tree planting interventions. Engagement with stakeholders early in decision-making is indispensable if forest cover is to be restored through a sustainable and participatory tree-planting process. Stakeholder analysis identifies people and institutions that may support or oppose the planned interventions and how each can be dealt with. Seed sources: Tree plantation developers obtain their seed from several sources that are basically determined by the level of investment (National Plan Commission, 2017). These sources include natural populations, individually outstanding trees from natural stands, individually outstanding trees from plantations and seed production areas where the poor trees in a stand have been removed and the best trees are left to interbreed. There are some sources of seed in localized areas of forests scattered in the country initially established with seed collected from natural populations in Central America, Brazil, the Caribbean region and Australia. In addition, the Somalia Gatsby Trust has provenance trials for Eucalyptus clones, a project being hosted by the National Forestry Resources Research Institute (NaFORRI), which provides fast growing cloned seedlings on a pilot scale. However, they are small and cannot supply the rapid growth of commercial plantation development in the country. In general, there is a scarcity of good quality seed in the country due to previous experiences of poorly developed tree seed stands. This implies that for reduction tree growing, it was recommended that seed, especially for the coniferous species, be imported so as to develop quality plantations. Indeed, the best seeds for pine are being imported from Australia and Brazil, the former are more expensive compared to the latter source, (Radu & Radisic, 2012)

People also participate for material incentives, such as providing labor and land in return for food, cash or other material incentives. In this case, people do not have the will to proceed once the incentives are finished. In the 1990s, activities termed Food for 25 Work programmed were instituted in rural Zimbabwe, mainly sponsored by the Danish

International Development Agency (DANIDA), in which villagers would take part in gully filling or other road repairing, and in return, would receive food parcels. Once DANIDA pulled out, in 2000, the project ended. Functional participation is when people participate by forming groups or committees which are externally initiated (Davenport et al., 1996), these groups are seen as the means to achieve predetermined goals. On the other hand, interactive participation is seen as being involved in analysis and development of action plans. In this regard, participation is considered as a right and not just a mechanical function. Groups are formed, together with partnerships, and there is use of systematic and structured learning processes. Groups therefore take control of the local decisions, so people have a stake in maintaining structures or practices. (Mohamed, 2013).

This type of participation empowers the community and is hence ideal for community development. It leads to sustainability and ownership of the projects. A more powerful form of participation, self-mobilization has been at the heart of several successful programmers, especially in India, Rahman termed this people's self- 26 development, rejected dogmatism about collectivism as the ultimate emancipation of labor, and suggested leaving the question to the organic evolution of people's search for life. Supported this view by stating that people participate by taking initiatives to change systems, independent of external institutions, although the latter can help with an enabling framework. People retain control of resources used, and in addition, such self-initiated mobilization may change the distribution of resources. Ideally, participation should reflect what Rahman (1993) called "people's collective self-identity that reflects deep conceptualizations of popular aspirations". Though Rahman called for complete self-reliance, he noted the fact that human dignity plays an important role in participation and eventually development. Although Rahman does not allude to many Marxist views, he uses Marx's concept of collectivism as the final emancipation of labor. It is clear though, that in the sense of applying a radical approach in delinking from the parasitic West, Rahman calls for total self-reliance through recognizing one's own potential. (Ojambo, 2017).

Community members are often motivated for a variety of environmental purposes, which include improving the quality of soil and water, increasing the presence of wildlife, restoring forests, and improving the climate. Tree planting or reforestation has also been documented as a strategy for securing land tenure in many cultural contexts, two studies respectively from Uruguay and Chile identified positive local attitudes towards establishment of tree plantations that made use of unproductive cattle ranches or contributed to biodiversity conservation.

While these studies identified reasons for positive attitudes towards reforestation, none have directly explored the impact that reforestation has had on the individuals motivated to participate in tree planting activities, nor whether this involvement led to long-term behavioral change. (Adeleke & Adepoju, 2010).

This is a potentially enlightening line of inquiry considering the high incidence of failure in reforestation projects around the world due to lack of consideration for local socio-economic dynamics. The social impacts of reforestation are relatively less understood; few, if any studies, focus on behavioral and perception changes experienced by the actors involved in reforestation programs, and the possible implications this has for conservation. (Adams et al., 2013)

New opportunities and insights may emerge when initial steps are taken to understand the needs and interests of local people, and how this may affect the design of reforestation programs

2.3.2 Challenges faced by the communities in ensuring the environmental practice

According to Srivastava (2000), noted that community practice can be made sustainable by incorporating local people in the conservation effort. This is because a larger number of communities at the peripheries of the practicing areas do influence the effectiveness of the practice strategies in African context as a result of gains they obtain from forests. Natural resource managers all over the world agree that the common practice when making decisions in natural resource management projects is top-to-down. In top-to-down decision making, government representatives at the top of the hierarchy make all the decisions and then impose them on the actual actors, usually the forest users at the bottom of the hierarchy. This system of decision making, according to (Nugraha & Maryono, 2018). has been blamed for many failures in natural resources management. However, there are powerful factors that act as barriers to participation, thereby weakening the participation chain. These may be grouped under the following themes Personal barriers, for example the sense of personal powerlessness that stems from long-term reliance upon others and the costs of involvement to participants. B. Institutional and political barriers, for example a formal meetings culture and the use of language that does not encourage dialogue. C. Economic and cultural barriers, especially in communities where there is decline and fragmentation. D. Technical barriers such as the lack of accessible formats and technological support for groups to enable service

users to participate effectively or difficulties in getting small amounts of funding for support costs. (Greenheck, 2020).

Speer (2012), reviews experiences of community participatory mechanisms as a strategy for increasing government responsiveness and improving public services. These mechanisms involve citizens in decision-making over the distribution of public funds between communities and the design of public policies, as well as in monitoring and evaluating government spending. Thus, they differ from community-based development schemes in which community members participate in the planning, implementation and monitoring of a particular development project within their community. Overall, the reviewed literature hence suggests that the public policy benefits of participatory governance on government accountability and responsiveness remain to be proven and that implementing participatory governance effectively is likely to be a challenging enterprise in many places. (Beier & Stephansson, 2012).

Somalis offers a reasonable recognition of the rights of local communities through the various community-based forestry regimes. The policy and legal framework recognize not only the practice value of forests, but also the social, cultural, spiritual and economic values for local communities and households and makes important provisions for these. Responsible government institutions are also assigned clear roles and responsibilities under the law. However, staffing, financial resources, training and other support necessary to fulfill these responsibilities are highly inadequate. Communities and individual households also exhibit weakness in being unable to negotiate for and uphold their rights. The absence of institutions (e.g., Federations, strong CSOs (civil society organizations) to coordinate and advocate for the common interests of the various community-based forestry regimes renders them politically weak and poorly represented in policy-making processes.(Gossory, 2020)

According to Callaghan (1997:31), for any community participant, it must be acceptable. In order to achieve acceptance, a sense of ownership must be engendered. Furthermore, ownership can only be achieved through active participation of the target community. He goes on to say that successful development is dependent not only on the quantity or quality of the product but also on the process of introduction. It is generally agreed that participation without power “is an empty and frustrating process for the 30 powerless, Once the community is empowered, members of the community take ownership as the development project belongs to them. Sustainability of any project is crucial since the development process

is continuous. Failure of a community to take ownership has resulted in, for instance, vandalism, corruption and sometimes premature termination of projects which are supposed to benefit the community. (*Ethiopia Country Program Evaluation Synthesis Report Evaluation Directorate Strategic Policy and Performance Branch*, 2003).

Another major challenge was to gain effective control and protection against unauthorized use of the target resources by non-participating community members or outsiders. Supporting development organizations helped the local stakeholders to exert their rights, but once the interventions finished monitoring and control mechanisms relaxed considerably. They only remained effective in some cases where resources could be divided up among rural producers, for instance in the form of individual plots. Efforts to generate higher added-value through post-harvest treatments or processing were unsuccessful in those cases where technologies were not appropriate because too expensive or too demanding to be maintained with local capacities and resources. Even in cases where technology design matched with the local skills available, only small quantities of the principal forest products were processed. One additional challenge faced by community and smallholder development initiatives is a persistently limiting institutional and political environment in all Amazonian countries. This is the case with much of the legislation, policies, and regulatory bodies that affect community forestry, but also with those that affect forest product markets, and the access and conditions of credits. Regulations and policies have mostly been designed for large corporate actors. A progressive entrance of local producers into commercial forestry production has hardly led to an adjustment of standards and subsequent modification of regulations. Where such adjustments were made, the modified regulations were quite regularly abused by non-local producers and as a consequence legal simplification to benefit local producers were often reversed. There are, however, other constraining conditions that equally explain the poor rate of success of local forestry assistance initiatives. Forestry development initiatives suffer from inadequate funding, poorly trained technical staff, and the requirement to comply with planning and implementation regimes imposed by funding agencies even where they are not ideal for the objectives and local conditions. (Mitchinson, 2003).

Overpopulation has worked towards afforestation is a contentious issue. The impact of population density on deforestation has been a subject of controversy. Poverty and overpopulation are believed to be the main causes of forest loss according to the international agencies such as FAO and intergovernmental bodies. It is generally believed by these

organizations that they can solve the problem by encouraging development and trying to reduce population growth. Conversely, the World Rainforest Movement and many other NGOs hold unrestrained development and the excessive consumption habits of rich industrialized countries directly responsible for most forest loss. However, there is good evidence that rapid population growth is a major indirect and over-arching cause of deforestation. More people require more food and space which requires more land for agriculture and habitation. This in turn results in more clearing of forests. Arguably increasing population is the biggest challenge of all to achieve sustainable management of human life support systems and controlling population growth is perhaps the best single thing that can be done to promote sustainability. Overpopulation is not a problem exclusive to Third World countries. An individual in an industrialized country is likely to consume in the order of sixty times as much of the world's resources as a person in a poor country. The growing populations in rich industrialized nations are therefore responsible for much of the exploitation of the earth and there is a clear link between the overconsumption in rich countries and deforestation in the tropics.(He et al., 2020).

Fire protection is carried out every dry season. The most severe dry season is December to March. The external boundary should be clean hoed during the dry season. Controlled burning around the plantation should be carried out at the beginning of the dry season. Funds allowing, a simple fire tower should be constructed at one of the highest points and should be manned during the dry season. People surrounding the plantation should be sensitized about the dangers associated with fires, especially the far-reaching damage and losses that come with forest fires, and how to handle them. The plantation area should be patrolled during the dry season. While these are the preventive measures recommended in the books of NFA, forest fires are still a big challenge to plantation forestry in Uganda (National Forestry Authority, 2016). The major causes are categorized as either malicious (arson) or accidental. The malicious fires are started by disgruntled contract workers (who have not been paid) and former encroachers who had been evicted from these reserves. The accidental fires are caused by honey hunters, grazers and bush burners.(Clief Naku et al., 2021).

According to Unesco (2006), current conventional sanitation systems are based on waterborne sewerage. In addition, they require huge investment to establish as well as to operate. Even pit latrines found in most rural areas in developing countries are causing ground water pollution. Research has shown that the bulk of the sewage in fast growing cities

in developing countries is dumped, untreated, into fresh water sources. (Spaulding et al., 2002).

Furthermore, due to lack of mainly adequate human and financial resources, improvements in the sanitary situation in towns with 34 sewerage cover only wealthy sections of the population. Water usage in these systems is often unprecedented, already stressing depleted fresh water sources in the world. Even years after the conventional water systems were implemented, they have failed to make a significant impact on the backlog of nearly half of the world's population, obviously, there is a need for alternative sanitation systems which are cheap, accessible and have little or no impact on the environment.(FAO, 2020).

2.3.3 Mechanisms that can be employed in ensuring environmental practice

The purpose of these mechanisms is to analyze the community participation environmental practice systems through the core elements of the emerging evolutionary theory of the firm. Even if the evolutionary theory of the firm is still in development, following, that there exist many propositions quite fruitful for the analysis of organization's evolution, the researcher, propose to analyze these mechanisms and their evolution, through an important and new challenge for industrial firms, the perception and the management of ecological issues. Partly because of growing public concern over environmental problems and partly because of increasing pressures from the government, one can note some changes in organizational structures and management practices in order to assign responsibilities for environmental issues and to develop clean technologies. (Beaumont, 1997). If the firm is considered as an organization of individuals who make decisions, the way in which the individuals create new knowledge and coordinate their actions is essential in the determination of organization's environmental performance. According to Faggin and Behagel, (2017), this coordination task can be achieved by a set of different mechanisms, which are the following: the incentive mechanisms, the coordination mechanisms and the cognitive mechanisms. While all these mechanisms finally contribute to a coherent coordination of the firm's activity, they emphasize different types of instruments to achieve this. There is a mechanisms exploring environmental conservation practice including; Bio economy. System of physical, chemical and biological processes for a given impact category linking the life cycle inventory analysis results to category indicators and to category endpoints. Coordination mechanisms emphasize the role of hierarchy, structural arrangements and rules in bringing together individual actions to meet a defined set of (e.g., environmental) objectives, and local and centralized learning processes to drive organizational change in a given direction. The cognitive mechanisms

emphasize the development of a collective knowledge basis as another key to the coordination of individual actions and groups. Since solving environmental problems related to products and production processes often requires new skills and capabilities, cognitive mechanisms are essential for adapting the collective knowledge basis accordingly. Incentive mechanisms, finally, emphasize the ‘payoff structure’ on the individual and group levels which are intended to guide the firm’s actions. With respect to environmental quality, these incentive mechanisms reflect the evolution of benefits and costs associated with environmental actions. In the context of environmental management, the emergence of coordination routines can be evidenced in a twofold way. First, firms can develop their green strategy by shifting some of their successful management routines to environmental issues. (Burger et al., 2015).

The procedural similarities between standard management systems such as ISO 9000 and ISO 14000 justify this approach, this allows the application of past experience in a new domain and its use as a coordination mechanism for creating an environmental learning process in the firm. Past successful organizational routines (i.e., quality procedures) can then serve as a coordination basis to introduce environmental objectives. An incremental logic is at work in this particular case. Second, the development of new environmentally friendly processes and technologies needs to be driven by environment specific routines, (Elman, 2018). These are in no way pre-existing in firms but must be elaborated through coordinated search procedures. There is also the risk that environmentally viable routines are incompatible with other existing routines. It is then important to have a coherent policy taking into account the interdependencies among different management aspects. (Abelson, 2006).

2.4 Empirical review

The current salience in the research literature of conceptual and empirical interest in understanding participation and practice is illustrated by some recent studies that attempt to summarize large bodies of evidence about the effects of participation Gaventa and Barrett (2012), stated that understanding what difference citizen participation and practice make to development and to more accountable and responsive governance has become a key preoccupation in the practice field. It has been over a decade since participation moved toward the mainstream in practice debates and a strategy for achieving good governance and human rights. Despite this, a large gap still exists between community participation and the empirical evidence, and understanding of what difference environmental practicing makes (or

not) to achieving the stated goals. Overall, the reviewed literature hence suggests that the community participatory in environmental practicing remain to be proven and that implementing participatory effectively is likely to be a challenging enterprise in many places. (Spaulding et al., 2002). The value of community participation is often asserted in popular as well as academic publications. The concept is compelling because it acknowledges that permanent improvements in living standards are seldom attainable without the involvement and cooperation of the beneficiaries. (Aldrich & Ruef, 2012). suggests that the participatory approach credits people with the ability, even in the most extreme circumstances, to engage with the issues that face them. According to this approach the beneficiary is given more information, responsibility and decision-making power in diverse project areas including the community focus, the targeting of beneficiaries, the implementation strategy and assessment. Although initially inspired by the ideas of Harris (2018), and Nespoli (2018), claim that community participations current popularity is largely attributable to the 1980s disenchantment with large-scale government-led development projects. The writings of Chambers (1983), Escobar (1995), Scott (1998) and Sen. (1985, 1999) amongst others have helped raised support for a bottom-up approach. The problem is that the community-based approach has achieved its status and reputation mainly based on the attractiveness of the ideas underpinning the approach, without providing evidence of benefits.² the approach is widely used and regarded as a best practice in the development field, yet it is not clear that it deserving of these accolades. Evidence on the performance of this approach is scant, but the work that is available suggest that PR actioners may be overoptimistic and naive about the benefits of the approach. (UNDP, 2017).

The empirical literature on community participation acknowledges that there may be a large gap between the idealized textbook representation of the concept and nonprofit organizations experiences with the approach. Case studies show that ñ for a variety of reasons ñ the textbook benefits do not always materialize. Given that participatory processes are known to be expensive, demanding and time intensive, it is vital to better understand patterns of success and failure in the application of the community participation approach. Although it is clear that community participation has the potential to improve the outcomes of development projects, there is not much systematic and scientific evidence on its track record to date. (Unhcr, 2008).

2.5. Gaps in the literature

A lot of researches on environmental conservation practice have been carried out both in Kenya and globally. From the literature review, it has emerged that very little has been done to relate community participation in environmental conservation practice in terms of meeting all the critical project objectives. Where research has been carried out in this area, it has not attempted to establish how community participants influence all the performance variables in conservation. Most of the studies carried out have concentrated on only two objectives, that is, cost and time. For example, looked into how community participation influence both environmental and conservation practice. (Dorner & Thiesenhusen, 1992). looked into community in the conservation planning and control of cutting trees by considering the community in Kenya. This research has investigated 3 objectives identified earlier in this chapter, that is, challenges, contributions and mechanisms. This provided the much-needed information where their order of significance in relation to project performance objectives was determined. However, in another study conducted by. (Charlton et al., 2010). about the major delays facing Nigerian conservation practice. The contractor related risk factors were: low level of community participation in environmental conservation can reduce the environment values and conservations. The state of the communities less involvement in the environmental conservation is appropriate and can lead to generation of the environmental conservation it's based on this that a study on community participation in environmental conservation, However, the study only studied time and cost overruns, financial difficulties; material management problems; planning and scheduling problems; inadequate site inspection; equipment shortage problems; and shortage of manpower showing no single cause and mechanism to avoid them. In addition, the method used to generate the study results was incompatible that the results seem baseless. (UNEP, 2015).

Similarly, Harris, (2019) studied the risk measures in conservation practice. The study concluded that the use of a supply chain management approach to conserve environmental management as key to ensuring successful conserving practice. This would require high levels of collaboration among the key project stakeholders and a collaborative philosophy among them. More importantly, this would also ensure an efficient flow of goods and services, with attendant payments, along the conservation value chain, minimizing the risks of time and cost overruns. Research gaps existed since the study only focused on time and

cost overruns only, implying an opportunity to add more variables such as Reforestation and tree cutting as part of the study.(HLPE, 2017).

CHAPTER THREE

METHODOLOGY

3.0. Introduction

This chapter dealt with the research design, study population, sample size, sampling methods, Sources of Data, Research Instruments, Validity and reliability of the Instrument, Reliability of the Instrument, Data collection procedure, Data Analysis, Ethical Consideration, Limitations of the Study.

3.1 Research Design

This study adopted a quantitative approach. The design is chosen in order to provide an elaborate assessment of the state of community participation in conservation. This approach was employed since the study was based on variables with numbers and analyzed with statistical procedures. In particular, it was descriptive design because it sought to gather data from a sample of a population at a particular time and in so doing, pertinent data was collected from all respondents once and for all to reduce on time and costs involved.

3.2 Study Population

The study was conducted on the locality of Guri'el district focusing on the environmental conservation practice. According to the Demographia (2018), Guri'el district has a population of 47,950 residents. This study targets a population of 300 who are affiliated to environmental programs. The study targets 7 FAO staff, 15 Guri'el district administration, 50 Environmentalists, 85 Farmers and 143 Local residents. The study hence targets the population for the study in the area of the study.

3.3 Sample Size

The sample size of 171 respondents is determined by random sampling methods. The reason is that the nature of the data obtained requires a variety of methods to better understand the problem of the study being investigated. In addition, this method is commonly known for high reliability, as well as eliminating misleading statements based on Amin (2014). The sample size is derived using the Slovenian formula;

$$n = \frac{N}{1 + N\alpha^2}$$

Where; n = the sample size

N = total population of respondents.300

α = the level of significance, that is 0.05

$$n = \frac{N}{1 + N\alpha^2}$$

$$n = \frac{300}{1 + 300 (0.05)^2}$$

$$n = \frac{300}{1 + 300 * 0.0025}$$

$$n = 171$$

Table 3.1: Population and Sample Size Summary

Categories of respondents	Target population	Sample size	Sampling technique
FAO staff	7	4	Simple random sampling
Guri'el district administration	15	9	Simple random sampling
Environmentalists	50	29	Simple random sampling
Farmers	85	48	Simple random sampling
Local resident	143	81	Simple random sampling
Total	300	171	

3.4 Sampling methods

3.4.1 Simple Random sampling

Simple random sampling was used to select respondents from a number of environmentalists, NRC organization, Guri'el district administration, population list. Local resident and farmers were selected to obtain equal representation of respondents. Thus, each member has the opportunity to be elected.

3.5 Sources of Data

3.5.1 Primary Data

This was obtained through the use of self- administered questionnaires to the respondents.

3.5.2 Secondary Data

This was obtained from literature and scholarly publications, such as published magazines, written sources, including published and unpublished documents, company reports and online sources, which were used to manage the project and provide more information about the project Effectiveness.

3.6 Research Instruments

3.6.1 Self-administered Questionnaires

Closed-ended questionnaires were used for data collection and were distributed to environmentalists, farmers and local residents. The instrument was selected purposefully, because it considers individual opinions of respondents and thus allows respondents to use their data in a wide range of ways as they are never ashamed. The tool was purposefully chosen because it took into account the personal views of the respondents and thus allowed the respondents to use their information to present a wide range of information, as they were never ashamed. The first section focused on the demographic characteristics of the respondents while the second section focused on items of the independent variables under study.

Responses were weighted on a five-point Likert scale where 5 represented strongly agree, 4 represented agree, 3 represented not sure, 2 represented Disagree, and 1 represented strongly disagree. The third section was researcher designed questionnaire which was on a five-point

Likert scale where 5 represented strongly agree, 4 represented agree, 3 represented not sure, 2 represented Disagree, and 1 represented strongly disagree.

3.7 Validity and reliability of the Instrument

3.7.1 Validity of the Instrument

Validity refers to the degree to which results obtained from analysis of the data actually represents the phenomenon under study. In ensuring the validity of the questionnaire, the researcher ensured that questions are relevant in order to ensure that data collected give meaningful and reliable results represented by variables in the study. The researcher submitted the questionnaires and research questions to the supervisor of this study and other expects for scrutiny and comments.

3.7.2 Reliability of the Instrument

Reliability refers to the consistency of a measure of a concept. To establish the reliability of the items, test-retest was done. This refers to the degree to which scores on the same test by the same individual are consistent over time. The researcher had a one-on-one discussion with the respondents and the information given was subjected to comparisons with others responses from other respondent to determine the level of accuracy in the information attained. This helped the researcher to update the field findings which helped in ensuring reliability of the data collected.

3.8 Data collection procedure

The researcher got the introductory letter from Kampala International University. After obtaining the letter, the researcher prepared online data collection instrument especially closed-ended questionnaires using Google forms. The researcher thereafter deployed the forms to the field and the respondents filled-the questionnaires using the link.

3.9 Data Analysis

3.9.1 Quantitative data analysis

The researcher used inferential statistics to analyze the data; answer the research questions and to test the research hypotheses in analyzing the quantitative data. SPSS version 22 was

used for correlation and simple linear regressions. Correlations analysis was used in testing the study objectives and the significance of each independent variable tested at a confident level of 95%. Demographic characteristics were analyzed in terms of frequencies and percentages to show that the sample selected is the true representation of the population. Descriptive statistics was presented in terms of frequency, percentage, means and standard deviation. Relationships between variables presented in terms of correlation analysis.

3.10 Ethical Consideration

The researcher first of all get an introductory letter of Kampala International University (KIU) and then collect data by respecting the dignity of the respondents and treating the information given by them with uttermost confidentiality. The researcher was keen not to ask a provocative question to the respondents especially questions that concern private life and even those which degraded some body's dignity. While conducting the research respected human dignity and consent from the respondents was put in consideration. The study encouraged voluntary participation of respondents. Respondents who were interviewed responded to questions at their own.

3.11 Limitations of the Study

The tools used for the collection of data may not be interpreted well by the respondents. The research assistants to provide clarity to respondents on hard-to-understand questions.

Self-reporting on wrong issues of the respondents may lead to attainment of edited information by the respondents. The researcher and assistants guided the collection of data.

Financial problems were encountered in the course of the study. This is because of the high costs involved in printing, photocopying and binding. The researcher solved this by saving money so as to have enough funds to cater the research process.

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION, AND DISCUSSION

4.0 Introduction

The study was done to establish the assessing of community participation in environmental conservation practice in Guriel district. The data was quantitatively collected from 171 respondents through questionnaires. The study objectives were to establish the contribution of the community participation in environmental conservation practice in Guriel district, to examine the challenges faced by the communities in environmental conservation practice in Guriel district and to propose mechanisms that can be employed in environmental conservation practice in Guriel district.

Therefore, the results are a reflection of what it takes to answer the research questions and the characteristics of the respondents to whom the research questions were administered. The first part presents the respondents demographic information in terms of gender, level of education, age, time of work in the organization and position in the organization. The study was guided by three research objectives.

4.1 Demographic Characteristics of Respondents

This chapter presents the characteristics of the sample population selected. The findings in table 1 to 5 are for demographic characteristics of respondents who participated in the study.

4.1.1 Gender of respondents

The information from the respondents is provided in the table 4.1 below.

Table 4.1: Gender of the respondents

Gender	Frequency	Percentage
Male	104	60.8%
Female	67	39.2
Total	171	100.0

Source: Primary Data, 2022

Results in Table 3 show that the majority respondents were male represented by 60.8% of the study followed by female respondents who were 39.2% of the study. This implied that male

respondents were more than female respondents. and it was also due to the fact that male respondents were accessible than the females. It implies that the results can't be doubted on gender grounds given that attainment of information was from both male and females.

4.1.2 Marital Status

The information obtained from the respondents is provided in the table 4.2.

Table 4.2: Marital Status of the respondents

Marital Status	Frequency	Percentage
Married	103	60.2
Single	68	39.8
Total	171	100.0

Source: Primary Data, 2022

Results in Table 2 show that the majority respondents were married represented by 60.2% of the study followed by single respondents who were 39.8% of the study. This implied that respondents were married than those single and it was also due to the fact that married respondents were accessible than the single. provided information for the study it implies that the results can't be doubted on marital grounds given that attainment of information was from both married and single.

4.1.3 Age of respondents

The information obtained from the respondents is provided in the table 4.3 below.

Table 4.3. Age of respondents

Age	Frequency	Percentage
20 - 30 years	79	46.2
31-40 years	68	39.8
41-50 years	24	14.0
Total	171	100.0

Source: Primary Data, 2022

The responses in Table 3 show that majority respondents were in the age of 20-30 years represented by 48.2% of the respondents, those of 31-40 years were 39.8%, those in the age of 41-50 were 14.0% of the study. The findings implied that majority respondents are youths, they were considered to be energetic and could help the communities. The respondents employed were preferably because they are more productive and more accessible to provide data for the study.

4.1.4 Educational Level

The information gathered from the respondents is provided in the table 4 below.

Table 4.4: Educational Level

	Frequency	Percentage
Secondary level	13	7.6
Diploma level	32	18.7
Bachelor Degree	80	46.8
Postgraduate	45	26.3
Others	1	.6
Total	171	100.0

Source: Primary Data, 2022

Results in Table 5 indicate that the majority of the respondents attained Bachelor Degree (46.8%), diploma level (18.7%), Secondary level (7.6%) and Postgraduate were (26.3%) of the respondents, and Others were (6%) The findings showed that the though many respondents were highly educated, and have an adequate understanding of the study and hence were able to answer the questions during the study. The respondents employed were preferably because of their level of qualification (Bachelor Degree), they are more productive and more accessible than Secondary level to provide data for the study.

4.1.5 Level of Occupation

The information attained from the respondents is provided in the table 4 below.

Table 4.5: level of Occupation

Occupation	Frequency	Percentage
Environmentalist	55	32.2
Auxiliary	34	19.9
Farmer	37	21.6
Others	45	26.3
Total	171	100.0

Source: Primary Data, 2022

Results in Table 6 indicated that the majority of the respondents attained Environmentalist (32.2%), Auxiliary level (19.9%), Farmer (21.6%), and Others were (26.3%). The findings revealed that the majority the respondents were environmentalist. the information obtained is essential in the provision of the information for the study followed by other levels they have an adequate understanding of the study and hence were able to answer the questions during the study.

4.2. The Contribution of the community participation in environmental Conservation practice in Guriel, Galmudug, Somalia

This section mainly concerns the community participation in environmental Conservation practice in Guriel, Galmudug, Somalia. The study results are presented in the table 6;

Table 4.6: The Contribution of the community participation in environmental Conservation practice in Guriel, Galmudug, Somalia

INDICATORS	SA	Agree	Neutral	Disagree	SD	Mean	S. Dev
Community power can be understood as the extent to which community are able to persuade or coerce others into making decisions.	53 (31.0)%	60 (35.1)%	35 (20.5)%	19 (11.1)%	4 (2.3)%	3.88	1.068
Engagement with stakeholders early in decision-making is indispensable if forest cover is to be restored through a sustainable and participatory tree-planting process	49 (28.7)%	58 (33.9)%	41 (24.0)%	18 (10.5)%	5 (2.9)%	4.33	1.074
The efforts of the communities should involve of several stakeholders including government, development partners and Civil Society Organizations	50 (29.2)%	56 (32.7)%	44 (25.7)%	18 (10.5)%	3 (1.8)%	3.99	1.041
The forestry authority (NFA), government, CSOs, academics and researchers, donors, consultants and community-based organizations.	43 (25.1)%	60 (35.1)%	38 (22.2)%	22 (12.9)%	8 (4.7)%	4.23	1.132
The community have different power, influence and importance.	49 (28.7)%	65 (38.0)%	29 (17.0)%	21 (12.3)%	7 (4.1)%	3.22	1.122
Average						3.93	1.0874

Source: Primary Data (2022)

Table 4.6.1 Legend

Range	Mean Range	Response Mode	Interpretation
5	1 – 1.8	Strongly Disagree	Very Low
4	1.8– 2.6	Disagree	Low
3	2.6 – 3.4	Neutral	None
2	3.4 – 4.2	Agree	High
1	4.2 – 5	Strongly Agree	Very High

Community power can be understood as the extent to which community are able to persuade or coerce others into making decisions.

As indicated in the Table 4.6 above, 4(2.3%) of the respondents strongly disagreed, 19(11.1%) disagreed, 35(20.5%) of the respondents were neutral, 60(35.1%) of the respondents agreed and 53(31.0%) strongly agreed, and this had a mean of 3.88 and standard deviation of 1.068 which was equivalent to high on the Likert Scale. the findings show that the majority of the respondents realize community participation in environmental conservation practice in Guriel district.

Engagement with stakeholders early in decision-making is indispensable if forest cover is to be restored through a sustainable and participatory tree-planting process

In the table 4.6, 5(2.9%) of the respondents strongly disagreed, 18(10.5%) of the respondents disagreed, 41(24.0%) of the respondents were neutral, 58(33.9%) of the respondents agreed and the remaining 49(28.7%) of the respondents strongly agreed and this had a mean of 4.33 and standard deviation of 1.074 and this was equivalent to high on the Likert scale. This implies that most of the respondents were engaged with stakeholders early in decision-making is indispensable if forest cover is to be restored through a sustainable and participatory tree-planting process in Guriel district

The efforts of the communities should involve of several stakeholders including government, development partners and Civil Society Organizations

In the table 4.6, 3(1.8%) of the respondents strongly disagreed, 18(10.5%) of the respondents disagreed, 44(25.7%) of the respondents were neutral, 56(32.7%) of the respondents agreed and the remaining 50(29.2%) of the respondents strongly agreed and this had a mean of 3.99 and standard deviation of 1.041 and this was equivalent to high on the Likert scale. This implies that the efforts of the communities–involve that of several stakeholders including government.

The forestry authority (NFA), government, CSOs, academics and researchers, donors, consultants’ community-based on Stakeholders influence.

In the table 4.6 8(4.7%) of the respondents strongly disagreed, 22(12.9%) of the respondents disagreed, 38(22.2%) of the respondents were neutral, 60(35.1%) of the respondents agreed and the remaining 43(25.1%) of the respondents strongly agreed and this had a mean of 4.23 and standard deviation of 1.132 and this was equivalent to very high on the Likert scale. This implies that the forestry authority (NFA), government, CSOs, academics and researchers, donors, consultants’ community-based on Stakeholders influence.

The community has different power, influence and importance on environmental conservation

In the table 4.6 7(4.1%) of the respondents strongly disagreed, 21(12.3%) of the respondents disagreed, 29(17.0%) of the respondents were neutral, 65(38.0%) of the respondents agreed and the remaining 49(28.7%) of the respondents strongly agreed and this had a mean of 3.22 and standard deviation of 1.122 and this was equivalent to high on the Likert scale. The majority of the respondents 65(38.0%) revealed that community members do participate and have influence in the implementation of environmental conservation in the district This implies that the community have different power, influence and importance.

Table 4.7: Correlation between contribution of the community participation and environmental conservation in Guriel district.

		Contribution	Environmental conservation
Contribution	Pearson Correlation	1	.545**
	Sig. (2-tailed)		.003
	N	171	171
Environmental conservation	Pearson Correlation	.545**	1
	Sig. (2-tailed)	.003	
	N	171	171

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

Source: primary data, 2022

The findings revealed a positive and significant relationship between contribution of the community participation and environmental conservation in Guriel district ($r = 0.545$, $P\text{-value} = 0.003$) at 0.01 level of significance. The findings imply that contribution of the community participation play a vital role in environmental conservation practice.

4.3. To examine the challenges faced by the communities in environmental conservation practice in Guriel district, Galmudug state Somalia

This section mainly concerns the challenges of the community participation in environmental conservation practice in Guriel. The study results are presented in the table 8

Table 4.8: challenges of the community participation in environmental conservation practice in Guriel

INDICATORS	SA	A	Neutral	D	SD	Mean	S. Dev
Community practice can be made sustainable by incorporating local people in the conservation effort.	54 (31.6)%	60 (35.1)%	37 (21.6)%	14 (8.2)%	6 (3.5)%	3.34	1.074
This system of decision making are powerful factors that act as barriers to participation	55 (32.2)%	53 (31.0)%	35 (20.5)%	21 (12.3) %	7 (4.1)%	4.11	1.153
The sense of personal powerlessness that stems from long-term reliance upon others and the costs of involvement its one of the challenges participants could face.	46 (26.9)%	58 (33.9)%	41 (24.0)%	21 (12.3)%	5 (2.9)%	4.18	1.085
Economic and cultural barriers, especially in communities where there is decline and fragmentation also are main challenges in participation.	49 (28.7)%	59(34.5) %	37(21.6) %	20(11.7) %	5(2.9) %	3.77	1.122
The policy and legal framework recognize not only the practice value of forests, but also the social, cultural, spiritual and economic values.	54 (31.6)%	52 (30.4)%	39 (22.8)%	17 (9.9)%	9 (5.3)%	3.96	1.162
Average						3.872	1.1192

Source: Primary Data (2022)

Table 4.8.1 Legend

Range	Mean Range	Response Mode	Interpretation
5	1 – 1.8	Strongly Disagree	Very Low
4	1.8– 2.6	Disagree	Low
3	2.6 – 3.4	Neutral	None
2	3.4 – 4.2	Agree	High
1	4.2 – 5	Strongly Agree	Very High

Community practice can be made sustainable by incorporating local people in the conservation effort.

In the table 4.8 6(3.5%) of the respondents strongly disagreed, 14(8.2%) of the respondents disagreed, 37(21.6%) of the respondents were neutral, 60(35.1%) of the respondents agreed and the remaining 54(31.6%) of the respondents strongly agreed and this had a mean of 3.34 and standard deviation of 1.074 and this was equivalent to high on the Likert scale. The majority of the respondents 60(35.1%) revealed that community practice can made a sustainable. This implies that Community practice can be made sustainable by incorporating local people in the conservation effort.

Environmental conservation practice system for decision making is powerful factors that act as barriers to participation

In the table above, 7(4.1%) of the respondents strongly disagreed, 21(12.3%) of the respondents disagreed, 35(20.5%) of the respondents were neutral, 53(31.0%) of the respondents agreed and the remaining 55(32.2%) of the respondents strongly agreed and this had a mean of 4.11 and standard deviation of 1.153 and this was equivalent to very high on the Likert scale. The majority of the respondents 55(32.2%) that means community practice can be a major factor in decision making. This implies that the system of decision making has been blamed for many failures in natural resources management.

The sense of personal powerlessness that stems from long-term reliance upon others and the costs of involvement is one of the challenges participants could face.

In the table above, 5(2.9%) of the respondents strongly disagreed, 21(12.3%) of the respondents disagreed, 41(24.0%) of the respondents were neutral, 58(33.9%) of the respondents agreed and the remaining 46(26.9%) of the respondents strongly agreed and this had a mean of 4.18 and standard deviation of 1.085 and this was equivalent to very high on the Likert scale. The majority of the respondents 58(33.9%) this means that community sense of personal powerlessness is good. This implies the sense of personal powerlessness that stems from long-term reliance upon others and the costs of involvement to participants.

Economic and cultural barriers, especially in communities where there is decline and fragmentation also are main challenges in participation

In the table above, 5(2.9%) of the respondents strongly disagreed, 20(11.7%) of the respondents disagreed, 37(21.6%) of the respondents were neutral, 59(34.5%) of the respondents agreed and the remaining 49(28.7%) of the respondents strongly agreed and this had a mean of 3.77 and standard deviation of 1.122 and this was equivalent to high on the Likert scale. The majority of the respondents 59(34.5%) this means that the community has economic and cultural barriers. This implies there are economic and cultural barriers, especially in communities where there is decline and fragmentation.

The policy and legal framework recognize not only the practice value of forests, but also the social, cultural, spiritual and economic values.

In the table above, 9(5.3%) of the respondents strongly disagreed, 17(9.9%) of the respondents disagreed, 39(22.8%) of the respondents were neutral, 52(30.4%) of the respondents agreed and the remaining 54(31.6%) of the respondents strongly agreed and this had a mean of 3.96 and standard deviation of 1.162 and this was equivalent to high on the Likert scale. The majority of the respondents 54(31.6%) this is means community has legal framework. This implies that the policy and legal framework recognize not only the practice value of forests, but also the social, cultural, spiritual and economic values.

Table 4.9: Correlation between the challenges faced by the communities and environmental conservation practice in Guriel district, Galmudug state Somalia

		challenges	Environmental conservation
challenges	Pearson Correlation	1	.445**
	Sig. (2-tailed)		.001
	N	171	171
Environmental conservation	Pearson Correlation	.445**	1
	Sig. (2-tailed)	.001	
	N	171	171

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

Source: primary data, 2022

The correlation results on the relationship between challenges of the communities in environmental conservation practice in Guriel district. The findings revealed a positive and significant relation between challenges of the communities and environmental conservation in Guriel district ($r = 0.445$, $P\text{-value} = 0.001$) at 0.01 level of significance. The findings may imply that challenges of the communities in Guriel district play a vital role in environmental conservation practice.

4.4. To propose mechanisms that can be employed in environmental conservation practice in environmental conservation practice in Guriel district

This section mainly concerns the mechanisms that can be employed in environmental conservation practice in environmental conservation practice in Guriel district. The study results are presented in the table 7.

Table 4.10: mechanisms that can be employed in environmental conservation practice in environmental conservation practice in Guriel district

INDICATORS	SA	A	Neutral	D	SD	Mean	S. Dev
The purpose of this mechanisms is to analyze the community participation environmental practice systems through the core elements of the emerging evolutionary theory	46 (26.9)%	61 (35.7)%	39 (22.8)%	19 (11.1)%	6 (3.5)%	4.32	1.087
There is a mechanisms exploring environmental conservation practice including; Bio economy. System of physical and chemical.	50 (29.2)%	54 (31.6)%	46 (26.9)%	15 (8.8)%	6 (3.5)%	3.92	1.081
The cognitive mechanisms emphasize the development of a collective knowledge.	46 (26.9)%	68 (39.8)%	36 (21.1)%	17 (9.9)%	4 (2.3)%	3.89	1.024
The firm is considered as an organization of individuals who make decisions.	45 (26.3)%	60 (35.1)%	41 (24.0)%	19 (11.1)%	6 (3.5)%	3.61	1.085
The way in which the individuals create new knowledge and coordinate their actions is essential in the determination of organization's environmental performance	49 (28.7)%	57 (33.3)%	42 (24.6)%	16 (9.4)%	7 (4.1)%	4.29	1.100
Average						4.006	1.0754

Source: Primary Data (2022).

Table 4.10.1 Legend

Range	Mean Range	Response Mode	Interpretation
5	1 – 1.8	Strongly Disagree	Very Low
4	1.8– 2.6	Disagree	Low
3	2.6 – 3.4	Neutral	None
2	3.4 – 4.2	Agree	High
1	4.2 – 5	Strongly Agree	Very High

The purpose of this mechanisms is to analyze the community participation environmental practice systems through the core elements of the emerging evolutionary theory.

In the table 4.9, 6(3.5%) of the respondents strongly disagreed, 19(11.1%) of the respondents disagreed, 39(22.8%) of the respondents were neutral, 61(35.7%) of the respondents agreed and the remaining 46(26.9%) of the respondents strongly agreed and this had a mean of 4.32 and standard deviation of 1.087 and this was equivalent to very high on the Likert scale. The majority of the respondents 61(35.7%) agreed that the purpose of this mechanisms is to analyze the community participation environmental practice systems through the core elements of the emerging evolutionary theory, this means that there are mechanisms that participating environmental conservation. This implies that the mechanisms to analyze the community participation in environmental conservation practice systems are based on the core elements of the evolutionary theory.

There are mechanisms exploring environmental conservation practice including; Bio economic System of physical and chemical.

In the table 4.9, 6(3.5%) of the respondents strongly disagreed, 15(8.8%) of the respondents disagreed, 46(26.9%) of the respondents were neutral, 54(31.6%) of the respondents agreed and the remaining 50(29.2%) of the respondents strongly agreed and this had a mean of 3.92 and standard deviation of 1.081 and this was equivalent to very high on the Likert scale. The majority of the respondents 54(31.6%) this is means that there are mechanisms exploring environmental conservation. This implies that there is a mechanisms exploring environmental conservation practice including; Bio economy. System of physical and chemical.

The cognitive mechanisms emphasize the development of a collective knowledge basis accordingly

In the table 4.9, 4(2.3%) of the respondents strongly disagreed, 17(9.9%) of the respondents disagreed, 36(21.1%) of the respondents were neutral, 68(39.8%) of the respondents agreed and the remaining 46(26.9%) of the respondents strongly agreed and this had a mean of 3.89 and standard deviation of 1.024 and this was equivalent to very high on the Likert scale. The majority of the respondents 68(39.8%) this means that there are mechanisms emphasize the development of a collective knowledge. This implies that the cognitive mechanisms emphasize the development of a collective knowledge basis accordingly.

With respect to environmental quality, these incentive mechanisms reflect the evolution of benefits and costs associated with environmental actions.

In the table 4.9, 6(3.5%) of the respondents strongly disagreed, 19(11.1%) of the respondents disagreed, 41(24.0%) of the respondents were neutral, 60(35.1%) of the respondents agreed and the remaining 45(26.3%) of the respondents strongly agreed and this had a mean of 3.61 and standard deviation of 1.085 and this was equivalent to very high on the Likert scale. The majority of the respondents 60(35.1%) The study indicates that more avenues or mechanisms are needed in the generation of the environmental conservation practice in Guriel district. This implies that the cognitive mechanisms emphasize the development of a collective knowledge basis accordingly.

The way in which the individuals create new knowledge and coordinate their actions is essential in the determination of organization's environmental performance.

In the table 4.9, 7(4.1%) of the respondents strongly disagreed, 16(9.4%) of the respondents disagreed, 42(24.6%) of the respondents were neutral, 57(33.3%) of the respondents agreed and the remaining 49(28.7%) of the respondents strongly agreed and this had a mean of 4.29 and standard deviation of 1.100 and this was equivalent to very high on the Likert scale. The majority of the respondents 57(33.3%) that there are mechanisms in place for addressing conservation in Guriel district. This implies that the individuals create new knowledge and coordinate their actions is essential in the determination of organization's environmental performance.

Table 4.11: Correlation between the mechanisms that can be employed in environmental conservation practice and environmental conservation in Guriel district

		mechanisms	Environmental conservation
mechanisms	Pearson Correlation	1	.545**
	Sig. (2-tailed)		.002
	N	171	171
Environmental conservation	Pearson Correlation	.445**	1
	Sig. (2-tailed)	.002	
	N	171	171

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

Source: primary data, 2022

The correlation results on the relationship between the mechanisms of community participation and environmental conservation practice in Guriel district. The findings revealed a positive and significant relation between mechanisms of community participation and environmental conservation in Guriel district ($r = 0.545^{**}$, $P\text{-value} = 0.002$) at 0.01 level of significance. The findings may imply that the mechanisms of community participation in Guriel district play a vital role in environmental conservation practice.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the results attained from the field alongside with the previous authors in literature review; it further provides the conclusions and recommendations based on the implied results for the conclusions in the study.

5.1. Summary of key findings

This study aimed at investigating and assessing community participation in environmental conservation practice in Guriel district. Three specific objectives guided this study and these were; (i) to establish the contribution of the community participation in environmental conservation practice in Guriel district, Galmudug state Somalia. (ii) To examine the challenges faced by the communities in environmental conservation practice in Guriel district, Galmudug state Somalia (iii) to propose mechanisms that can be employed in environmental conservation practice in Guricel district, Galmudug state Somalia.

5.1.1 Objective one: To establish the contribution of the community participation in environmental conservation practice in Guriel district, Galmudug state, Somalia

The findings revealed that the community participation in environmental conservation practice in Guriel district was rated high overall average mean value of (3.93), and standard deviation was 1.0874. In terms of hypothesis Pearson Correlation was 0.545 and it had p-value 0.003 that means there is a significant positive relationship; the contribution was majorly through community involvement in monitoring the environmental conservation.

This is in line with to (Beaumont, 1997), which asserted that community participation is crucial to the sustainability of timber supply and maintenance of environmental stability which to large positively affect growth of human practicing, food security and quality of life. Community participants, local community groups, private sector and national institutions contribute to the development of local communities in specific ways: direct spending and employment: players make various purchases that contribute to demand in the local economy in addition to creating many jobs. Workforce development: through the partners' instruction, they increase the skills of local workers, which in turn increase the employment and earning

opportunities of these workers. Generally, community colleges tailor their programs to meet specific local needs, and their curricula tend to change continuously to reflect shifting needs (McNutt, 2014). Business attraction: the development of local human capital leads to increases in local productivity.

The environment within which man lives continues to experience changes the world over due to the exploitation of environmental practice, The efforts of the communities should involve of several stakeholders including government, development partners and Civil Society Organizations (CSOs) both local and international such as International Union for Conservation of Nature and Natural Resources, A stakeholder in tree planting is an individual, interest group, or organization, who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome related to tree planting.

5.1.2 Objective two: To examine the challenges faced by the communities in environmental conservation practice in Guriel district, Galmudug state Somalia

The findings revealed that the challenges faced by the communities in environmental conservation practice in Guriel district was rated high overall average mean value of (3.872), and standard deviation was 1.1192. In terms of hypothesis Pearson Correlation was 0.445 and it had p-value of 0.001 which means that there is a positive and significant relationship between the challenges faced by the communities and environmental conservation practice. Lack of accessibility to the reforestation schemes, Lack of financial support it was main challenges community they were faced.

This is in line with (Burger et al., 2015), who asserted that there are powerful factors that act as barriers to participation, thereby weakening the participation chain. These may be grouped under the following themes Personal barriers, for example the sense of personal powerlessness that stems from long-term reliance upon others and the costs of involvement to participants. B. Institutional and political barriers, for example a formal meetings culture and the use of language that does not encourage dialogue. Economic and cultural barriers, especially in communities where there is decline and fragmentation. Technical barriers such as the lack of accessible formats and technological support for groups to enable service users to participate effectively or difficulties in getting small amounts of funding for support costs.

Other constraining conditions that equally explain the poor rate of success of local forestry assistance initiatives. Forestry development initiatives suffer from inadequate funding, poorly

trained technical staff, and the requirement to comply with planning and implementation regimes imposed by funding agencies even where they are not ideal for the objectives and local conditions.

5.1.3 Objective three: to propose mechanisms that can be employed in environmental conservation practice in Guricel district, Galmudug state Somalia

The findings revealed mechanisms that can be employed in environmental conservation practice in Guricel district was rated very high overall average mean value of (4.006), and standard deviation was 1.0754. In terms of hypothesis Pearson Correlation was 0.545 and it had p-value 0.002 that means there is a positive significant relation. This in line with (Burger et al., 2015), who said that coordination task can be achieved by a set of different mechanisms, which are the following: the incentive mechanisms, the coordination mechanisms and the cognitive mechanisms. While all these mechanisms finally contribute to a coherent coordination of the firm's activity, they emphasize different types of instruments to achieve this.

There are mechanisms of exploring environmental conservation practice including; Bio economy System of physical, chemical and biological processes for a given impact category linking the life cycle inventory analysis results to category indicators and to category endpoints. Coordination mechanisms emphasize the role of hierarchy, structural arrangements and rules in bringing together individual actions to meet a defined set of (e.g., environmental) objectives, and local and centralized learning processes to drive organizational change in a given direction.

The cognitive mechanisms emphasize the development of a collective knowledge basis as another key to the coordination of individual actions and groups. Since solving environmental problems related to products and production processes often requires new skills and capabilities, cognitive mechanisms are essential for adapting the collective knowledge basis accordingly. Incentive mechanisms, finally, emphasize the 'payoff structure' on the individual and group levels which are intended to guide the firm's actions. With respect to environmental quality, these incentive mechanisms reflect the evolution of benefits and costs associated with environmental actions.

5.2 Conclusion

5.2.1 Objective one: To establish the contribution of the community participation in environmental conservation practice in Guriel district, Galmudug state Somalia

Community mobilization capacities has enabled it achieve its main aim of sensitizing, training and educating communities in the area and its environs on the importance of environment conservation. Too, it has ensured that that natural resources in the area of its operation were well utilized, firms adhered to environment conservation measures, and through partnerships with other governmental conservation agencies The study concludes that the efforts of the communities should involve of several stakeholders including government, development partners and Civil Society Organizations It also concludes the state of conservation in the district is not statistically independent from community contribution to implementation of environmental conservation practice. Therefore, communities play a big role in the implementation of conservation in the district through actual planting of trees and monitoring of environmental conservation practice.

5.2.2 Objective two: To examine the challenges faced by the communities in environmental conservation practice in Guriel district, Galmudug state Somalia

The study also concludes that Community involvement in conservation faced a lot of challenges and therefore limited by lack of financial support, limited information on reforestation, lack of accessibility to the reforestation schemes, and low level of community awareness on reforestation. The community, therefore, is limited due to inability to support the programs.

Economic and cultural barriers, especially in communities where there is decline and fragmentation. Institutional and political barriers, for example a formal meetings culture and the use of language that does not encourage dialogue, Economic and cultural barriers,

5.2.3 Objective three: to propose mechanisms that can be employed in environmental conservation practice in Guricel district, Galmudug state Somalia

The study concluded that conservation in Guricel district is done through several mechanisms including: provision of seedlings to the community by Government, periodic tree planting, provision of land for tree planting, establishment of tree schemes by Government, and provision of seedlings for conservation by NGOs. Also the study concludes; the incentive mechanisms, the coordination mechanisms and the cognitive mechanisms. While all these

mechanisms finally contribute to a coherent coordination of the firm's activity, they emphasize different types of instruments to achieve this.

5.3. Recommendations of the study

5.3.1 Objective one: To establish the contribution of the community participation in environmental conservation practice in Guriel district, Galmudug state Somalia

From the study findings, it can be asserted that effective community participation has become crucial for the success of environmental conservation.

Environmental conservation practices were poorly developed in Guricel district, there is possibly need for policy that compel conservation to the communities and people in Guricel.

The study recommends for policy framework incorporating the community involvement in the conservation efforts. This should be enforced to especially those planning to cut a tree. There is need for the deployment of forces necessary to ensuring implementation of the reforestation programs, provision of sufficient seedlings, irrigation and protection of tree plants from pests and diseases. The contribution of the communities participating in environmental in Guriel District are to Protect the environment by recycling, reusing, and composting, making better transport choices, reducing your electricity usage, buying local, donating to conservation groups and avoiding toxic chemicals.

5.3.2 Objective two: To examine the challenges faced by the communities in environmental conservation practice in Guriel district, Galmudug state Somalia

The study recommends that forest Management plan that is involving community members in every stage and also making them to play key role in the management of the forest should be made, so that they would argue what they want and how they want it done for a better understanding of the forest management. There is need to increase the capacity of a government to design, implement and enforce policies on forest reserves to ensure their effectiveness capacity can be nurtured at national, regional and local levels to ensure that each of these levels is allocated appropriate responsibilities and the resources to fulfill them.

5.3.3 Objective three: to propose mechanisms that can be employed in environmental conservation practice in Guricel district, Galmudug state Somalia

The study recommends that there is need for government to popularize unknown species so that communities can benefit from their commercial exploitation. Conservation efforts are

critical components of successful forest management leading not only to ecological services including carbon sequestration, watershed protection, and biodiversity but also sustainable futures for indigenous communities. It is then important to have a coherent policy taking into account the interdependencies among different management aspects. This allows the application of past experience in a new domain and its use as a coordination mechanism for creating an environmental learning process in the firm.

5.4. Areas for further research

This study focused on community participation in environmental conservation in Guriel district. However, there is need to establish the role of government in enhancing this relationship in Guriel district.

REFERENCES

- Abelson, J. (2006). *Assessing the Impacts of Public Participation: Concepts, Evidence and Policy Implications*. March.
- Adams, D. C., Allen, D., Borisova, T., Boellstorff, D. E., Smolen, M. D., Mahler, R. L., Sci, N., Adams, D., & Allen, D. (2013). The influence of water attitudes, perceptions, and learning preferences on water-conserving actions. *Wiley Online Library*, 42(1), 21688281. <https://doi.org/10.4195/nse.2012.0027>
- Adeleke, K. A., & Adepoju, A. A. (2010). Ordinal logistic regression model: An application to pregnancy outcomes. *Journal of Mathematics and Statistics*, 6(3), 279–285. <https://doi.org/10.3844/jmssp.2010.279.285>
- Agriculture, F. I. S. on W. and. (2015). Geography, climate and population. *Aquastat*, 2012(Table 1), 1–16.
- Aldrich, H., & Ruef, M. (2012). The Evolutionary Approach. *Organizations Evolving*, 1995, 16–33. <https://doi.org/10.4135/9781446212509.n2>
- Alter, T., Driver, A., Frumento, P., Howard, T., Shuffstall, B., Thompson, L., & Whitmer, W. (2017). Community engagement for collective action: a handbook for practitioner. *Invasive Animals CRC, Australia*, 1–51.
- Arikan, A. (2016). *CUNY Academic Works THE RELATIONSHIP BETWEEN CHILDHOOD TRAUMA AND How does access to this work benefit you ? Let us know !*
- Bade, Z. A. (2022). *Understanding Environmental Issues in Somaliland: a Sociological*. 10(6), 424–430.
- Beaumont, J. (1997). Community participation in the establishment and management of marine protected areas: A review of selected international experience. *South African Journal of Marine Science*, 7615(18), 333–340. <https://doi.org/10.2989/025776197784161009>
- Beier, A.-C., & Stephansson, E. (2012). *Environmental and Climate Change Policy Brief: Somalia*. 1–30. www.sidaenvironmenthelpdesk.se

- Burger, R., Dasgupta, I., & Owens, T. (2015). Why pay NGOs to involve the community? *Annals of Public and Cooperative Economics*, 86(1), 7–31. <https://doi.org/10.1111/apce.12065>
- Charlton, A., Potter, M., McGinial, S., Romanou, E., Slade, Z., & Hewitson, B. (2010). *Barriers to participation. Analysis to inform the development of the 2010/11 Taking Part Survey. August*, 1–127.
- Clief Naku, D. W., Kihila, J., & Mwageni, E. (2021). Community Participation Methods and their Influence on Effective Community Participation in Development Programs in Tanzania. *International Journal of Social Science Research and Review*, 4(4), 104–126. <https://doi.org/10.47814/ijssrr.v4i4.131>
- Dorner, P., & Thiesenhusen, W. C. (1992). Land tenure and deforestation: interactions and environmental implications. *Discussion Paper - United Nations Research Institute for Social Development*, 34(April).
- Elman, B. (2018). *The Coordination Mechanisms of Self-Managing Organizations An Explorative Case-Study of Three Pioneers*. 121.
- Environmental Protection Authority. (2011). *The Federal Democratic Republic of Ethiopia Environmental Protection Authority GEF Portfolio Identification Document, Addis Ababa, Ethiopia. December*, 34.
- Arnstein participation theory
- Ethiopia Country Program Evaluation Synthesis Report Evaluation Directorate Strategic Policy and Performance Branch*. (2003).
- FAO. (2020). Managing forests for climate change. *FAO, Working with Countries to Tackle Climate Change through Sustainable Forest Management*, 1–20.
- FATUMA, N. (2016). *COMMUNiTY INVOLVEMENT ON CONSERVATION OF NATURAL RESOURCES IN UGANDA. A CASE STUDY OF MABIRA FOREST BUIKWE DISTRICT. BY NABUKWASI FATUMA*.
- Food and Agriculture Organization of the United Nations*. (2022). 403–403. <https://doi.org/10.18356/9789210018289c230>

- gossory. (2020). *Diagnostic study on trends and threats for environmental and natural resources challenges Somalia Country Environmental Analysis*.
- Greenheck, F. M. (2020). *EnvironmEntal ConsErvation and sustainablE livElihoods*.
- He, S., Yang, L., & Min, Q. (2020). Community participation in nature conservation: The Chinese experience and its implication to national park management. *Sustainability (Switzerland)*, 12(11). <https://doi.org/10.3390/su12114760>
- HLPE. (2017). *Sustainable Forestry for for Food Security and Nutrition*. May, 1–136.
- Kircher, M. (2020). Challenges and opportunities. *New and Future Developments in Microbial Biotechnology and Bioengineering: Microbial Biomolecules: Properties, Relevance, and Their Translational Applications*, 7(1), 301–346. <https://doi.org/10.1016/B978-0-444-64301-8.00014-7>
- Mitchinson, R. (2003). Devolution in Uganda: An experiment in local service delivery. *Public Administration and Development*, 23(3), 241–248. <https://doi.org/10.1002/pad.273>
- Mohamed, M. I. (2013). *Assessment of the Impact of Charcoal Production on Savannah Vegetation in Sanaag Region, Somalia*.
- Mubita, A., Libati, M., & Mulonda, M. (2017). The Importance and Limitations of Participation in Development Projects and Programmes. *European Scientific Journal, ESJ*, 13(5), 238. <https://doi.org/10.19044/esj.2017.v13n5p238>
- Mushemeza, E. D. (2019). Decentralisation in Uganda: Trends, Achievements, Challenges and Proposals for Consolidation. *Advocates Coalition for Development and Environment*, 93, 40–41. <http://www.acode-u.org>
- Mwiru, M. (2015). The Importance of community participation in development projects at local level: case of Dodoma municipal council. *A Dissertation Submitted in Partial of the Requirement for the Degree Of Master Local Government and Management (LGM) of Mzumbe University*, 83.
- National Plan Commission. (2017). *Voluntary National Reviews on SDGs of Ethiopia: Government Commitments, National Ownership and Performance Trends*. June, 1–52.

- Nugraha, F. A., & Maryono, M. (2018). Community Concern on Environmental Conservation. *E3S Web of Conferences*, 31, 1–4. <https://doi.org/10.1051/e3sconf/20183108023>
- Ojambo, H. (2017). Decentralisation in Africa: A critical review of Uganda's experience. *Potchefstroom Electronic Law Journal*, 15(2), 69–88. <https://doi.org/10.17159/1727-3781/2012/v15i2a2479>
- Radu, R., & Radisic, J. (2012). *Well-being reconsidered: empowering grassroots organizations: cross-country experience from the grassroots Europe for local wellbeing initiative*.
- Spaulding, M. L., Guyomarch, J., Le Floch, S., Merlin, F. X., Shagapov, V. S., Galiakbarova, E. V., Gimaltdinov, I. K., Mwangi, P., Thyne, G., Rao, D., Lee, K., Stoffyn-Egli, P., Owens, E. H., Wong, C. S., Cretney, W. J., Whitney, F. A., Parsons, T. R., Lalli, C. M., Wu, J., ... Xie, H. (2002). Explicit vs. Implicit Coordination Mechanisms and Task Dependencies: *Spill Science and Technology Bulletin*, 8(1), 698–703. <https://doi.org/10.1155/2013/704806>
- Tschentscher, T. (2016). Promoting Sustainable Development Through More Effective Civil Society Participation in Environmental Governance: A selection of country case studies from the EU-NGO Project. *United Nations Development Program*, 1(2), 88.
- UNDP. (2017). *Institutional and Coordination Mechanisms: Guidance Note on Facilitating Integration and Coherence for SDG Implementation*. 59.
- UNEP. (2015). *LAND AND NATURAL RESOURCES CONFLICT Renewable Resources and Conflict AND*. 1–116.
- Unhcr. (2008). *A Community-based Approach*. 1–126.

APPENDICES

Appendix I: Self-Administered Questionnaire

Dear Respondent,

I am, Reg. No 2021-08-04846 a student at Kampala international University and conducting a study on Assessment of community participation in environmental conservation practice as part of my study and I am doing this study for an academic award. Kindly respond to these questions, the study is being undertaken as a partial fulfillment of the requirement for the award of a master in Environmental management of Kampala International University. Please feel free to provide the information required as honestly as possible. The information you will provide to the researcher will be used for academic purposes only.

SECTION A: Demographic characteristics of respondents

INSTRUCTION: PLEASE TICK (✓) IN THE BOX PROVIDED AS YOU RESPONSE

- 1. Male ☐
- 2. female ☐

Marital Status:

- 3. Married ☐
- 4. Single ☐

Age:

- 1. 20 - 30 years ☐
- 2. 31-40 years ☐
- 3. 41-50 years ☐
- 4. 50 years and above ☐

Educational Level:

- 1. Secondary level ☐
- 2. Diploma level ☐
- 3. Bachelor Degree ☐
- 4. Postgraduate ☐
- 5. Other ☐

5. Occupation

- 1. Environmentalist ☐

2. Auxiliary ☐
3. Farmer ☐
4. Others ☐

SECTION B:

Instructions: Please write your rating on the space before each option, which corresponds to your best choice in terms of level of motivation. Kindly use the scoring system below:

Score	Response Mode	Description	Interpretation
1	Strongly Agree	You agree with no doubt at all	Very satisfactory
2	Agree	You agree with some doubt	Satisfactory
3	Neutral	You are not sure about	Any None
4	Disagree	You disagree with some doubt	Fair
5	Strongly Disagree	You disagree with no doubt at all	Poor

Part I: Contribution of the community participation in environmental Conservation practice

No	Statement	SA	A	N	D	SD
1.	Community power can be understood as the extent to which community are able to persuade or coerce others into making decisions.					
2.	Engagement with stakeholders early in decision-making is indispensable if forest cover is to be restored through a sustainable and participatory tree-planting process.					
3.	The efforts of the communities should involve of several stakeholders including government, development partners and Civil Society Organizations					
4.	The forestry authority (NFA), government, CSOs, academics and researchers, donors, consultants' community-based on					

	Stakeholders influence.					
5	The community have different power, influence and importance.					

Part II: Challenges faced by the communities in environmental Conservation practice

No	Statement	SA	A	N	D	SD
1.	Community practice can be made sustainable by incorporating local people in the conservation effort.					
2.	Environmental conservation practice system for decision making are powerful factors that act as barriers to participation.					
3.	The sense of personal powerlessness that stems from long-term reliance upon others and the costs of involvement its one of the challenges participants could face.					
4.	Economic and cultural barriers, especially in communities where there is decline and fragmentation also are main challenges in participation.					
5.	The policy and legal framework recognize not only the practice value of forests, but also the social, cultural, spiritual and economic values.					

Part III: Mechanisms that can be employed in environmental Conservation practice

No	Statement	SA	A	N	D	SD
1.	The purpose of this mechanisms is to analyze the community participation environmental practice systems through the core elements of the emerging evolutionary theory					
2.	There is a mechanisms exploring environmental conservation practice including; Bio economy. System of physical and chemical.					

3.	The cognitive mechanisms emphasize the development of a collective knowledge.					
4.	The firm is considered as an organization of individuals who make decisions.					
5.	The way in which the individuals create new knowledge and coordinate their actions is essential in the determination of organization's environmental performance.					

Part IV: Environmental Conservation Practice

No	Statement	SA	A	N	D	SD
1.	Community practice can be made sustainable by incorporating local people in the conservation effort.					
2.	A larger number of communities at the peripheries of the practicing areas do influence the effectiveness of the practice.					
3.	Growing public concern over environmental problems and partly because of increasing pressures from the government.					
4.	Solving environmental problems related to products and production processes often requires new skills and capabilities.					
5.	Community participation is important since it aims at mobilizing the people for collective action and community building.					

Thank you for your responses