

Effectiveness of Environmental Conservation Measures Practised in the Full Gospel Churches of Kenya, Embu *Evurore* District, Kenya

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Abstract

This study assessed the effectiveness of environmental conservation measures practised by the congregants of the Full Gospel Churches of Kenya in the Embu *Evurore* District. The environment in Embu *Evurore* District is degraded despite the conservation practices of the congregants. The study objective was to assess the effectiveness of the environmental conservation measures practised in the Full Gospel Churches of Kenya, Embu *Evurore* District. The study was guided by the Behaviour Change Theory, which states that an individual is a victim of their environment. A descriptive research design was used to collect, analyse, and interpret information. The study was carried out in the five local churches in Embu *Evurore* District. The study population was obtained through a sampling technique. The leaders were selected through purposive sampling. A sample of congregants was arrived at through random sampling. The study instruments were questionnaires for the congregants and interview schedules for the leaders. An observation schedule was used to identify the environmental conservation practices in Embu *Evurore* District. The data was analysed using tables, charts and graphs. The study found that while some environmental conservation measures have been effective, others have had limited impact. The study also found that some congregants caused environmental degradation. The findings of the study add knowledge to Eco- Theology. They benefit church leaders by adding insight to their policy formulation and decision-making concerning environmental conservation. The findings of this study will sensitise the congregants to improve their methods of environmental conservation.

Key terms: Congregants, conservation, effectiveness, environment, measures.

1.0 INTRODUCTION

After God created the earth, He saw that all that he created was good (Genesis 1:25). God's creation comprises the environment. The environment consists of natural resources upon which man depends for his survival. The environment comprises the lithosphere, hydrosphere, biosphere and the atmosphere. Geisler (1989) asserts that God has entrusted the earth and its resources to our care. There is a need to act responsibly with the resources because it is not good stewardship to squander the valuable resources. The earth is God's garden, and we are its keepers. By adhering to church teachings on environmental conservation, we can prevent God's garden from becoming a desert or his seas from turning into cesspools (Geisler, 1989).

Nkonge (2016) proposes oikothology as a way of helping conserve the environment. Oiko, the home of man, forms his environment. Eco-theology teaches man how he ought to conserve the environment. Christians have the duty to jealously take care of the earth as their home, and this is through environmental conservation practices like planting trees, conservation agriculture and draining swamps. The personal letter "African Faith Commitments for a Living Planet", Kenya Episcopal Conference (2012), invites all church believers to prioritise their engagement with environmental care as a way of appreciating and advancing the creative mission of God, whose image human beings bear.

Gitau (2000) points out that in Africa, environmental conservation initiatives have become matters of great concern because of their complex, widespread and long-term contribution to the survival of life. Africa's underdevelopment has a negative impact on the environment. This is well exemplified by the magnitude of soil erosion, overgrazing and deforestation in certain parts of the continent. Conservation of protected areas in African countries has been severely affected by many threats and challenges.

In Kenya, Christians claim the largest percentage of the population, with 85.5 per cent of the population being Christians (Lindell, 2016). The implications of this percentage for environmental issues are quite critical. This leads one to question how the church participates in propagating environmental issues and awareness in Kenya. It's the duty of all who look unto God as the creator to take care of the environment by restoring a sense of reverence for the whole of God's creation. Environmental conservation is vital in the environmental sector where Christians are envisaged under exploitation of forests, marine resources, land degradation, water management and biodiversity. [United Nations Conference on Sustainable Development (UNDESA, 2012)].

Human activities are a factor cited by Kiarie (2020) as causing environmental degradation in Kenya and around the globe. He points out that in Kenya, it is implicated by dangerous activities to the environment, like encroaching forests for occupation, farming, and logging purposes. Eventually, these activities have a ripple effect, which is that water catchment areas are destroyed. Whereas the environmental crisis is a global concern that is touching governments around the globe, it has also been a church concern, with the Full Gospel Church of Kenya (FGCK) having it as a matter of concern. The Full Gospel Churches of Kenya has environmental sustainability as one of its pillars. In its Constitution 2013 revised edition, the fourth objective captures the establishment and administration of institutions, namely schools, hospitals and colleges, and to train persons therein or elsewhere for the purpose of missionary work. In line with this objective and under the welfare institution, the FGCK established a National Development Project (NDP) with a long-term plan of managing, preserving and enhancing the quality of the environment.

The implementation of environmental conservation under the National Development Project in Embu *Evuore* District dates back to 2016, when some congregants were trained to disseminate information on environmental conservation in *Kanyuambora* narrative report files (FGCK, 2016). The congregants were to, in turn, practice this on their farms; nevertheless, environmental degradation ranges. It is with this concern that the practices on environmental conservation were assessed since there was continual environmental degradation in Embu *Evuore* District. The research sought to determine the effectiveness of FGCK practices on environmental conservation in the Embu-*Evuore* District.

The Full Gospel Churches of Kenya, Embu *Evuore* District, has suffered deforestation, soil erosion and drying of rivers due to human activities. The pertinent question was whether the environmental conservation measures practised checked environmental degradation. As such, there was a concern about finding out the effectiveness of the environmental conservation measures practised in the FGCK Embu *Evuore* District. This is because if the issue of environmental conservation is not addressed with the seriousness it deserves, then it will be difficult for available resources to sustain the present generation as well as future generations.

2.0 LITERATURE REVIEW

Rotich (2019) observes the way people benefit from forests, especially from fuel wood, honey, and herbal medicine. Despite concerted efforts by the Kenya Wildlife Service and the community neighbouring forests to conserve the forests, conservation challenges are rampant through illegal grazing, illegal logging, charcoal burning, forest fires and forest encroachment. Rotich (2019) observes that human activities threaten environmental conservation. Despite man's duty of being a steward of the environment, he was not able to counteract environmental degradation by using sound environmental conservation measures, and therefore, this study warrants it. This study sought to evaluate ways environmental conservation measures could improve the environment. Similarly, Msafiri (2007) points out that the search for basic needs undermined the capacity of human beings to manage natural resources wisely. For instance, many charcoal sellers engage in their business to earn money in order to survive despite the massive destruction of forests and trees. Unless the poor had alternative sources of food and basic needs like fuel, they, too, would destroy whatever natural environment was around them for survival. The church was to jealously guard environmental resources by using environmental conservation measures effectively, yet Msafiri did not show ways to take care of the environment in order to improve it.

Kiarie (2020) notes how human activities like poor farming practices loosen topsoil, and as a result, soil erosion becomes inevitable. Unchecked illegal logging led to the destruction of natural habitats and eventual exposure of the affected areas to agents of erosion. Whereas he exposes how human beings cause the degeneration of the environment, he does not give possible ways to counteract the menace and thus leaves room for this study to find ways to conserve the environment. Wangiri (1999) observes that the destruction of the ecological environment led to the destruction of the social environment. Modern technological agriculture destroyed the soil and also polluted the air. It results from the loss of topsoil through the felling of trees, overgrazing and poor farming methods. Farmers had to eke out a living from poorer soils. These required heavier fertiliser inputs, which further degraded the soil. Wangiri (1999) fails to offer ways in which agricultural practices can improve the soil and vegetation alike. This was concerned with conservation measures that improved the environment. According to Gichere (2001), human activities, including agriculture, tourism, ranching, infrastructure development, and settlements, have often disregarded natural resources and are thus destroying the environment. He further argues that the

degradation of natural resources will adversely affect the productivity of land and increase levels of poverty. The church, as an environmental caretaker, has the duty to create environmental conservation awareness so that the congregants can be dissuaded from destroying the environment. Gichere(2001) does not mention the conservation measures to deter environmental degradation. In his practice, to conserve the environment, man should take care not to destroy it, and this raises concerns in this study.

Gitau (2000) rightly observed that environmental degradation was a result of chemicals in industry and agriculture that polluted the air, water, and soil. He further argued that cutting down forests destroyed the natural habitat of thousands of living forms. Mining and other extractive industries were rapidly depleting sources of energy and mineral resources. The depletion of the ozone layer exposes the Earth's surface and atmosphere to harmful rays from the sun. This, in turn, had affected crop yields, increased vector-borne diseases, destroyed infrastructure, contaminated fresh waters and degraded agricultural lands. This has made the environment increasingly unsuitable and unhealthy for human habitation. God put man in a healthy environment to guard it so as to be in good health. Gitau (2000) displayed the activities of man on the environment that result in environmental degradation, but did not show how to effectively conserve the environment. Christians with awareness of environmental conservation practices were to practice environmentally friendly conservation measures to preserve natural resources needed by man for survival, as this study sought to establish. According to Njeru (2016), Embu County faced a myriad of environmental challenges that affected the agricultural sector. These included soil acidification and soil alkalinity, loss of biodiversity and soil erosion. These agricultural practices were important to this study since they gave a reality of the state of environmental degradation. Fridah (2017) asserted that agroforestry was an important agricultural practice that contributed to environmental conservation as well as human livelihood. Both concern themselves with agricultural practices, but whereas Fridah (2017) point out effective ways of conserving the environment, Njeru (2016) leaves it at how man's involvement in improving agricultural production left the environment in deplorable condition, thus raising the concern on how to effectively conserve the environment.

3.0 METHODOLOGY

The study was guided by the behaviour change theory of Skinner (1938). The theory states that man's behaviour is informed by his surroundings. The study adopted a descriptive research design. A descriptive research design allowed the generation of both numerical and descriptive data that would be used to measure relationships between variables. Thus, the researcher considered the design appropriate for this study because it involved facts, findings, and enquiries from the leaders and congregants about the practices of the Full Gospel Churches of Kenya on environmental conservation in Embu, *Evurore* District. The study covered the Embu *Evurore* District of the Full Gospel Churches of Kenya. Embu *Evurore* District encompasses five local church assemblies, namely, *Kanyuambora*, *Ishiara Kanthoki*, *Kamumu* and *Giti* local church assembly. The target population was 2032, with a sample size of 327. The target population was 2032, with a sample size of 327. The sample was determined from the table of determining samples by Kathuri and Pals (2004).

Proportional sampling was used to get the representative data from each branch. A random sampling technique was applied to select the respondents. Leaders were purposively selected from three branches for the interview scheduled to gather detailed information that was of interest in this study. Data collected from the questionnaires was scored and analysed. Qualitative data were analysed using thematic content analysis from the questionnaires. Descriptive statistics, such as means and frequencies, were computed so

as to determine the patterns and trends of the variables under study. The data analysis was done with the aid of tools in a computer program with the Statistical Package for the Social Sciences (SPSS) version 20. The findings of the study were then presented in tables, charts and graphs.

4.0 FINDINGS AND DISCUSSION

The study sought to find out whether environmental conservation practice in Embu *Evuoro* District was adequate. Gottlieb (1996) notes how human beings had long used air, land and water as sinks into which they disposed all the waste they generated. He noted that these disposal practices left most wastes inadequately treated, thereby causing pollution. Pollution is not a threat to human life, but it is also an oppression to Mother Nature.

Adequacy of Environmental Conservation

The study elicited the responses summed up as: 3.5 per cent (10) attesting that the environment conservation practices were effective. 96.5 per cent observed that the environmental conservation practices were not adequate.

Table 1: Adequacy of Environmental Conservation

Adequacy of environmental conservation	Frequency	Percentages
Adequate conservation	10	3.5%
Inadequate conservation	278	96.5%
Total	288	100%

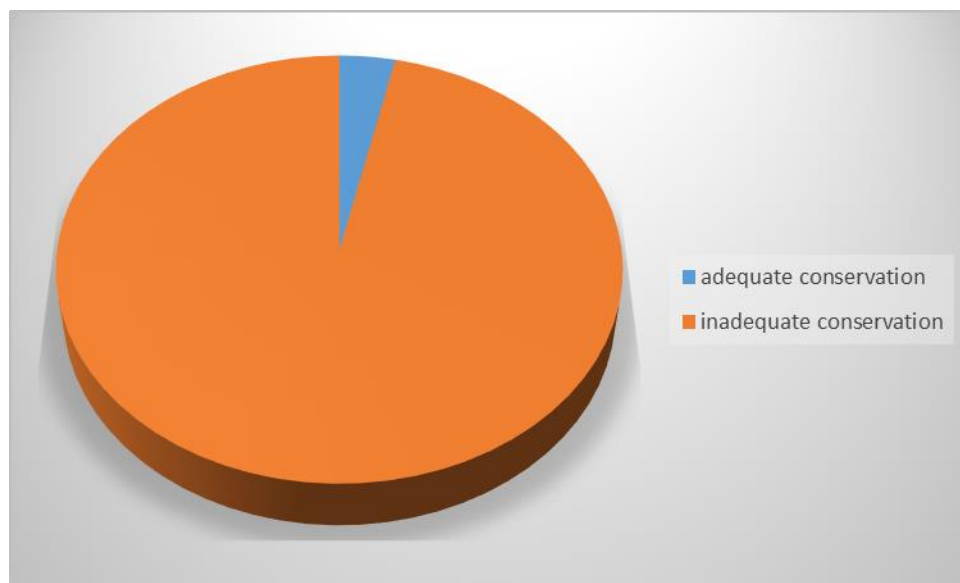


Figure 1: Adequacy of Environmental Conservation

The study sought to find out the recommended measures that could be undertaken to improve the conservation of the environment in the Embu *Evuoro* District. According to the respondents who observed that environmental conservation was inadequate, they variously recommended areas of improvement. The areas of improvement recommended include the following. There was a need for more sensitisation of the congregants on the methods of conserving the environment and the importance of conserving it. The church should have more leaders committed to reaching out to the congregants for follow-up on

conservation practices. For effective environmental conservation to be realised, more finances were needed to manage environmental practices, especially the management of tree seedling nurseries. There is a need to be more vigilant in garbage collection and litter collection. (Ong'ong'a, 1999) observed that an increase in population led to resource depletion. The study suggested that congregants should embrace alternative sources of energy instead of using firewood and charcoal. In the event the congregants had to use firewood or charcoal, they were to consider the use of energy-saving stoves. The consideration of planting trees along riverbanks and streams, such as the Thuchi and Ena rivers, was recommended. During the rainy season, the construction of cut-off drains was recommended. Observing the legislation on environmental conservation, as guided by NEMA, was also recommended. Working with like-minded organisations was also recommended.

Environmental Practices that are a Challenge to Environmental Conservation

According to Kiarie (2020), human activities are a challenge to environmental conservation. He pointed out that poor farming practices caused soils to be friable and easily eroded. He noted that intense logging and encroachment of natural habitats caused environmental degradation. His observation was paralleled by the findings of this study, which regarded the challenges that faced environmental conservation in the Full Gospel Church of Kenya, Embu *Evuore* District. The outstanding practices were poor farming practices, illegal logging and encroachment of forests. The study found that congregants were aware that environmental conservation faced challenges in the Full Gospel Church of Kenya, Embu *Evuore*. Some congregants in Embu *Evuore* District practice activities that cause environmental degradation. The study found that the following environmental challenges were faced in order of their frequency.

Table 1: Challenging Environmental Practices

Challenge	Frequency	Percentage
Cutting down trees	104	36%
Poor farming methods	98	34%
Poor waste disposal	52	18%
Overgrazing	28	10%
Harmful gas disposal	6	2%
Total	288	100%

The study found that the most common challenge to environmental conservation was the cutting down of trees, pegged at 104 (36%). Poor farming methods were at 98 (34%), Poor waste disposal was at 52 (18%), overgrazing was at 28 (10%), and harmful gas emissions were at 6 (2%). The study found that tree felling was common among the congregants in Embu *Evuore* District.

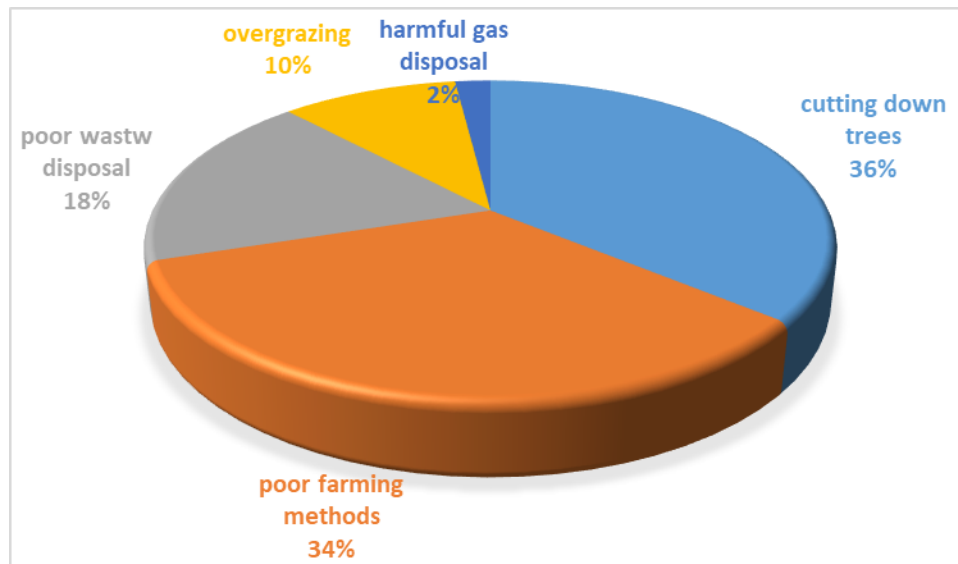


Figure 2: Challenging Environmental Practices

Rotich (2019) informs that tree logging, charcoal burning and over-grazing are practices that are a challenge to environmental conservation. Wangiri (1999) notes that agriculture destroys soils and also pollutes the air. Overgrazing and poor farming methods contribute to environmental degradation. This affirms the findings of this study that tree felling, poor farming methods and overgrazing are major ways the environment suffers degradation.

Makanga (2024, OI) noted that there were more challenges to environmental conservation, such as inadequate water supply. He highlighted that tree nurseries and newly planted trees eventually dried off during the dry season, even after doing well during the rainy season. He noted that piped water was only available in some homesteads of congregants, and during the dry season, the piped water suffered rationing. He noted that the major rivers are River Thuchi and River Ena, which are far apart, and the supply of water from these rivers was by donkey-pulled carts and ox-pulled carts. These methods are expensive, limiting water consumption to household chores instead of irrigation. Munyua (2024, OI) informed the study that high poverty levels among the congregants were a challenge to environmental conservation. The reason cited was that tree felling for charcoal burning was done for the congregants to get the money needed to feed themselves.

Importance of the Practices of Environmental Conservation in Embu *Evurore* District

This study found that it was important for congregants to be taught how to conserve the environment. The study found that the awareness of the congregants helped in environmental conservation in various ways, as outlined below. The importance includes reduced tree felling for charcoal and firewood. The study found that trees planted provided feed for animals and food for human beings. The foliage from trees and dead, decaying shrubs added humus to the soil. Planted trees help hold soil in place against soil erosion. They also act as breakers of strong winds, thus controlling soil erosion and preventing damage to other crops, buildings and structures. Trees help supply fresh air and reduce the spread of airborne diseases. Good farming methods help in soil moisture retention, such as water trenches, which have also helped check soil erosion. The management of drainage systems helps to prevent waterborne disease. Trees have

created an environment to attract rainfall. Figure 3 is a water trench for water conservation and checking soil erosion.



Figure 3: Water Trench

Constraints Congregants Face in Environmental Conservation

The study found that the congregants faced constraints while conserving the environment. The challenges they face are constraints to their conservation practices that impede success in the conservation of the environment. High poverty levels in the region due to aridity and scarce resources caused a lack of finances. The congregants burn charcoal for money. They keep a large number of animals as a sign of wealth. The percentage of the major challenges faced is tabulated below.

Table 3: Constraints Congregants Face in Environmental Conservation

Constraints	Frequency	Percentages
Inadequate finances	109	38 %
Lack of material resources for environmental conservation	88	31 %
Lack of awareness	39	13%
Lack of support from the Local authority	32	11%
Inadequate support from communities	20	7%

The study found that the congregants faced challenges in environmental conservation. In order of their effects, the constraints faced include inadequate finances 109 (38%) and lack of materials for environmental conservation 88 (31%). Some congregants lacked awareness of environmental conservation 39 (13%), while 32 (11%) indicated a lack of support from the local authority. The study found that the congregants faced inadequate support from the community in 20 (7%).

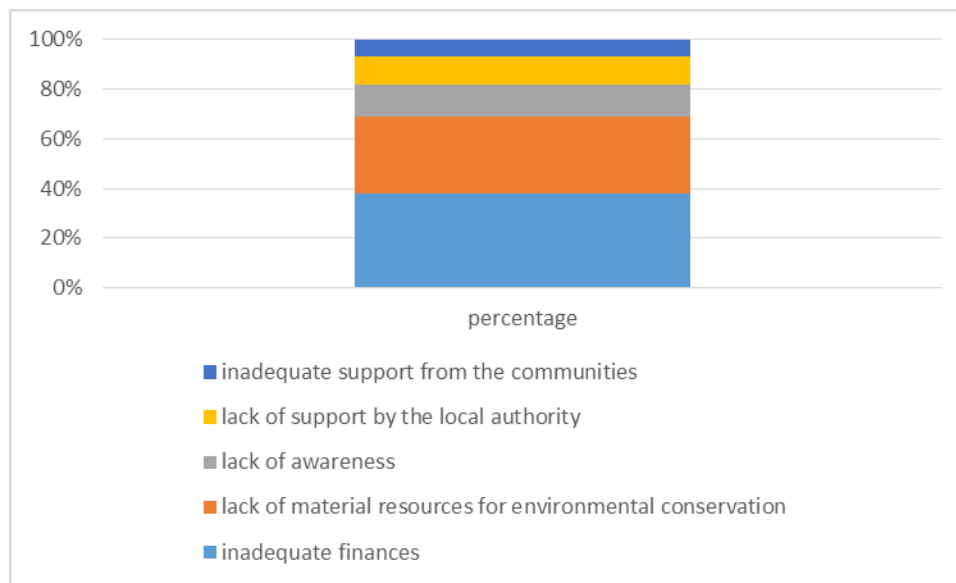


Figure 4: Constraints Congregants Face in Environmental Conservation

The study found that the challenges the congregants faced prevented them from conserving the environment adequately. Some lacked adequate knowledge of environmental conservation, which resulted in them carrying out activities that destroyed the environment, like tree felling. Lack of support from both the local community and local authority caused them to compromise their participation in practising environmental conservation practices, just like other members of the community surrounding them. The study found that congregants planted their own tree nurseries so as to meet the need for tree seedlings in their farms. The congregants joined table-banking groups to meet expenses incurred to conserve the environment, such as finances needed for making terraces.

5.0 CONCLUSION AND RECOMMENDATIONS

Conclusion: The study found that environmental conservation in Embu Evurore District was not adequate, with 96.5 per cent noting that the prevailing condition was ailing and recommended measures to improve the environment. Whereas the study found that there were practices to conserve the environment.

Recommendations: from the findings of this study, the study makes the following recommendations: The leaders of both the Full Gospel Churches of Kenya and other religious denominations should have elaborate policies to govern environmental conservation programs by their congregants. Religious organisations should plan how to source finances to support environmental conservation. Religious organisations should partner with local authorities to enhance environmental conservation.

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