

CHRISTIAN ENVIRONMENTAL ETHICS AND ECOLOGICAL CRISIS: THE CASE OF BUSH BURNING IN BILIRI LOCAL GOVERNMENT AREA, GOMBE STATE, NIGERIA

Ewere Nelson Atoi, PhD

Iliya Bako

ABSTRACT

Indiscriminate bush burning is one of the major ecological problems confronting many communities in Gombe State; this issue which requires multidimensional approaches has not received much attention from Christian environmental ethical viewpoint. Therefore, this study investigated the issue of indiscriminate bush burning in Biliri Local Government Area (BLGA) from Christian environmental ethical perspective with a view to ascertain the level of Christians' involvement, their reasons for engaging in it, their awareness of Christian ethical implication of the act, and the willingness of Christians to desist from it. Christian environmental stewardship theory was adopted for the study. Data were gathered through interview, textbooks, journal articles, and news media, and subjected to content analysis and ethnographic summaries. Majority of the interviewees confirmed that some Christians in BLGA are involved in the act of indiscriminate bush burning. The following are the reasons why Christians engage in the act of bush burning: farming, hunting, cleaning the environment, having access to firewood, and deterring undesirable animals from approaching residential areas. The interview responses showed that many Christian farmers and hunters in BLGA were unaware of the Christian environmental ethical implication of bush burning. Only few Christians knew that preserving environmental resources is a Christian ethical responsibility. Majority of the respondents believed that the awareness of Christian environmental ethical responsibility will reduce indiscriminate bush burning in BLGA. Therefore, Christian leaders should incorporate biblical teachings about environmental care into their sermons, and collaborate with environmental protection agencies to campaign against indiscriminate bush burning in various rural communities.

KEYWORDS: Bush Burning, Ecological Problems, Christian Environmental Ethical Responsibility

INTRODUCTION

Christianity has a unique and comprehensive ethics about the use of the environment and its resources. In Genesis 2:15, God placed man in the Garden of Eden and

charged him to take care of it and this marks the beginning of Christian environmental ethics. However, some Christians have been involved in the abuse and misuse of the environment and its resources through some of their activities. Many Christian leaders have not really taken time to stress the need for church members to avoid activities that may cause ecological crisis through their sermons, or make any meaningful effort to enlighten their followers on the need to take good care of the environment and its resources as an act of Christian righteousness or moral obligation to God. Hardly does one hear any sermon about the proper use of the environment during Sunday services and other weekly programs of the church. This position was well explained by Grasse when he made the following assertions:

Visiting a typical Christian church on a Sunday morning, one might expect a sermon on spiritual disciplines, politics, and even personal finances. But chances are that one would not typically hear a sermon on environmentalism or the interconnectedness of God, nature, and man; most pastors have likely not thought much about such matters, much less preached a sermon on the topics. Yet if Christianity applies to all parts of human life, as most Christians would agree, why should there not be sermons on how to view and respect the earth? Why has the Christian church as a whole been largely absent from the discussion on environmental issues? How Christians think and act towards the environment in light of their faith? (1).

From the above excerpt, it can be argued that a lot of clergy men and women have failed to admonish members of their congregations on the need for proper use and preservation of environmental resources, despite the fact that human beings are mandated by God to take care of the earth. It is true that many Christian communities with the exception of few, most times do not talk about human activities that are causing ecological crisis. De Wit observes that the contemporary world is confronted with myriad of ecological crises, spawning a broad and renewed interest in the topic of morality and ethical response in many fields (1). Ethics as a discipline that regulates human conduct or behaviour in the society no doubt has a great role to play in addressing ecological crisis (Atoi and Ajiji 127).

One major human activity in the natural world that have continued to cause ecological crisis is bush burning. According to the United Nations, black carbon is incredibly dangerous to human health and the planet; it is responsible for millions of premature deaths each year, and its impact on global warming is 460 to 1,500 times greater than carbon dioxide, the main driver of climate change (UN News 1). Barnabas, et al argue that bush burning have continued to cause serious damages to the natural environment. The practice of setting bush on fire has led to accidental burning of valuable trees, crops, and other properties that are useful to the environment (251). This fire spreads from the farmland into the forest within because of negligence on the part of the small-scale farmers and hunters. Bush burning is rampant in many rural communities of the world. Ofuoku and

Agbogidi reveal that bush burning is most noticeable in Gombe state and that many communities in the state have serious environmental degradation problem (123-124). Previous studies on bush burning have laid more emphasis on agricultural and health issues involved in the practice, with little attention given to the Christian ethical viewpoint. Therefore, this study investigates the issues of indiscriminate bush burning in Biliri Local Government Area from Christian environmental ethical perspective. It examines the level of Christians' involvement in bush burning, their reasons for engaging in it, their awareness of Christian ethical implication of indiscriminate bush burning, and the willingness of Christians to desist from it.

It is essential to situate this study in the context of existing literature. Hamid et al posit that man's environment is under constant threat from his own activities (242). Hens and Susanne observe that there is fairly general agreement among environmental philosophers that the environment should be looked at from an ethical perspective (97). According to Hourdequin, discussions of environmental value have expanded to encompass not only intrinsic and instrumental value, but relational value, and this latter conception of environmental value has emerged in part through closer attention to how people actually value the places they inhabit and nonhuman organisms they interact with (271-272). Environmental sustainability can be a core practice and deeply related with religious values and spirituality, beliefs and convictions (Freyer et al 564). Addressing Christian religious ethics to environmental problems inevitably involves a view of the relation of religious ideas to social behaviour, and of theological production to environmental problems (Jenkins 290). Rolston contends that human beings are helped or hurt by the condition of their environment, and if there are duties to humans at all, there will be applications of these duties to environmental issues. No one can love neighbour, or do to others as one would be treated oneself, in disregard of that neighbour's life-support system in the natural world (164). Grasse opines that perhaps Sunday morning sermons of the Christian church should sometimes remind believers that human beings have a role to play in the grand scheme of the universe that requires more from us than apathy (8).

Schuurman contends that the responsibility of human beings is to be keepers and minders of earth as a garden, not as lords and masters, recognizing an intrinsic value of God's creation. He further contends that in Christian religion, the command of love for God and the neighbour contains the essence of all motives, commands, values and norms (166). Atoi et al argue that one of the major factors escalating environmental problem in the modern world is the failure of humankind to recognize and respect the sanctity of the ecosystem and environmental resources as an act of obedience to God's command and love for his creations (12). Nash maintains that fidelity to God implies respect for divine valuations, the faithful are called to value what God values—and that includes the good earth and all its inhabitants (216). Mwambazambi contends that respecting the will of God requires taking values into account – especially ecological values such as environmental

protection; the protection of soil, forests, flora and fauna. It is common knowledge that in most cases ecological norms are often sabotaged by the very people who defined them (852). Petrescu-Mag et al point out that biblical tradition play key role in shaping people's attitudes toward the environment (422). They further observe that the reassessment of the position of religion regarding the moral dimension in the environmental crisis is referred to as a 'new genesis' by some scholars. The environmental crisis must not and cannot be viewed only from a single perspective, because everything, according to the principles of ecology, is interrelated (428).

On the other hand, Barnabas, et al maintain that bush burning generally is the method of removing the natural vegetation from the surface of the soil by setting fire on the debris. It is sometimes intentional or accidental. Bush burning causes serious damages to trees and crops, its effect cannot be underestimated. Practice of setting bush on fire could also lead to accidental burning of land and other properties (251). Nzor et al. contend that bush burning is generally the preferred traditional means of clearing farmland for seedbed preparation, games or bush meat hunting and it increases the concentration of greenhouse gases and particulate matter in the atmosphere (246). Edem et al maintain that burning is one of the ways of clearing vegetation and reducing debris on site to be cultivated. They opine that one of the ways to study the effects of fire on soil ecosystem carefully is through measuring the various soil parameters before and after performance of experimental fire on vegetation (8). Citing Giovanni et al, Edem, et al observe that burning had been identified as one of the degrading practices that result in soil structural degradation (10). Hough contends that scientific research has tended to focus on the ecological effects of fire, whether natural or human caused, and how to manipulate fire through the implementation of various prescribed burning regimes (27).

Ofuoku and Agbogidi observe that in many parts of Nigeria, a lot of small scale and commercial farmers use fire to clear bush without even slashing first. This obtains mainly in the savannah regions. Majority of the farmers outside Yankari National Park use uncontrolled fire in farm land preparation. They went further to say that this human activity among others was most noticeable in Gombe, which had the worst environmental degradation problem and poorest range condition (124). Furthermore, Barnabas, et al point out that during bush burning process, some nutrients that are highly needed by the plants are lost out in the form of gases. Also, human and natural resources like structures, plantations, estates, and farmlands are destroyed due to careless and uncontrolled fire (251). Hamid et al argue that bush burning has been detrimental to the environment and health of mankind. It involves the production of air pollutants, such as carbon monoxide, hydrocarbons, hydrogen sulphide, nitrogen oxides, sulphur oxides, ozone and other oxidants. Particulate pollutants like dust, fume, mist and smoke are also obtained from bush burning (241). Baiyeri observes that bush burning causes loss of much of the nitrogen contained in the residue which may cause soil erosion, destroyed soil conditioning effects

of the residues and reduce water infiltration and storage (15). Ofuoku and Agbogidi perceive bush burning as an ailment that should be eradicated from the society (127). The careful review of the above insightful literature revealed that sufficient scholarly attention has not been devoted to Christian environmental ethical perspective in relation to bush burning as a distinct intellectual discourse in Gombe state, Nigeria.

THEORETICAL FRAMEWORK

The theoretical structure adopted for this research is the ‘Christian environmental stewardship model’, alternatively known as ‘creation care’ ethical model, which has become very prominent in western Christianity. This Christian environmental ethical model was popularized by a Christian environmentalist movement known as the green movement in the United States of America (Grasse, 6). This theoretical model is a Christian ethical orientation which states that human beings have moral responsibilities to God for the care and protection of the earth. According to Kearns, Christian environmental stewardship is focused on ‘an evangelical interpretation of the biblical mandate for humans to take care of the earth’(57). Adams identifies a primary biblical motivation for environmental consciousness in the ‘inherent goodness of creation’ (Gn 1:4, 10, 12) and the ‘creation mandate’ (Gn 1:26–28), bringing a responsibility to act as stewards of God’s earth (174). As a model of environmental ethics, stewardship means that human beings are entrusted with the environment. Christian environmental stewardship specifies this trust by adding that the environment for which humans are morally obligated to care for belongs to God (Simmons, 4). Since stewardship conceives human beings as entrusted with the environment, the model stipulates that human beings do not own it. Instead, Christian environmental stewardship insists that human beings have moral duties at least to God for the environment and so limits human license with respect to it (Simmons, 6).

The central message that Christian environmental stewardship model tries to convey is care for the environment and responsible use of natural resources as God’s creation. Grasse maintains that human beings are the pinnacle beings in creation, and that they have been charged by God to care for nature and use it wisely (6). Peterson believes that Christian environmental stewardship ethics can moderate the notion of dominion and that there is a real possibility of transforming Christianity into a better anthropology and environmental ethics (201). The stewardship model focuses on interpreting fundamental facets of human beings’ proper relationship to God and God’s creation and thus foregrounds cosmological considerations (Simmons, 10-11). Christian environmental ethical model is very suitable for this study because it is the lens on which this research remind adherents of Christianity who are involved in indiscriminate bush burning practices in Biliri Local Government Area of Gombe State that human beings cannot sincerely declare that they love God, while at the same time destroying his creation.

RESEARCH METHODOLOGY

This study adopted a qualitative research approach. Primary and secondary methods of data gathering were utilized. The primary method of data collection used is interview. In-depth interviews were conducted with thirty (30) purposively selected respondents (Christian farmers and hunters) in the following selected study areas—Ladongor, Amtawalam, Latur, Lawushi Tanglang, Pandin Kude, and Shela, which were chosen from the six out of the seven roots that make up the Tangale ethnic nationality of Biliri Local Government area of Gombe State. Five respondents were selected for interviews from each of the six clans.

Secondary data was obtained through the review of textbooks, articles in learned journals, news media, and other relevant sources. Data generated from the aforementioned sources were subjected to content analysis and ethnographic summaries. These methods of analysis involve description and interpretation of tape-recorded data and field notes and verbatim quotation of some important responses that emanated in the course of the interviews. These methods were utilized to explicate and evaluate issues that border on bush burning from Christian environmental ethical viewpoint.

FIELD RESULTS AND DISCUSSIONS

Level of Christians' Involvement in Bush Burning in Biliri Local Government Area

This segment is geared towards analyzing and discussing the data obtained from in-depth interview respondents regarding the level of Christians' involvement in the practice of bush burning in Biliri Local Government Area of Gombe State. The majority of respondents affirmed that there is high rate of indiscriminate bush burning in Biliri Local Government Area. The following are some of the responses of the interviewee. According to One of them: "the issue of indiscriminate bush burning is really increasing in this Local Government in recent times but it happens more in rural communities because of the fact that villagers are the ones who burn bushes..." (Danzariya). Another interviewee declared: "the manner in which people burn bushes these days in our community is becoming worrisome; I just pray that this attitude of indiscriminate bush burning will not cause so much damage to the whole community one day" (Daniel). One other interview respondent said: "there is indeed significant increase in the practice of bush burning in this community and many other neighbouring communities around us because some reckless people have decided to be completely careless about what happens to others in terms of safety" (Nadaki). It is crystal clear from the above findings that the issue of indiscriminate bush burning in Biliri Local Government Area is not a mere speculation but a reality. This finding corroborated the position of Ofuoku and Agbogidi who observed that in many parts of Nigeria, a lot of farmers use fire to clear bush without even slashing first. Majority of

the farmers use uncontrolled fire in farmland preparation and this incidence is most noticeable in savannah region such as Gombe (124).

The majority of the in-depth interview respondents revealed that Christians in Biliri Local Government Area are involved in the practice of bush burning. One of the interviewee stated thus: “Yes, Christians in this community are involve in bush burning... majority of us are famers and one of the ways to farm is bush burning. Although, some farmers are sometimes not very careful when burning farmland for cultivation” (Emmanuel). Another in-depth interview respondent said: “Off course, Christians are involved in the act of bush burning, we do it in order to cultivate crops but the only problem is that some people do it carelessly to the extent that sometimes the fire burn uncontrollably and destroy other people’s properties” (Elsa). In the words of another interviewee: “Yes, bush burning is a regular practice among most farmers in this village and many other villages around, and most of the farmers in this Local Government Area are Christians” (Ephraim). In the light of the above findings, there is no doubt that Christians are deeply involved in the practice of bush burning in Biliri Local Government Area and some of them have been doing it indiscriminately as revealed by some of the respondents, thereby failing in their responsibility as Christians to take care of the environment and its resources as advocated in the Christian environment stewardship model.

Why Christians Engage in the Act of Bush Burning in Biliri Local Government Area

This segment is aimed at investigating the reasons why Christians in Biliri Local Government Area engage in the practice of bush burning. It is necessary to find out the reasons Christians engage in bush burning in order to fulfil another specific objective of this study. Below are the results from in-depth interview exercise. An interviewee declared: “most farmers in this community including my very self, set fire in any bush we want to use for cultivation to ease the clearing process. When the bush is first burnt, it will make the clearing process easier” (Tadi). Another interview respondent commented thus: “I burn bush to acquire bigger farmland whenever I want to expend my farm and increase production, other farmers in this village do the same thing as well.” One other interviewee responded thus: “the increasing cost of fertilizer and its Non-affordability has made many farmers to engaged in bush burning so that the ashes from the fire can serve as alternative to fertilizer for better crop production” (Mela). These findings are similarly to the position of Hough when he observes that many rural dwellers burn bushes so as to clear lands for the purpose of crop cultivation (24). Howbeit, evidences have shown that most farmers in rural communities do not take appropriate measures to ensure that the fire do not escalate, which is why most rural communities in Biliri Local Government Area have continued to record cases of indiscriminate bush burning in recent times.

Furthermore, hunting was equally identified by majority of the respondents as one other main reasons people burning bushes. One of the in-depth interview respondents said:

“some irresponsible and careless hunters (both Christians and non-Christians) sometimes deliberately set bushes on fire and burn the entire area completely in a bid to kill bush animals either for sale or personal consumption” (Danzariya). In the words of one other respondent: “hunting is another reason some people in this village burn bushes but I am not one of them, I hunt with caution because I completely understanding the dangers that emanate from indiscriminate bush burning” (Buba). Another interviewee responded thus: “there are some hunters who intentionally burn bushes in this community for the purpose getting bush meats...” (Afro). What can be deduced from the above findings is that hunting is also one of the reasons Christians in Biliri Local Government Area engage in bush burning.

Moreover, the in-depth interview responses also confirmed that clearing and cleaning the environment is one of the reasons most Christians in Biliri Local Government Area engage in the act of bush burning. One of the respondents declared: “most of us in this community burn bushes that are close to residential areas in order to clear the environment and keep it clean to avoid snakes and other dangerous reptile from coming into the house” (Sallabiya). Another interviewee commented thus: “we burn bushes around residential areas to prevent criminals from hiding in the bush to steal from our homes” (Yunusa). One other interview respondent stated: “most people who smoke marijuana in this village like to do so in bushes close to residential area. So we burn bushes to clear and clean the environment in order to prevent smokers from making bushes close to our home their smoking spots” (Emmanuel). It has been established from the in-depth interview findings presented above that cleaning the environment is one of the reasons Christians in Biliri Local Government Area engage in the act of bush burning.

Also, majority of the in-depth interview respondents avowed that having access to firewood is one of the reason Christians in Biliri Local Government Area engage in the practice of bush burning. The following are some of the comments of the interviewees. According to one of them: “I am one of those who engage in bush burning in this community. I burn bush for two reasons; first, for farming and second to be able to get dry firewood. It is easier to gather firewood when they are dry than when they are fresh” (Mela). One other interview respondent said: “off course, having access to firewood is one of the reasons why I burn bushes. If we do not burn bushes, it is always very difficult to have access to dry firewood ...” (Yunusa). Another interviewee declared: “although, I do not burn bushes primarily for the purpose of gathering firewood, but I like to get firewood from burnt bushes because it is easier getting firewood from such places” (Hamma). From the foregoing, it has also been established that having access to dry firewood is one of the reasons some Christians in Biliri Local Government Area engage in the practice of bush burning. It is imperative to note that the above findings correspond with the position of Hough in his paper titled “Why Burn the Bush? Social Approaches to Bush-Fire Management in West African National Parks”, where he posited that where firewood is

scarce, late dry-season hot fires are used by the local people to kill trees within the protected areas. The dead trees then fall and can easily be used as firewood (25).

The in-depth interview responses further revealed that deterring undesirable animals from approaching residential areas is one of the reasons Christians in Billiri LGA burn bushes. In the words of one of them: “Sometimes when bushes around our house are not burnt, we see snakes and scorpions around the environment. There was one afternoon I came back from the farm and saw a snake in front of our kitchen. Since then I usually burn the small bush close to our house” (Paul). Another interviewee commented thus: “Dangerous animals such as scorpions, snakes and spiders are some of the undesirable animals that make people to burn bushes in this village, especially the ones that are close to residential areas” (Saminu). From the above responses, it is obvious that deterring undesirable animal species from approaching residential areas is one of the reasons some Christians in Biliri Local Government Area engage in the act of bush burning in their localities.

Respondents’ Awareness of Christian Environmental Ethical Implication of Bush Burning in Biliri Local Government Area

This section investigated the awareness of respondents about the Christian environmental ethical implication of bush burning in Biliri Local Government Area. The in-depth interview results revealed that majority of the interviewees are not aware of the Christian environmental ethical implication of bush burning. According to one of the respondents: “I am not aware of any Christian environmental ethical implication of bush burning. Are there supposed to be any of such thing? Is there anything wrong in burning bushes? ...” (Majidadi). One other interviewee declared: “I do not know any Christian environmental ethical implication of bush burning. All I know is that whenever it is time to farm, we burn bushes in order to plant our crops and we also burn bushes for other important reasons” (Musa). From the above finding, it is very obvious that majority of the respondents are completely ignorant about the Christian notion of environmental ethics and nature values.

Similarly, majority of the in-depth interview respondents do not know the ethical responsibility of Christians toward the protection and preservation of the environment and its resources. In the words of one of the interviewees: “to be honest, I do not know anything about the ethical responsibility of Christians toward the preservation of environmental resources because I was not taught anything like that before now. But I am aware that environmental resources are blessings from God ...” (Chitas). Another respondent said: “Well, I know nothing about the ethical responsibility of Christians toward preserving the environment and its resources. All I know is that God gave us the land, trees and other things in the environment to use for our survival ...” (Ephraim). What can be deduced from the above finding is that many Christian churches do not teach members about their ethical

responsibilities to the environment. Grasse was right when he argued that chances are that one would not typically hear a sermon on environmentalism or the interconnectedness of God, nature, and man; most pastors have likely not thought much about such matters, much less preached a sermon on it (1). It is important to reiterate at this juncture that human beings, especially Christians have moral responsibilities to God for the care and protection of the environment and its resources. As it was stated in the theoretical framework for this study, there is a primary biblical motivation for environmental consciousness in the 'inherent goodness of creation' (Gn 1:4, 10, 12) and the 'creation mandate' (Gn 1:26–28), bringing a responsibility for humans to act as stewards of God's earth (Adams 174).

The willingness of Christians to desist from the practice of indiscriminate bush burning in Biliri Local Government Area

In this section, the responses of the in-depth interview respondents on the willingness of Christians to desist from the practice of indiscriminate bush burning in Biliri Local Government Area are systematically analyzed and discussed. Majority of the in-depth interview respondents claimed that most of the people involved in the act of indiscriminate bush burning may not be willing to desist from it. A few of the interviewees said some people may be willing to desist from indiscriminate bush burning due to the damage such practice has done to some communities. Below are some of the comments from respondents. One of them commented thus: "It is difficult to stop indiscriminate bush burning completely in this community because most of the people who burn bushes indiscriminately are not educated and most of them are unaware of a more appropriate way of clearing farmlands for crop cultivation unlike some of us who are educated" (Shem). Another interviewee declared: "I doubt if many people in this village will desist from indiscriminate bush burning because it is something that some people have been doing in a long time and people do it for different reasons..." (Daniel). One other interview respondent remarked: "Some people may be willing to desist from indiscriminate bush burning because such practice is damaging the environment. For instance, wind devastation has become a serious issue in the last three years in some villages due to lack of trees resulting from indiscriminate bush burning. One of such villages is Poyali" (Emmanuel). From the above findings, it seems Christians in Biliri Local Government Area need to be constantly admonish and reminded about the imperativeness of caring and protecting the environment and its resources which God has entrusted to them. Simmons was right when he argued that Christian environmental stewardship specifies this trust by adding that the environment for which humans are morally obligated to care for belongs to God (4).

Majority of the in-depth interview respondents maintained that the awareness of Christian ethical responsibility toward the environment and its resources could help to reduce the incidence of indiscriminate bush burning in Biliri Local Government Area. According to one of them: "I strongly believe that most Christians in this village will turn

a new leaf if they are properly enlightened about their ethical or moral responsibilities toward the environment. I think most of them are not aware of it..." (Paul). In the words of another interviewee: "I think ignorance is one of the major reasons for the increasing rate of indiscriminate bush burning in this community and beyond. Indeed, creating awareness among Christians about their responsibilities towards the environment will help to reduce indiscriminate bush burning" (Adamu). However, there were few in-depth interview respondents who had contrary opinion. According to one of them: "awareness or no awareness, most people who are engage in indiscriminate bush burning will never change because they derive pleasure in doing it. They will continue to do so until Jesus comes. I do not believe that they will ever stop" (Shem). From the above finding, it seems all hope is not lost with regards to the issue of indiscriminate bush burning in Biliri Local Government Area since majority of the respondents believed that awareness of Christian ethical responsibility toward the environment will help to reduce such act in their localities. It is now the moral responsibility of the Christian leaders in Biliri Local Government Area in collaboration with other Christian organizations or agencies to carry out enlightenment campaign on this subject matter; that is, informing everyone in the various communities that humans are stewards to God's earth.

Majority of the interviewees said that they are willing to create awareness about the dangers of indiscriminate bush burning in their communities. Below are some of the comments from the interviewees. One of them said: "I am a child of God and I believe it is my responsibility to teach people the right thing anytime and anywhere. So, I will start creating awareness about the dangers of indiscriminate bush burning among our people" (Elsa). One other in-depth interview respondent asserted: "I have been creating awareness about indiscriminate bush burning in this village in my own little way for about two years now because I have been a victim of indiscriminate bush burning but we need the government and church leaders to assist us..." (Nadeki). Another interviewee declared: "I do not think I will be able to create any awareness about indiscriminate bush burning because it is not my responsibility. The government and religious leaders should create such awareness if it is important" (Maikula). The above findings indicated that there are Christians who are ready to create awareness about the dangers of indiscriminate bush burning in Biliri Local Government Area, which means there is a renewed hope for the care and preservation of the environment and its resources in the various communities.

Moreover, an in-depth interview question which seeks to identify the measures through which Christians in Biliri Local Government Area could be made to desist from indiscriminate bush burning got the following responses among others. One of the interviewees said: "I think the church will help a great deal to educate people in this community on the dangers of indiscriminate bush burning since majority of people here are Christians and I believe that when pastors tell their members that God is not happy with the way they burn bushes indiscriminately, they may desist from it" (Mela). Another in-depth

interview respondent declared: “People can be educated on the need to desist from indiscriminate bush burning through awareness and sensitization in churches and town hall meetings by Christian religious leaders in collaboration with community leaders who have the obligations to admonish their followers to do the right thing” (Emmanuel). One other interviewee asserted: “the church is a good place to sensitize the people on the need to desist from indiscriminate bush burning in this village because that is the place where people gather every week to worship God and when it is presented as a sermon, it will make more sense to them” (Bulama). Majority of the in-depth interview respondents are of the opinion that awareness about the dangers of indiscriminate bush burning among Christians in Biliri Local Government Area can be created in Christian fellowship centers, village square meetings, town hall meetings, market places and through town criers, among others.

CONCLUSION

This study has investigated bush burning in Biliri Local Government Area of Gombe State from Christian ethical perspective. It established that indiscriminate bush burning in the Local Government Area violates the Christian environmental ethical principle of earth stewardship. The research revealed that indiscriminate bush burning in the various rural communities of Biliri Local Government area has continued to generate serious environmental issues such as pollution of the atmosphere, destruction of wildlife and trees that have medicinal values, wind storm destruction of valuable properties because of insufficient trees in the environment, distortion of the natural order, among others, thereby serving as obstacle to environmental safety. Little wonder the 1987 report of the World Commission on Environment and Development warned that unless humans change their life style, the world will face unacceptable levels of environmental damage and human suffering (Asaju and Arome⁵⁶).

Moreover, humanity’s failure to recognize the sanctity and the sacredness of the environment as God’s special creation and the constant irresponsible use of environmental resources has continued to promote ecological injustice in various communities in Biliri Local Government Area and beyond. It is imperative to reiterate at this juncture that it is the moral responsibility of all adherents of the Christian faith the world over to avoid any act that will bring harm to the earth and its resources. In Mark 4:30-32, Jesus Christ shows that God transferred the duty of protecting all creatures to humankind. Christians are therefore admonished in this study to become ambassadors of environmental safety by adhering to the principle of Christian environmental stewardship and conscientise other people on the need to protect the natural environment and use its resources responsibly as a matter of divine moral mandate. When Christians conscientiously and devotedly undertake this assignment as a divine moral duty, the world will be a better place for all creatures to live.

Having established that indiscriminate bush burning among some Christians in Biliri Local Government Area have serious environmental ethical implications, it becomes extremely necessary to make some recommendations on how to effectively protect the environment and preserve its resources. In this light, the following recommendations are therefore provided based on the findings of the study: First, Christian religious leaders should incorporate biblical teaching about environmental ethics and ecological values into their Sunday sermons in order to properly educate their adherents about the Christian mandate of care for God's earth and its various resources. Second, environmental protection agencies in collaboration with Christian leaders should take the campaign against indiscriminate bush burning to rural communities and properly educate the people on the need to protect their environment both as an act of Christian moral responsibility and obedience to the extant laws of the land. Third, all Christian farmers in Biliri Local Government Area should learning to adopt a bush burning method that will enable them to control the fire from escalating by practicing slash and burn technique, if at all they want to clear their farmland using bush burning method during farming season. Fourth, farmers should be taught alternative means of farm clearing and government should make fertilizers available to farmers at subsidize rate and also provide all other modern farming aids to local farmers so that they will not rely on bush burning as the only means through which they can clear their farmland for cultivation. Fifth, the law enforcement agents should go hard on any hunter and other people who intentionally set bushes on fire in order to get bush meat. Such individuals should be taught bitter lessons through the instrument of the law to serve as a deterrence for anyone who have the intention to engage in indiscriminate bush burning. Sixth, Churches in Biliri Local Government Area and beyond should establish Christian environmental ethical orientation unit in each of the local churches vested with the responsibility of sensitizing the people about the dangers and consequences of indiscriminate bush burning and other forms of abuse of the environment and its resources.

WORKS CITED

- Adams, E. "Does Awaiting "New Heavens and a New Earth" (2 Pet. 3.13) Mean Abandoning the Environment?" *The Expository Times* 121.4(2010):168–175. <https://doi.org/10.1177/0014524609354742>
- Asaju, Kayode and Arome, Samuel "Environmental Degradation and Sustainability in Nigeria: The Need for Environmental Education" *American Journal of Social Sciences* 3.3(2015):56-61. <https://worldscholar.org>
- Atoi, Ewere N. and Ajiji Mark D. "Religious Education, Ethical Orientation and National Development in Nigeria" *Oracle of Wisdom Journal of Philosophy and Public Affairs* 8.1, 2024:124-135.
- Atoi, Ewere. N., et al "Environmental Degradation in Nigeria: A Christian Ethical Approach" *KIU Journal of Humanities* 8.2, 2023:115-122. <https://doi.org/10.58709/kiujhu.v8i2>
- Baiyeri, M.R. "Effect of Bush Burning and Prediction of Infiltration Equations on Soil (A Case Study of Ilorin Kwara State)" *Journal of Research in Pure and Applied Sciences* 3.1, 2014:15-29.
- Barnabas B., et al "Perceived Effects of Bush Burning on Arable Crop Production in Bauchi Local Government Area of Bauchi State, Nigeria" *African Scholar Journal of Agriculture and Agricultural Tech.* 15.1, 2019:250-260. https://www.africanscholarspublications.com/wp.content/upload/2020/06/AJAAT_Vol15_No1-2...
- De Wit, Martinus .P. "Christ-centred Ethical Behaviour and Ecological Crisis: What Resources do the Concepts of Order in Creation and Eschatological Hope Offer?" *Koers – Bulletin for Christian Scholarship* 78.1, 2013:1-8. <http://dx.doi.org/10.4102/koers.v78i1.4>
- Edem, Dennis, et al "Variability of Soil Physical Conditions along a Slope as Influenced by Bush Burning in Acid Sands" *International Journal of Scientific & Technology Research* 1.6 (2012):8-14.
- Freyer, Bernhard "Is there a Relation between Ecological Practices and Spirituality? The Case of Benedictine Monasteries" *Journal of Agricultural and Environmental Ethics* 31(2018):559-582. <http://doi.org/10.1007/s10806-018-9745-4>

- Grasse, Alexis. "The Impact of Anthropocentrism on Christian Environmentalism" *Dialogue & Nexus* 3, 2016:1-9. <http://digitalcommunications.acu.edu/dialogue/vol3/iss1/18/>
- Hamid, A. A., et al "Environmental and Health Risk of Bush Burning" *Advances in Environmental Biology* 4.2, 2010: 241-249. https://www.researchgate.net/publication/319185843_Environmental_and_health_risk_of_bush...
- Hens, L. and Susanne, C. "Environmental Ethics" *Global Bioethics* 11:1-4, 1998: 97-118. <https://doi.org/10.1080/11287462.1998.10800735>
- Hough, John L. "Why Burn the Bush? Social Approaches to Bush-Fire Management in West African National Parks" *Biological Conservation* 65, 1993: 23-28. https://www.researchgate.net/publication/273874597_A_framework_for_agricultural_adaptation...
- Hourdequin, Marion "Environmental Ethics: The State of the Question" *The Southern Journal of Philosophy* 59.3, 2021: 270–308. <https://doi:10.1111/Sjp.12436>
- Jenkins, Willis "After Lynn White: Religious Ethics and Environmental Problems" *Journal of Religious Ethics JRE* 37.2, 2009: 283–309. https://www.researchgate.net/publication/249389594_After_Lynn_White_Religious_Ethics_and_E...
- Mwambazambi, K. "A Theological View of Environmental Protection in Africa" *In die Skriflig* 45.4(2011):849-866. https://www.researchgate.net/publication/267634173_A_theological_view_of_environmental_pro...
- Nash, James A. "The Bible vs. Biodiversity: The Case against Moral Argument from Scripture" *Journal for the Study of Religion, Nature and Culture* 3.2, 2009: 213-237. <https://doi:10.1558/jsrnc.v3i2.213>
- Ofuoku A. U. and Agbogidi, O.M. "Bush Burning as Perceived by Rural Communities in Delta Central Agro-Ecological Zone" *European Journal of Social Sciences* 2.2, 2006: 123-129. https://www.researchgate.net/publication/292876436_bush_burning_as_perceived_by_rural_co...

Ozor, N., et al “A Framework for Agricultural Adaptation to Climate Change in Southern Nigeria” *International Journal of Agriculture Sciences* 4.5, 2012: 243-252.

Peterson, Anna *Seeds of the Kingdom: Utopian Communities in America*. New York: Oxford University Press, 2005.

Petrescu-Mag, Ruxandra M., et al “Beliefs and Actions Towards an Environmental Ethical Life: The Christianity-Environment Nexus Reflected in a Cross-National Analysis” *Journal of Agricultural and Environmental Ethics* 33, 2020: 421-444.<https://doi.org/10.1007/s10806-020-09832-1>

Rolston, Holmes “Environmental Ethics Some Challenges for Christians” *The Annual of the Society of Christian Ethics* 13, 1993: 163-186.
<http://www.jstor.org/stable/23559560>

Schuurman, E. “Struggle in the Ethics of Technology” *Koers* 71.1, 2006: 155–173.
https://www.researchgate.net/publication/274658424_Struggle_in_the_ethics_of_technology

Simmons, Frederick V. “What Christian Environmental Ethics Can Learn from Stewardship’s Critics and Competitors” *Studies in Christian Ethics* 33.4, 2019: 1-20. <https://doi.org/10.1177/0953946819859513journals.sagepub.com/home/sc>

ORAL SOURCES

LADONGOR (BILLIRI ROOT)
Chitas, Malambore. Interview. Conducted by Iliya Bako. 15 August 2023.
Shem, Yagkong. Interview. Conducted by Iliya Bako. 15 August 2023.
Danzariya, Ayuba. Interview. Conducted by Iliya Bako. 15 August 2023.
Mela, Dulyamba. Interview. Conducted by Iliya Bako. 15 August 2023.
Paul, Moses. Interview. Conducted by Iliya Bako. 15 August 2023.
ANTAWALAM (KALMAI ROOT)
Yunusa, Tele. Interview. Conducted by Iliya Bako. 13 August 2023.
Hamma, Helen. Interview. Conducted by Iliya Bako. 13 August 2023.
Daniel, Manja. Interview. Conducted by Iliya Bako. 13 August 2023.
Esther Yunusa. Interview. Conducted by Iliya Bako. 13 August 2023.
Saminu, Ayuba. Interview. Conducted by Iliya Bako. 13 August 2023.
LATUR (LATUR ROOT)
Sallabiya, Isa. Interview. Conducted by Iliya Bako. 23 July 2023.

Adamu, Laudi. Interview. Conducted by Iliya Bako. 23July 2023.
Nadeki, Muhammed. Interview. Conducted by Iliya Bako. 23July 2023.
Mela, Josephine. Interview. Conducted by Iliya Bako. 23July 2023.
Buba, Yerima. Interview. Conducted by Iliya Bako. 23July 2023.
LAWUSHI TANGLANG (TANGLANG ROOT)
Musa, David. Interview. Conducted by Iliya Bako. 20July 2023.
Majidadi, John. Interview. Conducted by Iliya Bako. 20July 2023.
Emmanuel, Michael. Interview. Conducted by Iliya Bako. 20July 2023.
Elsa, Paul. Interview. Conducted by Iliya Bako. 20July 2023.
Ibrahim, Emmanuel I. Interview. Conducted by Iliya Bako. 20July 2023.
PANDIN KUDE (TAL ROOT)
Kumbal, Felix. Interview. Conducted by Iliya Bako. 23July 2023.
Salisu, Molankale. Interview. Conducted by Iliya Bako. 23July 2023.
Essai, Dauda. Interview. Conducted by Iliya Bako. 23July 2023.
Afro, Mathias. Interview. Conducted by Iliya Bako. 23July 2023.
Ephraim, Joseph. Interview. Conducted by Iliya Bako. 23July 2023.
SHELA (TODI ROOT)
Mabudi, Hussaini. Interview. Conducted by Iliya Bako. 30July 2023.
Nitte, Molta. Interview. Conducted by Iliya Bako. 30July 2023.
Bulama, Animation. Interview. Conducted by Iliya Bako. 30July 2023.
Tadi, Daniel. Interview. Conducted by Iliya Bako. 30July 2023.
Maikula, Ambore. Interview. Conducted by Iliya Bako. 30July 2023.