



## RELIGION AS AN EFFECTIVE TOOL IN FORESTRY PRACTICES, WILDLIFE MANAGEMENT AND ENVIRONMENTAL SUSTAINABILITY IN KOGI STATE, NIGERIA

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### ABSTRACTS

*This paper examined religion as an effective tool in forestry practices, wildlife management and environmental sustainability in Nigeria. The roles of forestry and wildlife management in environmental sustainability are very imperative. This study was carried out in Kogi State, Nigeria. Data were obtained from Seven (7) randomly selected Local Government Areas (LGAs) within Kogi State. Structured questionnaire, direct field observation, and personal interview were used to collect information from indigenous people within the Study Area. Structured questionnaire was administered on Thirty (30) randomly selected respondents from each of the LGAs making a total number of Two hundred and Ten (210) respondents. The data was subjected to descriptive and inferential statistical analysis such as table and graph; and parametric statistics, respectively. The results showed that there were Thirty-Nine (39) sacred forests, Twenty-Five (25) burial ground forests, and Seven (7) plantation forests in the Study Area. The results also showed that One-Hundred and Sixty-three (163) out of Two-Hundred and Ten (210) respondents are of the view that religion can be used to prevent deforestation, wildlife destruction, and environmental degradation. The inferential analysis using student's t-test and ANOVA shows significant differences which implies that most of the respondents accept religion as an effective tool to reduce forest and wildlife destruction, and also that the sacred forests are the most preserved forests in the Study Area. Therefore, involvement of all stakeholders, religious leaders and their followers in sustainable forest/wildlife management and environment sustainability will go a long way to reduce deforestation, desertification, and extinction of some trees/shrubs/wild plants, wild animals, and environmental degradation.*

**Key Words:** Environment, Forestry, Religion, Sustainability, and Wildlife

### INTRODUCTION

Forestry can be defined as the art, science, and act of planting, tending, utilization and application of scientific knowledge to the management of forests that exists either in its wild state or planted by individuals, group of people, and the government for the continuous production of goods and services for the present and future generations of humanity; biological diversity; and environmental benefits. A key area of the environment is forest. Forests hold great value on earth. Without forests, humans and all the biodiversity will be in danger! A landscape without forests will greatly harm

human health, as one of the important elements that take carbon dioxide from the atmosphere and produces oxygen for human survival is lacking.

Wildlife refers to undomesticated plants and animals which includes trees, shrubs, fruits, vegetables, vertebrate and invertebrate animals, birds, fishes and other organisms that exists in their natural habitats and depend completely on their natural environment for survival. Wildlife conservation is an effort to maintain and protects wild plant and animal species and their habitats while utilizing them on a sustainable basis to ensure that those species will be available for both

present and future generations. Habitat loss due to forest destruction is the major threat to the survival of wildlife. The loss of one species can affect many other species in an ecosystem. The role of forests for maintaining biodiversity is extremely important because it is their only refuge but humans are continually expanding and developing new areas, leading to an invasion of wildlife habitats. Perhaps the largest threat is the extreme growing indifference of the public to wildlife, conservation and environmental issues in general (McCallum *et al.*, 2013).

Environment is a dynamic, complex of physical, chemical, and biological factors with its own laws and processes that act upon an organism or an ecological community and ultimately determine its form and survival. Environment refers to all external conditions and factors that affect living organism (Tyler, 1989). Environmental crises such as struggling to cope with natural resource depletion, climatic change due to ozone layer depletion, acid rain, ecosystem loss, polluted- air, land, rivers and oceans on which our future depends have become immediate concern for the survival of every living creatures on earth. Environmental concern about global warming, urban heat islands, and air pollution has brought attention to the potential of trees to ameliorate climate and conserve energy (McPherson and Rowntree, 1993). These environmental crises and scarcities may not cause wars among countries, but surely, they can generate severe social issues within countries, helping to stimulate sub-national insurgencies, ethnic clashes, religious crises, and urban unrest. Such civil violence particularly affects developing societies, because they are, in general, highly dependent on environmental resources and less able to buffer themselves from the social crises that environmental scarcities cause (Muinul, 2004). Therefore, if present and future generations of humans along with the rest of biological diversity on earth are to have a sustainable future and high quality of life, urgent and drastic measures are needed to start large-scale planning and adaptive management of human natural resource use and replenishment.

Arinze (1970) defines religion as the consciousness of one's dependence on a transcendent being and a tendency to worship him; as a body of truths, laws, and rites by which man is subordinated to the transcendent being. According to Durkheim (1858-1917), the function of religion in human society is

to create and maintain a moral community thereby functioning to give members of the community a common view of the world, thereby facilitating social interaction and social organization. All the three (3) main religions (Traditional or African religion; Christianity religion; and Islamic religion) has the ability to change people's views on deforestation and encourage every individual to go into forestry practices, save wildlife from going into extinction, and improve the environment. The leaders of all the three (3) main religions have enormous influence on their members to stop the cutting down of trees, reduce the rate of killing of wild animals and the destruction of other component of biodiversity, and accept forestry practices by planting trees around their homes or vicinity in order to stabilize the environment. Traditional religion is the beliefs and practices, rites and rituals, customs and norms, moods and attitudes of our fore fathers passed down by words of mouth and by practical example from the past generations to both the present and future generations.

Traditional religious leaders give protection to indigenous tree species and the biodiversity within by making a forest estate sacred! A sacred forest is a shelter for deities, cultural ceremonies and traditional religion rituals. Shuaibu (2014) in her findings stated that sacred forests are valuable biodiversity reserves with very unique vegetation which are richer in vascular plant and vertebrate species. They are veritable tools for sustainable biodiversity conservation (Onyekwelu and Olusola, 2014). Lokossou (2010) stated that some sacred forests are connected with other natural ecosystems and/or protected area through ecological corridors, gallery forests, rivers, and water bodies creating biological connectivity and a spatial /ecological network. Sacred forests could be important hotspots for high species diversity and thus, should be recognized as an essential part of conservation strategy (Shuaibu, 2014). Religious leaders in Nigeria have a very important role to play in discouraging deforestation of forest reserves and estates which have been turned into homes by some set of people all in the name of rituals, Kidnapping, idolatry, and religious terrorism. Udofia (2012) stated that religious organizations such as Christianity can effect meaningful changes in the people's attitude towards social forestry in order to complement government's efforts in increasing forest wealth and conserve the environment. Akpan (2014)

pointed out that afforestation is an integral part of religion because God started afforestation programme when he raised a plantation during world creation; And God said “let the earth put forth tender vegetation; plants yielding seed and fruit, trees yielding fruits whose seed in itself, each according to its kind upon the earth and it was so (Genesis 1:11)”.

Man, according to Islam, has been given clear guidelines not to destroy the environment because he is not its owner. Islam also forbids cruelty to animals and birds. It holds man responsible for the well-being of other creation. If a Muslim plant a tree, that part of its produce consumed by men will be as almsgiving for him. Any fruit stolen from the tree will also be as almsgiving for him. That which the birds eat will also be as almsgiving for him. Any of its produce which people may eat thus diminishing it, will be as almsgiving for the Muslims who planted it.

On migrating to Medina, God’s Messenger (peace and blessings be upon him) organized the planting of trees and of date groves. He made the forests and green spaces conservation areas, where every sort of living creature lived. These were called sanctuaries (Hima). For example, a strip of land approximately twelve miles wide around Medina was proclaimed a sanctuary and made a conservation area. We know that he proclaimed other areas, similar to this, sanctuaries. All these show the paramount importance - as a religion - Islam gives to nature conservancy and protection of all nature’s living creatures. The utilization of natural resources, according to Islam, is a sacred trust invested in mankind. Hence man should take every precaution to ensure the interests and rights of other living beings, since he is the Kahlifah (vicegerent) of Allah (the Almighty) on earth. The Prophet Muhammad (peace and blessings be upon him) considered all of God’s creations to be equal before God and should have rights. Therefore, abusing one of his creations, whether it is a living being or a natural resource, is a sin. On looking at the Quran, the prominent place given to animals, the key members of the ecosystem, is immediately apparent. A number of its Suras bear animals’ names: al-Baqara (The Cow); al-Nahl (The Bee), al-Anqabut (The Spider), al-Naml (The Ant), and

Al-Fil (The Elephant). One of the striking expressions the Quran uses about animals is that they are a “community” (ummah). It is especially noteworthy that this concept, which is a significant concept in Islamic tradition and literature, should also be used for animals: “*If you really want to see the signs of Allah, just look at any animal that walks upon the earth and any bird that flies in the air; they too are the communities like you. We have not left out anything from the Book in determining the courses of their lives.*” (6:38) But these communities like us, today, are in great peril. Due to environmental degradation, many of the species are vulnerable, endangered and susceptible to extinction.

To get back the sound environment and un-hazardous nature, teachings and guidelines of religion have no alternative. Islamic, and other religion eco-ethics needed to be implemented at all levels – local, national, regional, global and most importantly, at individual level. The religious leaders in Nigeria have significant roles to play for an effective tree planting or afforestation program by inculcating the advantages of tree planting activities into the traditional worshippers, Christians, and Muslims which will eventually become parts of them thereby helping to reduce the issues of deforestation, desertification, and environmental degradation. This study looks at religion as an effective tool in forestry practices, wildlife management and environmental sustainability in the Study Area.

## METHODOLOGY

### The Study Area

This study was carried out in Seven (7) selected Local Government Areas of Kogi State (Plate 1) namely- Ajaokuta, Dekina, Idah, Kabba, Kontonkarfe, Ofu, and Ogori-Magongo LGAs. Kogi State is located in the North-Central of Nigeria, it has a total area of 29,833 square kilometers (km<sup>2</sup>) (Wikipedia) with a population of 3,278,487 (NPC, 2006). It lies on latitude 7°30’N and longitude 6°42’E. Kogi State is bounded to the North by Niger State, Kwara State, Nassarawa State and The Federal Capital Territory; to the East, the state is bounded by Benue state; to the South by Enugu and Anambra States; and to the West by Ondo, Ekiti and Edo states.

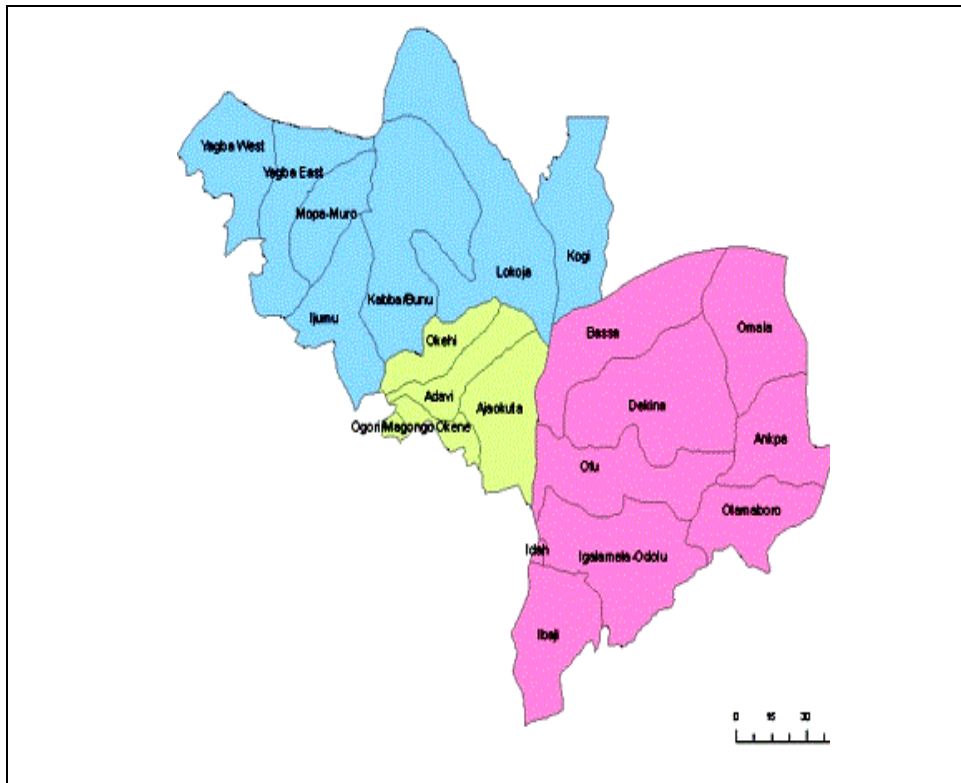


Plate 1: Map of Kogi State Showing the Study Areas

### Data Collection

Data were collected from Seven (7) LGAs which were randomly selected from the Study Area using structured questionnaire, direct field observation, and personal interview of the indigenous people within the LGAs in the Study Area. The Structured questionnaire was administered on thirty (30) randomly selected respondents from each of the LGAs making a total number of two hundred and ten (210) respondents.

### Data Analysis

The data was subjected to descriptive and inferential statistical analysis such as table and graph; and parametric statistics, respectively. One-way ANOVA and student t-Test was used as the parametric statistics for comparison of effect of the three religions on the environment. All statistical analyses were done using Microsoft excel 2007 analysis Toolpak.

### RESULT AND DISCUSSION

Gender status in table 1 showed that there were more women respondents than men in all the Seven (7) LGAs. This shows that women are more in number than men. Educational level of the respondents showed that they were more of primary school certificate and informal education. This shows that the respondents with the knowledge of forests were old and ancient people. Marital status showed that there were more married respondents in Study Area. This showed that most of the respondents were responsible men and women. Occupation showed that there were more farmers and traders in the Study Area. This showed that those with the knowledge of forests, wildlife and the environment were farmers and traders.

Table 1: Socio-Demographic Characteristics of Respondents in the Selected LGAs

Variable	Local Government Area (LGAs)													
	Ajokuta		Dekina		Idah		Kaba		Konton-karfi		Ofu		Ogori-Magogo	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%
<b>Gender status</b>														
Male	17	56.7	21	70.0	20	66.7	16	53.3	22	73.3	19	63.3	18	60.0
Female	13	43.3	9	30.0	10	33.3	14	46.7	8	26.7	11	36.7	12	40.0
Total	30	100	30	100	30	100	30	100	30	100	30	100	30	100
<b>Educational level</b>														
Informal	13	43.3	11	36.7	3	10.0	4	13.3	12	40.0	13	43.3	6	20.0
Primary	8	26.7	14	46.7	12	40.0	11	36.7	11	36.7	12	40.0	9	30.0
Secondary	6	20.0	4	13.3	11	36.7	9	30.0	4	13.3	3	10.0	10	33.3
Tertiary	3	10.0	1	3.3	4	13.3	6	20.0	1	3.3	2	6.7	5	16.7
Total	30	100	30	100	30	100	30	100	30	100	30	100	30	100
<b>Marital Status</b>														
Married	18	60.0	23	76.7	21	70.0	19	63.3	17	56.7	22	73.3	20	66.7
Single	4	13.3	2	6.7	5	16.7	7	23.3	2	6.7	4	13.3	3	10.0
Widow/er	6	20.0	4	13.3	2	6.7	3	10.0	5	16.7	4	13.3	3	10.0
Divorce	2	6.7	1	3.3	2	6.7	1	3.3	6	20.0	0	0.0	4	13.3
Total	30	100	30	100	30	100	30	100	30	100	30	100	30	100
<b>Occupation</b>														
Farming	11	36.7	14	46.7	9	30	10	33.3	8	26.7	12	40.0	7	23.3
Trading	12	40.0	10	33.3	9	30	8	26.7	14	46.7	13	43.3	11	36.7
Civil Servant	7	23.3	6	20.0	12	40	12	40.0	8	26.7	5	16.7	12	40.0
Total	30	100	30	100	30	100	30	100	30	100	30	100	30	100

Source: Field Survey, 2017.

Table 2: The Unexploited Forests in the Study Area

Forests	Local Government Area (LGAs)													
	Ajokuta		Dekina		Idah		Kaba		Konton-karfi		Ofu		Ogori-Magogo	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Sacred Forest	3	7.7	7	17.9	5	12.8	4	10.3	3	7.7	8	20.5	9	23.1
Burial Ground Forest	3	12.0	6	24.0	3	12.0	2	8.0	3	12.0	5	20.0	3	12.0
Plantation Forest	0	0.0	2	28.6	2	28.6	1	14.3	1	14.3	1	14.3	0	0.0

Source: Field Survey, 2017.

Table 2 above showed that there were Thirty-Nine (39) sacred forests, Twenty-Five (25) burial ground forests, and Seven (7) plantation forests in the Study Area. Sacred forests are preserved places where trees and plants grow undisturbed and provide shelter to other biodiversity without anyone harvesting them. Burial ground forests are forests found around and within the cemetery, and grave yard. Plantation forests are forests planted by individuals/ group of people/Government for the benefit of present and future generation. This

shows that sacred and burial ground forests were the preserved forests in the Study Area. This is because it is strictly prohibited to harvest trees, to hunt animals or utilize resources within these forests. This is in line with the statement of Ntiamoa (1995) in his study that sacred grooves in Nigeria protect biodiversity in three ways: by protecting particular animal or plant species; by protecting particular ecosystems or habitats; and by regulating the exploitation of natural resources.

Table 3: Respondents' view on Religion as a Tool for Forest and Wildlife Management

Respondents' View	Local Government Area (LGA)														Total	
	Ajokuta		Dekina		Idah		Kaba		Konton-karfi		Ofu		Ogori-Magogo			
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Accept Religion as a tool	22	73.3	26	86.7	25	83.3	21	70.0	18	60.0	23	76.7	28	93.3	163.0	543.3
Do not accept religion	8	26.7	4	13.3	5	16.7	9	30.0	12	40.0	7	23.3	2	6.7	47.0	156.7
Total	30	100	30	100	30	100	30	100	30	100	30	100	30	100	210	700

Source: Field Survey, 2017.

Table 3 above showed that One-Hundred and Sixty-three (163) out of Two-Hundred and Ten (210) respondents are of the view that religion can be used to prevent deforestation, wildlife destruction, and environmental degradation. This shows that most of the respondents have lived to see the uncontrolled destruction meted out on the available natural forests, but since there is restriction on the sacred groves due to religion beliefs, the sacred forests are preserved as well as the wildlife within and the environment around them.

The results of the t-test in table 4 below shows that the t-statistics (9.24799566) is higher than the t-critical (1.782287556) (t-statistic >t-tabulated/critical), which means there is a significant difference between those that accept and those that did not accept religion as an effective tool to reduce forest and wildlife destruction. This implies that most of the respondents accept religion as an effective tool to reduce forest and wildlife destruction.

Table 4: t-Test: Two-Sample Assuming Equal variances

	<i>Accept Religion as a tool</i>	<i>Do not accept religion</i>
Mean	23.28571429	6.714285714
Variance	11.23809524	11.23809524
Observations	7	7
Pooled Variance	11.23809524	
Hypothesized Mean Difference	0	
df	12	
t Stat	9.24799566	
P(T<=t) one-tail	4.13914E-07	
t Critical one-tail	1.782287556	
P(T<=t) two-tail	8.27829E-07	
t Critical two-tail	2.17881283	

Table 5: ANOVA: Two-Factor Without Replication

<i>SUMMARY</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Sacred Forest	7	39	5.57142857	5.952381
Burial Ground Forest	7	25	3.57142857	1.952381
Plantation Forest	7	7	1	0.666667
Ajaokuta LGA	3	6	2	3
Dekina LGA	3	15	5	7
Idah LGA	3	10	3.33333333	2.333333
Kaba LGA	3	7	2.33333333	2.333333
Konton-karfi LGA	3	7	2.33333333	1.333333
Ofu LGA	3	14	4.66666667	12.33333
Ogori-Magogo LGA	3	12	4	21

## ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Rows	73.52381	2	36.7619048	17.54545	0.000274	3.885294
Columns	26.28571	6	4.38095238	2.090909	0.130431	2.99612
Error	25.14286	12	2.0952381			
Total	124.9524	20				

The F-test from ANOVA table yield a P-value of 0.000274 in comparing the existing forests between Sacred forests, Burial ground forests, and plantation forests. The table shows that the F-calculated is higher than the F-critical/tabulated. This implies that there is a significant difference between the available forests within the Study Area. A reason for why rural areas retain sacred groves of trees may be because pre-Islamic (traditional) beliefs and customs persisted following conversion – the same applies to Christianity, also (Blench, 2004; Dafni, 2011). Groves of trees, nonetheless, are very important in rural areas, across the Islamic world, where they may serve as cemetery grounds, as places where male circumcision takes place, as sites that can provide blessing, and where other religious ceremonies are undertaken (Ben-Ami, 1998).

## CONCLUSION

The relationship between forest, wild animals/wildlife and the environment is of great importance since the importance of forests and

forest trees in wild animals and biodiversity conservation; soil enhancement and soil protection; food security and health; and environmental protection is such that all the biological diversity including humans; soils; and the environment can rarely exist, nor survive without the forest. To strengthen efforts in forest conservation, the sustainable management of forest resources, and to improve environmental sustainability, it is very important to inculcate the teachings and guidelines of religion in the people. Religion ethics needed to be implemented at all levels starting from the individual level – local – national – regional to the global levels. The religious leaders in Nigeria have a significant role to play for an effective tree planting or afforestation program through awareness campaign on the advantages of tree planting activities to the traditional worshippers, Christians, and Muslims thereby helping to reduce the issues of deforestation, desertification, and environmental degradation

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