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## The Influence of Social Cultural Practices of Host Community on the Sustainable Conservation of Maasai Mau Forest in Kenya

**Aloo, Charles Ochuka**

Ph.D. Candidate, Department of Ecotourism, Hotel & Institution Management,  
Maseno University, Kenya

**Kambona, O. Ouma**

Senior Lecturer, Department of Ecotourism, Hotel and Institution Management,  
Maseno University, Kenya

**Pius Odunga**

Senior Lecturer, Department of Business and Economics, Kirinyaga University, Kenya

### **Abstract:**

*Ecotourism remains one of the newest opportunities for income generation and livelihood to rural and marginalised communities from natural resources without destroying the environment. This was achieved owing to cultural practices of host communities that restricted logging and viewed forests as a source of livelihood. The dependence of the Maasai Mau community on Maasai Mau Forest for ecotourism benefits, medicinal plants, sacred groves, and livestock grazing and watering has become threatened in the recent past due to human activities. The purpose of the study was to assess the influence of socio-cultural practices of host community on the conservation of the Maasai Mau Forest in Kenya. The specific objectives were; to establish the influence of cultural practices, to assess the influence of community participation, and to determine the influence of gender participation on the conservation of Maasai Mau Forest. Target population comprised of 15 Government agencies; 71 community-based tourism organizations (CBTOs); 847 hotels and restaurant service providers, and 29 tour and travels operators (N=962). Bartlett, Kotrlik and Higgins' (2001) formula was adopted to obtain a sample size of 384 stakeholders: six Government agencies; 28 CBTOs; 338 hotels and restaurant service providers; and 29 travel and tour operators. Structured questionnaires were administered on the sampled CBTOs and hotels and restaurant service providers; interviews were done with the government agencies, while Focus group discussions (FGDs) were conducted with 12 travel and tour operators in the area. The supervisors and peers counter-checked the instruments to enhance validity, whereas test-retest was used for achieving instrument reliability during a pilot study on randomly selected 34 hotels and restaurant providers and two CBTOs. Reliability coefficient of 0.859 was obtained for all the variables. Qualitative data was analysed through thematic analysis, while descriptive statistics was used to analysed quantitative data. Regressions were used for data analysis. Findings revealed that cultural practices ( $B=0.001, p=0.000$ ), community participation ( $B=0.003, p=0.000$ ), and gender participation ( $B=0.002, p=0.000$ ) all have significant influence on forest conservation of the Masaai Mau Forest. This implies that for every unit improvement in socio-cultural practices, there is unit improvement in the conservation of Masaai Mau Forest. It is recommended that gender roles should be enhanced to rope in women and youths in ecotourism and forest conservation. Findings of the study might inform policy formulation to aid upkeep of cultural practices, enhancement of social networks, and improved decision making among host communities of Maasai Mau Forest.*

**Keywords:** Maasai Mau forest, conservation, social networks, decision making, ecotourism, host community, Maasai Mau community

### **1. Introduction**

Preserved forest patches are usually close to human settlement, thus forming an integral part of traditional rural communities (Ray, Chandran and Ramachandra, 2014). Forests represent an important long-held tradition of conserving specific land areas that have cultural and often religious significance (Daniel, Udeagha and Jacob, 2016; Daniel, 2010; Ormsby and Bhagwat, 2010). In addition, sacred groves are important refuges for biodiversity and wildlife, including edible plants, medicinal plants and vegetables which contribute to household income, even within highly humanized landscapes (Balachandran et al., 2015). However, these groves are currently threatened by numerous factors ranging from the need for development, population increase and changes in land use pattern, which resulted in increased pressures for timber and other forest products as well as demand for more fertile land for agriculture.

Cultural diversity is closely linked to biodiversity. There exists a symbiotic relationship between habitats and cultures, between ecosystems and cultural identity, and that this relationship constitutes a determining factor in ensuring sustainable human development (Negi, 2012). However, information regarding model-based cultural influence on forest conservation is limited in the wake of recent declining forest cover. Daniel et al (2016) argue that indigenous traditional

knowledge, beliefs and cultural systems have strong influence on nature conservation and should be sustained by incorporating them into modern and national biodiversity conservation strategies in Nigeria. Moreover, Lelelit, Macharia & Mburugu (2017) assert that cultural practices, level of education, gender roles and religious beliefs have a significant influence on women participation in wildlife conservation projects in Kenya. It is however critical to highlight how such socio-cultural practices lead to conservation of forests like Maasai Mau and consequently to community's livelihood through ecotourism model.

Researchers (D'Angelo et al., 2010; Kdper, Özdemir & Sağlam, 2011; Vishwanatha & Chandrashekara, 2014) contend that ecotourism has the power to improve the environment, provide funds for conservation, preserves culture and history and sets sustainable use limits as well protection of natural attractions. Indeed, creating a participatory ecotourism model can generate income through the sustainable use and conservation of forest resources (Wichramasinghe, 2009). In addition, it can cultivate a sense of ownership of the forest ecosystem throughout local populations hence increasing the use of sustainable forest management practices (Vishwanatha & Chandrashekara, 2014). However, the success of such in the conservation of forest such as Masaai Mau seem not to have been gauged going by the wanton depletion of the water tower in the recent past.

The Mau Forest Complex is the largest closed-canopy montane ecosystem in Eastern Africa. It encompasses seven forest blocks within the Mau Narok, Maasai Mau, Eastern Mau, Western Mau, Southern Mau, South West Mau and Transmara regions. The area is thus the largest water tower in the region, being the main catchment area for 12 rivers draining into Lake Baringo, Lake Nakuru, Lake Turkana, Lake Natron and the Trans-boundary Lake Victoria (Olang and Kundu, 2010). The Mau Complex is drained mainly by 12 rivers including Rivers Njoro, Molo, Nderit, Makalia, Naishi, Kerio, Mara, Ewaso Nyiro, Sondu, Nyando, Yala and Nzoia. In the last three decades, physical evidence has revealed that the rivers in the complex have had significant decline in discharges, coupled by dwindling water quality. Other studies have also highlighted the changing hydrological response of the area as a result of the land use/land cover changes in the Mau (Owido, Chemelil, Nyawade and Obadha, 2003).

The encroachment has led to drastic and considerable land fragmentation, deforestation of the headwater catchments and destruction of wetlands previously existing within the fertile upstream parts. Today, the effects of the anthropogenic activities are slowly taking toll as is evident from the diminishing river discharges during periods of low flows, and deterioration of river water qualities through pollution from point and non-point sources (Baldyga, Miller, Driesse and Gichaba, 2007).

### *1.1. Statement of the Problem*

Ecotourism contribution to sustainably develop communities adjacent to forests cannot be overemphasized. For ecotourism to be successful, it must promote sustainable development by establishing a durable productive base that allows local inhabitants and ecotourists service providers to enjoy rising standards of living. Further, it fuels economic growth, equitable distribution of resources and in the process alleviate poverty. While some scholars emphasize the potential for ecotourism to promote the well-being of both local people and their environments, there are a great many people living adjacent to forests who continue to suffer from the absence of fundamental opportunities to lead decent and satisfying lives. The continued high incidence of premature mortality, ill-health, undernourishment, hunger, illiteracy, poverty, insecurity, and other forms of deprivation are evidenced in different regions surrounding forested areas, regions which are a haven to many of the ecotourism projects. Current literature indicates that there has been a fair amount of progress in several areas of community-based ecotourism research although there are still gaps in knowledge that need to be addressed. Thus, the purpose of this study was to establish ecotourism-based socio-cultural influence of Masaai Mau community on sustainable conservation of the Mau forest, Kenya.

### *1.2. General Objective and Research Questions*

#### 1.2.1. General Objective

The general objective was to establish the influence of socio-cultural practices of the host community on sustainable conservation of the Mau Forest in Kenya.

#### 1.2.2. Research Questions

The specific objectives were;

- To establish the cultural practices affecting the conservation of Masaai Mau Forest in Kenya,
- To assess how community participation, affect the conservation of Masaai Mau Forest in Kenya,
- To determine how gender participation, affect the conservation of Maasai Mau Forest in Kenya

## **2. Theoretical Underpinnings**

### *2.1. Value Belief Norm Theory*

Value-Belief-Norm theory espoused by Stern (1999) supplements Marx theoretical basis of this study by providing understanding of the human values that cause individual moral obligation to protect and conserve nature. He links individuals with community and observes that pro-environmental behaviour by individuals in community comes from moral obligations or personal norms embedded within a certain value orientation. Stern and colleagues found that pro-environmental behaviour manifesting in individuals is due to belief that when their valued ecosystem resources are

threatened, then it is only their actions that can help restore them into their natural state. Thus, the individuals experience an obligation as a matter of norm. The theory reveals a chain of influence on behaviour from people's value sets and beliefs to action. It is believed that individuals will be most likely to respond to environmental challenges when they are aware of the environmental threats and are convinced that the danger posed by the threats are great that they feel obliged to address the environmental problems.

The VBN – model built on Schwartz's (1992), topology of value theory that presumes that altruistic value lead to awareness of adverse consequences on other people and thus instigates responsibility to help eliminate the problem. Stern's VBN- theory, therefore, provides a suitable account for the social and environmental concerns of individuals in CBET. The theory identifies community collectivism that accord with CBET principles. The interface between individual and collectivism, the theorists argue provides a good foundation to community-based management of natural resources and social relations. From an environmental point of view therefore, ecological consciousness or deep ecology can be understood to be the underpinning principle driving individuals into CBET lifestyle proposed as a tool for sustainable ecotourism in this study. However, the interdependence between the natural and social systems as well as within the human society finding expression in CBET lifestyles is best explained by social exchange theory.

## 2.2. Social Exchange Theory

Khan (2008), drawing from Stern insightful sustainable consumption and changing consumer behaviour, helps expound on the discourse by providing a theoretical model illustrating the networks of relations in a community-based tourism set up. Khan (2008) underscores the notion that the problems of consumption in capitalist economy are not limited to products and environment but is also a social issue, manifesting in a complex social exchange network. Ritzer and Goodman (2003) concurs that network formation between people, groups, corporations and societies are important for understanding the interactions that goes on in CBET as well as with other organizations.

The theory conceives relations between individuals in a community as shaped by normative behaviour based on culture and socialization processes through which norms and values are internalized among actors. In this process, people bond together through shared ideas motivated by possible access to wealth, information and power. Strong ties are likely to emerge between families, friends or groups stimulated by values which can motivate individuals to altruistic behaviour with increasing accessibility to each other in need, building cohesion, solidarity and feelings of identity with the group. This entails a set of collective groups of individuals, valued resources distributed among them and opportunities that develop into useful exchange relations connecting the individuals to one another in a single network structure. The network thus defines what is being exchanged, who are involved in the process, how the network is formed and what it should look like or built upon. The theory points to the information exchange transformation and knowledge networks occurring in the global system necessary for sustainability of any community group where needs, wants and satisfaction are shaped by transactions between organizations.

Exchange Network theory demonstrates that people will always act to maximize the benefits and minimize the cost in a given situation and environment. Thus, when individuals perceive the benefits from entrepreneurial engagement (ecotourism) are likely to be greater than the costs, then they will be more willing to participate in the exchange and support its (ecotourism) development. The rationale of exchange theorists can be applied to deepen the understanding of the local people's reaction to CBET and its development. The socio-economic and psychological dynamics reflected in this theory are that people are considered rational beings seeking to maximize their material benefits from transactions or exchanges with others and through this interaction, social relationships are also achieved. Finally, as reward seeking organisms, people will pursue alternatives that will yield highest psychological benefits perceived as exchanged resources, pleasurable and gratifying expressed in terms of social approval or agreements.

Place identity is characterized by strong desires and emotional attachments that consist of norms, behaviour, rules and regulation that are inherent in the use of these places built over time. Yoon (2002) infers that it is emotional traits that shapes peoples' attitude and hence compel them to recognize themselves as integral part of the physical surrounding and environment. Place dependence is therefore the level to which individuals perceive themselves as functionally associated with places or groups as well as functional relationship with their environmental settings and facilities. People's attachment to places provided a useful guide in identifying tourism stakeholder's relationship with their surrounding natural environments. This also offers a critical factor for determining potential CBET for sustainable development in the area of study. The theoretical framework is further interlinked with sustainable development models upon which the conceptual model of the study is drawn.

## 2.3. Empirical Literature Review

### 2.3.1. Cultural Practices on the Conservation of Masaai Mau Forest

Cultural diversity is closely linked to biodiversity and the interrelationships of the two need to be studied mainly for the simple reason that culture is not only the ethical imperative for development, but is also a condition of its sustainability. This is because there is a symbiotic relationship between habitats and cultures, between ecosystems and cultural identity, and that this relationship constitutes a determining factor in ensuring sustainable human development (Negi, 2012).

Preserved forest patches are usually close to human settlement, thus, forming an integral part of traditional rural communities (Ray et al., 2014). It represents an important long-held tradition of conserving specific land areas that have cultural and often religious significance (Udeagha et al., 2013; Ormsby and Bhagwat, 2010). In addition, sacred groves are

important refuges for biodiversity and wildlife, including edible plants, medicinal plants and vegetables which contribute to household income, even within highly humanized landscapes (Udoakpan et al., 2013; Ray et al., 2014; Balachandran et al., 2015). However, these groves are currently threatened by numerous factors ranging from the need for development, population increase and changes in land use pattern, which resulted in increased pressures for timber and other forest products as well as demand for more fertile land for agriculture and generally changes in cultural and traditional values (Ormsby and Bhagwat, 2010; Udeagha et al., 2013; Ray et al., 2014).

Odege (2014) analysed the factors influencing community participation in cultural tourism for poverty alleviation at Kit Mikayi in Kisumu County, Kenya. An exploratory and descriptive research designs were adopted, employing cross sectional survey with the use of questionnaires and key informant guides to get in-depth information about the community. The sample size was determined through an approach based on precision rate and confidence levels. Findings of this study revealed that high percentage of Kit Mikayi residents (78.6%) have low household income, which limits the ability to start cultural tourism enterprises. It is also clear from the study that majority (61.4%) have low level of education. Spearman's correlation test revealed a relationship between level of education and community projects. Residents of this community reported positively on Government interventions to develop cultural tourism for community development. However, community involvement in development process is very low.

Lelelit, Macharia & Mburugu (2017) sought to establish the influence of social-cultural factors on women participation in wildlife conservation projects in the Northern Rangeland Trust of Samburu County. The target population was 213 members of staff in management position of Northern Rangeland Trust Samburu County where a sample of 64 respondents was selected. They were conservancy board, Management staff and Conservancy Scouts/rangers level project managers consulted or involved in the development projects undertaken between 2015 and 2016. The findings showed that cultural practices, level of education, gender roles and religious beliefs had a significant influence on women participation in wildlife conservation projects. In another study, Ming'ate & Karigu (2018), in a study to determine how cultural practices and beliefs are used in the conservation of Lake Baringo ecosystem in Kenya, found that the practices and beliefs have negative impacts in the conservation of an ecosystem.

Lack of consensus with regard to the influence of cultural practices on the conservation of forests thus seems to exist. This study therefore tested the hypothesis that:

- $H_{01}$ : There is no significant influence of cultural practices of host community on the conservation of Masaai Mau Forest in Kenya

### 2.3.2. Community Participation and the Conservation of Maasai Mau Forest

The community, according to Bauman (2001, cited in Onyeabor and Alimba, 2016), refers to a group of interacting people living in a common location, usually organized around common values, attributed with social cohesion within a shared geographical location and generally in social units larger than a household. According to the authors, in human communities, intent, belief, resources, preferences, needs, risks, and a number of other conditions may be present and common, affecting the identity of the participants and their degree of cohesiveness. The World Ecotourism Summit (UNWTO, 2012) observed that many indigenous communities have values that are based on the stewardship of the earth's resources and hospitality towards visitors. These values, noted the Summit, provide a positive reason for assisting local communities to take their own decisions about the development and promotion of ecotourism and the way in which their natural resources and cultures are interpreted to visitors (Drumm and Moore, 2005). Since indigenous peoples tend not only to be the poorest members of society but also to have land-based economies and cultures (involving hunting, fishing and gardening), it is critical to involve them early in the process of ecotourism development (Nwahia, Omonona, Onyeabor and Balogun, 2012). As noted by Drumm and Moore (2005), one of the greatest contributions of ecotourism to conservation is the degree to which it can shift community activities from "the threat" category to that of "opportunities", that is, those activities, which contribute to sustainable development and the achievement of areas conservation goals.

It has been argued that for tourism to be sustainable the local community has to benefit directly from it which serves as incentive to the community to protect and conserve the resources upon which tourism is based (Drumm and Moore, 2005; Wang, Zhong, Zhang and Zhou, 2014). In recent years, conservationists have come to recognize the crucial role rural and coastal communities play in conserving biodiversity. Consequently, conservationists have developed mechanism to incorporate these communities, as stakeholders, into planning and management process (Drumm and Moore, 2005; Wang et al, 2014). At the same time, the growing interest of tourists in learning from and experiencing different cultures has led the tourism industry to incorporate communities into its activities (UNWTO, 2012; Drumm and Moore, 2005).

To generate the social acceptability of Protected Areas (PAs), the effective involvement of stakeholders is needed for effective management of natural resources (Gall and Rodwell, 2016). Having an understanding of the social acceptability will enrich the chances of being a successful PA. Simultaneously, social, cultural and economic factors and favourable attitudes are needed for the successful management of PAs (Wang et al, 2014). Six important elements have been identified by Rossiter and Levine (2014): degree of community involvement, socio-economic features, ecological factors, PA designation, governance and implementation. These factors contribute significantly to the success of PAs. Furthermore, various strategies are applied for the successful management of PAs, but the success of these strategies depends on their social acceptability among local communities (Jones et al., 2012). Onyeabor and Alimba (2016) analyzed the influence of host-community characteristics on the development of ecotourism in south east geo-political zone of Nigeria. Result showed that lack/ poor state of socio-economic infrastructure, including roads, electricity, clean water and telecommunication services in host-communities slowed the rate of ecotourism development in the zone. Also, inability of host-communities to take advantage of ecotourism-induced entrepreneurial opportunities, socio-political exclusion of

women, fear of erosion of culture, low level of awareness of potential benefits of ecotourism and poor sanitary conditions of sites and the general community environment, impeded the rate of ecotourism development in the area.

Results obtained in Jones et al. (2012) and Onyeabor and Alimba (2016) tends to suggest that the community has not been actively participating in ecotourism activities over time. The study therefore tested the hypothesis that:

- H0<sub>2</sub>: Community participation of the host community has no significant influence on the conservation of Masaai Mau Forest in Kenya

### 2.3.3. Gender Participation and the Conservation of Maasai Mau Forest

Gender roles, particular those related to women, have been recognised as critical in poverty eradication in rural areas (Akter et al, 2010). However, literature on gender role in conservation of natural resources and ecotourism has produced contrasting results. Hurni (1996) explored the role of gender in sustainable utilization of environmental resources using literature review among Mayan communities, Mexico, Africa and Bangladesh. Findings revealed that although women have always played a major role as food providers and plant domesticators, they were considered as ecologically naive until the last decade when they were recognized as embodying environmental knowledge that could lead to sustainability since it is local, traditional, subsistence oriented, contextual, communal and uncorrupted by the influence of the commercial market. However, gendered knowledge varies with the environment. For instance, out migration in Mexico pushes women into decision-making positions while in Bangladesh, women do not play a public role in agriculture but only preserve indigenous crops.

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

Eneji, Ogar, Mubi, and Husain (2015) assessed how male and female participate in the exploitation of forest resources, what they benefit from the exploitation and how this benefit could translate to the rural development of the park enclave communities of the Cross River National Park, Nigeria. Forest resources exploitation is done along gender disaggregated line with the male harvesting timber and animal products and also harvest few of non timber forest products, the female harvest non timber forest products and very little of animals and timber for fuel wood.

Shisanya (2017) sought to elucidate the relevance of indigenous knowledge and institutions in natural resource management using western highlands of Kenya as a case study. The results show that indigenous knowledge and institutions play a significant role in conserving natural resources in the study area. There was gender differentiation in knowledge attitude and practice (KAP) of indigenous knowledge as applied to sustainable land management.

Literature provides evidence that contradicts gender role in the participation and conservation or management of natural resources. This study therefore tested the hypothesis that:

- H0<sub>3</sub>: There is no significant influence of gender participation of host community on the conservation of Masaai Mau Forest in Kenya

### 2.3.4. Community Based Ecotourism Model and the Conservation of Masaai Mau Forest

Conventional forest management practices tend to have achieved very little going by high rates of deforestation and forest degradation worldwide (Wilder, 2016).

## **3. Methodology**

### *3.1. Research Design*

The present study employed descriptive and explanatory survey designs. It is descriptive because data was collected through a detailed questionnaire which describes research questions, guided by hypotheses derived from adopted theories. On the other hand, the study was also explanatory since it sought to explain the relationship between livelihood practices, economic practices, socio-cultural activities and conservation of forest among host communities of Mau Forest (Creswell, 2009; Zikmund & Babin, 2010).

### *3.2. The Study Area*

The study area was Masaai Mau Forest. It is administratively located in Narok County and in the former Rift Valley of Kenya, as a trust land forest as per trustland Act Cap 288 and Local Government Act chapter 265 and wildlife conservation and management Act chapter 376. The forest covers 46,278 hectares and is located some 17 kilometers north of Narok Town, near the world famous Maasai Mara National Reserve. The forest is bordered by gazetted Forests of Olpusimoru in the north and Trans Mara forest on the Northwest. (Figure 1)

Masaai Mau is part of the larger Mau Forest Complex, Kenya's largest forest block and East Africa's largest single block of closed canopy indigenous forest. While most of the forest blocks in the Mau Forest Complex had been gazetted and managed by the Forest Department, the Maasai Mau Forest remains Trust Land, managed by the Narok County (Nkako et al., 2005).

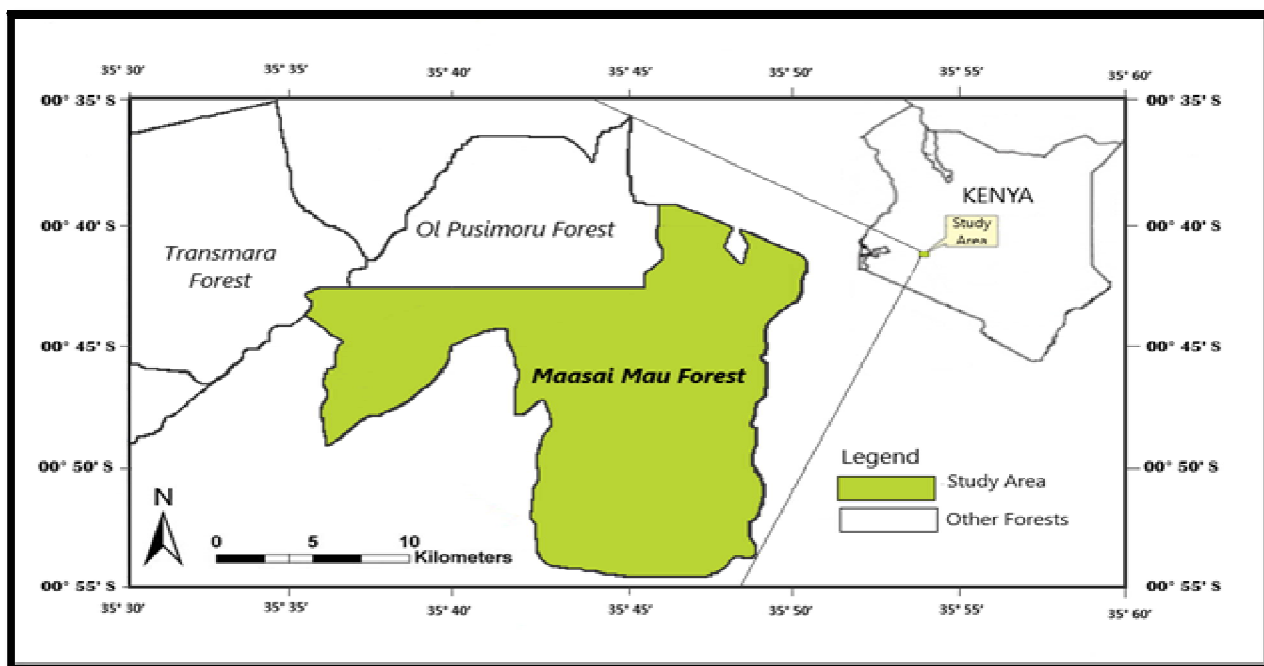


Figure 1: Administrative Map of the Maasai Mau Forest

3.3. Target Population and Sample Size

Target population comprised of 15 Government agencies; 71 community-based tourism organizations (CBTOs); 847 hotels and restaurant service providers, and 29 tour and travels operators (N=962). Bartlett, Kotrlik and Higgins' (2001) formula was adopted to calculate a sample size of 384 as follows: -

$$(a). \text{Sample size } n = \frac{Z^2(P \% * q \%)}{d^2}$$

Where;

N = Population size of = 962

n = Desired sample size of x

p% = Proportion of the representative sample size of respondents of the study area (0.5)

q% = Proportion of the sample size population that will not respond (0.5)

d<sup>2</sup> = Acceptable level of standard error (0.05)

Z = Selected confidence interval of 1.96 @ 95%

$$\text{The substituted values} = n = \frac{(1.96)^2(0.5) * (0.5)}{(0.05)^2} = 384$$

Therefore, the calculated sample size is equal to 384 which is (39.9) = 40% of 962. The 40% of the sample size above is within the 30% recommended sample size for credible scientific analysis and inferential research purposes (Zikmund, 2002). Multi-stage stratified random sampling technique was applied to divide the sample of 384 according to the proportion of sub-populations or sub groups (Kothari, 2004). The resultant strata included; Government agencies (N=15), Community-based tourism enterprise organizations (N=71), Hotel & restaurant Service providers (N=338) and Travel & Tour Operators (N=29) (Table 3.2). This was done to ensure that each element of the target population belongs to only one stratum and had equal chance of being selected.

Tourism Stakeholders	Target Population	Sample Size
Government agencies	(N= 15) X 0.4	6
Community-Based Tourism Organizations	(N= 71) X 0.4	28
Hotels and Restaurants service providers	(N=847) X 0.4	338
Travel and Tour Operators	(N=29) X 0.4	12
Total	962	384

Table 1: Sample Distribution of Ecotourism Stakeholders

3.4. Data Collection Instruments

The study combined both quantitative and qualitative techniques of data collection. Quantitative data was generated through questionnaires while qualitative data was obtained through interviews with government agencies as well as focus group discussion (FGD) with travel and tour operators. To ensure instrument validity, designed instruments were counter checked by the researcher's supervisors and peers in order to improve the contents of the instruments and to ensure their content validity. Additionally, the principle of triangulation was employed. Three different research

instruments were used in this study: questionnaires, interview guide, and FGD guide. The results from the three instruments were thereafter corroborated.

The pre-testing was also done to improve on the content of the questions and to estimate on the time required in undertaking the exercise. The pilot testing of the questionnaire was done on 34 members of hotels and restaurant providers and another two members of community-based tourism organizations) selected through purposive random sampling technique from the study area; thereafter issues arising from the questionnaire were clarified. Internal consistency of the instrument was determined via test/re-test reliability coefficient. Test/re-test method involves administering the same test on the same individuals at two different times (Kumar, 2005). Reliability coefficient of 0.849 was obtained for all the variables.

### 3.5. Data Analysis

This study collected and analyzed both qualitative and quantitative data. Descriptive statistics was used to analyse quantitative data, while Thematic Analysis was used on qualitative data. These variables were tested from a general multiple regression equation of the form:

$$Y_i = a_i + b_1X_{i1} + b_2X_{i2} + b_3X_{i3} + e$$

## 4. Findings and Discussions

### 4.1. Distribution of Respondents and Response Rate

The tourism stakeholders upon whom questionnaires were administered include 28 community-based tourism organizations as well as 338 hotels and restaurant service providers. The researcher was able to administer the questionnaires to a total of 358 out of 366 respondents, thus attaining coverage of 98%. The survey questionnaire coverage rate is presented in Table 2.

Tourism Stakeholders	Sample Size	Sample Size Covered	Percent
Community-Based Tourism Organizations	28	26	93
Hotels and Restaurants service providers	338	332	98
Total	366	358	98

Table 2: Questionnaire Coverage

Table 2 illustrates that out of the sampled 28 community-based tourism organizations, the study was able to administer the questionnaire on 26 respondents, representing 93% coverage rate. Similarly, out of the 338 hotels and restaurants service providers sampled in the study, the study managed to administer the questionnaire upon 332 respondents, representing 98% coverage rate. This was much above 50% that is recommended by Mugenda and Mugenda (2003). This implies that the data collection process was well covered and thus the sample response is adequate for analysis.

Additionally, all the six (6) Key Informants (KIs) were interviewed, representing 100% coverage of interviewees. To ensure confidentiality, the key informants were given the following codes: KI<sub>1</sub>, KI<sub>2</sub>, KI<sub>3</sub>, KI<sub>4</sub>, KI<sub>5</sub> and KI<sub>6</sub>. Equally, the researcher was able to conduct eight FGDs involving an average of 10 discussants from 12 travels and tour operators from the area. The FGDs were coded as FGD 1, FGD 2, FGD 3, FGD 4, FGD 5, FGD 6, FGD 7, and FGD 8.

The demographic characteristics of the sampled respondents covered gender and age of respondents. Table 3 presents the distribution of respondents by gender.

### 4.2. Gender of Respondents

Gender	Frequency (f)	Percentage (%)
Male	248	69.3
Female	110	30.7
Total	358	100.0

Table 3: Gender of Respondents

Table 3 illustrates that majority (69.3%) of the sampled members of the community-based tourism organizations and hotels and restaurant service providers are males while 30.7% are females. This implies that these stakeholder groups in Masaai Mau are dominated by male persons.

### 4.3. Age bracket of Respondents

The sampled stakeholders were asked to indicate their age in years using the guidelines given as: Less than 19 years, between 20-29 years between 30-39 years, between 40-49 years and over 50 years. The responses by age were presented as shown in Table 4.

Years	Frequency	Percent
20 - 25	45	12.6
26 - 30	89	24.9
31 - 35	81	22.7
36 - 40	67	18.7
41 - 45	31	8.7
46 - 50	25	7.0
51 - 55	15	4.2
Above 56	5	1.4
Total	358	100.0

Table 4: Age Distribution of the Respondents  
N= 358; Source: Field Data

Table 4 indicates that most (24.9%) of the sampled respondents upon whom questionnaires were administered were between 26 and 30 years of age, while those of 31 to 35 were 22.7%; 18.7% were between 36 and 40. Equally, 12.6% of the sampled respondents were of between 20 and 25 years of age; 8.7% were between 41 and 45 years old; 7% were between 46 and 50 years old; 4.2% were of between 51 and 55 years old, and the remaining 1.4% of the sampled respondents were above 56 years of age. These findings tend to imply the two stakeholder groups in Masaai Mau are of relatively younger age. This points at the urge with which community-based tourism is regarded as a source of income to young people.

#### 4.4. Hypotheses Testing

The hypothesis that was tested was whether there is significant influence of socio-cultural impacts on sustainable conservation of host residents of Masaai Mau Forest. Table 4.12 illustrates that that the combined unstandardised beta for the coefficients of socio-cultural impacts (cultural; social amenities; local economy) is 0.006. This implies that the size of influence that socio-cultural impact has on sustainable conservation of the host community is 0.006.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	1.256	0.221		5.593	0.000
	Involvement of Women	0.001	0.02	0.0013	0.0206	0.000
	Social amenities	0.003	0.03	0.0033	0.0406	0.001
	Decision making	0.002	0.02	0.0023	0.0306	0.000

Table 5: Prediction of Coefficients of Socio-Cultural Impacts and Conservation of Forest

#### 4.5. Dependent Variable: Sustainable Conservation of Host Community

Table 5 illustrates that the unstandardized beta is 0.006, while the significance level is 0.001 which is less than 0.05 ( $P < 0.05$ ). The null hypothesis that there is no significant influence of socio-cultural impacts on sustainable conservation of Masaai Mau Forest host community is therefore rejected. This implies that for every unit improvement in socio-economic impacts, there is 0.006-unit improvement in sustainable conservation of host residents of Masaai Mau Forest.

With the regression model  $Y = \alpha + \beta_2x_2 + e$  and the constant ( $\alpha$ ) of 1.256, the coefficient 0.006 can be plugged into the formula to predict sustainable conservation of the host community using socio-cultural impacts as:

$$Y = \alpha + \beta_2x_2$$

$$Y = 1.256 + 0.006x_2$$

Table 4.9 also indicates that the coefficients of participation: cultural ( $B=0.001$ ,  $p=0.000$ ), social amenities ( $B=0.003$ ,  $p=0.000$ ), and decision making ( $B=0.002$ ,  $p=0.000$ ) all have significant influence on the sustainable conservation of host community in Masaai Mau Forest.

These findings tend to suggest that socio cultural impacts in the form of cultural, social amenities, and decision making have significant influence on sustainable conservation among host community. Similar finding was also revealed in Drumm and Moore (2005) who noted that one of the greatest contributions of ecotourism to conservation is the degree to which it can shift community activities from "the threat" category to that of "opportunities", that is, those activities, which contribute to sustainable conservation and the achievement of areas conservation goals. In a study done in Indonesia, Pradati (2017) also established that ecotourism is performing well in term of education of the local people about their surrounding environment.

During key informant interviews, it emerged that decision making in the Masaai Mau Forest is through the societal representatives. This was indicated by one KI, that:

Representatives of Masaai Mau Forest Community act on behalf of the community during instances like negotiations, conflict resolution among themselves, and consultation among others (KI<sub>5</sub>).



Representation through community representatives seems to be the main method through which community can voice their needs to the authorities within Masaai Mau Forest, Kenya. The interviewed government officials consider this set up as appropriate in learning the needs of the community, as one of them indicated:

Community involvement through their representatives helps the national and county governments to make popular decisions with regard to appropriateness of measures to be instituted for conservation purposes (KI<sub>3</sub>).

This seems to imply that decision making by Masaai Mau Forest, Kenya is participatory based. Such decisions could therefore receive acceptance from all the community. One KI succinctly asserted that:

Empowerment of participants in CBET make the community members own their given responsibilities and obligations, argue out for their rights, and decisions among others. This leads to wellbeing and satisfaction among community (KI<sub>2</sub>).

Based on these findings, it can be deduced that members of the community in Masaai Mau Forest have prepared a communication mode that enables community to be adequately consulted in any decision-making process. This therefore seem to enable the community participate in day to day decision making process that involve their rights and wellbeing. These findings seem to resonate with The VBN – model built on Schwartz's (1992, 1994), topology of value theory that presumes that altruistic value lead to awareness of adverse consequences on other people and thus instigates responsibility to help eliminate the problem. Stern's VBN- theory, therefore, provides a suitable account for the social and environmental concerns of individuals in CBET. The theory identifies community collectivism that accord with CBET principles. The interface between individual and collectivism, the theorists argue provides a good foundation to community-based management of natural resources and social relations.

Ritzer and Goodman (2003) concurs that network formation between people, groups, corporations and societies are important for understanding the interactions that goes on in CBET as well as with other organizations. The theory conceives relations between individuals in a community as shaped by normative behaviour based on culture and socialization processes through which norms and values are internalized among actors. In this process, people bond together through shared ideas motivated by possible access to wealth, information and power.

Similar findings that show positive outcomes of participation in CBET on societal wellbeing: Ramser (2007), in a study that assessed socio-economic impact of ecotourism, found that local communities benefit in terms of community infrastructure, whereas education is the main improvement. Equally, a study by Odege (2014) analysed the factors influencing community participation in cultural tourism for poverty alleviation at Kit Mikayi in Kisumu County, Kenya. It found that residents of this community reported positively on Government interventions to develop cultural tourism for community conservation. However, community involvement in conservation process was still very low. Similarly, Baari (2016) found out in a study done among communities residing adjacent to Kakamega forest (Kenya) that there is influence of Ecotourism on cultural aspects inter alia dress codes, improved hygiene, energy saving and cooking practices. It can therefore be deduced that the relationship between socio-cultural impacts and sustainable conservation is regionally based.

#### 4.6. The Model Summary

Further analysis was done to check how well the model ( $Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + e$ ) could predict the influence of CBET activities on sustainable conservation of host community in Masaai Mau Forest. This was carried out using analysis of variance (ANOVA). Table 6 presents the ANOVA.

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.970	4	6.992	88.457	0.000 <sup>b</sup>
	Residual	129.808	157	0.827		
	Total	157.778	161			

Table 6: The Analysis of Variance Result

a. Dependent Variable: Sustainable Conservation of Host Community

b. Predictor/Constant Variables: Economic Impacts, Socio-Cultural Impacts, Environmental Impacts,

Table 6 illustrates that the impacts of CBET activities under study are significant predictors of sustainable conservation of host community in Masaai Mau Forest  $\{F_{(1, 157)} = 88.457, P < 0.05\}$ . The significance value of F in this case is 0.000, which is less than 0.05 ( $P < 0.05$ ). Thus, economic impacts, socio-cultural impacts, and environmental impacts, explain the variation in sustainable conservation of host community in Masaai Mau Forest, Kenya.

After checking for the model fit, the researcher sought to establish the relative importance of each coefficient of CBET practices in predicting sustainable conservation. Table 7 presents the model of prediction of the CBET practices.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.8095	0.221		5.93	0.000
	Cultural practices	0.188	0.063	0.262	3.008	0.003
	Community participation	0.006	0.060	0.007	0.092	0.001
	Gender participation	0.105	0.079	0.123	1.325	0.003

Table 7: Model Prediction

a. Dependent Variable: conservation of host community

Table 7 illustrates that all the coefficients of the independent variable: cultural practices; community participation; gender participation are significant predictors of sustainable conservation of host community ( $p < 0.05$ ). It is also illustrated cultural practices has the highest value of influence ( $\beta = 0.188$ ) on conservation by host community, followed by gender participation ( $\beta = 0.105$ ); and community participation ( $\beta = 0.006$ ).

The regression equation ( $Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + e$ ) can be written as follows:

Conservation of the Masaai Mau =  $1.8095 + 0.188 \times \text{cultural practices} + 0.105 \times \text{gender participation} + 0.006 \times \text{community participation}$ .

The direction of the relationship between socio cultural practices of the host community and the conservation of Masaai Mau forest was also analysed. Table 8 presents the model summary of the practices and conservation of Masaai Mau Forest.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Sig F
					R Square Change	F Change	df1	df2	
1	.421 <sup>a</sup>	0.177	0.156	0.909	0.177	8.457	4	357	0.000

Table 8: Regressions Model Summary

a. Predictor/Constant Variables: Cultural Practices, Community Participation, Gender Participation

Table 8 illustrates that the Coefficient of determination,  $R^2$  is 0.177 ( $R^2 = 0.177$ ;  $P < 0.05$ ). This relationship is positive and significant. However, the contribution of the socio-cultural practices under study seems to be small; hence the model may not be a good predictor of the variation in the dependent variable (conservation of Masaai Mau). This finding implies that the socio-cultural practices of the host community explain only 17.7% of variation in sustainable conservation of host community in Masaai Mau Forest, Kenya. It might therefore suggest that the culture and participation of the host community has been involved in the conservation of Masaai Mau forest. Consequently, 82.3% of variation in sustainable conservation of host community in the area is explained by other variables other than CBET activities related economic impacts, socio-cultural impacts, and environmental impacts.

## 5. Conclusions and Recommendations

### 5.1. Conclusions

The study concludes that the socio-cultural practices among Masaai Mau community have resulted into the conservation of the forest to a moderate extent. There is a positive and significant relationship between socio cultural practices and the conservation of Masaai Mau forest. Improvement in socio-cultural practices of the host community can lead to unit improvements in the conservation of the forest.

The study further concludes that distinction of indigenous tree species through illegal felling and charcoal burning is rampant. Matters touching on the conservation of indigenous forest tree species are often discussed through community leaderships.

### 5.2. Recommendations

Concerning socio cultural practices of the host community and the conservation of Masaai Mau forest, the study provides the following recommendations for improvement:

- There is need to build the capacities of the host community to encourage socio cultural practices that protect sacred groves and indigenous tree species in the Masaai Mau forest. This would go a long way in ensuring that medicinal and precious tree species are not eliminated by illegal tree felling and charcoal burning.
- The host community leadership and elders should be continuously consulted in identifying designing approaches for the protection of tree species that are custodians of beliefs and cultural values

## 6. References

- i. Akter S., Alamgir M., Islam S., Rana P., Ahmad M.S.J. and Chowdhury H.S. (2010). The Role of Women in Traditional Farming Systems As Practiced in Home Gardens: A Case Study in Sylhet sadar Upazila, Bangladesh. *Monogaby. Com Open Access Journal- Tropical Conservation Science.*, 3(1), 17-30.
- ii. Balachandran, C., Dinakaran, S., Chandran, M.D.S and Ramachandra, T.V. (2015). Stream Insect Diversity in a Sacred and Non-Sacred Forest of Ankola Taluk, Uttara Kannada, Karanataka. *Lake 2014: Conference on Conservation and sustainable Management of Wetland Ecosystem in Western Ghats*, 13-15 November, 2014, Sahyadri Conservation Series 47, ET 87. 8p.
- iii. Baldyga, T.J, Miller, N.S, Driesse, L.K, and Gichaba, N.C (2007). Assessing land cover change in Kenya's Mau Forest region using remotely sensed data. *African Journal of Ecology* 46: 46-54.
- iv. Bartlett, J. E., Kotrlik J.W., Higgins C. (2001). Organizational Research: Determining Appropriate Sample Size in Survey Research. *Information Technology, Learning, and Performance Journal*, 19, (1), 43-50.
- v. Creswell, J. W. (2007) *Qualitative inquiry and research design: choosing among Five approaches*, Thousand Oaks, CA: Sage Publications
- vi. Daniel, K.S., Udeagha, A. U & Jacob, D. E (2016). Socio- Cultural Importance of Sacred Forests Conservation in South Southern Nigeria. *African Journal of Science and Development*, 6 (2), 251 – 268.
- vii. Drumm, A. and Moore, A. (2005). *Ecotourism development, a manual for conservation planners and managers, Volume 1: An Introduction to ecotourism planning and development*. The Nature Conservancy, 196P or [www.mazon.com/Ecotourism](http://www.mazon.com/Ecotourism).
- viii. Gall, S.C., Rodwell, L.D., (2016). Evaluating the social acceptability of marine protected areas. *Mar. Policy* 65, 30e38.
- ix. Hurni, H (1996). *Precious Earth: From Soil and Water Conservation to Sustainable Land Management*. Bern: International Soil Conservation Organisation (ISCO) and Centre for Development and Environment (CDE)
- x. Khan, S. M. (2008). *Social Innovation in Creative Communities for Sustainable Consumption: Is it promising?* Unpublished thesis submitted to University of Manchester – Central European.
- xi. Lelelit, L. S., Macharia, D. & Mburugu, K. N. (2017). Influence of social-cultural factors on women participation in wildlife conservation projects: A case of Northern Rangeland Trust Samburu County. *International Academic Journal of Information Sciences and Project Management*, 2(1), 520-540.
- xii. Ming'ate, M. L. F. & Karigu, M. (2018). Use of Community Cultural Practices and Beliefs in the Conservation of Lake Baringo Ecosystem in Kenya. *International Journal of Natural Resource Ecology and Management*, 3(3): 32-38.
- xiii. Negi, C.S. (2012). *Culture and Biodiversity Conservation: Case studies from Uttarakhand, Central Himalaya*. *Indian Journal of Traditional Knowledge*, 11(2), 273-278.
- xiv. Nwahia, C.O., Omonona, B.T., Onyeabor, E.N. and Balogun, (2012). An analysis of the effect of Obudu Community participation in ecotourism on poverty. *Journal of Economics and Sustainable Development*, 3(8): 12-24.
- xv. Odege, D. W. (2014). *Factors influencing community participation in cultural tourism at kit Mikayi in Kisumu County, Kenya*. Unpublished master project submitted to University of Nairobi.
- xvi. Olang, LO, and Kundu, P.M (2010) *Land Degradation of the Mau Forest Complex in Eastern Africa (A Review for Management and Restoration Planning)*.
- xvii. Onyeabor, E.N. and Alimba, J.O. (2016). Factor analysis of influence of host-community characteristics on ecotourism development in South East Nigeria. *International Journal of Development and Economic Sustainability*, 4(1), 11-20.
- xviii. Ormsby, A. A. and Bhagwat, S.A. (2010). Sacred Forests of India: a strong traditional of community-based natural resource management. *Environmental conservation* 37(3):320- 326.
- xix. Owido, S.F.O, Chemelil, C.M, Nyawade, F.O, and Obadha, W.O (2003). Effects of Induced Soil compaction on Bean (*Phaseolus Vagaries*) Seedling Emergence from a Haplic phaeozen soil. *Agricultura Tropica ET subtropica* 36, 65-69.
- xx. Ray, R., Chandran, M.D.S and Ramachandra, T.V. (2014). Socio-cultural protection of endemic trees in humanised landscape. *Biodiversity and Conservation*, 23(8), 1977-1994.
- xxi. Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, 25, 1- 65.
- xxii. Shisanya, C.A. (2017). *Role of Traditional Ethno-botanical Knowledge and Indigenous Institutions in Sustainable Land Management in Western Highlands of Kenya*. *Indigenous People*, <http://dx.doi.org/10.5772/intechopen.69890>.
- xxiii. Stern, P. C. (1999). Information, incentives, and pro-environmental consumer behavior. *Journal of Consumer Policy*, 22, 461-478.
- xxiv. Stone, L., & Stone, T. (2011) *Community-based tourism enterprises: Challenges and prospects for community participation; Khama Rhino Sanctuary Trust, Botswana*. *Journal of Sustainable Tourism*, 19(1), 97- 114.
- xxv. Udeagha, A. U., Udofia, Iwa, S and Daniel, E.J. (2013). Cultural and socio-economic perspectives of the conservation of Asanting Ibiono Sacred Forests in Akwa Ibom State, Nigeria. *International Journal of Biodiversity and Conservation*, 5(11), 696 – 703.
- xxvi. Udoakpan UI, Nelson IU, Jacob DE (2013). Ecological survey of plant species producing valuable forest products in Two sacred forest in South Eastern Nigeria. *ARPN J. Sci. Technol.* 3(4):415-421.

- xxvii. (UNTWO)World Tourism Organization (WTO, 2012).World Ecotourism Summit: Final Report. Quebec City, Canada: WTO.
- xxviii. Wang L., Zhong L., Zhang Y., and Zhou B (2014). Ecotourism environmental protection measures and their effects on protected areas in China. *Sustainability Journal*,6, 6781-6798.
- xxix. Yoon Y. (2002). Development of Structural Model for Tourism Destination Competitiveness from Stakeholders' Perspective. Doctor of Philosophy in Hospitality and Tourism Management, Virginia Polytechnic Institute and State University.