American Journal of Tourism Management 2014, 3(1): 1-8
DOI: 10.5923/j.tourism.20140301.01

Community Perception on the Anticipated Impacts of Ecotourism Development in Omo Biosphere Reserve, Nigeria

Sonubi O. K.[1,*], Adeyemo A. I.[2], Agbelusi E. A.[2]

[1]Department of Hospitality, Leisure & Tourism Management, Federal Polytechnic, Ede, 232101, Nigeria
[2]Department of Ecotourism and Wildlife Management, Federal University of Technology, Akure, 340213, Nigeria

Abstract The local communities play a pivotal role in ecotourism development as their participation and involvement are critical to the process. Knowledge of the undoubting views of communities adjoining a biosphere reserve is essential, if sustainable development of their economic, cultural, social and environmental values is to be harnessed for meaningful achievement. This study was undertaken in Omo Biosphere Reserve and its study is generally aimed at knowing the community perception to anticipated impacts of ecotourism development in Omo Biosphere Reserve. A structured questionnaire of 0.87 Cronbach alpha reliability co-efficient after validation; was administered to 155 respondents. A purposive random sampling was used to select 6 communities adjoining the biosphere reserve. The data were analyzed using descriptive statistics and binary logistic regression. The finding is that the majority are highly willing to display their cultural heritage, accommodate the ecotourists and to support the continued existence of the biosphere reserve. It also indicates high positive perception of the communities on the anticipated impacts of ecotourism development such as social change, normal working life, infrastructural development, job creation and security. However, positive perception is mainly due to the influence of young people and salary earners in the communities. The conclusion is that the willingness and positive perception towards anticipated impacts ecotourism development will allow for their effective participation and the success of its development.

Keywords Perception, Biosphere Reserve, Anticipated Impacts, Ecotourism

1. Introduction

Biosphere reserves are areas of terrestrial and coastal/ marine ecosystems or a combination thereof which is internationally recognized, UNESCO as in [1]. Each biosphere reserve is intended to fulfill three complementary functions; a conservation function, to preserve genetic resources, species, ecosystems and landscapes; a developmental function, to foster sustainable economic and human development; and a logistic support function, to support demonstration projects, environmental education and training and research and monitoring related to local, national and global issues of conservation and sustainable development, UNESCO as in [1]. Omo Biosphere Reserve is an integral part of this developmental functioning framework and the need to consider the impacts of the developmental function to the adjoining communities is very necessary.

Ecotourism, according to D'Angelo *et al* is a form of natural resource-based tourism that is educational, low impact, non-consumptive and locally oriented: local people can control the industry and receive the bulk of the benefits to ensure sustainable development as in [2]. Angelica *et al* opine that ecotourism comes with a definitional promise to promote responsible travel to natural areas, to make a positive contribution to environmental conservation and to enhance the well-being of local communities as in [3]. Ecotourism according to Habibah *et al* is considered to be one of the essential sectors often opted for both public and private stakeholders of developing countries in responding to issues in sustainability of ecosystems, livelihood, cultural preservation and biodiversity conservation as in [4]. Local communities in the opinion of Ezebilo *et al* often support projects which they believe will contribute to their livelihood. If they do not expect to derive benefit from a project, they may not cooperate with the managers of the project as in [5]. Senko *et al* are of the view that one of the core precepts of ecotourism is the involvement of local communities as in [6]. The local communities play a pivotal role in ecotourism development as their participation and involvement are critical to the process. Lo *et al* opined that in studying communities' perception on ecotourism development, it is

* Corresponding author:
kennysonubi@yahoo.com (Sonubi O. K.)
Published online at http://journal.sapub.org/tourism
Copyright © 2014 Scientific & Academic Publishing. All Rights Reserved

necessary to explore the impacts of economics, environmental, social and cultural factors on local communities as in [7].

Perception is the process of how an organism attains awareness or understanding of its environment via organising and interesting sensory information, Pomerantz as in [8]. An individual and its environment are inseparable as perception is based on constant interaction between these two, Ittelson and Gibson as in [9]. The perceptions of communities to ecotourism development preempt their commitment to its success. Knowledge of the undoubting views of communities adjoining a biosphere reserve is essential, if sustainable development of their economic, cultural, social and environmental values is to be harnessed for meaningful achievement. This study is generally aimed at knowing the community perception to anticipated impacts of ecotourism development in Omo Biosphere Reserve. In order to actualise the stated objective, this had prompted the following research questions:

1. What is the level of willingness by communities to ecotourism development in Omo Biosphere Reserve?
2. What is the perception of communities to anticipated impacts of ecotourism development in Omo Biosphere Reserve?
3. Is there any influence of the demographic characteristics of communities on their perception on the anticipated impacts of ecotourism development in Omo Biosphere Reserve

2. Study Area

The study was undertaken in Omo Biosphere Reserve. It is located between 6°35 to 7°05N and 4°19 to 4°40E in the southwest of Nigeria. The site is about 180km north-east of Lagos and 80km east of Ijebu-Ode. The topography of the area is undulating dominated by slopes up to 15% and elevation reaches between 15m and 150m above sea level. The reserve is made up of several soil types but they all belong to the tertiary sediments. The topsoil is usually dark-brown clayey-sand and subsoil is usually reddish brown sandy clay. The valley bottom soils are alluvial b freely drained. The climate is characterized by a principal rainy season which occurs in May, June and the first half of July; the secondary rainy season in the latter half of September and October. The mean annual rainfall is about 175mm, and the mean relative humidity is 80%. The mean daily temperature is 26.4℃. Generally, the sunshine duration during the rainy season varies between 8-10 hours, Ola-Adams, Ikemeh, Oates *et al*, as in [10, 11 and 12].

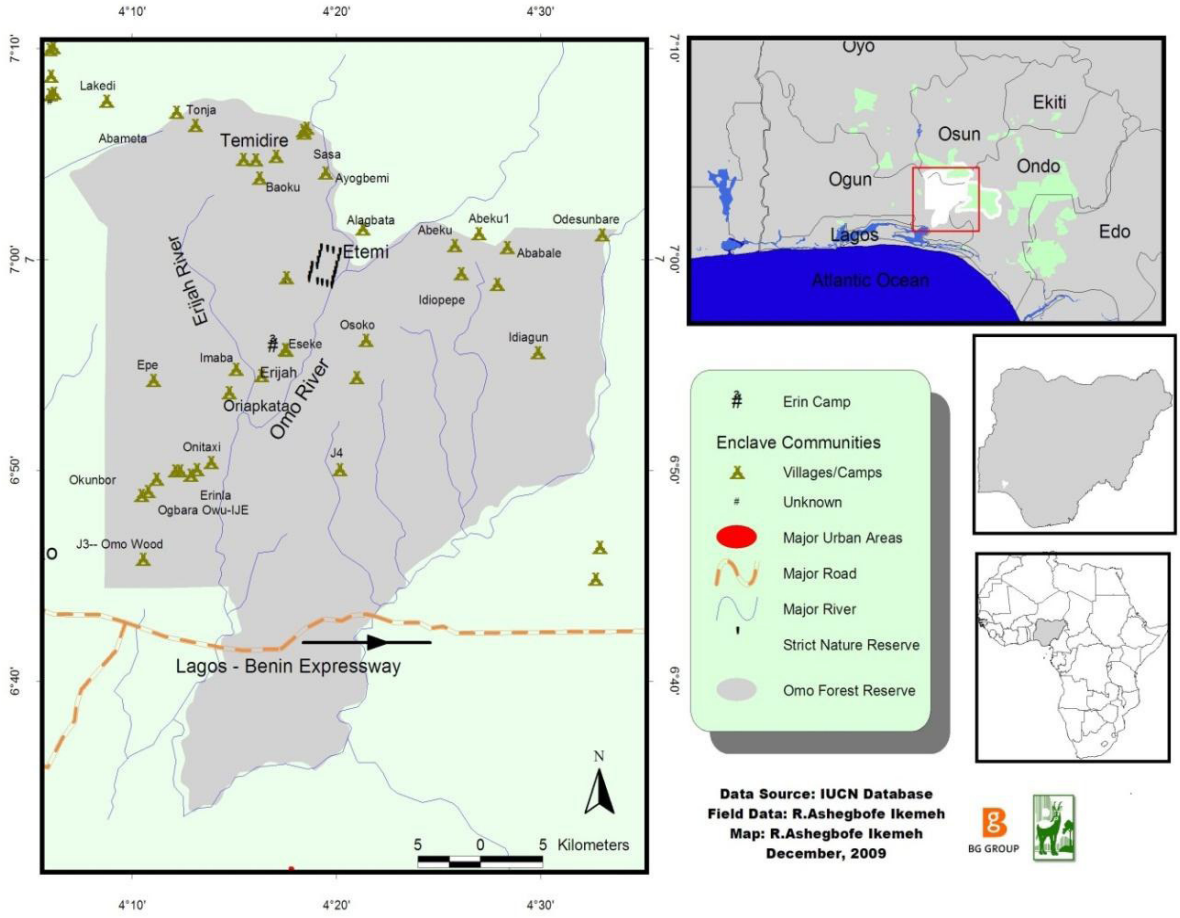

Figure 1. Locations of the sampled communities within Omo Biosphere Reserve. *Source: Ikemeh, as in* [19]

The vegetation of the reserve is mixed moist semi evergreen rainforest. It is accessible by tarred road from the Lagos-Benin-express way to a close distance to area J4 camp through un-tarred roads to other adjoining communities and camps, Ikemeh, as in [11].

3. Data Collection and Analysis

Prior to the study, the questionnaires were validated and Cronbach Alpha was used to determine the reliability coefficient of the instrument, which was found to be 0.87. The response rate of the respondents was 77.5%. a purposive random sampling was used to select 6 communities namely, J4 camp, Temidire, Erinla, Omo wood, Eseke, Erijan (Figure 1) and to administer semi structured questionnaires to 200 respondents inhabiting these enclaves. The communities were selected based on their proximity and accessibility by potential Ecotourists to the biosphere reserve.

For analysis of the questionnaires, descriptive statistics was used and responses of the respondents were converted using Likert's scale. This was then subjected to binary logistics regression to determine the influence of the demographic characteristics of the communities on their perception of the anticipated impacts of ecotourism development in Omo Biosphere Reserve.

4. Results and Discussion

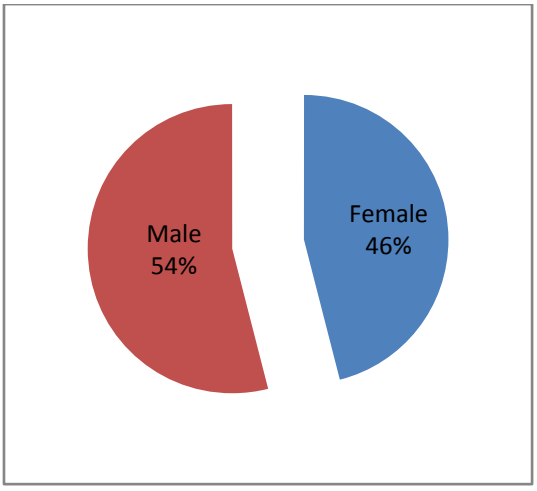

Figure 2. Sex of respondents

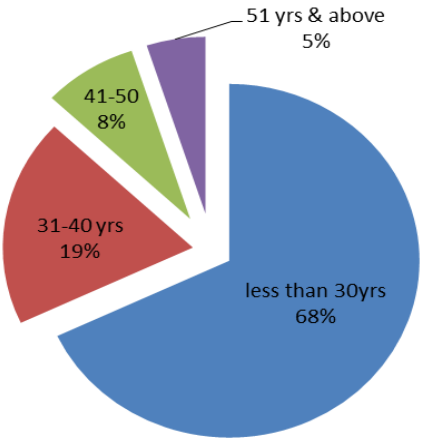

Figure 3. Age of the respondents

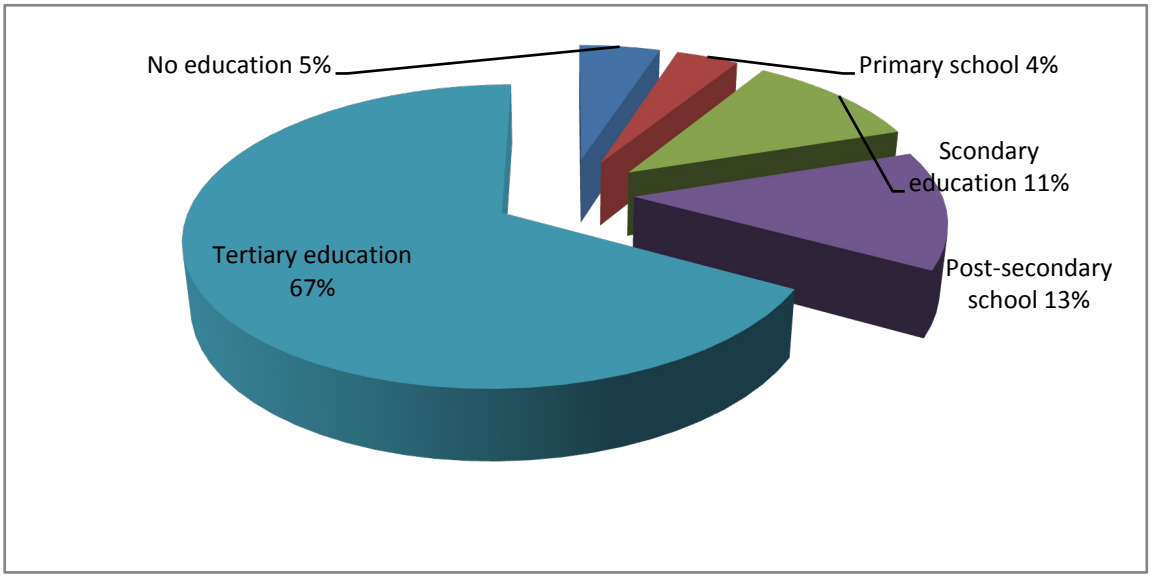

Figure 4. Education background of the respondents

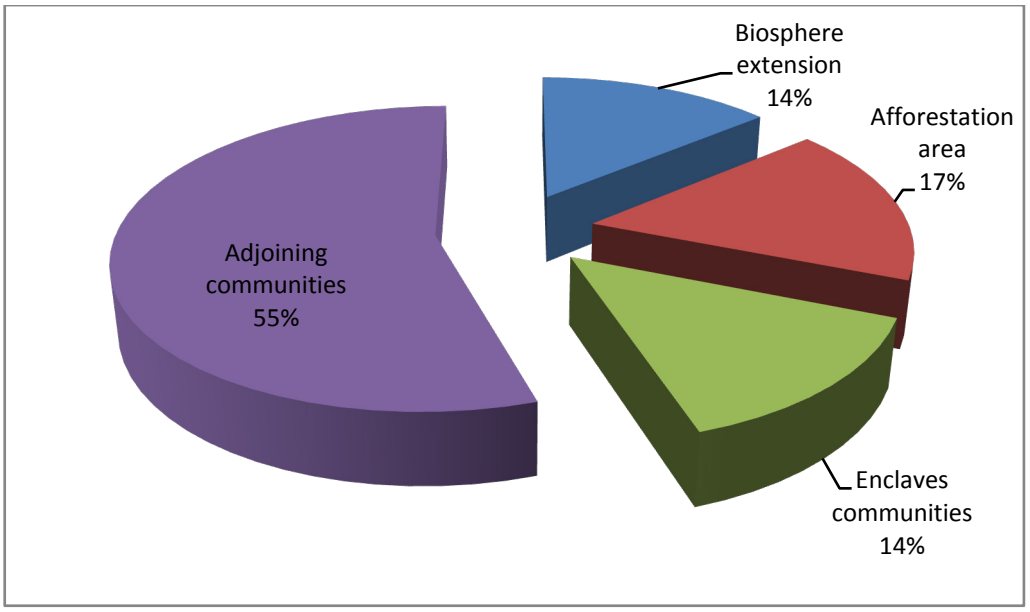

Figure 5. Area of operations of the respondents

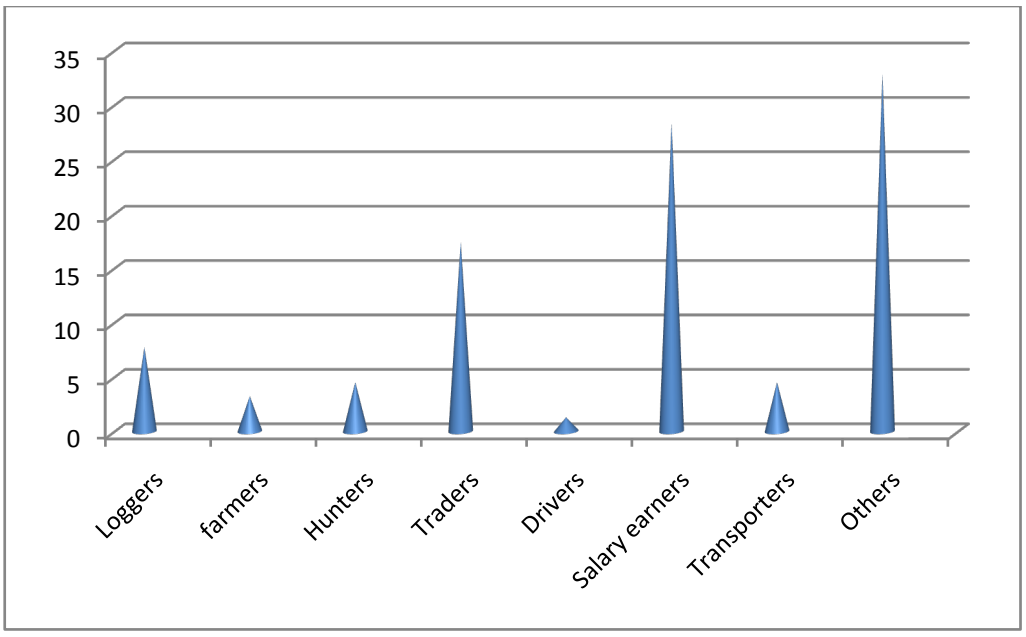

Figure 6. Occupation of the respondents

The demographic characteristics of the sampled population

The demographic characteristics of the sampled population presented in figures 2-6 show that percentage of the sex, age, education background, area of operations and the occupation of the respondents respectively. Figure 2 shows that 54% of the respondents were male while 46% were female. Accordingly, figure 3 shows that 68% of the sampled were young while 8% and 5% were in the age bracket of 41years and above. Furthermore, it was noticed in figure 4 that a high percentage of the sampled population had obtained one form of education or the other. 67% of the respondents attended tertiary institution while 4%, 11% and 13% had primary, secondary and post-secondary education respectively. Only 5% had no formal education. The high education level could be probably due to high rate of unemployment in Nigeria, and the proximity of Ijebu-Ode and Ijebu-Igbo to these communities thereby prompting their influx for menial jobs in order to sustain their education. Figure 5 shows the areas around and within the biosphere reserve wherein the respondents perform their daily operations. The sampled population situated a the adjoining communities had the highest percentage of 55% while those in the biosphere extension area and enclaves had the least of 5% each. In figure 6, it was observed that 28.39% of the sampled population was salary earners, 17.42% was traders, 7.74% was loggers, 3.23% was farmers and 1.29% was drivers / mechanics / vulcanizers while hunters and

transporters had 4.52% each.

Willingness of communities to ecotourism development

Table 1. Level of willingness of communities to ecotourism development

	Frequency	Percentage	Mean
Willingness to display their cultural heritage to ecotourists: (n=155)			4.12
Not very interested	3	2	
Not interested	8	5	
No opinion	9	6	
Interested	81	52	
Very interested	54	35	
Willingness to accommodate ecotourists: (n=155)			4.17
Not very interested	3	2	
Not interested	5	3	
No opinion	17	11	
Interested	67	43	
Very interested	63	41	
Willingness to support the continued existence of the biosphere(n=155)			4.26
Not very interested	2	1	
Not interested	4	3	
No opinion	13	8	
Interested	68	44	
Very interested	68	44	

The level of willingness of the communities to ecotourism development can be reflected in the readiness to display their cultural heritage to ecotourists, to accommodate the ecotourists and to support the continued existence of the biosphere reserve. Table 1 reveals that the very interested and interested responses amount to 87% as opposed to 7% for not very interested and not interested responses for willingness of the communities to display their cultural heritage while 6% had no opinion. Also this table shows that the willingness of the communities to accommodate ecotourists is positive. This is reflected in the high percentage (84%) of the very interested and interested responses as opposed to 5% for not very interested and not interested responses. 11% had no opinion. Furthermore, the very interested and not interested responses amount to 88% as opposed to 4% for not very interested and interested responses for willingness of the communities to support the continued existence of the biosphere reserve while 8% had no opinion. Favourable interest outnumbered unfavourable interest with regard to these three perspectives. The positive willingness is due to the possibility the respondents had little or more education background. This finding negates the opinion of Ap and Pang [as in 17] that residents with higher levels of education would not have better knowledge of ecotourism. The high education background has widened their knowledge and re-orientated their value on the positive contributed of ecotourism development.

Based on a five point Likert scale, the willingness of the communities to support the continued existence of the biosphere reserve had the highest positive response with mean of 4.26 while willingness to display their cultural heritage to ecotourists had the least positive response with mean of 4.12. Their willingness to accommodate ecotourists had a mean positive response of 4.17.

Perception on the anticipated impacts of ecotourism development to communities

Table 2 reveals the perception of the communities on the anticipated impacts of ecotourism development in Omo Biosphere Reserve. A total of 89% of the respondents either strongly agree or agree with the perception that ecotourism development brings about a social change to the communities. Ecotourists will not only visit the ecological sites but will cause a change in social behavior due to their interaction with communities. Collectively, a total of 5% either strongly disagree or disagree with the above perception while 6% had no opinion. A total of 55% of the respondents either strongly agree or agree with the perception that ecotourism development affects the normal working life of the communities. 31% collectively either strongly disagree or disagree with the above perception while 14% had no opinion. Furthermore, 91% of the respondents either strongly agree or agree with the perception that ecotourism development improves the infrastructural development of the communities. A total of 3% only either strongly disagree or disagree with this perception while 5% had no opinion. Also, the perception that ecotourism development results to creation of job opportunities to communities in Omo Biosphere Reserve was either strongly agree or agree by 88% of the respondents, a total of 5% either strongly disagree or disagree with the above perception while 15% had no opinion. This finding confirms the statement made by Barkin as in [13]; Gregory as in [14]; Williams and Ferguson as in [15]; Aciksoz *et al* as in [16] that ecotourism is an important instrument used for contribution to preserve the natural landscape which offers a solution to the poverty problem commonplace in underdeveloped regions and produces a structure utility for the economic development and social progress of the local population.

Based on a five point Likert scale, the perception that ecotourism development improves the infrastructural development of the communities had the highest positive response with mean of 4.41 while the perception that it affects the security of the communities had the least positive response with the mean of 3.28. the perception that ecotourism development brings social change, affects the normal working life and create job opportunities to the communities had mean positive responses of 4.25, 3.48 and 4.32 respectively.

Table 2. Perception on the anticipated impacts of ecotourism development to communities

	Frequency	Percentage	Mean
Bring social change: (n=155)			4.25
Strongly disagree	2	1	
Disagree	6	4	
No opinion	9	6	
Agree	73	47	
Strongly agree	65	42	
Affect normal working life: (n=155)			3.48
Strongly disagree	6	4	
Disagree	42	27	
No opinion	21	14	
Agree	44	28	
Strongly agree	42	27	
Improves infrastructural development: (n=155)			4.41
Strongly disagree	2	1	
Disagree	3	2	
No opinion	8	5	
Agree	58	37	
Strongly agree	84	54	
Creation of job opportunities: (n=155)			
Strongly disagree	3	2	
Disagree	5	3	
No opinion	11	7	
Agree	57	37	
Strongly agree	79	51	
Affects the security: (n=155)			3.28
Strongly disagree	13	8	
Disagree	36	23	
No opinion	23	15	
Agree	61	39	
Strongly agree	22	14	

Based upon a five point scale where 1=strongly disagree to 5=strongly agree.
Source: Field survey, 2012

Relationship between demographic characteristics of communities and their perception on the anticipated impacts of ecotourism development.

Table 3 presents the coefficient of determination (R2) and likelihood value of the relationship between demographic characteristics of communities and their perception on the anticipated impacts of ecotourism development in Omo Biosphere Reserve. It shows that Cox & Snell R square and Nagelkerke R Square are 0.23 and 0.31. this revealed that there are little differences in both values and implies that what is accounted for in variation of the perception of respondents on the anticipated impacts of ecotourism development due to change in demographic characteristics is very low. Also the likelihood value of the relationship is 167.11.

Much more, the binary logistics regression model between demographic characteristics and the communities' perception on impacts of ecotourism development is shown in table 4. It presents the intercept (B), Standard error (S.E), wald, degree of freedom, probability values and exponential of the intercept for the relationship. This table reveals that there is no significant influence of sex of the respondents on their perception on the anticipated impacts of ecotourism development to communities ($P \geq 0.05$). Also, the age had significant influence on their perception ($P \leq 0.05$). Furthermore, education, occupation and areas of operations of the respondents do not have influence on their perception ($P \geq 0.05$). The model went ahead to reveal that, amidst different age groups sampled, the respondents who fall within the age bracket of 21-30 years had a significant influence on their perception ($P \leq 0.05$). Moreso, amidst the different occupation groups, the respondents who earn salary had the most influence on their perception ($P \leq 0.05$).

Based upon a five point scale where 1= not very interested to 5= very interested. Development to communities ($P \geq 0.05$), also the age had significant influence on their perception ($P \leq 0.05$).

Table 3. Coefficient of determination (R2) and likelihood value of the respondents

-2log likelihood	Cox & Snell R Square	Nagelkerke R Square
167.11	0.23	0.31

Table 4. Binary logistic regression between demographic characteristics and the communities perception on impacts of ecotourism development

	B	S.E.	Wald	df	P value	Exp (B)
Sex			**0.05**	**2**	**0.98**	
Salary earners	-2.01	.627	10.31	1	0.02	.134
Transporters	-0.74	.882	0.71	1	0.40	.476
AreaOO			**2.86**	**3**	**0.41**	
AreaOO(1)	0.13	.574	0.05	1	0.82	1.143
AreaOO(2)	0.19	.571	0.11	1	0.75	1.203
AreaOO(3)	1.28	.756	2.86	1	.091	3.588
Constant	20.08	4.019E4	0.00	1	1.00	5.236E8
Education			**7.44**	**4**	**0.11**	
Education(1)	1.34	1.559	0.73	1	0.39	3.772
Education(2)	-0.43	1.126	0.15	1	0.70	.648
Education(3)	0.24	1.097	0.05	1	0.82	1.276
Education(4)	1.13	.986	1.31	1	0.25	3.086
Occupation			**13.70**	**7**	**0.06**	
Loggers	-0.61	.821	0.56	1	0.46	.542
Farmers	20.08	1.765E4	0.00	1	1.00	5.257E8
Hunters	0.91	1.259	0.52	1	0.47	2.484
Traders	-0.14	.606	0.05	1	0.82	.871
Drivers/Mechanics/ Vulcanizer	20.51	2.651E4	0.00	1	1.00	8.062E8

Area of operations; $p < 0.05$ indicates there is significant difference

5. Conclusions

From this study on the community perception on the anticipated impacts of ecotourism development in Omo Biosphere Reserve, it is logically correct to assert that the views of the community is very vital for the ultimate success of the development project. Based on the data collected, analyzed and validated, one can conclusively say that because of their knowledge of benefits accruing from ecotourism, most respondents are willing to support ecotourism development in the reserve. They have positive perceptions of its impacts and are willing to support with their cultural resources and are eager to receive the ecotourists. These are positive indicators of its ultimate sustainability. Educational background of the respondents positively affected their anticipated attitude towards the development and expected impacts. Most respondents hope for improved infrastructures as part of the expected impacts. Sex of respondents has no major influence on their perceptions. Young people whose ages are between 21 and 30 who are salary earners have the highest numbers among respondents. This is an indication of vibrancy, growth and longer years of sustenance of support. This study is important for developing economy whose resources are not adequate for their needs and unfortunately are poorly managed. They cannot afford to mis-manage such fragile ecosystems and living laboratories, as they offer the least cost effective remedy to rural employment, rural-urban migration and rural social mis-behaviours.

REFERENCES

[1] UNESCO, Biosphere reserves: The Seville Strategy Framework of the World Network. UNESCO, Paris, France. 1996.

[2] D'Angelo, Sachasiri, Vaccaro, Welie, Vargas, Yongsanguanchai, "Post-tsunami Ecotourism Development": Solution for the Laem Khruat Village. pp. 90. 2010.

[3] Angelica, Zamrano, Broadbent and Durham, Social and Environmental Effects of Ecotourism in th Osa Peninsula of Costa Rica: The Lapa Rios case. *Journal of Ecotourism* 9 (1): 62-83. 2010.

[4] Habibah, Mushrifah, Hamzah, Toriman, Buang, Jusoff, Mohd Faud, Er, Azima, and Habibah, Assessing Natural Capitals for Sustainable Ecotourism in Tasik Chini Biosphere Reserve. *Advances in Natural and Applied Sciences,* 6(1):1-9. 2012.

[5] Ezebilo, Mattsson, Afolami, "Economic Value of Ecotourism to Local Communities in the Nigerian Rainforest Zone". *Journal of Sustainable Development.* Vol. 3 No. 1. 2010.

[6] Senko, Schneller, Solis, Ollervides and Nichols, *Ocean & Coastal Management*, 54(2): 148-157. 2011.

[7] Lo May-Chiun , Abang Azlan Mohamad, Peter Songan, and Alvin W. Yeo, Positioning Rural Tourism: Perspectives from

the Local Communities, *International Journal of Trade, Economics and Finance,* Vol. 3, No. 1, pp. 59- 65. 2012.

[8] Pomerantz, James. "Perception: Overview". In: Lynn Nadel (Ed.), Encyclopaedia of Cognitive Science, London: Nature Publishing Group, 3: 527-537. 2003.

[9] Lttleson, W. H, Environment and Cognition. Oxford: Seminar Press.

[10] Ola-Adams B. A, Biodiversity Inventory of Omo Biosphere Reserve, Nigeria. (Country Report on Biosphere Reserves for Biodiversity Conservation and Sustainable Development in Africa (BRAAF) Project). ISBN 978-31078-3-6. 1999.

[11] Ikemeh, R, Survey of the Omo-Oluwa-Shasha forest complex, south western Nigeria: a preliminary report. Unpubl. rep. Lagos: Nigerian Conservation Foundation. pp. 2- 4. 2007.

[12] Oates, J.F., Ikemeh, A.R., Ogunsesan A.A., Bergl R.A. A Survey of the Rainforests in Ogun, Ondo and Osun States in SouthWestern Nigeria to Assess Options for Sustainable Conservation. Nigerian Conservation Foundation. 2008.

[13] Barkin, "Ecotourism: A tool for sustainable development". 1996.

[14] Gregory, Conflict between global and local land use values in Latvia's Gauja National Park. Landscape Res. 30: 413-30. 2005.

[15] William C, Ferguson M, Recovery from crisis: Strategic alternatives for leisure and tourism providers based within a rural economy. Inter. J. Public Sector Manage. 18: 350-66. 2005.

[16] Açiksöz, Görmüs, Karadeniz, "Determination of ecotourism potential in national parks: Kure mountains national park, Kastamonu-Bartin", Turkey. African J. Agric. Res., 5(8): 589-599. 2010.

[17] Ap and Crompton, "Developing and testing a tourism impact scale" Journal of Travel Research vol. 37, no. 2, pp. 120- 130. 1998.

[18] Ikemeh R, 2009. Boundary/Biodiversity Survey in the Omo-Oluwa-Shasha Forest Complex. Area 1: Omo Forest Reserve. Nigerian Conservation Foundation, Lagos, Nigeria. 46pp. 2009.

[19] Ikemeh R, 2009. Preliminary Data on Forest Elephants (*Loxodonta africana cyclotis*) in Southwestern Nigeria. *Pachyderm No 45 July 2008-June 2009.*