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Assessing the Potentials of Epoto Cave as an Ecotourism Asset in Abi Local Government Area of Cross River State, Nigeria

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Abstract
This research examined the potentials of Epoto Cave as an ecotourism asset in Abi Local Government Area of Cross River State. Three communities in Abi Local Government Area were used for this study. Three hundred and seven copies of questionnaire were randomly distributed to residents within the sample framework. The research findings shows that Epoto Cave has the potential for ecotourism development in the area. It was discovered that threat to local culture, exposure of community natural resources among others were community concerns towards the development of Epoto Cave for ecotourism. The data collected shows that some basic amenities such as effective road network, electricity and adequate security network in the area are needed to ensure the development of Epoto Cave. It was also noticed that the development of Epoto Cave can enhance community development as it would create investment opportunities, employment generation and at the same time lead to emergence of other small scale enterprises in the area. However, the neglect of the Epoto Cave for ecotourism development by government and private sector have caused increase in the rate of anthropogenic activities and socioeconomic activities that have degraded the entire aesthetics of Epoto Cave and its environs. Therefore, an effective mechanism must be put in place in order to ensure the development of Epoto Cave for ecotourism activities if the potential must be reaped.
Keywords: Ecotourism, Epoto Cave, Development, Potential, Pristine ecosystem

1.0 Introduction

Ecotourism as one of the segment of tourism that is fast growing has encouraged destination development. Many people in the world have great passion for ecotourism potentials, especially individuals whose destinations are enriched with ecotourism potential (Ingram, 2001). Ecotourism which involves travel to unique and pristine areas has the capacity to reduce the danger and threat which may be imposed by conventional tourism to protected or natural areas (Drumm, 2004). Ecotourism potentials such as lakes, mountains, waterfalls among others, have greatly influenced ecotourism activities. For indigenous communities within these laudable potentials, ecotourism has become a major catalyst and a doorway to the global economy as most of the catchment communities reap from ecotourism (Mokoro, 2012).

Epoto Cave as part of nature tourism and as an ecotourism asset has the capacity to influence ecotourism in Cross River State. Its influence can boost the development of other tourism industries such as the hospitality industry. Many studies have shown that existing ecotourism potentials in a destination can generate multiplier effect on such a destination (Leathryn, 2013). For instance, the development of ecotourism potentials in Cross River State such as caves, waterfalls, lakes have created employment for the residents and income from ecotourism activities. Apart from this, it also creates investment opportunities which enhances the destination development and also increases the flow of visitors to the destination (Alpizor, 2006; Hearne and Santos, 2005; Naidoo and Adamawicz, 2005). However, the Epoto Cave which habours great ecotourism potentials is yet to be given attention by both the public and private sector towards its development, perhaps due to lack of infrastructure and the location of the cave. Studies have shown that most of the ecotourism potentials are usually located within indigenous territories, normally in the peripheral areas away from mainstream development (Zeppel, 2013). The Epoto Cave which is one of the prestigious ecotourism potential in the area has been neglected, abandoned and the surrounding environment depleted due to anthropogenic activities. It is on this note that this paper wishes to assess the potentials of the Epoto Cave as an ecotourism asset with specific reference to evaluating community perception to Epoto Cave development, the needed amenities for Epoto Cave development, the expected socio-economic impact of Epoto Cave development on the host communities and to weigh and rate impact of socio-economic activities around the Epoto Cave and its environs.

2.0 Literature review

Ecotourism development

Ecotourism development in Cross River State has attracted interest not only as an alternative to mass tourism but as a means of income and revenue generation (Schaller, 2010). The development of ecotourism according to scholars, create economic benefits not only to local communities but also to stakeholders in the field of tourism

and ecotourism development (ZsuZsa, 2013). The development of ecotourism in Nigeria has tremendously engaged majority of the people in socio-economic activities especially in catchment communities where these ecotourism potentials are located. Communities within these zones where the ecotourism potentials are located have diversified their local economy as most of the people provide certain services that are needed by the various visitors (Aniah and Eja, 2010). The protected areas which are usually ecotourism zones have attracted mass tourism and at the same time government attention is always present. The ecotourism potentials such as monoliths, vegetation cover, mountains, caves among others have influenced large scale trade especially in many state capitals (Paola, 2013). Caves as tourism potential have pulled over 25 million visitors every year to some destinations and with estimated expenditure of USD 2million. The increase in visitors' arrival to ecotourism potentials do not only provide job opportunities to residents but also increase the income base of the locals. Studies have shown that most countries with ecotourism potentials are seriously engaged in ecotourism development in order to boost their economic growth and development (Lundberg, 2012). In Cross River State, the initiative by the government to diversity her economy necessitated the development of ecotourism potentials into a source of natural tourism which eventually would enhance and also improve the quality of lives and eradicating hardcore poverty in the area (Udvoc, 2006). In the early 20th century, the potentials of caves and the environmental aesthetics around caves and other information on caves had attracted numerous visitors to ecotourism destinations (Yavuz, 2007).

Ecotourism development has the capacity to generate other multipliers which can enhance and sustain the livelihood of the indigenous people and also ensure the sustainability and conservation of the natural resources (Okechi, 2009). The sustainability of ecotourism potentials is also rested in the interaction between the various stakeholders which include the local community (D'Angelo, 2010). An effective ecotourism depends on active participation of the various stakeholders in the field of tourism and ecotourism development (Schaller, 2010).

In Cross River State, most of the tourists and visitors stay several months in Calabar the state capital for the purpose of observing ecotourism potentials. Visitors stay in these communities where the ecotourism potentials are located have attracted community interest towards ecotourism development which in turn create investment opportunities which is driven by private sector in the area (Eja & Ndoma, 2011). Studies conducted on ecotourism in Cross River State show that ecotourism development in the state has increased visitors' inflow in the urban centers when certain comfort and satisfaction are obtained especially during their leisure period (Eja and Aniah, 2009).

In assessing the contribution of ecotourism development in Cross River State, Eja & Abonor (2017) emphasized that government and private sector must provide the basic needed facilities such as roads, electricity and others so as to attract and ensure the sustainability of ecotourism activities in the area. These basic infrastructures, according to, Amechi and Judith (2009) would generate other multiplier effects that would enhance the livelihood of the local people socio-economically.

The Epoto Cave in Abi Local Government Area has high historical and cultural importance as most of the communities in the area originated from the Epoto cave. This historical and cultural value of Epoto Cave has led to the conservation and preservation of Epoto Cave (Sherwood and Simak, 2001). The Epoto Cave is a unique ecotourism feature which hosts rich fauna and flora species (Pipan and Culvar, 2013). The Epoto Cave and its environs have great natural resources and also a unique habitat which are used for studies and for medicinal purposes (Borton and Northup, 2007), although Epoto Cave has not been used for religious and other purposes as compared to other caves in most tourism destinations which are usually used for religious and healthcare purposes (Cigna & Forti, 2013).

3.0 Methodology

This research is anchored on assessing the potentials of Epoto Cave as an ecotourism asset in Abi Local Government Area. Three communities were used in this study, which include Usumutong, Ebijakara and Ediba. Three hundred and seven sample size was used, of which 143 questionnaires were distributed in Usumutong, 22 in Ebijakara and 142 in Ediba. These copies of questionnaire were distributed to household heads using purposive sampling technique. The purposive sampling technique was adopted due to the nature and type of data involved in the study. The likert scale was used to weigh the socio-economic activities around the Epoto Cave and its environs. The likert scale was within 1 – 5 points with 1 – indicating very minor impact, 2 – minor impact, 3 – moderate impact, 4 – major impact, 5 – severe impact. The weighing rating of each of the points was also rated as proposed by Mamun and Mitra (2012), showing that 1 – 0.20, 2-0.40, 3 – 0.60, 4 – 0.80, 5 – 0.100. The questionnaire design contained information such as community perception to Epoto Cave development, the needed amenities for Epoto Cave development, the expected socio-economic impact of Epoto Cave development. One hypothesis was stated in attempt to examine the independent or dependence of the various villages' perceived threat to Epoto Cave development in Abi Local Government Area. This hypothesis was tested using chi-square which helps to show community perceived threats to Epoto Cave development for tourism.

4.0 Results and Findings

4.1 Community perceived threat to Epoto Cave development

The community perceived threat to the Epoto Cave development as presented in Table 1 indicates that invasion of community privacy by visitors and rise in social vices and crime had community perceived threat values of 22.48 percent and 22.80 percent. It was also observed that threats to local culture and increase in local population were also community perceived threat to Epoto Cave development with values of 20.20 percent and 13.03 percent. However, it was discovered that pollution imported by visitors, rise in the cost of living and diversion of attention from agriculture were the least community perceived threat to Epoto Cave development in the area with values of 2.23 percent, 2.93 percent and 5.54 percent respectively.

Table 1

Community perceived threat to Epoto Cave development

S/N	Community perception	Usumutong	Ebijakara	Ediba	Total no. of respondents	Percentage
A	Threats to local culture	30	3	29	62	20.20
B	Increase in local population	21	2	17	40	13.03
C	Invasion of community privacy by tourists	31	5	33	69	22.48
d	Exposure of the community natural resources to exploitation	18	2	7	27	8.79
E	Rise in social vices/crimes	30	5	35	70	22.80
F	Diversion of attention from agriculture	7	1	9	17	5.54
G	Pollution imported by tourists	3	3	7	13	4.23
H	Rise in the cost of living	3	1	5	9	2.93
	Total	143	22	142	307	100

Source: Field Survey, 2016

Test of hypothesis

The result of analysis on the community perceived threat as expressed by the community residents towards the development of Epoto presented in Table 2 shows a calculated value (cal. x^2) of 17.37, lower than the table value (crit. x^2) of 23.685 at 0.05 level of significance. Therefore, the alternative hypothesis H_1 was rejected and the null hypothesis H_0 accepted. This result indicates that community perceived threat of Epoto Cave development occur by chance, meaning that the development of Epoto Cave in the area may or may not cause problems in the area.

Table 2

Statistical analysis of the hypothesis

Usumutong	Ebijakara	Ediba	N	Cal. x^2	df	Crit. x^2	Sig.
30	3	29	62				
21	2	17	40				
31	5	33	69				
18	2	7	27	17.37	14	23.685	0.05
30	5	35	70				
7	1	9	17				
3	3	7	13				
3	1	5	9				
143	22	142	307				

Source: Author's field work

The needed amenities for Epoto Cave development

The needed amenities for Epoto Cave development as an ecotourism asset presented in Table 1 Shows that 42.35 percent of the sampled population agreed that electricity is needed for Epoto Cave development followed by road network with a value of 27.69 percent while 12.70 percent attest to the fact that the provision of pipe-borne water can encourage the development of Epoto Cave.

It was also discovered that 8.47 and 4.23 percent agreed that the provision of health post/centre and security post can help to encourage the development of Epoto Cave as an ecotourism asset in the area. The sampled population also indicate that 1.95 percent and 1.63 percent of the sampled population opine that construction of bridges, culverts and establishment of guest houses and lodging facilities can help develop the Epoto Cave in the area with 0.97 percent while others attest to the fact that amenities if provided can also encourage the development of Epoto Cave in the area.

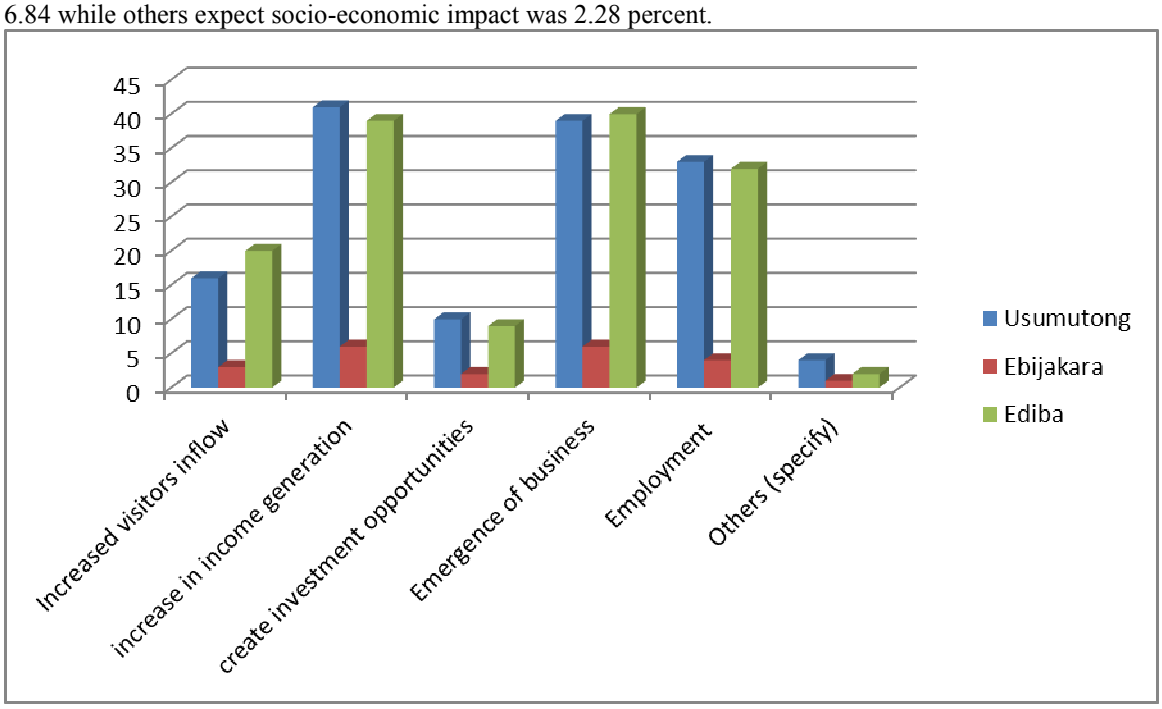
Table 3
The needed amenities for Epoto Cave development

S/N	Amenities	Usumutong		Ebijakara		Ediba		Total no. of respondents	Percentage
A	Electricity	58	40.56	11	50	61	42.96	130	42.35
B	Pipe-borne water	16	11.19	2	9.09	21	14.79	39	12.70
C	Road network	46	32.17	3	13.64	36	25.35	85	27.69
d	Guest houses/lodges	2	1.40	0	0.0	3	2.11	5	1.63
E	Health posts/centres	10	6.99	2	9.09	14	9.86	26	8.47
F	Security post	6	4.20	3	13.64	4	2.82	13	4.23
G	Bridge/culverts	3	2.10	1	4.55	2	1.41	6	1.95
H	Other amenities	2	1.40	0	0.0	1	0.70	3	0.97
	Total	143	100	22	100	142	100	307	100

Source: Author's fieldwork, 2016

Expected socio-economic impact of Epoto Cave development

The expected socio-economic impact of the Epoto Cave development on host community presented in the Fig. 1 below indicates that the development of Epoto cave would lead to increase in income generation and emergence of business as observed with a high value of 28.01 percent and 27.68 percent followed by employment generation with value of 22.48 percent. It was also discovered that the development of Epoto Cave would result in increase in visitors' inflow as observed with a value of 12.70 percent. However, it was discovered that creation of investment was the least expected socio-economic impact of Epoto Cave development with a value of 6.84 while others expect socio-economic impact was 2.28 percent.



Rating impact of socio-economic attributes

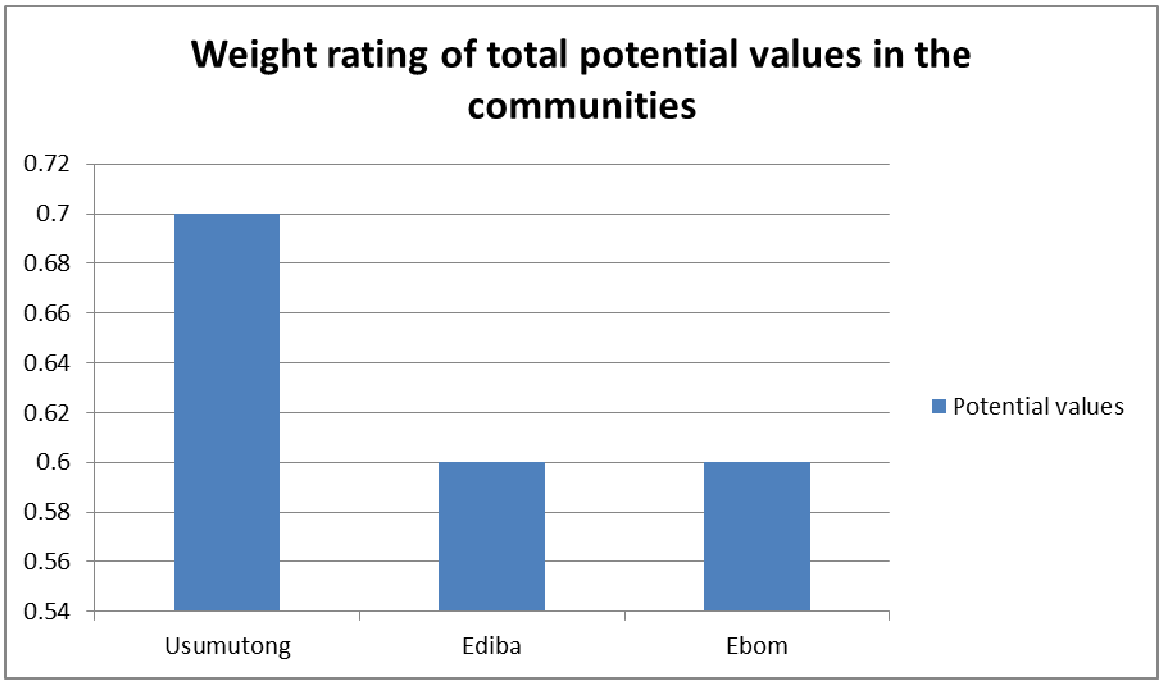
The rating impact of the socio-economic activities around the Epoto Cave shows that the underlisted socio-economic activities have major and severe impact on the Epoto Cave and its environs as observed with values of 0.80 which shows great impact on the ecosystem. This result was applicable in almost the three communities even though fishing and source of water in the area seems to have moderate and very minor impact on the development of the Epoto Cave and its environs with values of 0.20 and 0.40 across the three communities. However, the implication of this result indicates that these various socio-economic activities if they are not monitored would affect Epoto Cave development for ecotourism activities.

Table 4:
Table rating of socio-economic activities around the Epoto Cave and its environs

S/N	Socioeconomic activities	Very minor impact	Minor impact	Moderate impact	Major impact	Severe impact	Grade P_1- P_0	Potential variables
	Community A: Usumutong							
P_1	Farming	15	31	20	98	103	0.80	
P_2	Fishing	104	102	19	39	4	0.20	
P_3	Source of water	20	24	57	108	98	0.80	
P_4	Hunting/Trapping	23	19	35	109	121	0.80	0.7
P_5	Wood logging/lumbering	17	12	31	121	126	0.80	
P_6	NTEPs collection	9	10	26	161	101	0.60	
	Total							
	Community B: Ediba							
P_1	Farming	31	111	31	21	131	0.80	
P_2	Fishing	101	94	21	41	51	0.20	
P_3	Source of water	19	120	32	124	12	0.40	
P_4	Hunting/Trapping	15	19	16	133	124	0.60	0.6
P_5	Wood logging/lumbering	18	15	26	119	129	0.80	
P_6	NTEPs collection	11	16	22	132	126	0.80	
	Total							
	Community C: Ebom							
P_1	Farming	16	20	29	113	129	0.80	
P_2	Fishing	103	83	19	53	49	0.20	
P_3	Source of water	21	130	28	110	18	0.40	
P_4	Hunting/Trapping	18	10	10	129	140	0.80	0.6
P_5	Wood logging/lumbering	12	17	11	128	139	0.80	
P_6	NTEPs collection	12	15	19	139	122	0.80	
	Total							

Source: Author's fieldwork, 2016

The weighting rating of the total potential values of the impact of socio-economic activities in the various communities as shown in the figure 2 below, shows that there is no significant variation in the potential weighting values in the communities. Besides, it was observed that all the socio-economic attributes that take place in the Epoto Cave and environment have greatly impacted on Epoto Cave as observed in Table 5 with potential values of 0.7 and 0.6 respectively, indicating major and severe impact. Accordingly, the total potential value of 0.63 was obtained as aggregate of potential values in the socio-economic activities in the area indicating that all the socio-economic activities have both major and severe impact to the development of Epoto Cave as ecotourism asset in the area.



Conclusion

The data collected indicates that Epoto Cave is one of the ecotourism potentials which has the capacity to change the fortunes of the people in the area. It was discovered that the development of Epoto Cave can influence various socio-economic opportunities ranging from employment to income generation. Apart from this, other opportunities accrue to the development of Epoto Cave in the area such as emergence of small scale enterprises and creation of investment opportunities. It was observed from the data collected that certain social amenities are needed to be provided in order to boost the development of Epoto Cave in the area. However, in spite of the significant impact expected from the development of Epoto Cave, community perceived threats have been observed, such as threat to local culture, exposure of community natural resources, pollution among others in the area. The data collected shows that the socio-economic activities around the Epoto Cave have seriously depleted the fauna and flora and at the same time reducing the aesthetics of the cave and its environs.

Recommendations

Epoto Cave is one of the great ecotourism potential which is yet to be harnessed and developed by both the government and private sector. In order for the viability of Epoto Cave to be developed and utilized, the following recommendations are hereby put forward:

- The state government and private sector should embark on effective consultation with the communities so as to build confidence with the local communities within the ecotourism zones.
- The development of Epoto Cave as an ecotourism asset by the government and private sector must conform with ecotourism development regulation so as to reduce community anticipated threats in the area.
- The government and private sector should allow the community to participate in the decision making and policy towards the development of the cave in the area.
- The government should educate the communities within the Epoto Cave on the benefits of Epoto Cave development as an ecotourism potential in the area.

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