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COMMUNITIES` ATTITUDES TOWARDS CONSERVATION IN GASHAKAGUMTI NATIONAL PARK NIGERIA.

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ABSTRACT

This study assessed the attitudes of communities around GashakaGumti National Park towards conservation. It also investigated factors that influence these conservation attitudes. Data were obtained through structured questionnaire which covered demographic characteristics, perceived benefits and challenges derived from the park and responses to attitudinal statements. Data were subjected to descriptive and inferential analysis. The result indicated that 79.3% of the respondents had a positive attitude towards conservation on GashakaGumti National Park. Perceived benefits derived from the Park included construction of classrooms, roads, medical centre, employment opportunity, improved economy through tourist inflow while perceived challenges included destruction of farm produce by wild animals and lack of access to fodder for livestock. 78.9% of the respondents were willing to be involved in community based projects planning and execution. 94.7% accepted and supported community development projects. 100% supported the continued existence of the park. The positive conservation attitude of the respondents might be attributed to the perceived economic benefits derived from the park and the communities` willingness to be involved in community based projects. Result of the chi square and correlation analysis indicated gender, occupation, level of education, perceived benefits and distance from the park had significant relationship with attitude towards conservation in GashakaGumti National Park. The authorities of the park should not relent in their effort in maintaining their peaceful co existence with the surrounding communities but ensure consolidation of this feat. The park management should look into the issues considered as challenges by communities to avert conflict, animosity and breeding of negative conservation attitudes. It is also recommended that attitudinal studies should be conducted periodically and incorporated into National Park Service Management Plan.

Key words: Attitudes, Conservation, Benefits, GashakaGumti National Park

INTRODUCTION

Attitudes are most important in so many studies regarding human way of looking at wildlife, thus giving a clear overview of communities' opinion about issues (Manfredo, 2008). Attitude has been defined as a "feeling, belief and tendencies to act towards other persons, groups, ideas or objects" (Schafer &Tait, 1986) and "psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour" (Eagly&Chaiken, 1993).

Attitudinal surveys are indispensable tools for social impact assessment and are widely used in the conservation sector. Favourable

conservation attitudes maynot always ensure desired action on the part of local people; however, probability of conservation actions increases if people have favourable attitudes. Attitudinal surveys could be conservatively used as an indicator of participation by local people in collective actions (Nabin 2005).People's attitudes are decisive to achieve conservation goals (Richards 1996).

Attitudinal studies are being widely used in evaluating public understanding, acceptance and the impact of conservation interventions, as well as to inform the development of new management strategies(Jafari*et.al.* 2007).Protected area managers are sometimes insensitive to the yearnings and aspiration of the surrounding communities which, if unattended to over time could undermine conservation efforts.The need to study and understand local communities' attitudes, needs and aspirations is gaining prominence especially among stakeholders in conservation. There is a paradigm shift where the local communities are recognised as the focus for success of the conservation agenda (Baldus*et al.*2003; Barrows and Fabricius2002).

After 1980, conservation communities worldwide realized that humans are an integral part of ecosystems, so that, for the sustainability of the ecosystem, human dimensions in conservation should be aptly addressed. The publication of the IUCN's World Conservation Strategy of 1980 has been a catalyst for more 'all-encompassing' conservation thinking (Infield, 1988). Multi-national donor agencies, non-governmental organizations (NGO) and foreign governments set criteria of participation by and empowerment of local people for funding in nature conservation (IUCN 1991, Gibson & Marks 1995).

This participatory approach of management bolstered park-people relationships and attitudes towards conservation have improved in some parks (Heinen& Mehta 1999).

The conservation attitudes of local people residing around protected areas (PA) determine the fate of protected areas in the long run. It is important for protected area managers to explore what factors influence conservation attitudes (Ite 1996). It is on this note that we conducted a study on the attitudes of communities around GashakaGumti National Park towards Conservation. The work also investigated factors that influence these conservation attitudes.

METHODOLOGY

Study Area

GashakaGumti National Park (GGNP) is one of the seven National Parks in Nigeria.It lies between latitude $6^{o}55^{1}$ and 8^{o} 05^{1} N and between the longitudes of $11^{o}13^{1}$ and $12^{o}11^{1}$ E (Nformi, 2002). GashakaGumti National Park is the largest in Nigeria, covering an area of 6,731sqkm, (Warren, 2003). GashakaGumti National Park (GGNP) consists of savannah, dry deciduous woodland, fresh water swamp vegetation, lowland gallery forest, mountain forest and cold mountain grassland. The Park is divided into two sectors; the Northern Gumti and Southern Gashaka.The northern Gumti sector is characterized by tall grassland, trees with usually short boles and broad leaves (Gawaisa, 2002). In southern Gashaka sector, moist guinea savannah predominates.

The climate is broadly characteristic of guinea savannah zone which is an intermediate between the humid wet climate of the forest zone and hot dry climate of the Sudan and Sahel savannah (Nformi 2002).

Rainfall commences in April and lasts to late November with a yearly approximate rainfall ranging from 300mm to 1200mm dry season usually last from December to March (Gawaisa, 2002).

The major occupations of individual in communities within GGNP are farming, livestock husbandry, vocational jobs, civil service with few hunters and fishermen. The subsistence and cash crops commonly cultivated include maize, groundnut, millet, guinea corn, beans, soya beans, rice, yams, sugar cane, and cassava.

Sampling Method

Fourteen communities were randomly selected among the support zone communities both within the enclaves in the park and surrounding communities. The communities were Gashaka, Gadamayo, Addogoro, Bakindaga, Tougo, Fillinga, Mayo-Selbe, Mayo Njim, Njawai, Shirip, Dundere, Tikobi, Mayo-Sabere, Gumti, Tappare, Gwoje, Bodel. 190 questionnaires were retrieved from the respondents. The questionnaire was divided into the following sections:

a. Demographic characteristics (name of settlement, Age, gender, occupation, education, length of residency, household size, number of household working in the park)
b. Information relating to perceived challenges and benefits derived from the park as well as experiences and expectation from the national park authority
c. Information about their attitude towards the park drawn from their responses to some attitudinal statements.

Dependent and independent variables

The dependent variable of the study was attitude of the support zone communities towards GGNP. This included nine statements which revealed the respondents disposition to conservation.

The statement was positively stated using three (3) point Likartscale of *Agree, Disagree and Undecided*. They are rated as shown in the table below;

RESPONSE	SCORE
Agree	3
Undecided	2
Disagree	1

The independent variables are the respondents demographic and socio – economic characteristics.

DATA ANALYSIS

Descriptive statistics such as frequency table and percentages were used to analysed and report personal characteristics (age, sex, marital status e.t.c) of the respondents while inferential statistics such as Chi square and correlation analysis were employed to analyse the hypothesis of the study.

STATEMENT OF HYPOTHESIS

The hypotheses were stated in the null form as follows:

H_{o1}: There is no significant relationship between personal characteristics of the respondent and their attitude towards GGNP.

$H_{o2:}$ There is no significant relationship between respondents' means of livelihood and their attitude towards GGNP.

H_{o3}: There is no significant relationship between benefit derived from the park and attitude towards GGNP.

RESULTS

Demographic Characteristics of respondents

As shown in table one, there were more males (78.9%) than females (21.1%). The largest proportion was between ages 31 and 40. They are predominantly farmers with most of them having secondary school education. 65.7% of them had lived in the communities for over 10 years with majority having household size ranging from 6 to 10. The highest percentage of the respondents

(52.6%) had between 1 and 5 members of their household working with the park while 31.6% had none of their household working in the park.

TABLE 1: DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

Demography	Categories	Frequency	Percentage (%)
Gender	Male	150	78.9
	Female	40	21.1
	Total	**190**	**100**
Age	20-30	50	26.3
	31-40	100	52.6
	41 and above	40	21.1
	Total	**190**	**100**
Major occupation	Civil servants	25	13.2
	Self employed	50	26.3
	Farmers	80	42.1
	Trader	25	13.2
	Hunters	10	5.2
	Total	**190**	**100**
Level of education	No formal	25	13.2
	Primary	30	15.2
	Secondary	88	46.3
	Tertiary	22	11.5
	Adult education	10	5.2
	Arabic education	15	7.9
	Total	**190**	**100**
Length of residency	1-5	20	10.5
	6-10	45	23.6
	11 and above	125	65.7
	Total	**190**	**100**
Household size	1-5	44	23.1
	6-10	89	46.8
	>10	57	30.1
	Total	**190**	**100**
Member of household working in the park	1-5	100	52.6
	6-10	30	15.8
	>10	_	_
	No member employed	60	31.6
	Total	**190**	**100**

PERCEIVED BENEFITS DERIVED FROM THE PARK

As indicated in table 2, the most perceived benefits derived from establishment of the park wasconstruction of classrooms in primary schools coming from 31.58% of the respondents, followed by construction of roads and culverts (27.89%) and construction of medical centres (20%).

TABLE 2: PERCEIVED BENEFITS DERIVED FROM THE PARK

OPTION	FREQUENCY	PERCENTAGE (%)
Construction of primary school	60	31.58
Construction of roads and culverts	53	27.89
Construction of medical centres	38	20.0
Salary of family member working in the park sustaining the family	30	15.79
Improved economy through tourist inflow	20	10.53
Conservation education	22	11.58
Security	25	13.16
Appreciation of nature	28	14.74

CHALLENGES ENCOUNTERED AS A RESULT OF ESTABLISHMENT OF THE PARK

As reflected in table 3, destruction of farm produce by wildlifewas the most prominent among 47.37% of the respondents as the challenge being faced by the respondents. Next to this was lack of access to fodder for animal (31.58%) and denial of access to the park.

TABLE 3: CHALLENGES ENCOUNTERED AS A RESULT OF ESTABLISHMENT OF THE PARK

OPTION	FREQUENCY	PERCENTAGE (%)
Destruction of farm produce by wild animals	90	47.37
Insufficient farm land	40	21.05
Lack of access to fodder for livestock	60	31.58
Denial of access to the park	45	23.68
Boundary adjustment	30	15.79

COMMUNITIES' WILLINGNESS TO BE INVOLVED IN PROJECT PLANNING AND EXECUTION

Table 4 indicates that respondents (78.9%) willing to be involved in community development projects planning and execution were more than the respondents (21.1%) who had a contrary opinion.

TABLE 4:COMMUNITIES' WILLINGNESS TO BE INVOLVED IN PROJECT PLANNING AND EXECUTION

OPTION	FREQUENCY	PERCENTAGE (%)
Yes	150	78.9%
No	40	21.1
Total	**190**	**100**

COMMUNITIES` ACCEPTANCE AND SUPPORT OF DEVELOPMENT PROJECTS

Most of the respondents (94.7%) embraced the Community development projects as against the few ones (5.3%) who had reservation.

Table 5: COMMUNITIES` ACCEPTANCE AND SUPPORT OF DEVELOPMENT PROJECTS

OPTIONS	FREQUENCY	PERCENTAGE (%)
Yes	180	94.7
No	10	5.3
Total	**190**	**100**

PROJECTS RECOMMENDED BY THE COMMUNITIES

Projects recommended by the communities are presented in table 6. In order of prominence, construction of classroom of social amenities. (47.37%) ranked highest among the projects recommended by the respondents. Others are provision of fertilizers, youth employment and provision

TABLE 6: PROJECTS RECOMMENDED BY THE COMMUNITIES

OPTIONS	FREQUENCY	PERCENTAGE (%)
Provision of social amenities	45	23.68
Provision of fertilizer	60	31.58
Construction of classrooms	90	47.37
Employments of youth	35	18.42

SUPPORT FOR THE CONTINUOUS EXISTENCE OF THE PARK

All the respondents indicated their support for the continued existence of the park.

TABLE 7 SUPPORT FOR THE CONTINUOUS EXISTENCE OF THE PARK

OPTION	FREQUENCY	PERCENTAGE
Yes	190	100
No	----	---
Total	**190**	**100**

RECOMMENDATION ON HOW TO SOLICIT COMMUNITIES' COOPERATION WITH THE PARK

Recommendations on how the park management can solicit the cooperation of the communities are presented in table 8.The most recommended was construction of classrooms (36.84%), closely followed by construction of medical centres (34.21%)

TABLE 8: RECOMMENDATION ON HOW TO SOLICIT COMMUNITIES' COOPERATION WITH THE PARK

OPTION	FREQUENCY	PERCENTAGE (%)
Construction of medical centres	65	34.21
Construction of class rooms	70	36.84
Youth Employment	60	31.58
Electricity	40	21.05
Portable water	45	23.68
Improved conservation education	30	15.79

ATTITUDINAL STATEMENTS OF RESPONDENTS AND THEIR DISTRIBUTION BASED ON LEVEL OF PERCEPTION

Presented in tables 9 and 10 are attitudinal statements of respondents on issues relating to conservation in GGNP and their distribution based on their level of perception respectively. In all the statement posed to the respondents, majority of their responses were affirmative. The respondents (79.3%) with positive favourable attitude towards conservation in GGNP were more than respondents (20.7%) with negative unfavourable attitude towards conservation in GGNP.

TABLE 9 ATTITUDINAL STATEMENTS OF RESPONDENTS

STATEMENT	Agree	Undecided	Disagree	Mean
GGNP is important for the survival of critical plants&animal species	160 (89.4%)	8 (4.5%)	11 (6.1%)	2.83
Continued cattle grazing , firewood collection will destroy wildlife habitat	128 (71.5%)	22 16.2%)	29 (16.2%)	2.55
Protection of GGNPwill benefit future generation	170 (95.0%)	8 (4.5%)	1 (0.5%)	2.94
GGNP attracts tourist & provide income for local people	154 (86.0%)	19 10.6%)	6 (3.4%)	2.83
Establishment of the Park is a welcome development	160 (89.4%)	15 (8.4%)	4 (2.2%)	2.87
Conservation is a good policy	144 (80.4%)	12 (6.7%)	23 (12.8%)	2.68
I will like to be part conservation activities	150 (83.8%)	14 (7.8%)	15 (8.4%)	2.75
Government should involve community leaders in conservation activities.	159 (88.8%)	9 (5.0%)	11 (6.1%)	2.83
Government should abolish park service	96 (53.6%)	27 (15.0%)	56 (31.3%)	1.62
				24.5

TABLE 10: DISTRIBUTION OF RESPONDENTS ACCORDING TO THEIR LEVEL OF PERCEPTION

CATEGORY OF PERCEPTION	FREQUENCY	PERCENTAGE (%)	RANGE SCORES	MEAN
Favourable	142	79.3	25 – 27	**24.5**
Unfavourable	37	20.7	14 – 24	

CHI SQUARE ANALYSIS OF RESPONDENTS PERSONAL CHARACTERISTICS AND THEIR ATTITUDE TOWARDS CONSERVATION INGGNP

Presented in table 11is the result of chi square analysis of respondents` personal characteristics. There was significant relationship between the following variables

and respondents attitude towards conservation in GGNP. They arelevel of education, alternative means of livelihood, occupation, gender, perceived benefits derived from establishment of the park.

TABLE 11: CHI SQUARE ANALYSIS OF RESPONDENTS PERSONAL CHARACTERISTICS AND THEIR ATTITUDE TOWARDS CONSERVATION IN GGNP

VARIABLE	DF	P-VALUE	DECISION
Gender	11	0.003	Significant
Occupation	33	0.000	Significant
Alternative means of livelihood	44	0.000	Significant
Education	77	0.000	Significant
Perceived benefits	11	0.016	Significant

Level of significance = 0.05/p < 0.05

CORRELATION ANALYSIS OF RESPONDENTS PERSONAL CHARACTERISTICS AND ATTITUDE TOWARDSCONSERVATION IN GGNP

Correlation analysis was adopted for variables that are measured in intervals. Among them, only distance from community to the park showed appositive correlation with attitude towards conservation in GGNP.

TABLE 12: CORRELATION ANALYSIS OF RESPONDENTS PERSONAL CHARACTERISTICS AND ATTITUDE TOWARDS CONSERVATION IN GGNP

VARIABLES	R – VALUES	P-VALUES	DECISION
Distance from community to the Park	0.178	0.017	Significant
Age	-0.045	0.548	Not significant
Length of residency	-0.221	0.003	Not Significant
Average annual income	-0.020	0.792	Not significant
Size of household	0.137	0.067	Not significant
Member of household working in the park	0.025	0.742	Not significant

DISCUSSION

The communities had positive attitude towards conservation in GashakaGumti National Park (GGNP) with 79.3% of the respondents (*n=190*) being rated above the 24.5 mean score calculated from their response to the attitudinal statement while only 20.7% had a negative attitude towards conservation in GGNP. This is highly commendable for both the park management and the communities when compared to a similar study in communities around Serengeti National Park, Tanzania where only 25% of the respondents rated the relationship with the protected area as good. Furthermore, 75% of the respondents around Serengeti National Park supported degazettement of game reserves unlike in

GGNP where 100% of the respondents supported the continuationof GGNP.

The positive attitude of the communities around GGNP may be explained by the economic benefits derived from the park. 52.6% of the respondents had between one and five members of their household working with GGNP while another 15.8% had between 6 and 10 members of their household engaged by GGNP. Similarly the respondents enumerated construction of classrooms, roads, medical centres and improved economy through tourist inflow, among other benefits derived from establishment of the park. Economic implication of setting up a protected area on local people usually has bearing on their level of tolerance for conservation. Negative conservation attitudes prevail among people suffering from the costs of conservation (Naughton-Treves, et al. 2003, Gadd, 2005). For instance, farmers who lost crops to elephants (*Loxodontaafricana*) in Mozambique were more negative to Maputo Elephant Reserve than non-victims (De Boer and Baquete 1993). On the other hand, communities that receive benefits have the tendency and likelihood to support conservation efforts (Holmes 2003). Economic incentives are very important tools to influence conservation attitude. Conservation attitudes are generally influenced by the perceived cost and benefits of protected areas (Newmark et al.1993). tangible benefits from conservation are vital motivational factors for local people to change their attitudes, support conservation efforts, and align their behaviours with conservation goals (Archabald and Naughton-Treves 2001).

Another way of explaining the positive attitude of communities around GGNP is their willingness to be involved in project planning and execution as well as acceptance and support of the community development project within their communities. This underscores the need for community participation in protected area management. The IV IUCN World Congress on National Parks and Protected Areas convened in Caracas,Venezuela, called for increased community participation and human equity in decisionmakingfor protected areas in order to improve their management (IUCN, 1993).Until the 1970s, participation of local people in conservation was often seen as a tool to achieve the local approval to protected area plans, and participation was almost a mere public relations exercise. During the 1980s, participation of the local people was regarded as a mechanism to gain better results in natural resource protection, while in the 1990s, participation has been interpreted more and more as a means to involve local people in protected area management (Ghimire&Pimbert,1997).It is now widely assumed that participation is required in order to achieve sustainable andeffective conservation, particularly in protected areas; that it can bring economic and socialbenefits to marginalised groups; and that devolution of decision-making will benefitbiodiversity (Jeanrenaud, 1999).One promising overall approach to building cooperation between local people and protected area managers is 'collaborative management' or 'co-management' of protected areas – a partnership whereby various stakeholders agree to share amongst themselves the management functions, rights, and responsibilities for a territory or set of resources under protected area status (Borrini-Feyerabend, 1996).

Furthermore, result of the chi square and correlation analysis indicated some variables (gender, occupation, education, perceived benefits and distance from community to the park) as having significant relationship with the respondents` attitude towards conservation in GGNP. Most of these variables are demographic factors. Factors influencing

conservation attitudes are often grouped into demographic, cultural and socio economic phenomenon (Ite 1996). Often times, influential factors are location specific. For instance, of all the socio demographic factors examined by Jafari*et. al.*2007, only wealth and education were important predictors of the relationship between local communities and protected areas. However, demographic variables such as gender, age, education, occupation and ethnicity are generally found to be significant predictors of conservation attitudes (Fiallo&Jabcobson 1995; Sah&Heinen 2001).

Conclusion

Communities around GGNP had positive attitude towards conservation. This feat is attributable to commitment and understanding of both the communities and the park management. Economic benefits derived from the establishment of the park, communities` willingness to be involved in conservation contributed to their positive attitude conservation attitudes. Demographic factors such as gender, occupation, education, and distance from community to the park had significant relationship with conservation attitude. The authorities of GGNP should not relent in their effort in maintaining this peaceful co existence but rather ensure consolidation of this achievement. The park management should as a matter of urgency look into issues considered as challenges encountered by the communities as a result of the establishment of the park because they are not only potential causes of conflict but also factors that capable of causing animosity and breeding negative conservation attitude. Due to precarious nature of attitude, attitudinal studies should be conducted periodically and incorporated into National Park Service Management plan.

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