

## IMPACT ASSESSMENT OF GLOBAL ENVIRONMENT FACILITY (GEF) INTERVENTION ON BIODIVERSITY CONSERVATION IN KAINJI LAKE NATIONAL PARK, NIGERIA

Tajudeen Okekunle Amusa.<sup>1</sup> and Abdul-Wasiu Abdul-Azeez.<sup>2</sup>

<sup>1</sup>Department of Forest Resources Management, University of Ilorin, Ilorin, Kwara State, Nigeria

<sup>2</sup>Department of Wildlife and Ecotourism Management, Federal College of Wildlife Management, Niger State, Nigeria

### ABSTRACT

This study assessed the Global Environmental Facility (GEF) intervention projects and its impact on biodiversity conservation in Kainji Lake National Park, North central Nigeria. Data were obtained by administering questionnaires on one hundred (100) members of Support Zone Communities in the two sectors of the Park through a systematic household survey. Two (2) separate in-depth interviews were also conducted; one for GEF officers and the other for Park executives. Descriptively, data obtained were analyzed using frequency tables and histogram, while inferential statistics using the student's t-test was also carried out. Results revealed that GEF intervention projects addressed four separate facets including creation of empowerment/alternative livelihoods, provision of social amenities, development of infrastructure and environmental conservation activities. Majority of the respondents were satisfied with GEF projects (90%) and are favourably disposed to supporting conservation (80%), consequence of GEF activities in their communities. There was a significant difference in the means of arrests and illegal activities ( $N= 20$ ;  $df= 19$ ;  $t\text{-cal}= 1.85$ ;  $t\text{-tab}= 1.73$ ;  $p < 0.05$ ) between Pre-GEF intervention years (1999-2003) and those of the GEF intervention years (2004-2008). Despite the cheering success of GEF intervention on biodiversity conservation in the area, a number of challenges were observed in project delivery including delay in the disbursement of fund and undue bottleneck by GEF. Other challenges were non-payment of counterpart fund by communities; inability of communities to keep proper records of proceedings; culture; religion and tradition of the people including the marginalization of women. In the light of the foregoing, the paper calls for the need to sustain the gains of the GEF intervention with recommendations for improved project delivery in the study area and other areas of similar socio-economic milieu.

**Keywords:** Impact Assessment; Global Environment Facility; Biodiversity Conservation, Sustainable Development and Kainji Lake National Park

### INTRODUCTION

Today, one of the problems that has received global built-up of concerns is the issue of biodiversity conservation. Conservation according to International Union for Conservation of Nature and Natural Resources is the management of human use of the biosphere so that it yields the greatest sustainable benefits to present generation while maintaining its potentials to meet the needs and aspirations of the future generation (IUCN, 1980) On the other hand, biodiversity is the variety of the world's organisms, including their genetic diversity and the assemblages that they form (Ojo, 1996). The

concept of biodiversity reflects the inter-relatedness of genes, species and ecosystems. It also underpins the processes that make life possible, enhancing healthy ecosystems which is necessary for maintenance and regulation of atmospheric quality, climate, fresh water, marine productivity, soil formation, cycling of essential nutrients and even waste disposal (Amusa, 2009). Given that biodiversity is a life enhancing capital asset which has ample potentials for yielding sustainable benefits for humans, the need for its proper conservation for the benefit of mankind becomes a pressing one.

Perhaps one of the reasons why all efforts geared towards conservation of biodiversity has always failed in many African countries and Nigeria in particular is the approach taken, coupled with the attitude of the conservation policy makers and protected areas managers towards the economy of the local people, otherwise known as support zone communities (SZCs). This observation is ostensibly true if humans' dependency on bioresources is considered as a factor on one side and impact of biodiversity conservation on human another (Amusa, 2009). Over the years, models for management of biodiversity and maintenance of a sustainable environment have been developed and channeled through two contrasting developmental approaches viz; the Top- bottom and Bottom – up approaches (Okuneye and Adebayo, 1999; Anijah-Obi, 2002). Okuneye and Adebayo (1999) described the Top- bottom approach as the dominant approach in the early era of conservation. This was probably so because conservation was then seen as a mere need to preserve the environment– a perception which does not carry any consideration for the custodians of the resources. Yet, the application of Top-bottom approach persisted until the last three decades (Okuneye and Adebayo, 1999).

Essentially, the Top- bottom approach implies a situation where experts or government conceive the need to conserve a particular area, make necessary planning, execute the plan and deploy personnel without enlisting the support of the indigenous people or local communities. Thus, resources are literally hijacked from the people while the governments ban them from having access to it (Anijah-Obi, 2002). This approach has been frowned at by many, especially the concerned local people. Anijah–Obi (2002), explains that, although the approach has always failed woefully in the long term, it is nevertheless useful in some exceptional situations. For instance, where there is an urgent need to put a stop to a vigorous deforestation; the forest could be fast depleted if no prompt action is taken in enactment of conservation laws among other applications.

However, the consistent failure of the Top- bottom approach gave rise to a contrasting approach called the Bottom- up approach or community participation (Okuneye and adebayo, 1999; Anijah-Obi, 2002). The Bottom- up approach connotes the situation where local communities derive benefits from conservation effort; they are allowed to plan alongside the government, specify the kind of assistance required and jointly execute the plan with NGOs or government agency involved. Thus, it is generally believed that local communities will identify themselves with conservation effort and accept biodiversity conservation as essentially their call (Okuneye and Adebayo, 1999).

The Bottom- up approach is also called community participation, which is construed as the enlistment of the local people's support and cooperation. This approach has been appraised widely as an approach without which conservation of biodiversity will not succeed in the long term because it is conceived as serving the economic interests of the people. Ayeni (1995) largely attributes the success achieved in biodiversity conservation in some African countries to the application of the Bottom- up approach, and gave Botswana, Zambia and Zimbabwe as the outstanding examples of such countries. Although the primary function of a National park is the protection and maintenance of biological diversity, it

must also strive towards enhancing a balance between local people's economy, environment and concerns for future generations- the default of which stirs conflict (NCF and WWF, 2002). Therefore, protected areas cannot exist in the long term with hostile local community (Adeyemo, 1995). Thus, conservation will either contribute to solving problems of the poor rural who live day- to-day with biodiversity and its resources or these resources will disappear (NCF and WWF, 2002). Ayeni (1995) had lamented that due to over exploitation of wildlife species in Nigeria, three species of antelopes namely Oryx (*Oryx dammah*), Topi (*Damaliscus lunatus*) and Eland (*Tragelaphus derbianus*) are already extinct in the country Guinea Savanna. The same is the fate of Rhino and some forest primates such as black and white Columbus monkey.

In the light of the foregoing, several projects have been put in place to see to community participation and economic welfare of the people in attempts to conserve biodiversity over the years. Among these projects is the Global Environment Facility (GEF). GEF was approved by the Federal Government of Nigeria in 2003 and became operational in Kanji Lake National Park (KLNP) in 2004. Since then, GEF (which is a World Bank Project) has been spear-heading the Bottom-up approach or community participation approach to biodiversity conservation in KLNP and other protected areas in Nigeria with National Park Service Headquarters, Abuja, as the main implementing government agency. This study poised to investigate the activities of GEF vis-a vis the intervention approach on biodiversity conservation in KLNP.

## **MATERIALS AND METHODS**

### **The Study Area**

KLNP is situated in the North Central region of Nigeria between Niger and Kwara States, extending to the border with the Republic of Benin (Ezealor, 2002; Figure 1). The two sectors of the Park, Borgu and Zogurma, lie between Latitudes 9° 40'N - 10° 23'N and Longitudes 3° 30'E - 5° 50'E (Amusa *et al*, 2010). The two sectors together cover a total area of 5,340.82km<sup>2</sup> and are separated by the Kanji Lake, a lake impounded on the River Niger for hydroelectric power generation (Ezealor, 2002). KLNP also falls in the boundary between the North of the Guinea Savanna and South of the Sudan Savanna (DRB, 2004). The vegetation of the park is typical of the Sudan – Guinea Savanna, although in some areas it appears more Sahelian. Riparian forests also occur on the banks of larger water courses (Ezealor, 2002). Generally, the vegetation is described as being Northern Guinea Savanna types which are formations of mosaic of plant communities contrasting in structure and physiognomy (DRB, 2004). The vegetation are further distinguished into distinctive complexes or savanna sub-type including; *Burkea/Deterium* woodland, *Azelia/Isobalina* woodland, the *Danieli oliverii* complex, *Acacia/Anogeissus /Deterium* woodland, and the Manyara complex. (Ezealor, 2002).

KLNP has about 59 families of plants consisting of 49 dicotyledons and 10 monocotyledons. Over 252 plant species have so far been identified in the park. The area is also an Important Bird Area (IBA) with over 350 species of birds identified. Similarly there are over 66 species of large mammals represented by about 13 artiodactyls, 10 carnivores, and 5 primate species. The area is also rich in bats and insects (DRB, 2004). In addition, there are 62 species of fish belonging to 20 families and 28 species of reptiles and amphibians (Ezealor, 2002). The animal species in the Park include: Buffalo *Syncerus caffer*, Roan antelope *Hippotragus equinus*, Senegal kob *Kobus kobus*, Western hartebeest *Alcelaphus buselaphus*, Hippopotamus *Hippopotamus amphibius*, Olive baboon *Papio anubis*, Bush buck *Tragelaphus scriptus*, Red flanked duiker *Cephalophus rufilatus*, Oribi *Ourebia Ourebi* and Lion *Panthera leo* among others (Ezealor, 2002;



Figure 1: Kainji Lake National Park- Borgu and Zugurma sectors with the support zone communities

DRB, 2004). Several human activities have adversely affected the biodiversity status of the Park. These include: poaching, boundary encroachment, uncontrolled bush burning and illegal grazing, which are particularly prevalent in the Zugurma sector.

There are altogether 16 ethnic groups in the Support Zone communities (SZCs) of the Park (Environ-Consult, 2006). The Bissan, Bokobaru, Lopawa, Laru, and Kambari are the aboriginal people in the Borgu sector. They constitute about 55% of the total population. The two indigenous ethnic groups in the Zugurma sector are the Nupe and the Kambari. These indigenous ethnic groups in the Zugurma sector make up about 75% of the total population. Hausa, Zabarmawa, Fulani, Yoruba, Ibo, Gungawa, dukawa, Lopawa, Gelawa, Urhobo, Hakinla, Gwari, Idoma and Tiv are migrants either from the neighboring states or from elsewhere in the country. These migrants constitute 45% and 25% of the total population for Borgu and Zugurma sectors respectively.

### Data Collection

Primary data for this study were collected through socio- economic survey by administering questionnaires on members of SZCs who are beneficiaries of GEF projects. In each sector of the Park, five (5) communities (who are GEF beneficiaries) were purposively selected. The selected communities include: Wawa, Sabon kali (Newkali), Worumakoto, Maje and Woro from the Borgu sector. In the Zugurma sector, Felegi, Patiko, Shafini, Ibbi and Mulea communities were selected. Thereafter, systematic household survey was conducted to obtain information towards meeting the study objectives. The head or most senior wife in each household was targeted as primary respondents. In each community 10 households were sampled. A total number of 100 questionnaires were administered during the field survey. Two (2) separate in-depth interviews were also conducted; one for GEF officers and the other for Park executives. Secondary data were obtained both from records, publications and reports of GEF and the Park. The variables considered for measurement include socio-economic data of respondents, direct benefit of GEF projects, levels of satisfaction with GEF

projects, trend of biodiversity offences before and during GEF intervention periods, list of projects implemented by GEF and problems encountered in projects implementation.

Descriptively, data obtained were analyzed using frequency tables and histogram. The data were also subjected to inferential statistics using students't-test. The software package used was the Statistical Package for Social Sciences (SPSS).

## **RESULTS AND DISCUSSION**

### **Socio-economic Characteristics of Respondents**

Majority of the respondents (66%) encountered during the survey were male while 34% were female. The age class, 25-35, was the modal age category (33%). Most of them (85%) were married with the modal family size being in the range 6-10 (43%). A good number of the respondents were also natives (82%) while only 18% are immigrants. Based on the ethnic composition, Nupe made up 34% of the respondents, Bissan 24%, Boko-baru 9% and Kamberi 15%. Others, such as Hausa, Fulani, Ibo, Yoruba and Dukawa accounted for 14% of the total respondents. Most of the respondents (65%) also engaged in farming activities as their primary occupation. There were 5% of them who were civil servants, and about 2% were artisans. Predominantly, the respondents are Muslims (97%) – most of whom do not undergo formal western education (78%). Only about 6% of them had secondary school education, and 4% of them are holders of tertiary education certificates (Table 1). This finding is consistent with what has earlier been reported by Environ-Consult (2006) in her report of socio-economic survey of the area. The lack of formal western education as revealed by the survey could have far reaching (negative) effects on biodiversity conservation in the area. This fact has also been buttressed by Andrew-Essien and Bisong (2009) that lack of knowledge and education deficiencies among local people around protected areas amount to a threat to biodiversity, directly or indirectly. Further, it can be posited that based on the socio-economic characteristics, at least about 68% of the respondents (including the farmers and hunters) may still be depending on the park for certain bioresources, especially protein source. Besides, where land for farming is in short supply, encroachment into the park land is still possible.

**Table 1: Socio-economic Characteristics of Respondents**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Mode</b>	
<b>Gender</b>				
Male	66	66.0	Male	
Female	34	34.0		
Total	100	100.0		
<b>Age</b>				
18-25	8	8.0	26-35	
26-35	33	33.0		
36-45	21	21.0		
46-55	11	11.0		
>55	27	27.0		
Total	100	100.0		
<b>Marital status</b>				
Married	85	85.0	Married	
Single	4	4.0		
Widowed	11	11.0		
Total	100	100.0		
<b>Family size</b>				
2-5	24	24.0	6-10	
6-10	43	43.0		
11-15	13	13.0		
16-20	9	9.0		
>20	10	10.0		
No response	1	1.0		
Total	100	100.0		
<b>Residency</b>				
Native	82	82.0	Native	
Immigrant	18	18.0		
Total	100	100.0		
<b>Ethnic Group</b>				
Bissan	28	28.0	Nupe	
Boko-baru	9	9.0		
Nupe	34	34.0		
Kamberi	15	15.0		
Hausa	8	8.0		
Fulani	2	2.0		
Yoruba	1	1.0		
Ibo	1	1.0		
Dukawa	2	2.0		
Total	100	100		
<b>Occupation</b>				
Farming	65	65.0	Farming	
Trading	12	12.0		
Hunting	3	3.0		
Civil servant	5	5.0		
Traditional chief	6	6.0		
Artisans	2	2.0		
No response	2	2.0		
Total	100	100.0		
<b>Level of education</b>				
No formal education	78	78.0		No formal education
Adult Education	3	3.0		
Primary Sch. Cert.	9	9.0		
Secondary Sch. Cert.	6	6.0		
OND/NCE	3	3.0		
HND/BSc.	1	1.0		
Total	100	100.0		
<b>Religion</b>				
Islam	96	96.0	Islam	
Christianity	4	4.0		
Total	100	100.0		

Source: Field Survey 2009

### **GEF Projects in Selected Communities**

Table 2 shows the list of projects being implemented by GEF in the study area as mentioned by respondents from sampled communities. A GEF source also revealed that sixteen different projects are being implemented in the area. These projects addressed up to four separate facets including creation of empowerment/alternative livelihoods (e.g. beekeeping, fisheries, animal fattening, farm ventures etc.), provision of social amenities (e.g. boreholes, renovation/construction of public toilets etc.), development of infrastructure (e.g. dispensary, block of classrooms etc.) and environmental conservation activities (e.g. orchards and agroforestry practices).

**Table 2: GEF Projects in Selected Communities**

<b>S/N</b>	<b>GEF Intervention Projects</b>
1.	Renovation/Construction of block of classroom
2.	Renovation/Conservation of dispensary
3.	Drilling of boreholes
4.	Farming
5.	Aquaculture
6.	Animal fattening
7.	Tailoring
8.	Orchard & Agro forestry
9.	Boreholes
10.	Post harvest
11.	Barbing saloon
12.	Welding
13.	Blacksmith
14.	Mechanical workshop & tools
15.	Spare part shop
16.	Computer

*Source: GEF Office 2009*

### **Level of Satisfaction and Impacts of GEF Projects on the Communities**

Table 3 shows that majority of the respondents (90%) were satisfied with the projects so far implemented by GEF, while 6% said they were not. Very few of the respondents (4%) were undecided in their comments. Table 4 further shows that most of the respondents (80%) are disposed to supporting conservation, consequence of GEF activities in their communities. Only 2% responded negatively while 18% made no disclosure of their support or opposition for conservation. It must be noted, however, that appreciation of GEF intervention projects varies from one community to the other. Some communities, perhaps due to their size, benefited relatively less yet they appreciated the projects than some others who have benefited more. GEF intervention projects seem to have created some sort of psychological motivation among some of the communities judging from their responses. Essentially, the impact of GEF intervention has reflected in the aspect of poverty alleviation, social amenities and alternative livelihoods/employment. Table 5 shows that 46% of the respondents agreed that GEF activities alleviated poverty among the beneficiary communities. 6% of

them revealed that the project has created alternative livelihood. Equally, 8% pointed to provision of amenities as one of the important project; 2% each mentioned empowerment, and building of support for conservation respectively, while up to 30% listed the combination of all of the above. Again, the project has been claimed to contribute to educational development as well as building support for conservation. Ordinarily, all these impacts are supposed to be made by the National Park not minding its primary function of biodiversity protection and conservation (NCF and WWF, 2002; Andrew-Essien and Bisong, 2009). In other words, GEF has succeeded in filling a void in the conservation obligation of the Park.

**Table 3: Level of Satisfaction in GEF Projects Among Respondents**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Mode</b>
Satisfactory	90	90.0	Satisfactory
Not satisfactory	6	6.0	
Undecided	4	4.0	
Total	100	100.0	

*Source: Field Survey 2009*

**Table 4: Impacts of GEF Activities on Respondents Support for Conservation**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Mode</b>
Positive	80	80.0	Positive
Negative	2	2.0	
Can't say	9	9.0	
No response	9	9.0	
Total	100	100.0	

*Source: Field Survey 2009*



**Table 5: Impacts of GEF Projects on the Beneficiary Communities**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Mode</b>
Poverty alleviation	46	46.0	Poverty alleviation
Alternative livelihood	6	6.0	
Community development	4	4.0	
Build support for conservation	2	2.0	
Provision of social amenities	8	8.0	
Empowerment	2	2.0	
Empowerment + Amenities + Poverty alleviation + Build Support for conservation	3	3.0	
Empowerment + Amenities	4	4.0	
Empowerment + Build support for Conservation + Educational development	1	1.0	
Poverty alleviation + Amenities + Educational development	2	2.0	
Build support for conservation + Amenities	4	4.0	
No response	14	14.0	
<b>Total</b>	<b>100</b>	<b>100.0</b>	

*Source: Field Survey 2009*

### **Problems Encountered in Project Implementation**

Table 6 shows the nature of problems encountered in the implementation of GEF intervention programmes by both the beneficiary communities and GEF itself as an agency. Some respondents from members of the beneficiary communities (44%) mentioned lack of prompt disbursement of fund as one of the constraints they encountered. Equally, some claimed that GEF forum is politicized (4%). In the same way, respondents viewed the agency bureaucracy and lack of project continuity (20%) as a major challenge. Some community chiefs complained about been pestered with series of interview by GEF officials before they receive the intervention rendered by GEF. Incidentally, GEF is a government-based project and bureaucracy has been identified as one of the problems of project implementation by government agencies (Lockwood *et al*, 2006). Meanwhile, 3% of respondents complained of not being satisfied with projects implemented. Some other respondents (20%) gave no response. As gathered from the survey, bigger communities with relatively large number of elites who can potentially pose challenges seemed to be promptly attended to by GEF. From GEF perspective (Table 7), administration of projects across the communities is also seen to be very challenging. GEF Authorities claimed that payment of counterpart fund was not forth coming from some of the communities, and that majority of the communities always failed to keep proper records of proceedings. Culture, religion and tradition of the people were identified as other militating factors. It was claimed that women were generally marginalized by their male counterpart. This latter problem is buttressed by the limited appearance of women in the interview, a factor that may be due to both

the religion and culture of the people as married women do not mingle or associate freely with male in public. Similarly, some elderly women in one of the communities (Patiko) denied benefited anything from GEF intervention. According to these women, they are far affected by the Park existence than their fellow male folks, claiming that upon their relocation from their former place of settlement in the Park land, they have been denied access to making money on the cattle route from migrating pastoral Fulanis, and that they have also been denied access to Non Timber Forest products (NTFPs), chiefly shea butter seeds and oil from wild palms.

**Table 6: Constraints Encountered by Communities in Accessing GEF Intervention Projects**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Mode</b>
Lack of prompt disbursement of fund	44	44.0	Lack of prompt disbursement of fund
Politicizing GEF forum	4	4.0	
Dissatisfaction about some projects	3	3.0	
Inadequate awareness about GEF	9	9.0	
Politicizing GEF forum + delay in the release of fund	1	1.0	
Dissatisfaction about some projects + Inadequate funding	1	1.0	
Non fulfillment of promise by GEF + delay of fund	3	3.0	
Cuts/reduction in expected amount of fund + lack of prompt disbursement of fund	1	1.0	
Non fulfillment of promise to groups/association + imposition of contractors on communities	1	1.0	
Too much bottle neck + non continuation of projects	14	14.0	
No response	20	20.0	
Total	100	100.0	

Source: Field Survey, 2009

**Table 7: Challenges Encountered by GEF in Implementation of its Projects in the Support Zone Communities (SZCs)**

S/N	Challenges Encountered by GEF
1.	Problem of payment of community counterpart fund
2	Operation and maintenance of micro projects
3	No proper record keeping (of communities activities)
4	No proper environmental mainstreaming for community micro projects
5	Problems of culture , tradition and religion
6	Marginalization of women in GEF forum by the male counterparts

Source: GEF office, 2009

### **Impacts of GEF Intervention Projects on Biodiversity Conservation**

Number of arrests as a function of prevailing illegal activities in the park was 1,020 during the pre-GEF year of 1999-2003. The highest number of arrests during this period (372) was recorded in 1999, while the least number of arrests (114) was recorded in the year 2003. The average number of arrests during the period was 204 per year (Figure 2). Contrastingly, for the GEF year of 2004-2008, the total number of arrests made was 616 with the highest number of arrests (187) recorded during the year 2007. The least number of arrests made was 87 in the year 2005. The average number of arrests during the period was 123 per year (Figure 3). Table 8 shows an extraction from in-depth interview conducted for protection officers of KLNP. All indices of illegal activities were rated low except for fuel wood collection and boundary encroachment. Table 9 further shows the result of t-test analysis between the means of the arrests made during Pre-GEF intervention years (1999-2003) and those of the GEF intervention years (2004-2008) with N = 20 (in each of the two period), where N is the number of quarters. There is significant difference in the means of the arrests made during the two periods under review. From the foregoing, it can be inferred that illegal activities have reduced drastically consequence upon GEF intervention projects.

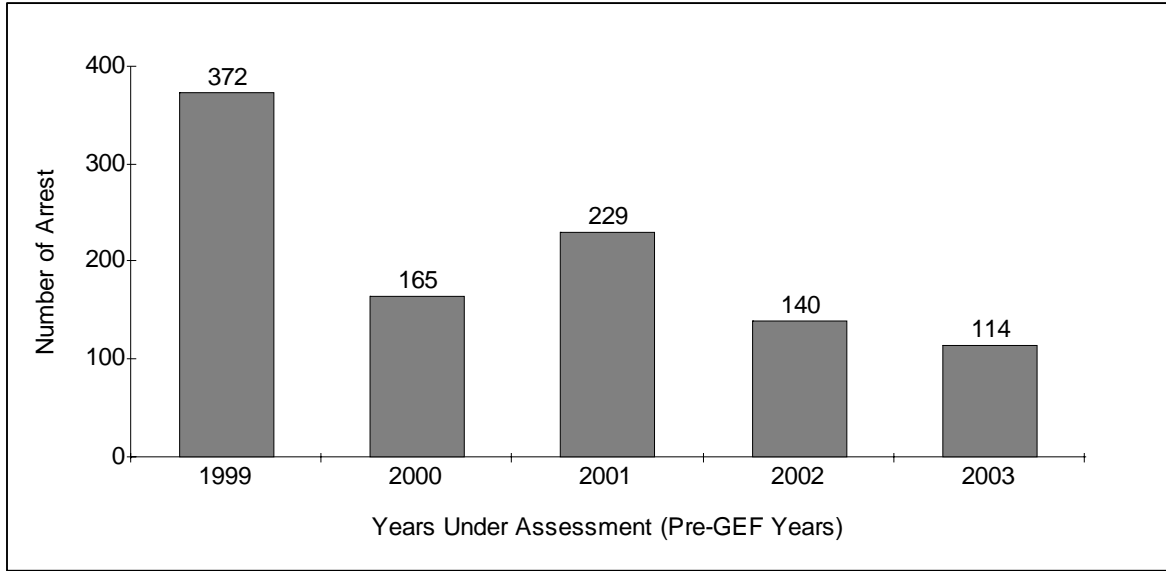


Figure 2: Trends of Arrests for Pre-GEF Years in Kainji Lake National Park

Source: KLNP office, 2009

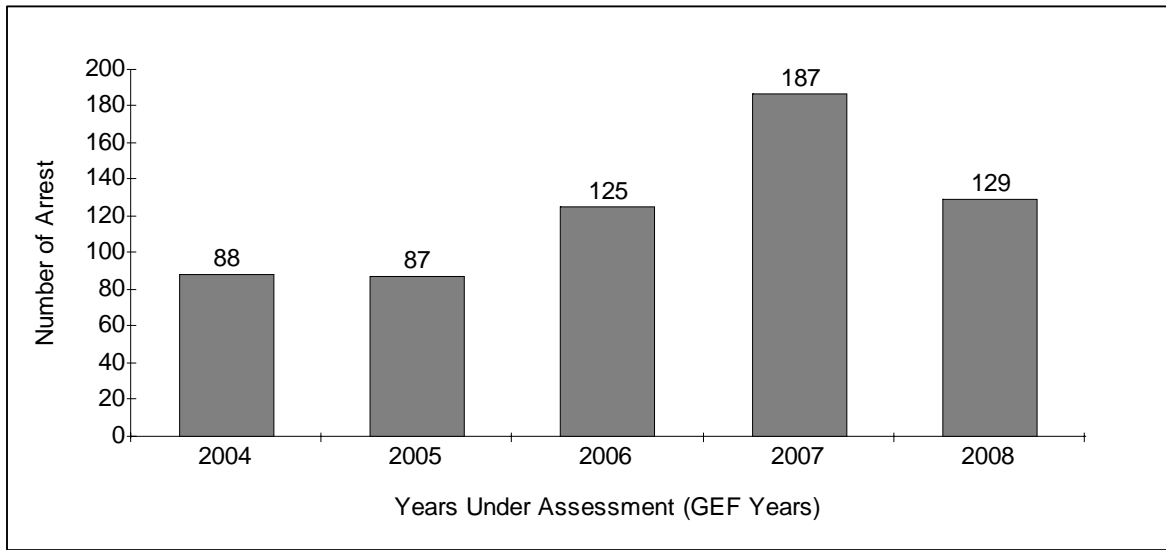


Figure 3: Trends of Arrests for GEF Years in Kainji Lake National Park

Source: KLNP office, 2009

**Table 8: Perceptions of Current Trends of Illegal Activities in the Park**

S/N	Indices	Rating		
		Low	High	Very High
1	Poaching/Illegal hunting	x		
2	Logging	x		
3	Fuelwood collection		x	
4	Farming and Encroachment		x	
5	Bush burning	x		

Source: Field Survey, 2009

**Table 9: T-test Analysis for Mean Comparison of Arrests for the Two Periods Under Review**

Periods	N	Mean	Std deviation	DF	t-cal	t-tab	Decision
Pre-GEF Years (1999-2003)	20	49.250	43.225	19	1.8540	1.7290	Significant
GEF Years (2004-2008)	20	30.800	19.814				

## CONCLUSION

Poverty and environment are linked. As a result of this, people have come to rely more on the environment for their livelihoods with dire implications on biodiversity and sustainable development. Nevertheless, GEF intervention in SZCs of KLNP has served as an effective tool for community engagement and a means to advancing biodiversity conservation. Going by the findings of this study, the rate of illegal activities in KLNP has evidently reduced. However, there is the need to sustain the gains of this intervention with a view to achieving the long term objectives of establishing the Park and protection of its resources. This is the thrust of sustainable development itself. In the light of this, the following recommendations are proposed:

## Recommendations

1. Considering the poor level of formal education in the SZCs, proper attention should be given to educational development in the area by directly getting involved. For instance, teachers could be trained through sustained sponsorship as well as awarding scholarships to deserving and indigent youths.
2. Women should also be given special attention by organizing them into association or groups. This should be done in such a way that their being marginalized by the men would be precluded. In other words, the role of women in conservation should not be underestimated.
3. To bring about the essence of community participation, there is the need to incorporate conservation education into the main scheme of the project. This will go a long way in creating more awareness about conservation as well as

building people's support for it. If possible, there should be conservation education centers in some SZCs especially in communities such as Wawa and Ibbi to serve as forum for the conservation education and awareness.

4. When implementing this kind of intervention in the future, efforts should be made to properly integrate stakeholders from the communities into the mechanism of operation of the agency so as to know how the project operates and how it is being funded. This will clear doubt and impression over the lack of prompt disbursement of fund, and cuts/reduction in the amount of fund being expected by communities (as claimed by them) will not always be blamed on the officials.

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**ABOUT THE AUTHORS:**

Amusa, Tajudeen Okekunle. Department of Forest Resources Management, University of Ilorin, Ilorin, Kwara State, Nigeria.

Abdul-Azeez, Abdul-Wasiu: Department of Wildlife and Ecotourism Management, Federal College of Wildlife Management, New Bussa, Niger State, Nigeria