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Assessment of Socio-Economic Activities and Sustainable Rural Development in Kainji -Lake National Park, Nigeria

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ABSTRACT
Structured questionnaire was administered in five (5) sample communities around the boundary of Kainji lake National park .The villages were chosen at random due to their proximities to the park. The questionnaire was designed to collect information on the effective ways / pattern of managing a protected area and sustainable rural development .A total of one hundred (100) respondents were randomly selected and interviewed. The assessment observed that the inhabitants of the communities depend heavily on the park for a variety of natural resources 40% while their village livestock compete intensively for grazing (85%). The study revealed that the inhabitants of the villages or surrounding the parkland engaged in serious farming 90% while the inhabitant of some villages utilized the park for hunting.

Keywords: Assessment, Socio-economic activities, Sustainable Rural Development, Kainji Lake National park

INTRODUCTION

Protected area management is gradually going through a rapid phase of evolution in response to mounting problems and pressures, especially in the developing countries due to rapidly growing population and drastic economic meltdown. Population growth pressure could take the form of a predictable linear increase in the demands in which people seek for land and resources so as to meet legitimate increased material aspirations.

In Nigeria, protected areas are mostly located in the savannah ecosystem as those in other tropical regions of the world. These wildlife conservation parks are areas set aside for the protection , propagation and preservation of wild animals and wild vegetation, and for the preservation of object, aesthetic geological prehistoric, archaeological artifacts and other scientific interest for the benefits, advantages and enjoyment of mankind (Wahab *et al,* 2009).These conservation enclaves are biologically productive and function as research laboratories, but growth in human population increases the cases of invasion in protected areas and conservation land. A typical example is the invasion of protected areas by pastoralists in East Africa.

Conversely, the protection of wildlife resources and its conservation management become threatened and regarded as a wasteful programme through extinction caused due to human activities. In Africa, the sub-Sahara wildlife resources are influenced by human population trends and related environmental factors. The main causes of deforestation is clearing for agriculture, but uncontrolled logging, gathering of fuel wood, fire and over grazing are also taking their toll (Asibey and Child, 1990).

The socio-economic activities like fishing, agriculture, tourism and human settlement are prone to have some degree of ecological impact on wildlife resources and these have been subject of intensive studies over years (Afolayan, 1973; Olobo, 1977, Obot 1984 Ayodele, 1989;). Kainji Lake National Park is among the protected areas where wildlife resources are geared towards optimum utilization and effective conservation management of its resources, so as to change the indifferent attitudes of the rural people to the management of wildlife for sustainable development. Kainji Lake National park is a mixture of northern guinea and sub-Sudan savannah vegetation. However, the vegetation is now classified into eight vegetation zones according to vegetation ecological zone (Keay, 1953; and Child, 1974; Kareem, 2005).

The development of Kanji Lake National park which is of great and diverse natural/ cultural values had promoted the ecological tourism potentials of Borgu land. The park is endowed with varieties of tourist attractions which provide a meeting point for those that love nature tourism. Other attractions include game viewing, visit of monumental site in the park through which the tourist could perceive the beauty of the natural environment.

The Nigeria protected areas was gazette in each zone of the six geo –political zones within the country towards

attaining wildlife active position for their own acceptance value in our national heritage. There is dearth of information on the effect of socio – economic activities on wildlife resources management of Kainji Lake National Park. Also, very little is known about its influence and degree of effects on wild resources. Among the National Park which have few documentation on effect of its socio – economic and nature tourism importance is Kainji Lake National park. Its nature and cultural value (tangible features) are found in the Oli and Kali rangeland of Borgu sector of the park.

The protected areas are established to promote the national heritage and aesthetic/archeological, biological/physical features for its universal outstanding values from the point of view of history, art or science. Little or no study has been documented on the socio-economic activities, traditional/cultural background and assesses the possible management policies that will provide information for the preparation of management plan and compressive standard master plan for the park.

MATERIALS AND METHODS

Sampling Techniques: -

The study was conducted in the Kanji Lake National park located in Borgu local Government Area of Niger state in Nigeria on latitude 9^0 40^1- 10^0 30^1N and longitude3^0 30^1E and $5^0 50^1$E.Five communities, namely Malale, Kuble, Duruma, Mazakuka and Ibbi were randomly selected in Kanji Lake National park environment. Questionnaires were administered in those selected areas. Prior to the administration of the questionnaires, the surrounding communities (buffer zone) in the five (5) areas were visited for a formal introduction and interaction with the heads of the communities (District Head) who served as link persons. During the visit, a rough estimate number of households in each selected communities was made to determine the number of questionnaire to be administered in each of the villages. A total number of hundred questionnaires was randomly distributed (20 in each communities) selected so as to allow equal opportunity for every person been chosen to react independently. The tools used in the analysis were descriptive statistics such as means, frequency and percentages. The flora and fauna species associated with the park were identified by the respondents in their local names. The zoological names were identified by researcher according to Ayodele (1989). The relative frequency of the various fish species was calculated according to Kent and Coker (1992).

$$\text{Relative Frequency} = \frac{\text{Frequency of a species}}{\text{Frequency of all species}} \times 100$$

The required data for this study were collected by means of structured interview schedule. The questions in the questionnaire were translated into the local language of the people found in the survey area. (Hausa/ Fulani/ Bussawa) by the interviewers and further notes were taken alongside the structured questions. Necessary information was collected on socio-economic characteristics like age, sex, educational, status, traditional uses of

protected resources, merit and demerit of the protected area resources to the communities and livelihood of the respondents. The questionnaire was also designed to elicit information on the ecological and its socio-economic implications on the wild animals

RESULTS

Most of the respondents are male (85%) and 89% are within the age range of 21-50 years. Seventy – five percent (75%) are married, while only 25% are single (Table1). The study identified different ethnic groups. Majority (75%) of the respondents is Hausa /Fulani, 20% are Bussawa and 5% are foreigners (non-Nigerians) (Table 2). All the respondents utilized the park resources for various socio-economic activities, 8% utilized the park land for collection of Shea butter and medicinal plant material, 15% utilized the park water bodies for fishing, 26% utilized the park land for hunting, 47% utilized the park land for grazing of their livestock and 4% utilized the park land for farming (Table 3).

It was revealed that the most prevalent wild animal species commonly found along the riverine areas of river Oli, Mene and Shagunun within the park water bodies are Roan Antelope *Tragelaphus alcelaphus, Western hartebeest, Water buck, kobus defassa, Hippotamus, Hippotragus equines, Kob kobus*. The study revealed the most prevalent flora species in the park to include *Afzelia africana, Isoberlinia tomentosa, Monotes kerstingii, khaya senegalensis, Anogeissus leiocarpus, Burkea africana, Vitellaria paradoxum, Terminalia macroptera, Detarium microcarpus* .The most prevalent grazing activities found in the park communities are in Duruma and Kuble (21-24%), the moderately prevalent grazing communities are Ibbi and Malale (18 %) and the least prevalent grazing community is (16%) (Figure 1). It was also observed in the study that most prevalent fish species found in park water bodies (River Oli, Mene, Shagunu, Doro-Malale) are *Heterolis niloticus, Clarias angularis and,Malapterurus electricus(14-16%)* the moderately prevalent fish species are *,Citherinus citharus, Tetraodon fahaka strigasus and Hepsetus odoe(11-12%),and the least prevalent species are Synodontis clarius and Hydrocynus bravis(10%).(Figure2)*

Table1: Demographic characteristics of the respondents in the surrounding buffer zones of the park

Variables	Categories	Frequency	Percentage
Age	21-30	35	35
	31-40	30	30
	41-50	24	24
	Above 50	11	11
Gender	Male	85	85
	Female	15	15
Educational status	Formal education	06	06
	Informal education	84	84
	No education	10	10
Other occupation	Hunting	15	15
	Fishing	10	10
	Grazing	42	42
	Farming	20	20
	Civil service	13	13
Marital status	Married	75	75
	Single	25	25

Table2: Distribution of the respondents by tribal Identification

Tribe	Frequency	Percentage
Hausa /Fulani	75	75
Bussawa	20	20
Foreigners	05	5

Source: Park Field Survey.

Table 3: Distribution of respondents according to various economic activities of park land utilization

Socio-economic Activities	Frequency	Percentage
Collection of Shea butter/medicinal plant material	08	08
Fishing	15	15
Hunting	26	26
Grazing	47	47
Farming	04	04
Total	100	100

Source: Field survey 2001

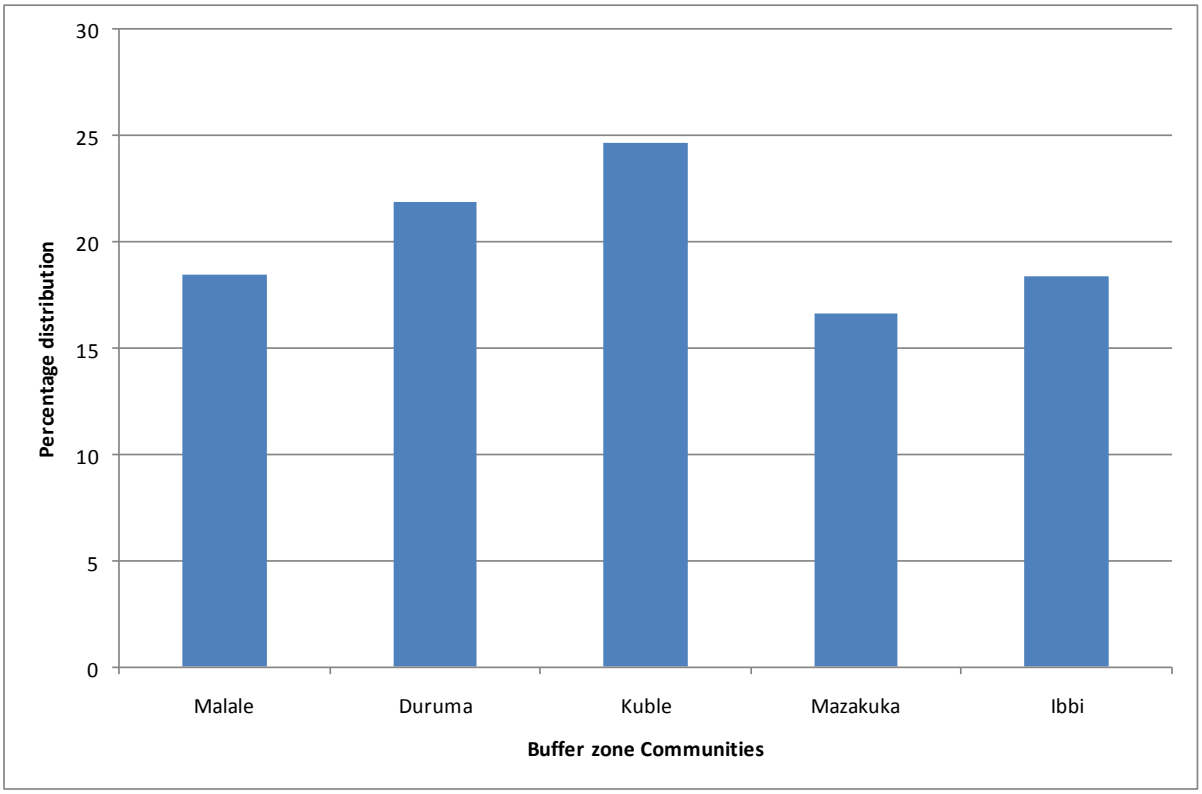

Figure 1. The percentage distribution of grazing activities at the Buffer Zone communities in the year 2001

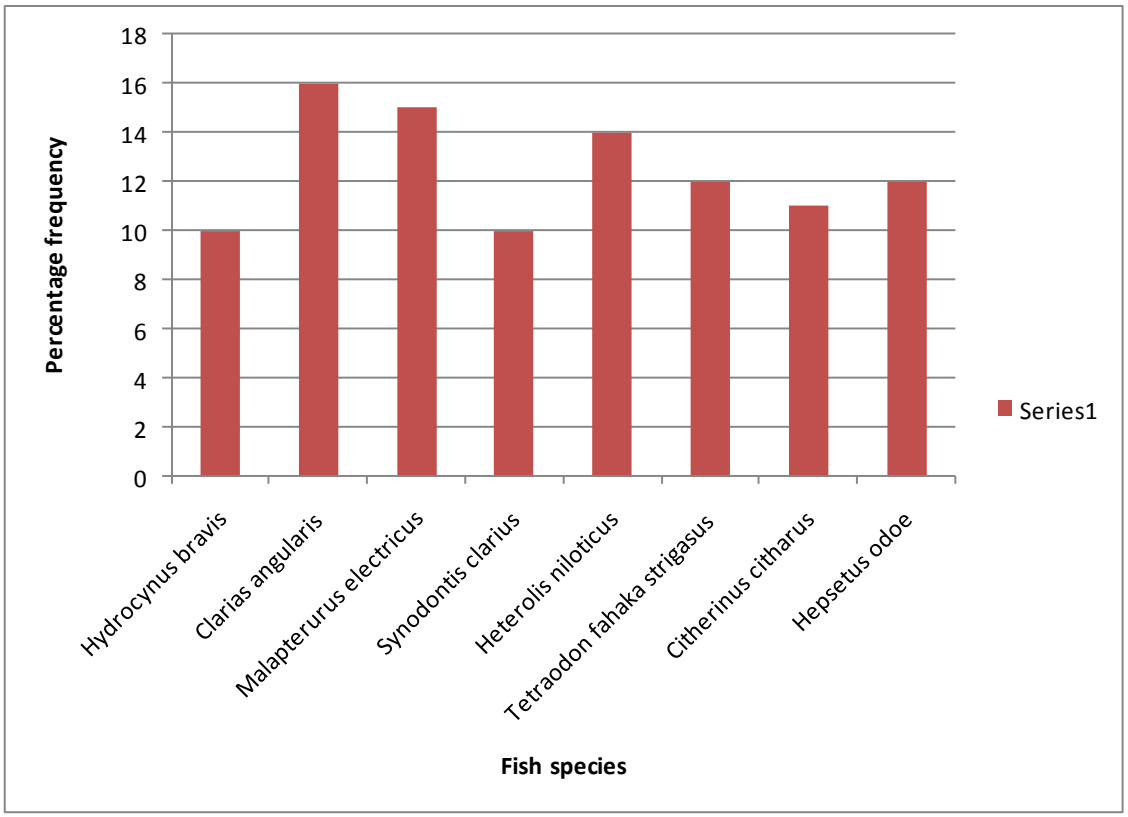

Figure 2: Percentage frequency of fish species commonly found in Kainji lake National Park water bodies

DISCUSSION

The study revealed that majorities of the respondent are within the active age range of socio-economic practice and are engaged in varied family responsibilities. Majority of the respondents had informal education while the percentage of those that neither had formal or informal education is insignificant. Based on this, it can be deduced that the respondents should be able to adopting any innovation being introduced and give support to awareness campaign programmed in the area. Socio –economic activities around the Kanji Lake National Park comprise of different ethnic group, which implied that people in the study areas have different cultural belief and way of life. The formal and informal interview conducted revealed that the people in those surrounding villages of the Kainji Lake National Park do utilize the park. All the available park resources such as flora and fauna species were confirmed useful. This utilization includes demands of parkland for cultivation to sustain their living standard. The utilization can be encouraged further as it has been done in developed countries for sustainable rural development and protected area management of wildlife species and other beneficial goals (integrated farming). The occurrence of the socio-economic activities on the park land by the surrounding communities was caused by insufficient cultivated land and unpredictable non – linear increase in the demands which people have for land and resources in order to meet legitimate increased material aspirations. The study revealed that the effect of population pressure is aggravated when protected areas (park) had been established without taking into consideration how the existing and future needs of local people will be met. The poverty rate and unemployment within the country, which results in massive drift of young men to the rural areas along the Kanji Lake National Park buffer zone lead to varied forms of encroachment by the surrounding communities. The study observed that when palatable flora species become rear or scarce, animals will definitely graze on the less desirable plants (Massalatchi, 1992) .Resultant effects could be uncontrolled over-grazing which made the secondary growth species vanish within the ecosystem. Defoliation of flora species as result of drought changes the biological composition, total nutritional need, and the future production of any range of habitat. The result supported that participation of the buffer zone communities in hunting of wild animals and other resources has an obvious detrimental effect (Clarke, 1971). The study shows that all sources of socio-economic activities by the surrounding communities (buffer zone) pose serious detrimental effect on protected area and sustainable rural development management. The study revealed that participation by all relevant stake-holders in decision making, in problem identification, in project design and implementation, and project monitoring and evaluation could check make the sustainable rural management development of the established protected parks. In Nigeria, comprehensive investigation study on the species ecology, biology and the possible management of protected areas in relation to man for proper evaluation and documentation on sustainable rural development need further research for future reference. The study has shown that socio-economic activities pose ecological threat to the fauna population in the protected areas and conflicting with the objectives of rural development management of protected areas where it occurs in or near it. In line with the information gathered from the respondents, the (buffer zone) surrounding park activities Kainji Lake National Park symbolize their destructive activities as it served as index for some species of wild animals. Though none of the respondents interviewed engaged in hunting, grazing, farming, and fishing activities but there is need to research more on the relationship of park management with socio-economic activities interplay in the rural sustainable development for better actualization of set goals in conservation management. Protected area managers and park administrators should create a sound conservation management policy and strengthen ways of encouraging conservation education strategies militating socio-economic activities experienced within the rural areas bordering the park.

CONCLUSION

Most of the respondents were male while majority of them were within the age range of 21-50years. Majorities of the respondents were married (75%) while some (25%) of them are single. Different ethnic groups were found in the study area Viz. Hausa/Fulani 75%, Bussawa 20%, and foreigners 5%.

The study revealed that the park resources were seriously utilized by all the respondents; 8% utilized the park land for collection of Shea butter and medicinal plant material, 15% utilized the park water bodies for fishing, 26% utilized the park land for hunting, 47% utilized the park land for grazing of their livestock and 4% utilized the park land for farming activity.

The park is naturally endowed in terms of flora, fauna and traditional/cultural diversities which promote the ecotourism development of the protected area for it sustenance. The demographic representation of the park depicted the effect of Socio-Economic activities and its sustenance on the rural development along the protected area. Conservation for sustainable development in protected area should focus more on conservation education campaign for better management of park resources. Hence, management should be observed as a serious business in developing countries for better enhancement of protected natural resources and sound development of various national economies.

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