

**ASSESSMENT OF THE EFFECTS OF THE SOCIO-ECONOMIC
STATUS (BORGU SECTOR) OF THE SURROUNDING
COMMUNITIES ON KAINJI LAKE NATIONAL PARK NIGERIA**

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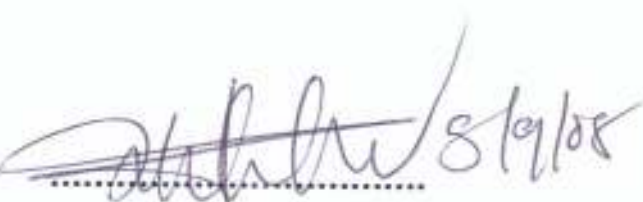
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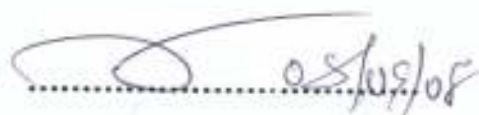
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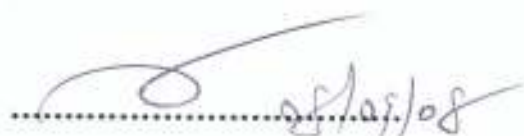
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DEDICATION

This project is dedicated to my wife, Roseline Elekhizor and my children

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ACRONYMS

FUTA	- Federal University of Technology, Akure.
EC	- European Conservation
CBC	- Community Based Conservation
GCA	- Games control Area
IUCN	- International Union of Conservation of Nature reserves
KNLP	- Kainji Lake National Park
NPS	- Nigeria Park Service
UNEP	- United Nations Environmental Programme

ABSTRACT

The assessment of the effects of socio-economic activities of surrounding villages on Kainji Lake National Park was done using three methods, namely; Direct Observation, used of Structured Questionnaires and Interviews.

The observation involved making visual and on the spot assessment of environmental conditions, housing and household, living conditions.

One hundred and fifty (150) copies of structured questionnaire were administered in each of the four villages, namely: Kemenji, Kuble, Luma and wawa. Interviews was conducted among the villagers and the Park management staff to obtain further information. Systematic sampling method was used in the selected of sampoled households for interview.

The data collected were subjected to percentage distribution ranges and some ideas from the environmental evaluation system (EES) and judgmental impact matrix (JIM) methods which are based on Delhi procedures by Macallister. Overall, total 600 households were covered in the four villages. The sampled households contained 3,384 persons.

The findings showed that most rural areas still lack the basic social amenities, especially pipe-borne water, electricity and health facilities. The study also show the Community-Based Conservation Projects that have taken place around Kainji Lake National Park, which started in 1999 has only limited impact.

The study concluded that there is enormous pressure on the park from

the surrounding communities and this has led to vital disappearance of some species of wildlife. This is a bleak perspective for the Park.

Therefore, a package of strategies for rural and community development in order to achieve increase protection of bio-diversity, labour productivity in both agricultural and non-agricultural sectors, improvement in formal and non-formal education, health, water and construction of feeder roads to link villages to the surrounding communities are proposed. These schemes could boost the morale of the rural dwellers, strengthen their sense of participation in the National Park development and productivity.



CHAPTER ONE

1.0 INTRODUCTION

Decades of conservation efforts have left a global network of protected areas, rich in wildlife, forming a true heritage for mankind (Bruner A.G. et al 2001). However, in many instances, the eviction of villagers and nomadic groups associated with the creation of these areas has left deep scars. Subsequently, lack of participation in the profit of mass tourism or other park revenues, have nourished universal local hostility to protected areas (Anderson and Grove, 1989). In the mid-1980s this led to a change in conservation paradigm, whereby development was incorporated to counter the negative aspects of conservation for local people (Hulme, and Mulrphree 1999), in particular their loss of access to exploitable resources, generally called people oriented conservation (Jeanrenaud 1999), or community conservation (Adams W.M; and Hulme D. 2001). Further, it was felt that the efficiency of conservation could be improved by linking conservation and development (Brown M, and Wyckoff-Baird B. 1992), hence, the dominant project form of Community Based Conservation (CBC) and Development Projects referred to in this study. In an idealized form CBC's cover 3 aspects: (i) Protected area management (ii) Management of buffer zones and (iii) Local social and economic development (Brown M, and Wyckoff-Baird B. 1992). Emphasis has been placed, on paper, on stimulating the participation of local communities in the formulation and

implementation of these projects. The decade after the start of the first CBCs, a variety of reports on their activities have appeared (IIED 1994). Initially, the discussion centered on the justification of people-oriented conservation (IIED 1994; Wells et. al. 1992). Later reports discussed preliminary results of CBC and the need for adjustments. Brandon K. (1997), for example, identified questionable assumptions on which many CBCs have been based which led to disappointing results, especially with regard to their conservation objectives. She argued that many CBC have been set up as aid projects where typical governmental responsibilities, such as law reinforcement, have been neglected. Lately, Adams and Hulme (2001) argued to move beyond rhetoric and proposed more diversified community conservation tuned towards the specific situation.

The long-term role of CBC in the future of protected areas, most notably the danger of immigration encouraged by its own activities, has thus far received only scanty attention. In a review of CBC case studies (Elekhizor 1999) noted that "none of the case studies mentioned developed or suggested strategies to deal with influx of poor migrants that can be expected if the project does indeed succeed in raising standards of living in the relative surrounding areas". Brandon and Wells, (1992) and to some extent (Caldecott J; 1996) also discussed the potential risk of people being attracted by the activities of CBC. Firsthand experiences with the phenomenon have been reported, in narrative terms only, from the forest of West Africa (Oates,1999) and the

Central African Republic (Noss, 1997).

One can well imagine the following, highly simplified, immigration-risk scenario for open-access systems (Ostrom, 1990). A protected area is surrounded by a few poor communities, who depend on the (illegal) exploitation of the protected area's natural resources. However, this low-intensity exploitation has hardly created any impact on the area's ecology. For a variety of reasons, CBC is started in the area, improving the local living conditions, thereby attracting (poor) newcomers, who want to share in the increased resources. In the absence of barriers, immigration will continue until everybody has once more reached the same (low) level of development. The result is that the protected area is now surrounded by many, instead of a few, poor communities, who still have to make use of the same resources, thereby jeopardizing its ecology due to their increased numbers, is this development or conservation or neither one.

This research provides case studies of CBC in the Kainji Lake National Park area of Nigeria to examine the validity of this, scenario for open-access and possibly other property systems as well.

1.1 Natural Resources Conservation

To some extent, investigating a history of conservation relies on defining just what we mean by the term. Definitions abound. According to the IUCN (1997) World Conservations Strategy Definition, conservation is "the maintenance of essential ecological processes and life-support

systems, the preservation of genetic diversity, and the sustainable utilization of species and ecosystems" (Talbot, L. M. 1980).

This definition obviously highlights the dimension of practice relevant to an end goal. As with many definitions, however, it lacks specificity. It also overlooks the reality of conservation practice which we know is about so much more than simply "maintenance".

Activities that qualify as Conservation have, over the past 150 years, been implemented by and often in the favour of, political and national elites (Alvard, M 1994). Over the past 50 years, however, as biodiversity loss has been constructed as an international problem, Conservation has also increasingly become the purview of international non-governmental organizations (NGOs), many of which have come to hold greater environmental authority than the governments of nation states. Often structured through class and racial bias, and ignorant of community-based practices for environmental management, contemporary conservation policy, practice and jurisdiction has emerged out of a past littered with struggles over sovereignty, competing ideologies of nature, conflicting use of rights, and markedly inequitable power relations. To some extent, international conservation organizations, more so than state governments have recognized the reality of these conflicts and their ramifications for conservation efforts. However, dealing with them effectively has been much more of a challenge. Part of the difficulty in this process lies in the unreflective

nature of organisations, which inhibits them from a form of self-analysis that might come to terms with conservation practice (Clark and Cragun 1991, Alvesson 1993, Rosen 2000). But just as important has been a general lack of historical knowledge of the social and environmental context of the areas in which they operate. It is unclear how often this presentation accords with reality. In many situations, the outcome (Alvard, M. 1995) of projects departs markedly from the intent, particularly in the realm of community participation. Often, communities that initially viewed Conservation favourably become disillusioned with their role in the process as their interests and needs become defined or interpreted relative to a larger agenda or set of interests (i.e those of the implementing agencies, the state, or commercial interests). There are many reasons for this lack of congruence between initial expectation and actual outcome. However, much of the continued resistance to Conservation projects around the world stems from the ideological and physical distance that seems to separate the interests of states and international NGOs from the interests of the communities that they act upon (or to adopt the rhetoric of participatory management "in partnership with") Cox and Elmqvist (1997). A significant element of this distancing lies in the failure of Conservation to appreciate the political reality of conservation and to incorporate that into a contemporary pragmatic, rather than purely scientific definition of conservation.

In such a definition, conservation would not simply be an end but

also a means, a way of achieving ends that are determined within specific political and cultural contexts. (cf; Saberwal 2000). To some extent, this is captured in Kaponen (1986) definition in which "conservation is a social and political process by which natural resources are managed to maintain biodiversity." Alcorn's emphasis is on process rather than practice. Unlike the institutional definition, she recognizes the real contests and conflicts that are involved in conservation outcomes and incorporates them as a defining element of conservation. Such a definition, to truly incorporate a political dimension, cannot avoid a consideration of the past. In considering the conservation of biodiversity in any locale, it is impossible to ignore the demographic/migration processes of human and the interaction that have shaped those same patterns of extent biodiversity. To ignore this dynamic, demographic/migration, and the institutions and practices they sanction is to willingly delimit the idea of conservation, not to what has gone before, but to what must happen from here-on-in.

1.2 Kainji Lake National Park

The Kainji Lake National Park was constituted a National Park by August, 1975 in an official gazette (Decree No 46) which transferred its ownership and management to the Federal Government of Nigeria. Prior to this period, the area was administered as a game reserve under the Kwara State Government.

The Park covers about 5,340.83km². The area is boarded in the

West by Benin Republic and in the east by the Old National Park. The area is characterized by flood plains from the Olli river and the river Niger which is intensively used for fishing and dry season grazing (Aremu, et al 2003). The area includes 2 sectors, Borgu and Zurguruma, containing a diverse. Population of large mammals: hippopotamus (Hippopotamus amphibious), 7 antelope species, 3 primate species, Warthog (Phacochoerus africanus) and predators such as Lion (Panthera leo) spotted and striped hyena (Hyaena hyaena, Crocuta crocuta). The Kainji Lake National park is also considered as one of the principal waterfowl area in West Africa (Aremu et. al. 2003).

Since 1969, the natural hydrological regime of the Kainji lake National Park floodplain has been affected by the construction upstream of a dam along river Niger and an embarkment along Olli river as part of the parastatals electricity scheme (Adesanmi, 1995). These structures have reduced both the depth and extent of flooding in an area of 1500km². Subsequently, productive perennial grasslands have been invaded by annual grasses, limiting dry season regrowth and reducing the carrying capacity of the area for both livestock and wildlife (Ajayi, 1973). Fishing resources have declined dramatically as well (Ita, 1995). Since 1969, about 40% of human population then settled on the floodplain has shifted from fisheries and animal husbandry to agriculture (Anadu, 1987). Lack of flooding is perceived as the major problem in villages around Kainji Lake National Park, followed by the

denial of access to fishing and grazing ground in the park and intimidation by Park authorities (Ajayi, 1992). Community Based Conservation (CBC). The Kainji Lake National Park had tremendous potential for tourism with its wide variety of mammals and birds. The park guards and their reasonable working condition should have been sufficient to maintain its condition. Nonetheless, dramatic changes in wildlife numbers have taken place. Waterbuck (*Kobus ellipsiprymnus*) became extinct and the reduction of Kob (*Kobus kob*) and Warthog overshadow variation in numbers due to counting bias.

Recent studies have indicated enormous pressure on the park from surrounding communities (Aremu et. al., 2003). Firewood Extraction has been estimated at more than 10 times, (wet mass) a day, considered to be unsustainable as indicated by the declining cover of woody species. Each day an average of 5 herds of 60 - 120 cattle and 10 small-ruminant herds from neighboring villages, complimented by several herds further away, are found inside the Park. Annually, approximately 600 fishermen make use of the fish resources of the Park. Despite the official ban on exploiting Park resources, many people have deliberately chosen to live on its borders of the 35 villages or around the border of the park (within a distance of less than 3km) 26 were created after its designation as a National Park. This substantial immigration was caused by the availability of fish as well as pastures and wood in the Park, which are easy to market as a result of the proximity of the ever growing markets in

the area

1.3 Justification of the Study

Community Based Conservation (CBC) aims at stimulating conservation without the previous ,negative experiences for local people, but pay little attention to their long-term impact such as immigration. The vital disappearance of some species of wildlife in the Nigerian National Park due to advance human encroachment forms, is therefore a bleak perspective for the Park. Examples from Tanzania, Central African Republic (CAR) Galapagos and Zimbabwe also showed that in Open access systems, improvement in living standards (development) may stimulate immigration, jeopardizing the- stability necessary in .protected areas. Most Community Based Conservation ventures lack demographic monitoring, masking its possible immigration risk. To counter the immigration risk in and around National Park in Nigeria, the Nigerian National Park Services have expressed interest in obtaining adequate and current information on area that pertain to their activities. This is placed on the awareness of the effects of population parameters on specific policies and programmes. Also, these programmes exert both immediate and long term effects on natural resources. In particular, migration within the communities surrounding the Park, has greatly altered target for socio-economic programmes. Moreso, none of the existing studies on migration explicitly addresses itself to the important area of the micro-level living 'conditions and community development programmes in rural

areas surrounding the park. Hence, up-to-date information on demographic and socio-economic aspects are increasingly required by the Nigerian National Park services for planning purposes. To this end, the findings in this study on migration, living conditions and community Based Conservation services will be of considerable importance for Park Planners because of the importance of pattern in rural development planning to enhance effective protected area management.

1.4 Objectives of the Study

Based on the above justification, the research will provide case studies of the park Community Based Conservation project around the Kainji Lake National Park (KLNP) with which to examine the validity of this scenario and access pattern of migration (Demography) and the socio-economic status of the local people living around the Park.

More specifically:

- (1) Examine the characteristics of the household population in relation to their migration status at both macro (Village) and micro (household) level.
- (2) Assess the socio-economic activities of households in selected villages
- (3) Assess the developmental projects provided to the community by both the Park authority and other non-governmental organizations (NGOs).

CHAPTER TWO

LITERATURE REVIEW

2.1 MIGRATION AND THE NATIONAL PARK ENVIRONMENT

The movement of human population across the planet has characterized human societies throughout history. Historically, resource scarcity or depletion has induced this movement (Arguello, 1981). In recent years, rural population and their relationships to the National parks are again attracting growing interest, especially in connection with population change and particularly migration. Rural areas contain most of the world's forested land (tropical rainforests, sub-tropical forests, and temperate forests) and other lands (such as agricultural, semi-arid, and dry land); they supply humankind with most of its food. Such environments also contain most of the world's gene pool. While tropical rainforests and, coral reefs have attracted the most attention because they have the highest density and diversity of species per unit area, other biota (such as highland forests, wetlands, savanna, dryland and deserts) Also contain unique flora and fauna diversity, human population growth and intrusion threaten, to varying degrees all of these biota.

2.2 RURAL POPULATION IN THE DEVELOPING WORLD

The past century has witnessed a profound shift in the world's population distribution from primarily rural to increasingly urban. Currently, only a quarter of the population of the developed world and of Latin American lives in rural areas. Despite this similar ongoing trends

in population redistribution in both Asia and Africa home to three-quarters of the World's population - nearly two-thirds of the population still lives in rural places

The pace of rural population decline, moreover, appears to be slowing in many places in recent decades, as rural areas have become depleted and cities increasingly crowded. Still, due to the many advantages of urban areas - including greater human interaction; the store and accumulation of knowledge and culture; and greater accent on modern services, infrastructure, media and diversions (Often facilitated by economies of scale in production or distribution) - the proportion of people living in urban areas is expected to continue to grow. Indeed, over the next 30 years, the world's urban population will likely grow by the same amount (two billion) as the world total, resulting in no net overall rural population growth (UN, 2000).

By 2030, population sizes are projected to peak in all but a few dozen countries in Africa and Asia. The question thus arises how a declining rural population can affect the rural environment, since overall population pressures on the land will increasingly fall. The answer: rural-rural migration - that is, migration from one rural area to another - has and will continue to accelerate the decline in rural density in one area while raising it in others, as rural population leave areas with a scarce supply of exploitable land to seek land elsewhere.

Demographers and other social scientists interested in migration

have traditionally focused on rural-urban migration - doubtless due to the rapid growth of cities and the important roles they have played in the degrees of civilization and economic development but other forms of population movement have been and even now continue to be more important than rural-urban movements.

In order to consider potential linkages between migration and National park, we need a clear understanding of both terms. First, this review consider as the main measures of rural environmental degradation. (a) deforestation (b) declining soil quality (including soil desiccation) and (c) loss of biodiversity. This review exclude other forms of environmental degradation (such as water contamination and shortages, air pollution, global warming, toxic and nuclear emissions and stalinization from continual irrigation with insufficient flushing of salt build-ups from (evaporation).

2.3 Deforestation

The latest FAO data (FAO, 2001) indicate that, from 1950 to 2000, developing countries lost half of their forest cover, and the pace of deforestation accelerated in the 1990s. The annual stock of forests lost was highest in Latin America in the 1990s (at 4.8million hectares/year compared with 3.7 and 2.9 for Africa and Asia) but the annual rate of forest loss was often largest in countries where so little of the original forests remained due to centuries of dense habitation and exploitation of human use. Deforestation removes the protective vegetation, which

usually leads to further consequences, such as flooding; soil erosion from water and wind; and decreased replenishment of underground water aquifers. The World Bank (1991) has attributed about 60 percent of recent deforestation in the developing world to the advance of agricultural frontier; 20 percent to logging operations (including mining and petroleum); and 20 percent to fuel wood use. However, demographic factors appear to be of importance in both agricultural intensification and fuel wood use (FAO, 2000). A study by Bilsborrow and Carr (2001) on Latin America based on cross country data identifies pasture expansion, as the major factor in deforestation in most countries of the region, although the expansion of annual crops also played an important role in Central America.

2.4 Soil Desiccation

Soil desiccation is often mislabeled as "desertification". The removal of protective vegetation-whether of trees, shrubs, or savannah grasses-render the soil vulnerable to water and wind erosion. Sudden vegetation removal may both destroy remaining vegetation and lead to drying of the soil.

Postel (1997) and Falkenmark (1994) describe the process and its possible linkage to the population growth of human and ruminants (Pastoralist and their herds), most notably in the Sudan-Sahelian belt across Africa.

2.5 Soil Degradation

Soil degradation takes various forms-including erosion, desiccation, Salinization and declining fertility. Although, this degradation is difficult to determine on a large scale, by the noted Wageningen Institute of the Netherlands has conducted a global assessment of the extent of human induced soil degradation (Olderman et al, 1990). The study estimated that 20 percent of all the vegetated land in the developing regions is degraded-much of it moderately to extremely degraded. Deforestation is seen as one of the major causes of soil degradation, estimated to account for 40 percent of the degradation in Asia and South America, 22 percent in Mexico and Central America and 14 percent in Africa.

2.6 Rural - Rural Migration and Biodiversity

Finally, up to 55 percent of all species on earth live in the tropical rainforests, so that recent large-scale intrusions of rural-rural migrants have had a devastating effect on biodiversity and on the world's gene pool, with possible dire consequences for future human food production and medicines (Cincota and Engleman, 2000). Human population increase and human activity also effect biodiversity through the devastation of species for food or pleasure. However, the biggest human impact on rural environment comes through the conversion of areas for human habitation, agriculture, energy production, transportation and recreation - all of which can destroy ecosystems and natural habitats,

migration plays a fundamental role in these processes, either by inducing or following them.

2.7 The Determinants of Migration

Linkages between migration and the (rural) environment are complex and may take several different forms. In essence, migration is affected by: (a) difference in economic opportunities and living conditions between places. (b) people's awareness of those differences and desire to improve their lives by moving and (c) their ability to act upon those desires. The main factor influencing desires to migrate include differences in employment opportunities, wage rates, and living conditions (Wolpert, 1965). At the same time, psychological, emotional attachments to home/family, friends and community keep most people from migrating. Distances to the potential destination, communication and transportation, educational levels and state politics each strongly influence the awareness of differences from one place to another, the ability to migrate, and the cost of migration.

The factors that affect migration have been categorized (Lee 1966) as "push" factors (in the place of origin) and "pull" factors (in the place of destination). Environmental variables are an element in both. Environmental push factors include both natural disasters (earthquakes, volcanic eruptions, hurricanes/cyclones) as well as human-induced environmental degradation (e.g. flooding resulting from deforestation of watersheds, salinization of soils due to prolonged irrigation, soil

degradation from improper land-use practices). Environmental pull factors may include the attraction of good farmland or of a attractive natural settings or climate.

Traditional empirical research on migration decisions has focused on the individual characteristics of persons that do or do not predispose them to migrate such as a person's age, sex or education (Sjaastad, 1962) starting with (Mincer 1978) and essays in Dejong and Gardner (1981) among others, the standard view focusing on migration decisions as made by individuals changed to view most migration decisions in developing countries as household decisions – that is, household decide whether to send a household member away or to move the whole household with the migrant. Migration theory has recently also recognized that the community or context of the household also plays a role (e.g. Wood, 1982; Bilsborrow et al., 1984; Fundley, 1987; Massey, 1990).

2.8 Population growth and effects on Biodiversity in Nigeria

The world population growth put Nigeria population at 2.9 percent while the National population density is 985.6 Persons per km² (Anon, 2004). Over 80 percent of these people live in the rural areas and engage mostly in agricultural activities, which predominantly take the form of the slash and burn farming. Nomadic herdsman that traverse the Savanna with their livestock use the tree -s shade while the grasses are grazed and the dry season the leguminous trees are looped for the

livestock to browse. The people have been exploiting the park forests for timber, food, medicine, fuel wood, poles, leaves, canes and animals without a corresponding management practice to ensure sustainable provision of these goods and services. Moreover, expansion of agricultural land for increased food production had put the existing Park Forest in danger. Other land use sectors such as road construction and building of cities had also put pressure on the continued existence of the Park. Therefore, the park face bleak future because the resources are being depleted and/or mismanaged.

Moreover, institutions are weak, policies, laws, tenure system and economic incentives are often not conducive to sustainable management and use of the park forests. Our governments at different levels give low priority to National Park issues inspite of its importance to National Development. One consequence of this neglect is that the potential contributions of National Parks to poverty alleviation, economic development, ecological and hydrological stability will be difficult to achieve. Sustainable park management is required for the provision of the goods and services offered by the parks on sustained park management refers to the capacity of park resources users to ensure continued supply of the goods and services offered by the Park while preserving the intrinsic quality of the environment. Jodha (1990) defined sustainability as the ability of the Park system to maintain a certain level of performance over time, and if required to enhance that output without

damaging the ecological integrity of the system.

However, the present park management strategy that precludes the traditional land owners has not helped to prevent over exploitation of the Park forest resources. Attainment of sustainable park management, therefore, requires community participation in the management of these resources. According to Kopoin (1986) modern conservation recognizes that the success of protected areas depends upon their degree of integration with surrounding communities, he further stated that the Nigeria National Park services recognizing the threat of changing land use around her park and in realization that law enforcement agency can no longer sustain the protection of natural resources, Park planners not only comprehend the need for Community Based Conservation (CBC) for the effective protection of Natural resources, but made provision for integrating it into National Planning.

In the view of Nigeria National Park (NPs), Community Based Conservation is based on three broad principles self help, attention to the need of the people for which plans are made "felt need or latent needs" concept and attention to the protection of the Park and "community as an integrated whole" that reaches the people in their communities and unites their development effort with those of National Park authorities at all levels. While it is widely believed that Community-Based Conservation (CBC) 'approach can lead to more effective conservation and contribute to improved livelihood, relatively, little is known about how this concept

have affected migration of people in Nigeria, the practical achievement and its impact on the living condition of the people remains limited.

2.9 Migration Study in Nigeria

A survey by Adepoju (1980, 1981) indicates that until recently, rural to urban migration studies and some programmes designed to indirectly influence the migrants and rural-urban migration feature prominently in migration studies in the country. However, none of the existing studies explicitly addresses itself to the important area of the micro-level living conditions and community development programmes in rural areas. Sample surveys are by far the predominant source of data on migration in Nigeria; previous censuses have not generated useful data on migration. These include demographic surveys focusing partly on primarily on migration and non-demographic surveys which nevertheless include useful questions on migration. Migration-related, demographic surveys have three variants; rural based and urban based surveys and tracer' studies in both rural and urban based locations.

Studies in the first group include the survey by Ejiogu (1975) Morgan (1967), Adepoju (1972), Ekanem and Adepoju (1974) Imoagene (1972), Makinwa (1979) among others. These urban-based studies were conducted either in medium sized towns or capital cities.

Rural-based studies have also featured in migration research in the country. Example of such studies include Olusanya's (1966) survey, Udo (1966), Adepoju's survey of rural areas in Ife Local Government area

(1976) and the report of Odimuko's and Ridel rural survey of Imo state (1978) The list increases daily; the above examples are merely illustrative of the type of rural-based studies in the country. To date, there is no comprehensive (nationwide) migration survey that covers both rural and urban areas simultaneously and of the scale conducted by Caldwell (1965) in Ghana. In essence, our knowledge of the migratory patterns in the communities surrounding the Park has been mainly speculative.

CHAPTER THREE

3.0 MATERIALS AND METHODS

3.1 Study Area

Kainji Lake National Park is located between Latitudes $9^{\circ} 40'$ and $10^{\circ} 30'N$ and between Longitude $3^{\circ} 30'$ and $5^{\circ} 50'E$ with total land area of $5,340.83 \text{ km}^2$. The Borgu sector is $3,970.83 \text{ km}^2$, while Zugurma sector covers an area of $1,370 \text{ km}^2$. The vegetation of the Borgu sector has been described as northern savanna, (Keay,1959) while Afolayan, (1978) stated that the six main vegetation communities in Borgu sector are Burkea africana/Detarium microcarpum woodland savanna, Diospyros mespiliformis dry forest, Riparian forest and woodland, Terminalia macroptera tree savanna, Isobelinia tomentosa woodland, Isobertina doka savanna woodland. The Oli River flows from Republic of Benin through the Borgu sector into the River Niger throughout the year and serve as the only source of water for the wild animals. Long term average annual rainfall is between 900 and 12000 mm. The Park is blessed with abundant fauna resources including Papio anubis, kobus kob, Hippopotamus amphibious, Syncerus caffer, Panthera leo, Panthera pardus, Happotragus equinus among others. Flora. Resources in the Park include Burkea africana, Terminalia avicennoides, Diospyros mespiliformis, Anogeissus leiocarpus, Entanda africana, Vitex doniana among others.

Although, Kainji Lake National Park is blessed with abundant

wildlife resources which include 65 species of mammals, 420 species of birds, 34 species of reptiles, 9 species of amphibians and 50 species of fish. (Aremu *et al* 2003). The park potentials are being limited by game habitats destruction, illegal grazing and unregulated bush burning. (Ayeni 1980). Ero (1985) reported that several nations including Nigeria are exploiting their natural resources at levels that are far exceeding their sustainable productive capacity under pressure for income and thus veritable source of wealth.

Adesanmi (1995) noted that greater understanding of ecological processes is essential if the earth's natural resources are to be conserved and sustained. He reported that the wildlife based tourism account for at least 6% of the world Gross Domestic product (GDP) and employs 127 million people and that tourism will represent 11. 5% of the world GDP by the years 2006 at USS 7.1 trillion and will then employ some 385 million people.

3.2 TOPOGRAPHY

The landscape of Kainji Lake National Park is generally gently undulating. The relief is broken in places by quartzite ridges. Elevation of the Central and Western parts of the Park lies between 244 and 305m. The highest point in the Park is 344.65m. in the Northwest corner, while kali hill just outside the to Northern boundary of the Park has an elevation of 513.62m to the east, the land slopes down to the Niger valley. The lowest elevations are along the Kainji Lake shore. There are

two main drainage systems in the Park. The western part is drained by the Olli river and its tributaries, flowing in, from Benin Republic through a South easterly direction before swinging east and emptying into the Niger river below Kainji dam. The eastern part of the reserve is drained into the Kainji Lake by the Doro, Timo and Menai rivers.

3.3 GEOLOGY.

The geological map of Nigeria shows that the National Park is underlain by undifferentiated metal sediments in the east and west. In their map of the geology and lithology of the Niger Dam Resettlement Area, Jodha (1990) cover the extreme eastern part of the National Park while Kriniskii (1972) also deals with the geology of the area. Both studies identify an intrusion of porphyritic granite stretching from the lower reaches of the Menai river to the Doro river. There is also a large occurrence of metasediments of which phyllite is the dominant rock type. Bounds of quartz and quartzite are also found and described as more frequent in the East.

3.4 SOILS

The soils Map of Nigeria shows that the National Park is covered with the Ferruginous tropical soils and Crystalline acid rock. Harrison et. al. (yam) outline the soils of the Park. The depth of the soil varies considerably in the Park with the upper slopes having fairly deep soils except where there are outcrops of rocks, while the lower slopes have shallow soils. Colluvial and alluvial accumulation of materials are

responsible for the deeper soils in the valleys.

Over most part of the Park, the soils are well drained, and vary in texture from sandy loam to clay loam. The clay loam is more common on the surface layers while places of slopes may be gravelly. In many parts of the Parks, intrusions of ironstone occur and these are often massive. Soils of quartzite ridges, dark brown to gray brown in colour have been located in parts of the Park. These soils are usually sandy or stony in texture. In the middle slopes they are fairly deep and of sandy loam mixture while on the lower slopes, the soils are gray to pale brown clayey loam texture.

The drainage of this soil series is moderate. Low lying seasonally inundated areas and the river valleys have poorly drained soils. The clays which are gray to dark gray may be hog-wallowed where drainage is impeded.

3.5 VEGETATION

Keay (1959) in the map of the "Vegetation of Nigeria" include the Kainji Lake National Park in the Northern Guinea Zone. On Charter's (1970) map of "Vegetation-Ecological Zones", the National Park lies within the mixed leguminous wooded savannah type. Howells (1968) has have described the vegetation of a locality of the eastern shore of Kainji Lake opposite the northern part of the National Park. Aremu *et. al.* (2003)

reported a detailed' survey of the vegetation of the Park. Defining broad communities having significance as wildlife habitat types. These include:

Burkea africana - Detarium microcarpum wooded savannah:

This constitutes the most common vegetation type in the Park. The density and height of woody cover varies with soil. The commonest woody shrubs and trees in this community include, Vitellaria paradoxum, Terminalia avicennioides, Parinari polyandra, Piliostigma thonningii, Sterospermum kunthianum, Maytenus senegalensis, Combretum hypopilinum, C binderanum, Cressopteryx febrifuga, Gaardenia temifolia and Strychnos inocuai.

ii. Isoberlinia tomentosa woodland:

These are patches of woodland usually found associated with quartzite ridges. They are most extensive on higher ground in the Park. The I tomentosa occur almost in pure stands though occasionally I doka is found where ironstone intrusions occurs.

Typical ,grasses found in this woodland are the shade loving species. Some of which are; Monocyabium ceresiiforme, Schizaohyrium sanguineum etc.

iii. Diospyros mespiliformis dry forest:

This distinctive forest type occurs as units of less than one, hectares at scattered localities in the central part of the National Park. This type was also identified by Charter (1976) as separate communities. D. mespiliformis forms the bulk of the trees layer, while Polysphaeria

arbosew/a usually comprises a dense under story. The characteristic grass of this type is the broad - leafed *Opilsmerus hirtelius*. The forest is usually surrounded by *Anongeissus leiocarpus*

iv. *Terminalia macroptera* tree savanna

The vegetation type occurs on lower lying seasonally in undated areas, characterized by dark grey hog-wallowed clays. There are relatively few woody plants in this type. Apart from *Terminalia macroptera*, the second characteristic tree species in the area is *Pseudocedrela kotschyi* while around the margins of the area we find *Mitragyna*, *intermis* and *Daniella oliveri* occurring. The grasses are those associated with swampy ground. *Panicum* is present as an almost pure stand -in short grass areas, and as a lower grass layer where taller species occur.

v. *Isoberlinia doka* savanna woodland

This type occurs on ironstone and lithosols on steeper, eroding upper slopes in the Park. *Afzelia africana* may be found in margins of patches of the type but normally the *L doka* is present in almost pure stands.

Shade loving grasses such as *Beckeropsis uniseta* occur in the area, while sites along the Olli river have a vigorous growth of large grasses including *Andropogon tectorum* A. *gayanus* and *Cymbopogon giganteus*.

vi Riparian forest and woodland:

This vegetation type is found along the water courses in the Park

with the exception of the allii and the lower reaches of its two largest tributaries, the Uffa and the Nanu. In some areas, it could develop into forest with trees such as *Diospyros m.espiliformis* *Vitex doniana* *Ficus* sp. *Kigelia africana*, *Anogeissus leiocarpus*, *Daniella olivera*, and *Khaya senegalensis*. In the lower reaches of larger rivers flowing into the lake, additional species, such as *Acacia palyacantha*, *A. Sieberiana*, *Parkia biglobosa*, *Bombax costatum* and *Nauclea latifolia* occurs. In the wide, shallower valleys of water courses particularly in their upper reaches tree growth is much less dense. *D. oliveria* and *K. senegalensis* form savannah woodland with a tall vigorous grass layer, including species such as *Brachiaria brachylopha*, *Hyparrhenia cyanscens*, *Hyparrhenia. rufa*, *Andropogon. gayanus* and in shaded area. *Andropogon. techorum*.

vii. Olli river complex:

This comprises a series of zones which may be distinguished between the river bed and the *Burkea/Detarium* savannah. On sand banks islands in river bed the tree *Syzygium, guineense* occurs while the woody shrubs *Rotula aquatica* and *Mimosa pigra* are common.

Grasses of the river bed and sand banks are *Chloris robusta*, *Jardinea congoensis*, *Vetivera nigriflora* and *Paspalum orbiculare*; The riparian forest of the alli complex is characterised by the trees such as *Cola laurifolia*, *Irvingia Smithii*, *Antidesma venosum*, *Pterocarpus santalinoides* and *Diospyrus mespiliformes*. Woody shrubs which occur extensively are *Xylopia parviflora*, and *Maytenius senegalensis*, *Phayloopsis falcissepala*,

Cyathula achyrantho and *Lepidagathis alopewoides* are common herbs of the forest floor.

A vegetation of the levee occurs beyond the forest zone. The woodland includes tree like *Anogeissus leicarpus*, *Daniella olivera*, *Prosopis africana*, and *Terminalia glaucus*. The grass layer is formed by an almost pure stand of *Andropogon tectorum*.

3.6 RAINFALL

Available rainfall data for Kainji Lake National Park are for 1974 and 1975 and for 1987 to 1990. The highest amount of rainfall for 1974-1975 in the Borgu sector of the Park was 292.70mm and occurred in September while the lowest rainfall was 3.30mm and occurred in December. For two years, there was no rain in the months of January and February (Table 1.) Rainfall started earlier in 1974 (February) while it did not commence until May in 1975. The total number of rain days in the two years was however 60 and 61 days respectively. The surroundings locations of Yelwa, Wawa and Mokwa, where long-term data existed showed mean monthly rainfall.

Totals of 1051mm, 1220mm and 1069mm respectively. Generally, the Kainji Lake National Park and surrounding areas receive a total annual rainfall of between 1000mm in the Eastern part to 1200mm in the Eastern part according to (Afolayan 1978), between April and October. The means annual rainfall for the area ranges from 101mm to 127mm (Afolayan, 1980).

3.7 TEMPERATURE:

The lowest temperature in the Borgu sector of Kainji Lake National Park (about 12°C) occurs during the harmattan period between December and January. The highest mean maximum temperature occur during the month of February, March and April and is about 35°C according to Afolayan (1980). During the same months the highest maximum temperatures obtainable in Yelwa to the Northwest and Mokwa to the east are 37.90C respectively. The minimum temperature which occur during the harmattan period, December, January ranges between 14.30C and 15.6°C. Available air, temperature' data from the Federal College of Wildlife Management, New Bussa Meteorological Station show that the highest annual mean maximum air temperature was obtain in 1990 (43.2°C) with the lowest minimum air temperature of 13.4°C also occurring the same year, over the period 1987 to 1990 (Aremu et. al., 2003).

3.8 SUNSHINE HOUR AND SOLAR RADIATION

Longest sunshine hours in Yelwa surrounding areas was recorded between November and January, it range from 9.02 hours to 9.45 hours (with mean 9.45 hours) per month. The corresponding net radiation monthly mean range between 118 cal/sqcm to 183 cal/sqcm per month (Kowal and Knabe, 1972). The surrounding eastern areas of the Park extending to Mokwa receive the longest sunshine monthly mean hours in February, November and December were 204 cal-/sqcm, 118 cal/sqcm

and 153 cal./sqcm respectively. The low monthly radiation received in November, December and January was attributed to the effect of the harmattan haze. Lowest sunshine hours were recorded for both Yelwa and Mokwa in August (3.65 hours and 4.68 hours).

3.9 Products and Services Demanded by Society in the Kanji Lake National Park.

These products and services can be classified into two broad groups, use value and non-use value

3.9.1 Use Values

Direct use value: This can be classified into tangible products and non-tangible products

3.9.2 The tangible products includes game in the form of meat, hides and skin and other products such as fruits, nuts, berries, edible roots and leaves collected from the Park by the local communities. The park also provides a source of plant and animals parts needed by the people to meet their medical needs.

3.9.3 The non-tangible products is in the area of tourism and commercial recreation. The park is contributing immensely to the economy of the local communities as well as the state and the nation as a whole. This it is doing by way of providing employment directly and indirectly to the people. Above all commercial recreation in the park attracts international tourist thus acting as a means of earning foreign exchange for the country.

3.9.4 Indirect economic values: These constitutes products and services which does not command market values that can be easily measured in monetary terms. They includes ground for research and education.

3.9.5 Research and Education: The location of the park has made it an important study site for students of higher institutions in Nigeria in the area forestry, fisheries, wildlife, biological sciences etc, while researchers both local and international also use this park studies.

3.9.6 Tourism and Recreation: The developed ecotourism facilities by the Park management can compare favourably with those in some East African countries. Ecotourism involves the movement of people towards a natural environment especially protected areas for leisure and recreational purposes.

3.9.7 Conservation and Cultural heritage

The conservation provided by the Park fro the culture heritage of eth initial park inhabitants such as the shrine at the Kali hills towards the lion gate, help to preserve such sites for visitors to see and have an insight into the culture of the people

3.9.8 Soil and Groundwater Conservation

These are two vital ecological role of the Park. The presence of the Park is also playing the role of watershed for the Kanji Lake as it guides against flooding and siltation. The combination of these two roles is helping to make the lake productive in terms of fisheries. The fishermen

women and those engaged in the marketing of fish and fish products from the lake are equally benefiting from the influence of the National Park.

3.9.9 Carbon Sequestration

A very important role played by the Kainji Lake National Park which is not noticed by anybody nor taken into account of by government is carbon sequestration. This implies the conversion of carbon-dioxide by plants into oxygen. The vegetation in the park acts as carbondioxide sink thus controlling its concentration in the atmosphere.

3.9.10 Non use value

The non-use economic values of Kainji Lake National Park includes existence value of great importance here is the bio diversity and species habitat. Kainji Lake National Park has some plants and animal species which may be endemic to the area which if destroyed will be lost to humanity. Hence the economic value of such plants and animals would not be known until they have gone into extinction

3.10 Data Collection

The data used in this study were derived from the sample of four villages surrounding Kainji Lake National Park in Nigeria, especially the section dealing with migration, household, community development and remittances. The four villages Kemenji, Kuble, Luma and Wawa are all located in Niger State. The villages were chosen to reflect different agricultural pattern (cash c'ropping and food processing) population size,

settlement pattern (migrants and native population) as well as proximity or distance to a town (fig.1) These characteristics were expected to be reflected in the types of economic activities, development projects (if any), migration patterns and change agents or external stimuli in these villages. The methods used for data collection were' direct observation, structured questionnaire interview and official records.

3.11 Direct Observation:

This involves visual observation and on the spot-check on environmental conditions, housing and household furniture. Within the selected villages namely; Kemenji, Kuble, Luma and Wawa.

Living conditions vary considerably between and within households. The observed differences in selected proxy indicators for living condition at the scale of households within villages were nature of house finish, roofing materials of houses, household furniture and selected household items. Overall, 600 house holds were covered in the four villages. The sampled households contained 3,384 persons representing an average of 6.0 persons per household (table 3.1) The sampled population varies between villages from 927 persons in Wawa to 788 in Kube.

3.12 Interview Method:

Interview was conducted among the villagers and the Park Management to obtain further information. Within each selected villages, a uniform size of 150 household was interviewed, the households being

selected using a systematic sampling procedure, information was obtained on the human population figure in the sampled villages from 1991 population census of Nigerian in order to ascertain decrease or increases in population figure. Kainji Lake National Park map scale 1:40km was intensively used during the reconnaissance survey which later form the baseline from the map drawn on ethnic grouping and location of settlement as visually observed during the sampling period. The data collected were edited and coded: Phase 1 dealt with household scheduled; Phase 2 out migrant schedule; phase 3 return migrant scheduled and the final phase involved household Heads and in particular their migration records.

3.13 Structured questionnaire

One hundred and fifty (150) copies of structured questionnaires were administered to head of household in each of the four villages. They were randomly distributed among the household heads. The structured questionnaire is in four parts: household, out migration, return-migration and heads of household schedule. The household is an important institutional sector in the Nigerian economy. In the rural areas where both production and consumption activities are based mainly on households, the household size, age and sex composition, occupational structure and educational attainment of members become relevant indicators of the social and economic status of such households. Since migration is selective of age and sex and show distinctive differential by

marital status, education and occupation, migrant households were expected to differ substantially from non-migrant households in some and in combination of these characteristics. The analyses of household were related to these characteristics, besides the incidence of out migration and return migration. While the emphasizes were on micro-level analysis, some of the result discussed in the study were examined within a micro framework at the village level. The survey population was classified into those born within and those born outside the sampled villages. The latter constitutes the migrants and are further classified into those born in other villages, small towns and big towns.

3.14 Official records

Information was obtained on the human population figure in the sampled villages from 1991 population census of Nigeria (Appendix I-III) in other to ascertain decrease or increase in population figure. Kainji Lake National Park Map Scale 1: 40km (fig. 1) was intensively used during the reconnaissance survey which later form the baseline for the map drawn on ethnic grouping and location of settlement as visually observed during the sampling period.

3. 15 Data Analysis

The analysis of the data collected is in two forms. After a recording of the open ended questions, the first phase of the analysis focused on cross tabulations while the second phase concentrated on statistical analysis, namely analysis of variance, correlation and regression. Some

ideas from the environmental evaluation system EES) and judgment impact matrix (Jim) methods which are based on Delhi procedure as described by Macalister were made use of for the purposes of maximizing the accuracy of the information collected through interview scheduled, official record and visual observations.

Table 3.1 present the list of the sampled villages and the achieved sample size per village. Overall, 600 household were covered in the four villages. The sampled households contained 3,384 persons representing an average of 6.0 persons per household. The sampled population varies between villages from 927 persons in Wawa to 788 in kuble. Table 3.1 relates the sampled villages to their respective Local Government area and the achieved sampled size per village.

Table 3.1: Sampled Size and Sampled Population in the villages

Sample villages	Local govt.	1991 population census for the villages	Sample size (households)	Sample survey population
Kemenji	Babana	365	150	810
Wawa	Borgu	4991	150	927
Kuble	Babana	423	150	788
Luma	Shagumu	1, 342	150	859
TOTAL NO		7121	600	3384

Source: National Populations Commission Final Result of 1991
Population Census of Nigeria

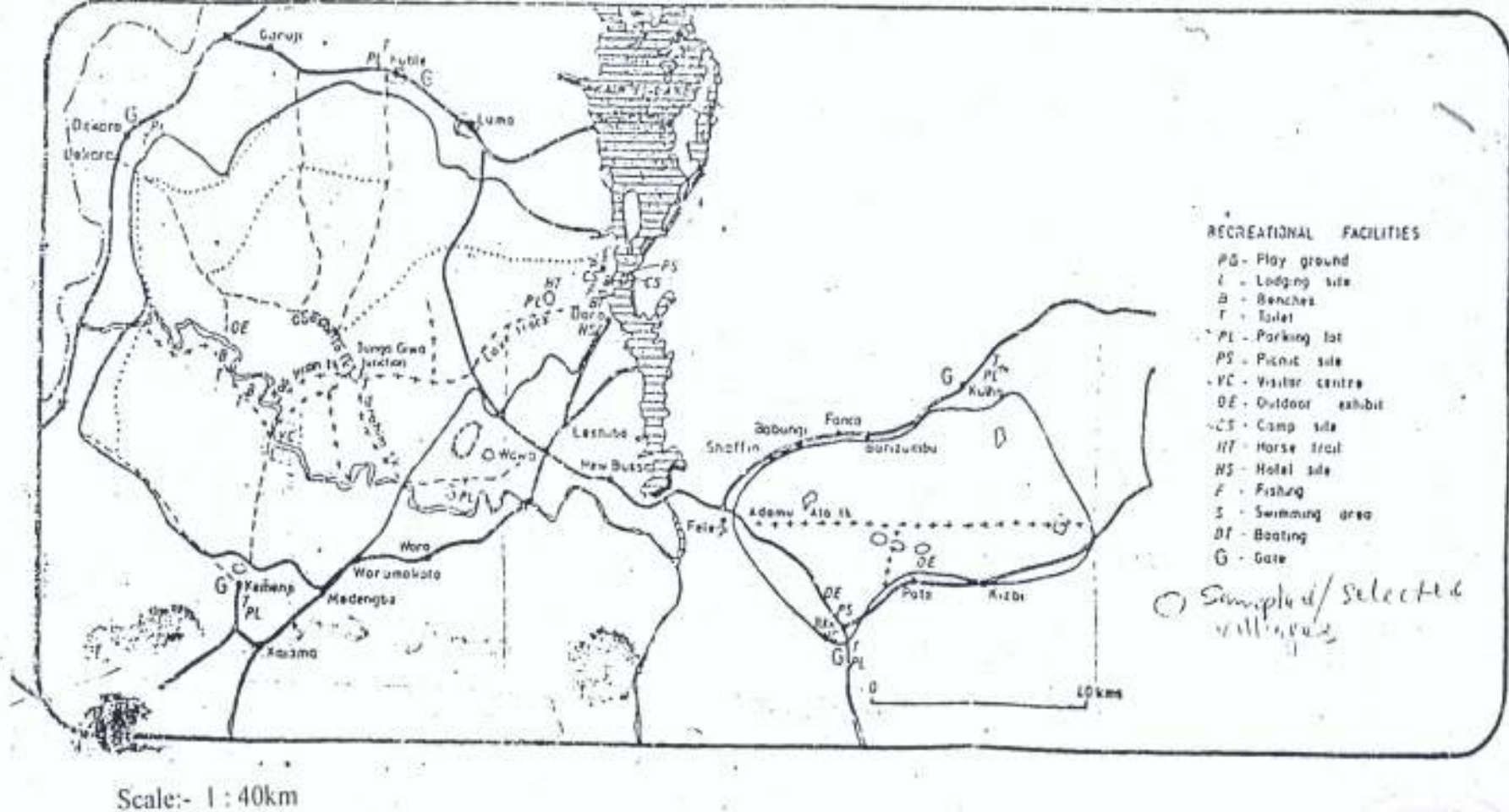


Fig 1: Map of Kainji Lake National Park and the Surrounding Communities

CHAPTER FOUR

RESULTS

4.1 Migration and Sampled Household Structure

The household occupies a central position in the sampled villages. The household constitutes a unit of production and consumption. Households, families both nuclear and extended are often indistinguishable; those often correspond to housing units, and are used interchangeably in this study. Apart from the primary function of procreation and socialization, households also serve as the main source of social security and factors of production: and capital.

In the sampled villages, the household served as a self-sufficient economic unit. It provides almost all factors of production: labour, land and capital, especially labour, which in such a subsistence economy, constitutes a crucial factor of production. Labour is traditionally recruited from the family resources. (Adepoju 1980). From the study, this situation has been undergoing considerable changes as a result of rapid expansion of education, migration and the widening differentials in income and other opportunities, including social services. Migration is a major change element; it is also closely associated with other factors and in combination with them, has resulted in labour shortage on the farm.

4.2 Characteristics of the Sampled Population

The household is an important institutional sector in the Nigerian economy. In rural areas where both production and consumption

activities are based mainly on households, the household size, age and sex composition, occupational structure and educational attainment of members become relevant indicators of the social and economic status of such households. Since migration is selective of age and sex and shows distinctive differentials by marital status, education, and occupation, migrant households differ substantially from non-migrant households in some or a combination of these characteristics.

The analyses of households were related to these characteristics: besides the incidence of out-migration and return-migration. While the emphasis is on micro-level analysis, some of the results presented in the study were examined within a micro framework at the village level.

4.3 Migration Status

The sampled population is classified into those born within and those born outside the sampled villages. The latter constitutes the migrants and are further classified into those born in other villages, small towns and big towns. Based on this classification, 59% of the sample population were born in the sampled villages and are accordingly classified as non-migrants (Table 4.3). In effect, 41% are life-time migrants, mostly born in big towns. The non-migrants category, includes second-generation infants born to migrant parents in the sampled villages and, based on place of birth criterion for delineation migration, is classified as non-migrants.

The sampled population in Wawa and Luma consist predominantly

of natives; these constitute 93% and 74% respectively. On the other hand, Kemenji and Kuble contain high proportions of migrants, being 69% and 68% respectively. Most of the migrants attracted to Kemenji and Kuble are of urban origin, indicating a pattern of colonization (urban-rural) migration. Migrants attracted to Wawa 7% and Luma 26%, on the other hand originated mainly from rural areas, these are mainly rural migrants.

Table 4.3: Migration status of the members of the Households in the sampled villages

Sampled villages	Total N	Non migrant N%	Born in village N%	Born in small town N%	Born in big town N%	All migrants N%	Total %
Kemenji	810	30.3	24.1	15.7	30.0	69.7	100
Wawa	927	93.2	0.6	2.0	4.2	6.8	100
Kuble	788	31.7	23.2	7.1	37.9	68.3	100
Luma	859	74.0	14.6	4.2	7.2	26.0	100
All villages	3384	1994	509	238	643	1389	
N%		59.0	5.0	7.0	19.0	41.0	100

4.4 State of Origin/Ethnicity

Table 4.4 shows the state of origin of the sampled population. From the overall analysis, over half of the sampled population are from Niger State while 20% originated from Edo State, 19.8% from Kwara State and 1.5% from Oyo State. About 6.3% are from other states in the country (including small proportion from outside the country) of its citizens residing in the sample villages. At the village level Wawa has most of its natives residing in the village and this constitute 98% followed by, Luma with 84% while Kuble has less than 8% of its natives living in the village. The distribution of the sample population by State of origin reflects in large part the location of the sampled villages, and to some extent the impact of migration. For instance, Wawa - predominantly homogenous Bussawa town in Niger State) experiences mass out migration of youths and little in immigration here 93% are Bussawa from Niger State and are predominantly native, the same pattern is observed in Luma, the population are predominantly native. Kuble and Kemenji on the other hand, are relatively ethnically mixed. These villages, due to their proximity to the park attract people from other states while maintaining the dominance of the people from their respective states. Other ethnic groups are represented apart from the dominant ones. In Kemenji, 12% are Igbos and 15% Hausa Fulani, corresponding percentages are 3.5% and 8.7% in Kuble.

Table 4.4: States of origin of the sampled resident communities

Sampled villages	Total N	Niger %	Kwara%	Edo %	Oyo%	Others%	Total %
Kemenji	810	9.3	70.2	0.2	4.6	15.7	100
Wawa	927	97.8	---	---	0.1	2.0	100
Kuble	788	7.1	---	87.2	0.9	4.8	100
Luma	859	84.3	11.6	0.1	0.6	3.4	100
Total villages	3384	1762	669	690	50	213	
population %		52.0	19.8	20.4	1.5	6.3	100

Table 4.5: Age Composition of the Sampled Population

The Age structure of the sampled population as indicated in Table 4.5, is relatively old, with 8% of the population age 60 and above, compared to 47% is under age 15. The age structure of the non-migrant population approximately under age 15 is 28%. However, there is relatively high proportion of old persons, comprising 4% of the sampled population.

Migration exerts considerable influence on the age structure. Among migrants, only 18% of the population (compared to 14% among non migrants) is underage 15 and only 5% age 60 and above. The higher concentration of migrants in the working age group 15-59 is 27% as depicted in Table 4.5. While in Luma and Wawa more than 30% of migrants are in Age 15 -59 compare with 25% for non-migrants.

Table 4.5: age composition of the sampled population as classified by migration status

Sample	Total	Non migrant			Migrant			All N		
villages	population	<15	15-59	60+	<15	15-59	60+	<15	15-59	60+
Kemenji	810	44.3	5.8	---	14.7	30.8	4.6	59.0	36.5	4.5
Wawa	927	14.1	25.1	10.9	20.7	22.4	7.0	34.7	50.0	15.3
Kuble	788	30.7	16.3	3.0	14.2	34.7	1.1	44.9	51.1	4.0
Luma	859	26.8	22.5	0.7	23.2	15.6	11.2	50.0	42.1	7.9
Total N%	3384	961	601	130	622	922	149	1583	1524	277
		28.5	17.5	3.8	18.5	27.0	4.5	47.0	45.0	8.3

Table 4.6: Sex ratio of Sampled Population

Sex ratio for all respondent is 100-99 for non-migrants (Table 4.6). Two villages - Wawa and Kuble record low sex ratios of 80 and 93, respectively, indicating a predominance of females as the males have migrated, either seasonally or predominantly, to other localities in search of economic and related opportunities.

Lima exemplifies a highly selective in-migration village; the ratio of 112 among migrants compare sharply with 92 for non-migrants

Migrants attracted to Kemenji particularly those born in big towns are also highly sex selective, the Kuble recorded high sex ratio of 105 and 102, respectively, reflecting the predominance of native males in both villages.

The origin of migrants is correlated to the observed sex ratio (Table 4.6). The sex ratio increase along the rural urban continuum: 101 for migrants of rural origin; 107 for migrants born in small towns and 90 for those born in big towns.

Table 4.6: Sex ratio of sample population

Sample village	Non migrant	Born in villages	Born in small town	Born in big town	All	All respondents
Kemenji	98	112	112	103	108	105
Wawa	105	67	90	77	80	103
Kuble	102	101	115	85	93	96
Luma	92	123	112	94	112	97
All villages	99	101	107	90	98	100

4.7 Marital Status of Sampled Population (15 years or more) classified by migration status

Two third of the sampled population age 15 and over were married and only 31% were single at the time of the study. Very few are either divorced, widowed, or separated (Table 4.7). The differences in age structure among migrants and non migrants (table 4.5) are also reflected in their marital status; a third of non-migrants were single compared to less than one-quarter 23% among migrants. The much older age structure of migrants than non-migrant (4% and 5% respectively) (Table 4.5) is also indicated in the proportion widowed, divorced, or separated; 4% for non-migrants and 3% for migrants. It is significant to note that 74% of migrants age 15 and over were married at the time of the study this contrast sharply with the low proportion of lone, made non-migrants observed in medium sized towns (Adepoju, 1980) or in major cities like Lagos (Ejiogu 1975) in Nigeria. Differences in age structure and ratios observed between villages persist with respect to marital status. A high proportion of the sample population in Luma among non-migrants 30% and 8% among migrants were single; in contrast, high proportion were observed in Kemenji 79% and 17% - depicting an old age structure, particularly among non-migrants. Migrant - non-migrant differences in marital status also mirror the age differences.

**Table 4.7: Marital status of sampled population (15 years or more)
classified by migration status**

Sample villages	Total number	Non migrant			Migrant (a)			All (a)		
		Single	Married	Others	Single	Married	Others	Single	Married	Others
Kemenji	425	79.3	17.2	3.4	17.2	80.0	2.8	21.4	75.8	2.8
Wawa	677	40.9	56.6	2.5	29.7	67.6	2.7	40.3	57.2	2.5
Kuble	449	42.0	47.8	10.1	33.4	64.2	2.4	34.7	61.7	3.6
Luma	428	29.6	69.7	0.7	8.3	87.8	3.9	21.5	76.6	1.9
Total N	2029	944	1004	79	464	1506	60	623	1352	54
%		47.0	49.0	4.0	23.0	74.0	3.0	31.0	67.0	3.0

The row total adds to 100 percent for each village, for various migration groups. Divorced, widowed, separated.

4.8 Educational Status of Sample Population (6 Years or More) Migration Status

About a third (33%) of the sample population are illiterates; this reflects the high illiteracy in the rural areas in general. More than two thirds (45%) have attained the level of primary education and about a fifth (19%) had secondary school or more (Table 4.8). Differences by migration status are restricted to illiterates and those with primary education. More migrant than non-migrants (35%) are illiterates, the differences being counter balanced by those with primary education which includes more non-migrants (56%) than migrants (41%). Among villages, natives of Kuble (27%) and Kemenji (32%) recorded relatively low levels of illiteracy, the bulk of the population have had primary education. Migrant households in Luma (33%) and Wawa (37%) contain a high proportion of illiterates.

The few migrants attracted to Kuble and those in Wawa have substantial proportions between 22% and 25% of the population in relatively more educated categories, especially secondary education and above.

TABLE 4.8: Educational Status of Sampled population (6years or more) by Migration Status

		Non migrants a					Migrant a					All a				
Sampled villages	Total Number	None	Pr. Sch.	Sec. sch.	Post. Sec.	NS	None	Pr. Sch.	Sec. sch.	Post. Sec.	NS	None	Pr. Sch.	Sec. sch.	Post. Sec.	NS
Kemeriji	658	5.8	82.5	9.5	-	2.2	38.6	42.8	11.7	6.1	0.8	31.8	51.1	11.2	4.9	1.1
Wawa	891	38.3	36.1	24.5	0.8	0.2	23.7	49.2	25.4	1.7	-	37.4	36.9	24.6	0.9	0.2
Kuhle	658	16.9	68.1	13.9	-	1.2	29.9	42.9	21.7	0.2	0.3	26.6	49.2	19.8	1.5	2.9
Luma	702	26.9	46.1	22.0	5.0	-	48.8	28.1	6.9	16.2	-	33.2	46.0	17.7	8.3	-
All village N	2909	679	1637	526	42	24	1005	1199	494	170	7	950	1317	547	108	28
%		23.0	56.0	18.0	1.0	1.0	35.0	41.0	17.0	6.0		33.0	45.0	19.0	1.0	1.0

The row total add to 100 percent for each village for various migration categories

None = Illiterate

M.S = Not Stated

4.9 Mean Number of persons per household Classification by

migration status. The mean number of persons per household of 50 (with standard deviation 2.0) varies only slightly by migration status. (Table 4.9). The mean is highest for non-migrant households, being 5.0 persons (S.D = 2.0) corresponding value are 4 for migrants born in either village, small town, and for migrants born in big towns. Among villages Luma has the highest mean of 5.32 persons while the lowest of 4.28 is observed for Kuble for non-migrant households, Luma maintains the highest of 5.0 persons, but the lowest is observed for Kuble. Variations by origin of the migrants are not consistent.

Table 4.9: Mean Number of persons per household classified by migration status, sampled villages

Villages	Non-migrant		Rural origin		Born in small town		Born in big town		All respondents	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
Kemenji	4.91	2.08	4.53	2.09	3.94	1.91	4.16	2.23	4.46	2.13
Wawa	4.59	1.84	4.60	0.55	5.63	1.50	4.08	2.01	4.59	1.84
Kuble	4.28	1.72	3.96	1.95	3.30	1.56	4.03	1.79	4.04	1.81
Luma	5.32	2.16	3.88	2.31	3.50	1.93	3.92	2.06	4.93	2.26
All villages	5.00	2.00	4.00	2.00	4.00	2.00	4.00	2.00	5.00	2.00

4.10 Mean Number of out-migrants and return migrants

Information was obtained on out-migrants from and return-migrants to the households in the sampled villages. It is feasible that entire households have migrated in which case no information is obtained for such household. Nevertheless, available information indicates that most households had up to three members living outside the villages at the time of the sampling. (Table 4.10). Wawa recorded the highest mean of 5.5 (S.D = 2.4) and Kuble had the lowest of 3.24 (S.D = 1.39) of out migrants per households. That is, out migration is a universal experience for households in all sampled villages. The incidence of out migration is related to both living conditions at the micro level and remittances.

While a mean of 4 persons per household in all sampled villages lived outside these villages, an overall mean of 1.0 persons per household had migrated away from all the villages but returned to live there at the time of the study. In effect, all sampled villages experience not only out-migration but a counter-stream of return migration.

Table 4.10: Mean Number of out-migrants and return-migrants per household in the sampled villages

Sampled villages	Out-migrants		Return migrants	
	Mean	S.D	Mean	S.D
Kemenji	4.18	2.43	–	–
Wawa	5.52	2.40	1.30	0.66
Kuble	3.24	1.39	1.08	0.28
Luma	3.60	1.84	1.04	0.20
All villages	4.00	2.00	1.00	–

S.D = Standard Deviation

4.11 Occupational Classification of Sampled Population

The occupational distribution of the sampled population indicates that 33% are farmers. Traders constitute 35%, 8% are engaged in professional, technical and clerical occupations and 6% are classified as housewives and stewards. In all, 67% of members of the sampled households are engaged in non-farm activities. Indicating diversification of economic activities in the sampled villages.

The occupational groups show marked differences between villages. In Luma 22% are classified as farmers while Kemenji has the highest proportion of its populace 46% as farmers and about 20% are engaged in trade, and 15% in craft and services. These differences reflect the occupational structures in the sampled villages and, in general, the relative diversification of occupations.

4.11: Occupational Classification of Sampled Population

Sample villages	Total number	Farmers	Traders	Service and crafts	Tech. Prof Clerical	House Wives House Stewards	Other Unemployed	Total %
Kemenji	372	46.2	20.2	14.8	6.7	4.3	7.8	100.0
Wawa	503	29.2	42.9	16.3	7.7	0.3	3.6	100.0
Kuble	367	37.9	39.2	7.3	8.2	3.0	4.4	100.0
Luma	412	22.3	36.6	9.0	9.7	15.0	7.3	100.0
All Villages	1654	546	586	201	134	91	93	
%		33.0	35.0	12.0	8.0	6.0	6.0	100.0

4.12 Indicators of Living Conditions in Rural Areas

The aim of this study is to highlight the living conditions at both the macro (village) and micro (household) level in the sampled villages. A set of economic and social indicators are used in assessing the conditions under which rural dwellers live and work. These include availability of essential facilities, social infrastructure and amenities both at the village level and within the dwelling units.

**Table 4.12: Availability of Selected Facilities in Sampled Villages
around Borgu sector of kainji Lake National Park**

	Kemenji	Wawa	Kuble	Luma
Electricity	na	X	Na	na
Hospital	na	X	Na	na
Cinema	na	na	Na	na
Postal Agency	na	na	Na	na
Primary School	x	x	X	na
Sec. School	a	x	Na	Na
Borehole water	na	x	X	X
Provision Stores	x	x	X	x
Market	x	x	X	x
Church	x	x	X	x
Mosque	x	x	X	x
Rural Bank	na	na	Na	Na
Town Hall	x	x	X	x
Chemist/Drug	x	x	X	X
Petrol Station	na	x	Na	X
Hotel				

Key to Symbols: x - Available

na - not available

a - Under construction

4.13 Macro-Level Indicators of Living Conditions

Rather than focus on macro-economic indicators like the growth rate of the Gross Domestic Product, per capita Income etc, a more relevant and practical approach was adopted using indicators which are sensitive to living conditions at the local level. These include types of services, facilities and amenities in the sampled villages at the time of the study. However, data presented in Table 4.12 relates to availability, rather than the use and the quality of the services/facilities/amenities. Information on the use and the quality of these services are needed in order to approximately assess living conditions. The measurement and other methodological problems involved are complex and outside the scope of this study, hence the following analysis is confined to availability of the services under reference. However, The causes of the poor living conditions in the sampled village was discussed based on responses by household heads interviewed for this study.

As shown in Table 4.12, only Wawa village at the time of the study, have hospital and electricity. Kemenji among others have no borehole water, Kuble have no secondary school. Primary school and market are the most common; these are found in all the villages. The situation is different with respect to secondary schools. While Wawa and Luma has two secondary schools day, there is none in Kuble and one secondary school is under construction in Kemenji at the of the sample. With the exception of Kemenji and Kuble, other villages had hotels. In essence,

three quarter of the sampled villages do not have access to hospitals.

With respect to the availability of selected facilities like Cinema, postal agency and rural bank, it become obvious from 4.10 that non of the sampled villages has these facilities. Besides, only two villages have petrol stations, in spite of the observation that all the villages have provision stores, mosques, churches, town hall, only three of the sampled villages have chemist or drug store where simple and cheap self medication drugs can easily be purchased. The commonest facility is the periodic market which exists in all villages; such markets usually constitute the nerve centre of commercial and trading activities in all the villages and towns.

Tables 4.13: distance from sampled villages and selected facilities

Sampled villages	Sec. Sch (km)	Cinema (km)	Major Roads (km)	Hospital (km)	Town (km)	District (km)	Petrol Station (km)	Police Station (km)	Bank (km)	Post Office (km)
Kemenji	5	Na	x	18	44	x	44	44	44	44
Wawa	x	na	x	16	16	x	x	x	16	16
Kuble	6	na	x	76	76	x	76	76	76	76
Luma	x	na	x	48	48	x	48	48	48	48

Key to Symbols; na – Not available

X – within the town

Distance of Sampled Villages and to Selected Villages Facilities

Table 4.13 shows that most of the services/amenities, villagers sometimes have to travel over considerable distances to other localities where such amenities exist. For instance, the nearest secondary schools are located 5 and 6km, away from some villages. The picture is different for health services; the nearest hospital to most villages is located more than 10km, at times close to 80km; away. Where transportation and communication still remain poor generally, such distances separating villages from the nearest hospital increase the exposure of villagers to risk of dying, while resident of Wawa and Luman need to travel. Rural bank are located 76km away from some villages.

Distances separating these sampled villages from major roads are shorter, while in some villages, the petrol stations are within. Banks are located about 76km away from Kuba. This partly reflects the selection criteria for villages which include distance or proximity to major towns. However, distances to major roads become crucial for transportation to hospital, rural banks etc. also proximity to towns also facilitates diffusion of culture; since most of social change originates from the relatively heterogeneous towns and later permeate to the villages. While most of the villages are relatively located far away from Petrol Stations, only Wawa enjoys the advantage of close proximity to a town (16km)

which also has post office, banks etc. thus, owners of automobiles; cars, buses must commute to the nearest towns to purchase petrol, likewise cinema fans in the villages are denied the opportunities of regularly watching their favourite films except in the nearest towns.

4.14 Major factors which make life intolerable in the Sampled Village

From, the proceeding analysis, Table 4.14, the villages have been neglected in the provision of basic social services. The neglect is in part responsible for the increasing out-migration of youth to the cities in order to explore the perception of villagers on this issue, head of households were asked to enumerate the factors which make life intolerable in the sampled villages. Their responses (Table 4.14) shows that lack of amenities, including electricity, pipe water, health services, recreation etc is identified as a major factor. This is particularly the case in Kuble and Wawa which are poor it serviced by such amenities.

Another important problem facing the sampled villages relates to the opportunity for wage employment or self-employment in trade and commerce. Villagers in Luma and Kemenji, stressed this aspect, which indicates that non-farm employment opportunities there are few indeed. The monotony of rural life is linked with the lack of amenities just as the lack of opportunities for non-farm employment results in the poor income earning prospect\$ in the sampled villages. All these factors act in combination and lead to the poor economic and social conditions in the villages.

Table 4.14: Major factors which make life intolerable in sample villages as identified by heads of households

Sampled villages	No	Lack of Amenities	Poor Opportunity for job/business	Monotony of rural life	Other reasons	Poor living condition/lack of money	%
Kemenji	150	45.0	8.3	22.8	20.1	3.5	100.0
Wawa	150	80.9	--	14.5	--	4.6	100.0
Kuble	150	93.3	6.0	0.7	--	2.7	100.0
Luma	150	12.0	27.4	42.7	5.3		100.0
All Village	600	347	63	122	53	16	
%		58.0	10.0	20.0	9.0	3.0	100.0

4.15 Reason identified by Heads of Households why young people do not like to live in Villages

When respondents were probed regarding the reasons why young persons do not like to live in villages, the perception of the situation as indicated in Table 4.15 shows that the poor opportunities 68% for non-farm employment in rural areas constitutes the major bottleneck and lack of amenities in the village and Kule for instance, 53% indicated lack of post primary institution, the lack of wage employment 7% is identified as a major push factor for the youths.

Table 4.15: Reasons identified by heads of household why young people do not like to live in Villages

Sampled villages	No	Lack of Amenities	Poor Opportunity to non-farm employment	Poor social conditions amenities	Other reasons	%
Kemenji	150	3.4	73.8	18.8	4.1	100.0
Wawa	150	0.7	91.4	3.3	4.6	100.0
Kuble	150	53.3	44.0	1.3	1.4	100.0
Luma	150	1.3	62.7	17.3	18.7	100.0
Total No	600	88	408	61	43	
%		15.0	68.0	10.0	7.0	100.0

4.16 Parents Residential Preference

The responses in Table 4.16 should however be interpreted in the light of the parents preferential residence for their children. Parents were asked to indicate the residential preference for children, that is whether they prefer their children to live and work in the village or town. While most parents have definite opinion on such residential preference, a few are undecided, indifferent or simply did not answer the question. as Table 4.16 shows, more than 80% of respondents ,prefer their children to live and work in the town, but only 10% were inclined towards having their children live in the villages. In Kuble and Wawa (97% and 90% respectively) most parents unequivocally prefer their children to work in towns rather than subject the Youth to the type of rural life they themselves are currently passing through for most parents in Luma 23% prefer their children to live in the village and to a lesser degree, 6.7% in Kuble, the village is the obvious choice for their children.

Table 4.16: Heads of household residential preference for their children

Sampled villages	No	Village	Town	Indifferent	Not Stated	%
Kemenji	150	12.1	50.9	7.0	30.0	100.0
Wawa	150	3.9	90.1	0.7	5.3	100.0
Kuble	150	0.7	97.3	2.0	-	100.0
Luma	150	5.3	61.3	6.7	6.7	100.0
All Village	600	6.3	44.9	2.5	6.3	
%		11.0	74.0	4.0	11.0	100.0

4.17 Major sources of household income in sampled Villages

Information were obtained on the source of income of the households heads. While income data are not always accessible in social surveys, and where obtained are usually imprecise, nevertheless these indicate broad social-economic status of households. It should be emphasized further that the above information relates to male alone. Women are also known to be actively involved in food production, processing and marketing; they are also traders. The additional information presented in Table 4.17 reveals that contrary to prevailing assumptions, household incomes embraces the contributions of other members of the household which are not always easily measured.

The relative share of farm and non-farm sources of household income among villages reflects in part of the major types of occupation.

Table 4.17: Major source of household income in sampled villages

Sampled villages	Total population	Farms	Non farm	remittances	Others	%
Kemenji	149	52.3	45.0	0.7	2.0	100.0
Wawa	150	47.3	41.9	8.8	2.1	100.0
Kuble	149	37.3	48.7	8.0	6.0	100.0
Luma	150	67.7	28.9	0.7	2.7	100.0
All Village	598	307	246	27	19	
%		51.0	41.0	5.0	3.0	100.0

4.18 Proportion of heads of Households able to support their children at Specified Educational level

An additional indirect measure of the financial resources of the sampled households has been used, this refers to the ability of the household heads to support their children at specified educational level. The pertinent information presented in Table 4.18 shows that 16% indicated inability to support their children at any level, about 31% of Household heads felt that they are financially capable to support their children up to secondary school and beyond. Indeed 34% asserted that they could sponsor their children at the post secondary level. The responses in table 4.16 also reflect the high premium these parents place on education. It is known that parents sacrifice very much to ensure that their children receive adequate education, which is regarded as means of socio-economic, mobility. The reactions of parents are related to such sentiments.

Table 4.18: Proportion of Heads of households able to support their children at specific education level

Sampled villages	No	Primary School	Commercial School	Sec. School	Post secondary	Can not support	NS	%
Kemenji	149	40.3	1.3	27.5	20.8	10.1	—	100.0
Wawa	150	30.9	7.9	27.6	5.3	27.0	1.3	100.0
Kuble	140	8.6	7.1	50.7	25.7	4.3	3.6	100.0
Luma	129	7.0	4.7	34.1	40.3	10.1	3.9	100.0
All Village	568	127	30	197	127	75	12	
%		22.0	5.0	35.0	22.0	13.0	2.0	100.0

4.19 Living Conditions of Migrants Heads of Households in sampled Villages Vis-a-vis Pre-migration Situation

Migration per-se is conceptualized as a means of enhancing the migrant's socio-economic status and living conditions. Hence, migrants were asked to relate current living conditions in these villages to pre-migration situation, 61% of migrants. Table 4.19 claimed that their current living conditions in the sampled villages were better than situations before the migration to these villages. About 11% and 24% indicated that their current situations are either the same as or worse than the premigration conditions. No doubt, these responses reflect in part, the pre-migration aspirations and expectations of migrants, and incorporate an assessment of these in terms of actual experience, borne out by living and working in the sampled villages.

Village level differences in responses indicated that Kemenji and Luma, relatively fewer migrants 33% and 41% claimed that their condition had improved as a result of the migration. Indeed, more than half of migrants 53% in Kemenji asserted that their conditions had, infact, worsened. This assessment was made against the micro level village living conditions and the micro-level living conditions at the level of household in effect, the living conditions of individuals and households are, in part, influenced by the socio-economic situations of the villages in which they live. This tentative conclusion makes an examination of both micro-level and macro level living conditions desirable in order to avoid mis-leading results.

Table 4.19: Living condition of Migrant Heads of households in Sampled Villages vis-à-vis Pre-migration situation-assessment of living condition

Sampled villages	No	Same	Better	Worse	No Response	%
Kemenji	86	14.5	32.5	53.0	-	100.0
Wawa	8	-	90.0	-	10.0	100.0
Kuble	119	4.0	90.0	-	6.0	100.0
Luma	62	-	40.4	34.0	2.8	100.0
All Village	275	31	167	67	10	
%		11.3	61.0	24.0	4.0	100.0

4.20 Motive of Movement of the Migrants to Sampled villages

When the migrants were asked the motive for movement to the sampled villages, Table 4.20, 19% said the movement is due to assurance and perceived free medical care and other social amenities provided by the park. 34% adduced their movement to trade in tourist merchandise and other goods while 16% said they are in the area due to opportunity for fishing at the Olli river. This finding is in agreement with the findings of Lee (1966) who had earlier on categorized the factors that affect migration of people as push factors (in the place of origin) and "pull" factors (in the place of destination) Environmental variables are an element in both.

Table 4.20: Motivation of Migrants to Sample Villages

Sampled villages	No	Land for Farming	KLNP Social Amenities	Trade in Merchandise	Fishing	%
Kemenji	86	25.7	37.5	25.0	11.0	100.0
Wawa	8	30.9	27.6	7.4	34.9	100.0
Kuble	119	2.7	16.7	80.6	-	100.0
Luma	62	15.5	41.2	23.7	29	100.0
All Village	275	37	80	134	24	
%		13.0	29.0	49.0	9.0	100.0

4.21 Types of Community Development Project identified in the sampled Village

The Community Based Conservation (CBC) developmental projects carried out during the study period mainly involved collaboration between local groups and the Kainji Lake National Park authorities in implementing small scale projects such as construction and repair of local roads, bridges, schools and clinics. The Kainji Lake National Park have played a significant role in the socio-economic development of the sampled villages. Such developmental efforts have been stimulated largely by migrants and the "sedentary" population of the respective communities (including migrants attracted there). The efforts of migrants are made through contributions by migrant attracted there). The efforts of migrants are made through contributions by migrant improvement unions aimed at promoting specific projects such as construction of access roads, building of schools etc. The central aim being to provide villages with facilities which government fail to provide or are insufficient to meet the needs of the community.

The Nigeria National Services Park (NPS) declared policy that conservation and development planning should reflect the priorities of eth people particularly in communities surrounding the park to stimulate rural economy and thereby enhance protection of Bio-diversity are indications of a growing awareness that productive opportunities for conservation areas can only be expended if the people are actively involved in the process of National Park development.

The Kainji Lake National Park has made some impact on the development of the sampled communities.

Table 4.21 shows the distribution of these projects among the sampled villages. These include construction of roads and bridges, churches; mosques in all the sampled villages. Postal agency and electricity is being built in Wawa. Boreholes water is being sunk in all the villages and while Kuble has no market as at the time of the sample. It is important to note that Wawa, Luma and Kemenji has communal Centres. Kuble has neither health center, market, town hall and communal center but construction work is been done on the roads, bridges and bore-hole water.

Table 4.21: Types of Community Development projects identified in the sampled villages

COMMUNITY PROJECTS	LUMA	KUBLE	KEMENJI	WAWA
Water Supply	x	x	x	x
Borehole	x	-	x	x
Electricity	-	-	-	x
Market Stall	x	-	x	x
Agricultural Centre	-	-	x	x
Community Centre	x	-	x	x
Town Hall	x	-	x	x
Postal Agency	-	-	-	x
Hotel	-	-	-	-
Roads/Bridges	x	x	x	x

Source: Author's Field Work, 2008

Key to Symbol:

x = Available

- = Not Available

4.22 Sources of Fund for Community Development projects in the Sampled Villages

The projects identified in Table 4.21 are financed from different sources: the government (Local, State and KINP) Community, individuals and religious organization; By far the predominant source of finance is through communal effort. These provide source of funding for 34% of the projects identified. Other equally important sources include local, State government, Religious organization (Table 4.22) and to a lesser extent Kainji Lake National Park. Village-Level differences are striking in funding 41% of the projects identified in Kuble are sponsored by communal efforts and religious organization while in Kemenji and Luma, 16% and 17% respectively of the projects are sponsored by Kanji lake National Park. The state and the communal effort is also present in Wawa with each contributing 36% of the funding.

Table 4.22; Sources of fund for Community development Projects in the Sampled Villages

Sample villages	No	KLNP CBC	Local	State	Communal	Religious Organ	Total Percent
Kemenji	150	16.7	26.2	19.5	18.2	19.3	100.0
Wawa	150	3.9	21.4	36.9	36.9	1.0	100.0
Kuble	150	1.3	3.2	12.9	41.3	41.0	100.0
Luma	150	17.9	36.9	1.9	39.8	3.5	100.0
All Villages	600	60	131	106	204	98	
%		10.0	22.0	18.0	34.0	16.0	100.0

CHAPTER FIVE

5.0 DISCUSSION

5.1 Policy Implications

The four villages that form the basis of this study vary in sizes population composition, economic structure, and settlement pattern. These features are also reflected in the household characteristics, living condition, socio-economic link between migrants and home place and community development projects identifies in the villages. Migrants in general, are younger than non-migrants however the age structure of the sampled population especially in villages that experienced massive out migration of youths is relatively old, level of illiteracy is high, and in spite of the predominant of farmers among head of households, there is considerable occupational diversification in the villages (Adepoju, 1980).

The study area still lacks the basic social facilities especially, piped borne water, electricity and health services. These are areas of responsibility of both state and local governments, which deserve priority attention of the respective governments. Rural areas still provide the major employment opportunities for the bulk of Nigerians. So far, the majority of Nigerians (about 70%) lives and works in rural areas.

This study also indicates that villagers who lack social amenities and services especially hospitals in their localities have to travel several kilometers to the nearest town where these services are provided. The poor communication and transportation in the country and in particular

in rural areas, creates additional problems for rural dwellers who needs medical attention. The poor recreation facilities and lack of social services and non-farm employment opportunities result in out-migration of both educated and non-educated youths. This raises a critical problem for the replacement of the farm populations which now consists predominantly of old persons whose physical input into farming is low (Anon, 2004).

A substantial proportion of migrants identify themselves with their place of current residence. They also visit home regularly and, remit money to family members and relations at home place. The remittances are used mainly for the up-keep of their respective families at home place. Observations on such remittances by migrants in urban areas also corroborate the uses of remittances - mainly for feeding. Thus, migration has become an important mean of improving living conditions of both the migrants and members of their household at home place.

Findings in the study of characteristics of migrants include that most migrant's especially rural-urban migrants are young adult persons in age group 15 - 30 - 30 50 years. Other characteristic tends to be greatly influenced by the direction of the move. Rural migrants consist of illiterates; most of them are married and are largely unskilled adult persons; on the other hand, single unmarried persons predominate among rural-urban. migrants including those with some level of formal education. The motives for migration are primarily economic including in

the case of City-ward migration, the desire for education, training and apparently high earning prospects in the urban informal sector. Rural-rural migrants are attracted to the study areas by the availability of fertile land. Studies by (Cincotta and Engleman, 2000) show that rural-rural migration reflects the prevailing ecological differences as well as the differential resources and opportunities within the rural sector. The study show that rural - rural migrant contribute to the growth of the economy of the destination areas as tenant farmers share-croppers, or farm labourers. Unlike the studies of (Ibrahim, 1987; - Little, 1987, Bilsborrow and delargy, 1991) which shows that the rural-urban migrant contribute to the economy as unemployed and under employed persons, and rural-urban migrants to profitably exploit the rural resources especially, cocoa, kolanut palm product and rubber.

Urban-based survey usually focus on the relations between migration, urbanization and employment while the growing urban informal sector absorbs an increasing number of migrants at least initially most urban-based studies paint a gloomy picture of the employment situation apart from the deteriorating environmental conditions especially housing and: social facilities. This undesirable situation is attributed largely to the massive influx of migrants to the cities however studies by (Conelly, 1994) highlight the role of medium-sizes towns which are increasingly attracting migrants as a result of their proximity to area of origin of migrants and the relatively moderate cost of

living there compared to the major cities.

5.2 Policy Consideration

It is advised from the studies that the increasing out-migration of energetic youths from the sampled villages adversely affect agricultural produce and thereby retarding rural development, accentuates the villages rural economic stagnation. Essang and Mabawonku (1974) have also argued, for instance that such migration represents a substantial transfer of rural investment embodied in the education of the youths to the urban areas.

From the study, most migrants are known to remit money home regularly. This supports the findings of (Adepoju 1980) such remittance augments the education of the younger ones at home. Some migrants also built houses at home and a few invest in small rural enterprises.

Rural-urban migrants are most often the culprits of the intractable problems in the town-congestion, strain on social amenities; overcrowded housing, unemployment etc on the contrary rural-rural migrants constitute the major source of labour in labour-shortage case producing areas, this finding is in line with that of Anon (2004).

Social welfare services embrace public health measures, good water, provision of good roads, education, electricity, peace and stability, housing and employment opportunities all measures designed to mitigate inequalities by assuring everyone access to basic necessary of life. In the study area, the mass of the people still continue to live in poverty and

lack basic necessity of life including social amenities, good shelter, good food and adequate clothing (Arquello, 1981).

The few social services in the sampled villages, are administered by Kainji Lake National Park, Local-Government, communal efforts and religious organization.

However, the quality of the services depends on the financial resources of the bodies maintaining them. In all cases, both roads, hospitals and schools located in urban areas are often of better quality than the few amenities in the rural areas. The same observation applies to other services-health, electricity and water supply (Rosen, 2000).

The composition of the sample population between migrants and non migrants and, among the former, between those born in villages, small town and big town are reflected in other pertinent characteristic of members of the households; age, sex education occupation and marital status.

The approach the community development projects identified in the sampled villages is in line with the view of Borrini Feyerabend (1996) who describes collaborative management as a situation in which some or all of the relevant stakeholders in a protected area are involved in a substantial way in management activities. Specifically, in a collaborative management process, the agency with the jurisdiction over the protected area develops a partnership with the relevant stakeholders (primarily including local residents and resource users) which specifies and

guarantees their respective functions, rights and responsibilities with regard to the protected area.

It is also true, as Essang et al (1974) have shown that education of the youth constitutes a heavy drain on the earnings of the rural people.



CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATION

In sum a package of strategies for rural and community development in order to achieve increase protection of bio-diversity, labour productivity in both agricultural and non-agricultural sectors, improvement in formal and non-formal education, health, water and construction of feeder roads to link villages to the surrounding communities are proposed. Such schemes could boost the morale of the rural dwellers, strengthen their sense of participation in the National Park development and productivity and the level of the living of the rural population and promote national development.

6.1 NATIONAL PARK

The problem of National Park development should be tackled from three interrelated fronts; programmes aimed at increase agro-pastoral productivity and income of farmers; reactivation of non-farm, small scale industries, crafts and services, and provision of basic amenities through communal and governmental efforts. These programmes, CBC for instance, to be effective, should be linked with functional rural literacy campaign, and population education. All the activities carried out by the various voluntary organizations to effect socio-economic change in rural areas should be coordinated and integrated into the process of overall National Park development in order to maximize results. The National Park sector is not, and should not be viewed as an homogenous entity,

the economy, resources, manpower, socio-cultural, and political patterns, land tenure systems, population size and the geographical factors exhibit considerable variation. These factors also differentiate the dry and poor rural areas from the richer, more fertile effort zones. Hence we need to broaden our horizon with respect to these differences in order to formulate effective Community Based development programmes, while tapping the potentially rich communal development spirit of the rural populace.

6.2 COMMUNITY BASED CONSERVATION

Community development schemes by NPS as an integral part of rural development should be viewed within the broader framework rather than a residual component of bio-diversity conservation, as is currently the case. A development programme, which affects over four fifths of the rural population, should appropriately be described, in its broad perspective, as national rather than Park rural, development perse.

Community based conservation as dealt with in this study and viewed broadly, indicates action programmes undertaken in a locality by Kainji Lake National Park (KLNP) voluntary organization, individuals with the aim of improving living conditions in the community under reference. In the process, a combination of extension, project and services approach has been used by KLNP to achieve the desired goal of rural transformation. According to Eking (1977), extension approach has been used primarily for instruction in the area of farming, health care and

literacy campaigns. The project approach involves specific ventures, including rural industrialization, farm settlements, etc, which provide employment for educated youths. So far, the service approach is the most popular and relies heavily on the participation, often the initiative, of the local population in the provision of social amenities to the rural areas.

In the sampled village most infrastructural facilities and amenities especially health services, schools, feeder roads and water supply were provided through CBC efforts.

In order to minimize duplication of development activities, the government should play a leading role in stream-lining such efforts within a package programme of integrated rural development. However, the reliance on CBC projects should not be stretch to the limit. In fact, the responsibility of local, state and federal government should not be abrogated to the initiatives and drive of both the National Park Services (NPS) and the local communities. Rather, strategy should be to achieve a more cooperative and mutually sustaining relationship between them (Eking, 1977).

Community based conversation initiated project in rural areas are in most case, planned without adequate consultation with the local community of the local such project fail to capture and maintain the interest and commitment of the local dwellers. In the process of formulating development programmes aimed at improving condition of

living in rural areas; the local people have to be involved in its implementation. The success of National Park and rural development programmes ultimately depends on the degree of effective participation and commitment by the rural population. Hence, such programmes as functional education for adults and vocational training scheme for youth, small cottage industries and craft activities, health, nutrition and welfare scheme, integrated park and rural development projects and population education should be formulated and executed with full involvement of the rural population. This approach would go a long way to solving the problem of encroachment, poaching, illegal grazing and solving the problems of rural areas in the form of poor health standard, high rate of illiteracy, low income, underemployment and unemployment, food deficiency, inadequate water supply, poor transport facilities and high rate of population growth. It is hoped that these various schemes would generate a more judicious Park development and the distribution of its benefits between the rural populace. Rural development implies structural changes in the social, economic and possibly organizational system in the rural areas. More importantly, programmes designed to effect rural change should recognize the complementarity between it and Park development.

6.3 Agricultural Development

Agricultural development deserves priority attention in view of the complementarity of this sector to both non-agricultural rural sector and

the urban industrial sector of economy. The techniques of farming should be provided through integrated manner involving agricultural education, adult literacy, farmer training, health and nutritional lessons, extension services, development of new tools adaptable to local skill and provision of adequate infrastructural facilities in the rural areas. Some of these strategies can be pursued under the services and project approaches of CBC, health, education, Agriculture and Social development. Also, the provision of incentives such as reasonable, stable prices structure for farmers' products, remunerable income for staff or the National Parks and other measures aimed at enhancing effective protected areas and Agricultural production. Good access and feeder roads could facilitate transportation and marketing of the farm products and serve as incentive to increase National Park production. Effective link between the National Park extension workers and rural communities surrounding the park should be forged. If the park employment and farming becomes a remunerative occupation, it might attract some young energetic and educated persons to remain in the rural areas and joined the anti-poaching unit of the park or form a community policing for park protection as a viable occupation.

6.4 Rural Industrialization

It now becomes obvious that in spite of the predominant agricultural base of the sampled communities economy, the task of creating extra employment for the rural population could not be borne

solely by the agricultural sector. Development of the rural informal sector, especially small-scale as tourist merchandise is a viable strategy in expanding and diversifying the rural economy and in particular, in creating additional jobs.

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NATIONAL POPULATION COMMISSION
FINAL RESULTS OF 1991 POPULATION CENSUS OF NIGERIA

STATE:	NIGER	LGA:	BABANA	
LOCALITY	MALES	FEMALE	BOTH-SEXES	
WASARE & OTHERS	251	55	306	
BARAWASO & OTHERS	146	51	200	
GBEJI & OTHERS	575	88	663	
DEKARA & OTHERS	109	69	478	
KPENYAN & OTHERS	416	100	516	
DEBARA & OTHERS	402	98	500	
DANGORU & OTHERS	165	42	207	
GIDAN KAPA & OTHERS	98	22	120	
BABANA	1,124	1,495	3,219	
ILORA & OTHERS	292	59	351	
TUNGAN WORU TURU & OTHERS	247	51	298	
KEMENJI	323	42	365	
MARAMI	514	129	643	
GAUROJI	213	242	455	
BARPA & OTHERS	174	176	350	
KUBLE	203	220	423	
LAMBO & OTHERS	169	201	370	
TUNGAN JAURO KWALA	157	181	338	
TUNGAN GARUBA ADA	171	189	356	
TUNGAN AZONGONO	195	199	394	
TA AZARE	198	212	410	
TUNGAN KADIBA & OTHERS	143	70	213	
DEMMO	174	189	363	
TUNGAN JATAU LARIA	162	167	229	
TUNGAN MAKONDOSI & OTHERS	255	256	511	
TUNGAN SHAGAMU & OTHERS	308	108	416	
TUNGAN SABI (PISSA) & OTHERS	154	138	292	
SOKON BARA	384	427	811	
INGLLA	46	59	105	
ULGEDENA & OTHERS	459	401	860	
KANU & OTHERS	139	160	296	
KABE	648	595	1,243	
KAPUBARA & OTHERS	315	260	575	
SAFELUMA & OTHERS	257	244	501	
KUKANI	495	515	1,010	
KIGBERA	618	670	1,288	
SARAPU & OTHERS	118	102	220	
ILORIN & OTHERS	182	179	361	
ARGUNGUN & OTHERS	179	170	349	
TISOFO GANGANLE	194	198	392	
KONKOSO	468	458	926	
DOSSO & OTHERS	101	101	202	
SUNGOJI & OTHERS	194	165	359	
TUNGAN FULANI BAKARABANI	250	265	515	
TUNGAN MOH'D GADA & OTHER	151	153	304	
PISSA	473	538	1,011	
TUNGAN MAFUTANA ALLAH & OTHERS	157	204	361	
GANGANLE SABI DOGO	101	96	197	
TUNGAN ARELINA & OTHERS	275	313	588	

TUGAN FEGE & OTHERS	358	319	677
SAPON GANGALE & OTHERS	161	197	358
UNGWAN MANGORO & OTHERS	217	203	420
TUNGAN SABOGEBE & OTHERS	203	216	419
GORI SHANA	377	417	794
TUNGAN RANA & OTHERS	166	417	794
TUNGAN KULIKULI & OTHERS	153	182	335
TUNGAN BUBE	298	333	631
TUNGAN HAKIMI MOKOSHI & OTHERS	228	230	466
TUNGAN TUNDU BUDE & OTHER	310	322	632
TUNGAN SINA	251	274	525
SHAFACI	1,377	1,423	2,800
TUNGAN UTULA & OTHERS	93	131	250
TUNGAN SAYO & OTHERS	112	138	250
BAKO MISSION	351	347	698
TUNGAN FALIA & OTHERS	110	123	133
TUNGAN BANISUNBO & OTHERS	290	309	599
		TOTAL:-	36994

NATIONAL POPULATION COMMISSION
FINAL RESULT OF 1991 POPULATION CENSUS OF NIGERIA

STATE:	NIGER	LGA: BORGU		
LOCALITY	MALES	FEMALE	BOTH-SEXES	
NEW GARAFINI	250	242	492	
TUNGAN WADATA & OTHERS	123	127	250	
ALH. DANBABA & OTHERS	119	100	219	
NEW KURUWASA & OTHERS	237	232	469	
GAA USMAN IDRIS	215	252	467	
NIG. AIR FORCE QUARTS	544	403	927	
KARABONDE	785	902	1,687	
NEW BUSSA	10,868	10,515	21,883	
MONNAI	211	259	470	
MASANA & OTHERS	22	20	42	
TUNGAN LANI	220	264	474	
TAAFA & OTHERS	34	40	24	
NEW DOGONGARI	548	507	1,055	
FULANI DOGONGARI MAIGALI	56	65	121	
COVER DAM 1 & OTHERS	68	57	125	
FARUN/KOMI	135	328	643	
LABALARU & OTHERS	33	62	85	
LEABA	223	254	477	
FUTAWA & OTHERS	41	31	72	
OLD BODONGARI & OTHERS	165	178	343	
KORO	256	292	548	
LOW COST & OTHERS	135	126	261	
KERE & OTHERS	90	91	181	
NEW AWURU	361	334	695	
OLD AWURU	298	278	576	
FARIN DUTSE	234	229	463	
TUNGAN MALLAM AUDU	318	255	573	
AWURU GUNGU & OTHERS	243	232	475	
TAMANAI	168	328	696	
YANGBA	109	90	199	
ARMY BARACK WAWA	1,128	1,074	2,202	
WAWA	2,691	2,300	4,991	
TUNGAN BOKA & OTHERS	109	140	249	
GADA OLI	274	275	549	
NEW KALI & OTHERS	269	279	548	
OLD RIVER TOURIST LODGES	239	210	449	
TOTAL: -			44030	

NATIONAL POPULATION COMMISSION
FINAL RESULTS OF 1991 POPULATION CENSUS OF NIGERIA

STATE: - NIGER

LGA: SHAGUNU

NASSARAWA - GUFFANTI	1,507	1,409	2,916
GUFFANTI KENBERI	62	55	117
RAFIN MAIGUDU	209	105	314
SWASCI ASUINEGOFE & OTHER	132	131	263
LAMBU GARUBA ADAMU & OTHERS	109	105	214
SWASHI	1,557	429	1,986
BEREKETE & OTHERS	198	182	380
BASA UMORU MOGAJI & OTH	136	171	307
TUNGAN ALH. SALIHU JORO & OTHERS	158	154	312
TUNGAN ABDULLAHI MUSA & OTHERS	293	291	584
TUNGAN LESHIBE	231	148	279
TUNGAN ALH. CHIKOWA	185	240	425
TUNGAN NLAYA & OTHERS	124	146	270
GUFFANTI WEST	356	195	351
TUNGAN ALH. SAMAI & OTHERS	157	173	330
ULAKAMI HAUSA & OTHERS	212	224	436
TUNGAN WADA DUGA	98	92	184
TUNGAN ALH. SANNI	283	286	569
DUGGA	852	834	1,686
YUMU	747	828	1,575
TUNGAN ALH. AUDU TUNI & OTHERS	207	216	423
ZADIGA	117	116	233
TUNGAN LEDA	138	163	301
TUNGAN MAL. WINDI & OTHERS	306	315	623
SANSANI (NEW)	295	272	557
LUMA	524	718	1,342
TUNGAN MAKERI & OTHERS	45	59	104
BAARE - LUMA	398	436	834
SHAGUNU	892	860	1,752
GIDAN ISSA & OTHERS	103	95	198
OLD SANSANI & OTHERS	137	149	286
TUNGAN ALH. DOGO & OTHERS	337	148	285
AMBOSHDI	267	274	541
TUNGAN UMAR SAGALA & OTHERS	252	253	505
TUNGAN DANHOGA & OTHERS	200	171	371
TUNGAN KWANI & OTHERS	306	306	612
GUNGUN BUSSA & OTHERS	252	324	576
TUNGAN AWAYE & OTHERS	326	359	685
TUNGAN MERAKUNMI & OTHERS	337	422	759
TUNGAN YAKURU & OTHERS	202	218	420
TUNAGN SULE & OTHERS	245	303	548
TUNGAN NAILO & OTHERS	292	304	596
TUNGAN BAGARUWA & OTHERS	100	107	216
SADORO	257	255	512
DORO	896	770	1,666
MALALE	474	171	641
TUNGAN FULANI	102	118	220
TUNAGAN ALH. SALIHU & OTHERS	125	125	300

TOTAL: - 29812

**QUESTIONNAIRE FOR THE ASSESSMENT OF THE EFFECT OF
SOCIO-ECONOMIC ACTIVITIES OF THE SURROUNDING
COMMUNITIES ON KAINJI LAKE NATIONAL PARK**

Sex – Male/Female (Tick as appropriate)

Age:.....

Marital status – Single, Married divorce (tick as appropriate)

Number of children – Male..... Female.....

Age (1)..... Age (1).....

Age (2)..... Age (2).....

Age (3)..... Age (3).....

Age (4)..... Age (4).....

Number of Spouse (s)

State of Origin

Local Government Area

Migration Status (Tick as appropriate)

Place of Birth: (a) Small Town () (b) Village () (c) Big Town ()

How long have you lived in this village

Educational Status (Tick as appropriate)

Are you educated: Yes () No ()

Educational Qualification: (a) Primary school () (b) Secondary
School () Post Secondary School ()

Occupational Classification (Tick as appropriate)

What do you do for a living?

(1) Farming ()

(2) Hunting ()

(3) Trading ()

(4) housewife ()

(5) housewife ()

(6) unemployed ()

(7) Teaching ()

(8) Clerical Work ()

(9) Technical Services

(10) Civil Servant ()

AVAILABILITY OF SELECTED FACILITIES

Do you have these underlisted facilities in your village (tick as appropriate)

- a) Electricity ()
- b) Hospital ()
- c) Cinema ()
- d) Postal Agency ()
- e) Primary School ()
- f) Secondary School ()
- g) Borehole Water ()
- h) Piped water ()
- i) Provision Stores ()
- j) Market ()
- k) Church ()
- l) Mosque ()
- m) Rural Bank ()
- n) Town Hall ()
- o) Chemist/Drug Store ()
- p) Petrol Station ()
- q) Hotel ()

Major Factors which makes life intolerable in surveyed villages

- a) lack of amenities ()
- b) Poor Opportunity for jobs/business ()
- c) Monotony of rural life ()
- d) Poor hiring conditions/lack of money ()
- e) State others.....

What is the distance from your home to these selected facilities:

- a) Secondary school ()
- b) Cinema ()

- c) Major roads ()
- d) Hospitals ()
- e) Major town ()
- f) District headquarters ()
- g) Petrol Station ()
- h) Police Station ()
- i) Bank ()
- j) Post Office ()

What reasons do you adduce to why young people do not like to live in villages

What is your residential preference for your children

MAJOR SOURCES OF HOUSEHOLD INCOME

- (1) Farm ()
- (2) non farm ()
- (3) Remittances ()
- (4) Others (state) ()

At what specific educational level are you able to support your children (tick as appropriate)

- (a) Primary school ()
- (b) Secondary school ()
- (c) Post Secondary school ()
- (d) Cannot Support

Living conditions pre-migration situation (tick as appropriate)

- (a) Same
- (b) Better
- (c) Worsened
- (d) Improved

What motivated you to this village (tick as appropriate)

- (a) Land for farming ()
- (b) Provision of social amenities by KLNP ()
- (c) Trade ()

(d) Fishing ()

(e) Hunting ()

(f) Logging ()

What are the types of development going on your village

.....

What are the sources of funds for these developments (tick as appropriate)

(a) KLNP ()

(b) Local Government ()

(c) State ()

(d) Communal ()

(e) Religious ()

Thank you.