COMMUNITY PARTICIPATION IN THE MANAGEMENT OF KAMUKU NATIONAL PARK, BIRNIN GWARI LGA, KADUNA STATE, NIGERIA

BY

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A THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA, IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF SCIENCE DEGREE IN ENVIRONMENTAL MANAGEMENT

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DECLARATION

I hereby declare that the work in this thesis titled "**Community Participation in the Management of Kamuku National Park, Birnin Gwari LGA Kaduna State, Nigeria**" carried out by the researcher, Abdulkadir, Ibrahim Waziri under the supervision of Dr. I.J Musa and Dr B.A. Sawa. All information obtained from the literature has been acknowledged in the text as well as the list of references. No part of this thesis has been previously presented for any degree or any diploma at university.

_____ _____

Ibrahim Abdulkadir Waziri Date

CERTIFICATION

This thesis titled: Community Participation in the Management of Kamuku National Park, Birnin Gwari LGA, Kaduna, Nigeria, by **Ibrahim Waziri ABDULKADIR** meet the requirement for the award of the degree of the Master of Science (M.Sc) Environmental Management of Ahmadu Bello University, Zaria. It is hereby recommended for its contribution to the knowledge and literary presentation.

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DEDICATION

This research work is dedicated to Almighty Allah and my beloved Dad and Mum Engr. Abdulkadir Waziri and Hajiya Lauratu Bello.

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TABLE OF CONTENTS

TITLE PAGE……i
DECLARATION.....**ii**
CERTIFICATION.....**iii**
ACKNOWLEDGEMENT.....**v**
TABLE OF CONTENTS.....**vii**
LIST OF TABLES.....**x**
LIST OF FIGURES.....**xi**
LIST OF APPENDICES.....**xii**
ABSTRACT.....**xiii**
CHAPTER ONE: INTRODUCTION.....**1**
1.1 BACKGROUND OF THE STUDY.....1
1.2 STATEMENT OF THE RESEARCH PROBLEM.....5
1.3 AIM AND OBJECTIVES OF THE STUDY.....7
1.4 SCOPE OF THE STUDY.....7
1.5 JUSTIFICATION OF THE STUDY.....8
CHAPTER TWO: CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW .10
2.1 INTRODUCTION.....10
2.2 CONCEPTUAL FRAMEWORK.....10
2.2.1 Reserve Areas.....10
2.2.2 Community Participation.....11
2.3 LITERATURE REVIEW.....12
2.3.1 History and Origin of National Parks.....12
2.3.2 Essentials for the Establishment of National Parks and Equivalent Area.....13
2.3.3 Protected Areas in Nigeria.....14
2.3.4 Network of National Parks in Nigeria.....14
2.3.5 Comparative Ecotourism Experiences of Selected Countries.....16
2.3.6 History of Kamuku National Park.....16
2.3.7 Roles of Community Participation for Conservation.....17
2.3.7.1 Understanding Engagement.....24
2.3.7.2 Barriers to Engagement with Nature.....25

2.3.8 Participation in the UK 26
CHAPTER THREE: THE STUDY AREA AND METHODOLOGY 29
3.1 INTRODUCTION 29
3.2 THE STUDY AREA 29
3.2.1 Location and Size 29
3.2.3 Climate 31
3.2.4 Topography and Drainage 31
3.2.5 Geology 31
3.2.6 Soils and Vegetation 32
3.2.7 Population and Socio-economic Activities 32
3.2.7 Biodiversity 32
3.3 METHODOLOGY 33
3.3.1 Reconnaissance Survey 33
3.3.2 Types of Data Required 33
3.3.3 Sources of Data 33
3.3.3.1 Primary Source 33
3.3.3.2 Secondary Source 34
3.3.4 Sample Size and Sampling Technique 34
3.3.5 Data Analysis 35
CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION 36
4.1 Introduction 36
4.2 Demographic and Socio-Economic Characteristics of Respondents 36
4.2.1 The Age, Gender and Educational Background of Respondents 36
4.2.2 Occupation of Communities around the Park 37
4.3 The Various Categories of Community Association around Kamuku National Park 38
4.3.1 Types of Community Association around the Park 38
4.4 Contribution of Community Association in the Management of Kamuku National park 39
4.4.2 Effect of Communities contribution in the management of Kamuku National Park 40
4.5.4 Conducting of Conservation Programs around Communities 44
4.5.5 Means of Conducting Conservation Education Programs around Communities 45
4.5.6 Means of Rewarding Communities by the Park 46
4.5.1 Challenges Facing Communities in the Management of Kamuku National Park 47
4.5.2 Limitation of Communities Association in the Management of Kamuku Park 48
4.5.3 Major Threats Considered by the Communities in the Park Management 49
4.5.4 Communities Feeling on Park Response to their Efforts in Park Management 50

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION 52

5.1 INTRODUCTION 52

5.3 CONCLUSION.....52

REFERENCES.....54

LIST OF TABLES

Table 2.1: Profile of Nigeria's seven (7) National Parks 15

Table 2.2 Summary of Community Engagement Initiative Types 18

Table 3.1 Distribution of Questionnaires at different localities 35

Table 4.1: Personnel Data of the Respondents from the Communities around Kamuku Park 37

Table 4.2 Contribution of Communities in the Park Management 41

4.3.3 Means by which Communities Communicate to the Park 42

Table 4.3 Means by which Communities Communicates to the Park 42

Table 4.4 Means of Rewarding Communities by the Park 47

Table 4.4 Threats to the Management of Kamuku Park 50

LIST OF FIGURES

Fig. 3.2: Map of Kamuku National Park..... **Error! Bookmark not defined.**

Figure 4.1: Occupations of the Communities around the Park.....38

Figure 4.2: Type of Associations in the Communities around the Park 39

Figure 4.4: Needs of Community Input in the Improvement of Park's Security.....44

Figure 4.6: Conservation Education Program in the Communities around the Park.....45

Figure 4.7: Means of Carrying out Conservation Program in Communities around the Park.46

Figure 4.9: Communities Perception on How Park Official Response to their Efforts.....51

LIST OF APPENDICES

Appendix I: List of Acronyms 64

Appendix II: Research Questionnaire 65

ABSTRACT

This study assessed the effectiveness of community participation in the management of Kamuku National Park Kaduna. Nine (9) communities around the park were purposefully selected for questionnaire administration to its members as well as focus group discussion and interview with key informants were also conducted. A sample size of 370 was used and analyzed descriptively as well as results presented in tables, bar charts and pie chart. From the result it was found out that vigilante and ex-hunters clubs represented by 52.2% was the predominant community association around the park, followed by student conservation clubs with 26.2%. Among the communities contribution to the park management is the provision of information on the movement of poachers (50%), serving as recruited informants (15%), touring guide (20%) and conflicts resolution between the management of the park and members of the community with 15%. The communities identified the following as constraints to their participation in park management less recognition (31.9%), low awareness (27.3%), low interest (20.1%), and inadequate manpower (18.1%) among others. The study recommended that the government should create grazing reserves and task force, more awareness to the communities on the importance of nature conservation should be created, and what they stand to benefit from the conservation of the park.

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

In 1968, Nigeria signed the new African Convention for the Conservation of Nature and Natural Resources together with 37 other African nations (Happold, 1987). All these developments gave rise to the formation of protected areas such as Forest and Game Reserves in Nigeria from which the present generation of National Park System eventually emerged. The establishment of National Parks in Nigeria is a very recent development (Marguba, 2002) when compared to some regions as North America, Western Europe, East and Southern Africa. It began in 1979 when the military administration promulgated Decree 46 of 1979 (later Act 46 of 1979) established Kainji Lake National Park. The 1979 law was repealed and replaced by Decree 36 of 1991, establishing five national parks including Kainji Lake (Marguba, 2002). The other national parks include Chad Basin, Cross River, Gashaka-Gumti and Old Oyo. By a special request of the Bauchi State Government, the Federal Executive Council approved the upgrading of Yankari to a National Park in August 1991. Again Decree 46 of 1999 (now Act 46, 1999) repealed Decree 36 of 1991 and established two additional national parks Kamuku and Okomu in Kaduna and Edo States respectively, bringing the national parks in Nigeria to eight. The new law also made the organization a paramilitary one (Marguba, 2002).

The main objectives of national park service are to preserve, enhance, protect and manage the vegetation and wildlife in the parks. Conservation is the most important activity in the National Parks. The service is mandated to protect both plant and animal species from human exploitation. It is therefore understood that since both plants and animals in the park are in danger from human activities, they will require some level of protection. This can be achieved through policing by patrol personnel, legal means through enforcement of appropriate

laws, regulations and community participation. To achieve this, the service has formulated the following policies.

i. The conservation of selected and representative samples of wildlife communities in Nigeria.

ii. The establishment of ecologically and geographically balanced network of protected areas under the jurisdiction and control of the Federal Government.

iii. The protection of endangered species from wild plants and animals and their habitats.

iv. The enhancement of conservation of wildlife throughout Nigeria to optimally assure their abundance and diversity commensurate with their continuous existence for the purposes of sustainable utilization for the benefit of the people of Nigeria, Rapid and sustainable expansion of National Parks that are more viable and integration of a more sustainable livelihood option for support zone communities in line with MDGs.

v. Widespread Park based ecotourism industries that are wholly private sector driven.

vi. The survey, establishment and management of other types of protected area e.g. biosphere reserves, world heritage sites etc. To enhance best practices in biodiversity conservation and for ecotourism and Joint state/local government ventures incorporating all nature based tourist attractions near unit parks for the purpose of developing holistic package for ecotourism in every ecological zone in Nigeria.

Conservation includes measures for the management, protection and utilization of a country's resources for the achievement of highest sustainable quality of living for mankind and the control or elimination of environmental pollution (Ayagade, 1995). Conservation practices all over the world are changing from the traditional management approach with emphasis on managing natural resources in a way that ensures greater flow to all stakeholders especially local community members. The shift in emphasis is informed by the fact that the local communities are inextricably tied to their cultural resources based whether used as a

source of food, medicine, fuel or for maintaining ecological balance (Bisong, 2001 cited in Sam, Emeka and Etefia, 2014). The justification for community participation in natural resources conservation as viewed by International Union for Conservation of Nature (IUCN, 1990) provides that human culture must be based on a respect for nature and that the present generation have a social responsibility to conserved nature for the welfare of future generation. The view recognizes that mankind is part of nature and that all species have an inherent right to exist regardless of their materials value to humans.

Participation as a concept means involvement in decision making, to choose a community project, plan, implement, manage, monitor, and control it. Breuer (1999) described community participation as a process by which people are enabled to become actively and genuinely involved in defining the issues of concerns to them, in making decisions about factors that affects their lives, in formulating and implementing policies, in planning, developing and delivering services and in taking action to achieve change. The development, community participation may be viewed as a process that serves as instrument of empowerment, building beneficiary capacity, increase effectiveness desire to share cost, improves efficiency relation to project (Paul, 2005). To maximize the chances of sustainable conservation initiatives, rural communities need to be involved in both the concept and approach. This means that participation in decision-making process and in the evaluation, monitoring and management of resources and the environment is crucial. This inclusiveness is more likely to build a conservation ethics where people understand that their livelihood depends on health maintenance of the environment (Sam, Nnaji, and Etefia, 2014).

The experience of other countries in communities' projects and the involvement of local communities were found to be essential to the success of conservation through three distinct elements of participation (Ajayi, 1989). The three elements were stated by Ayeni (1995), as follows:

i. The active participation of the rural community particularly in the actual management aspects, such as game protection etc,

ii. Communities must have the appropriate authority bestowed on them to take vital decision on the management and utilization of their own resources,

iii. Benefits of management efforts and resources utilization should accrued to the rural communities directly, either in terms of cash bonuses or provision of social amenities.

Kamuku National Park is located in the west of Kaduna State, and is adjacent to the Kwiambana Game Reserve to the north- west. It was established in 1936 as the Native Authority Forest Reserve of Birnin-Gwari under the Northern Nigeria Government. It was upgraded from a state Game Reserve to a National Park in May 1999, in part due to the success of a community-based project promoting sustainable resource usage, managed by Savanna Conservation Nigeria, a national Non-Governmental Organization (NGO).The Federal government has been seeking to partner with foreign investors to develop eco-tourism in this and other National Parks (Marguba, 2002).

The neighbouring communities of the park participate in the management by joint patrol and by giving information to the management of any changes noticed. There is good understanding with some of the communities because of some of the developmental projects executed to them by park management and 70% of the rangers are from those communities. Despite the policies and the cordial relationship with the neighbouring communities, there are still threats in Kamuku National Parks which include illegal grazing, poaching, shifting cultivation and over-exploitation of indigenous plant species, cattle migration, uncontrolled bushfires, decrease in animal's population, and ever-increasing exploitation of fuel wood, fishing and timber demand as a result conflict of interest between the communities and the park management.

1.2 STATEMENT OF THE RESEARCH PROBLEM

Many studies have shown community participation to be one of the critical empowerment of success in irrigation, livestock, water, forestry and agricultural project (Sharp, 2003). Community participation has become therefore, very important to Scholars, organizations and Nations. For instance, Ajake (1998) remarked that participation has been used to justify the extension of state forest control as well as the building of local capacity and self-reliance. It has been used to justify decision imposed by external agencies as well as describe the process of developing real power and decision-making.

Experience has shown that participation grows more out of practical than normative considerations. One of the most expensive forestry programmes with community participation is that operated by village forestry Associations in South Korea (Ahn, 1978; Eckholm, 1979) and the afforestation sub-project in Nepal (World Bank, 1975). Other experiences include community conservation in Tsavo West National Park, Kenya where the local communities are involved and have benefited from conservation of protected areas. A reforestation project in Senegal gained impressive results as Senegal forest service works in rural community and councils providing them with inputs, while the village councils contribute labour to plant trees. Income generated from the sales of wood was used by the council according to its own priorities (Uphoft, 1986).

In Nigeria, a number of studies have been conducted on different aspect of national parks management. Kehinde (1998) studied biodiversity conservation problems and their implication on the eco-tourism in Old Oyo. The study revealed that the problems of biodiversity conservation are more sociological than natural. The study of Osunsina and Meduna (2008) on ecotourism potentials of Kamuku National Park shows that the park is rich in fauna, flora natural resources and cultural features. It further reveals that the major problems affecting Ecotourism development in the Park include improper funding,

inadequate staff, social disturbance and inadequate infrastructural facilities. Poaching, illegal grazing and conflict between Park protection staff and cattle herdsmen were also among the principal factors hindering ecotourism development in the park.

Eworo (2009) studied activities of conservation organization in safeguarding Cross River National Park. The study revealed that there is need to engage more communities and NGOs to participate in strengthening these programs to meet the objectives or improve environmental management through improving and providing of livelihood to the communities. Similarly, Abimbola, Lawal and Adetola (2011) studied biodiversity conservation and community participation in Kainji Lake National Park. Their finding revealed that the long term sustainability of the Park will inevitably depend on winning Community support. Communities that successfully combine traditional livelihood with conservation are likely to contribute significantly to the biodiversity management of the park.

Soladoye, Sonibare, Asafa, Ibhanesebhor and Chukwuma (2011) in their study revealed that there is an urgent need for the enactment of more stringent laws by the appropriate government legislative bodies to curb continuous encroachment. They also noted that managing conservation parks is a capital intensive venture, therefore low funding could be the greatest challenge regarding the management of the Kamuku National park. The above reviewed studies were limited to biodiversity conservation in parks and the involvement of the community and not the constraints that have limited the communities' participation in the park management.

The Kamuku National Park has continued to place higher priority on the protection of its resources, park facilities and safety of tourists given its prolific wildlife diversity. Afolayan (1977) and Anadu (1987) identified among the problems of Kamuku National Park are: policy implementation, lack of law enforcement, infrastructural facilities (e.g. vehicles, communication equipment, road and track networks) are limited, lack of basic information

necessary for effective management in wildlife sector and forest reserves is preventing sound management. There has been cordial relationship between the park management and neighbouring communities; which is evident in most of the indigenes employed as rangers, others serve as informants to the park management whenever there is any stranger (hunters, grazers, and poachers) coming into the park. Despite all this cordial relationship, there is still some level of encroachment in the park by poachers, grazers and even setting of bush fires. It is against this background that this study sought to assess community participation in the Management of Kamuku National Park. The research addressed the following questions.

i. What types of community associations exist in communities around the park?
ii. What is the level of involvement of communities in management of the Kamuku National Park?
iii. What ways have the communities contributed to management of Kamuku National Park?
iv. What are the constraints to community's participation?

1.3 AIM AND OBJECTIVES OF THE STUDY

The aim of this study is to assess the effectiveness of community participation in management of Kamuku National Park. The aim was achieved through the following objectives which are to:

i. identify the types of community associations around the Kamuku National Park.
ii. assess the level of participation of communities in Kamuku Park management.
iii. examine communities contribution to Kamuku Park management.
iv. identify the constraints to communities participation in Kamuku Park.

1.4 SCOPE OF THE STUDY

The scope of this study covered the community associations involved in the conservation management of Kamuku National Park, Birnin-Gwari LGA of Kaduna State

while the content scope was limited to identification of community association, their role, and contribution to the management of the park as well as the constraints in their participation in managing the Park. The temporal scope covered the activities of community associations operational in the park from its establishment till year 2014.

1.5 JUSTIFICATION OF THE STUDY

There is need to assess community participation in the management of Kamuku National Park to be able to identify the constraints and weaknesses of conservation of wildlife and forest in Nigeria in general. Policies were laid down to guard the conservation and communities are allowed to participate but still there is encroachment in the protected areas. So it is necessary to diagnose the extent to which communities participate in order to see the lapses and need for improvement. In addition one of the MDGs is to ensure environmental sustainability by 2015, and conservation of national parks is part of environmental sustainability.

The Kamuku National Park is one of the seven national parks in Nigeria and the park has continued to place higher priority on the protection of its resources, park facilities and safely of tourists. The Kamuku Park is of outstanding biological, scientific and economic value. The majority of these values stem from the fact that the area is of prolific wildlife diversity. As a result the ecosystem has been internationally recognized as a world heritage site (Mackinnon *et al*., 1986). To be best of the researcher's knowledge there has not been any similar work, carried in the Kamuku National Park, so this will serve as a reference material for other researches. The findings of this study will assist the government, policy makers and staff of the National Park to consider different ways of involving communities in achieving sustainable environment. Through this study, various communities' members will identify the participatory role to play to enhance the park management.

The publication of this study will influence future research and provide bases for any research relating to it. It is further hoped that the findings will serve as a framework of reference for related studies. The study will provide information on current issues on park management and add to the existing stock of knowledge on the issues. The findings of this study will help communities, planners, policy makers, non-governmental agencies, and rangers in planning, design and services delivery system.

CHAPTER TWO: CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviews the literature of related work and terms on the topic. These include: concept and history of National Park, essentials for establishment of National Parks and equivalent area, history of Kamuku National Park, concept of community participation, summary of community initiative type, concept of engagement and to engagement with nature and participation in UK.

2.2 CONCEPTUAL FRAMEWORK

2.2.1 Reserve Areas

The International Union for the Conservation of Nature and Natural Resources (IUCN) in collaboration with the World Commission on Protected Areas classified National Parks as Category II type of Protected Areas. According to IUCN (2006), national park is established to protect outstanding natural and "scenic areas of national or international significance for scientific, educational and recreational use. It is a relatively large natural area not materially altered by human activities, where extractive resource-use is not allowed by law. A national park is under the administration and management of the federal or central government of a country. The author further specified in evaluating a national park, the following key factors has to be considered.

(a) A minimum size of 1,000 hectares located within ecological zones in which the protection of wild fauna, flora and other natural and anthropogenic resources take precedence, and recreational activities are permitted.

(b) Statutory legal Protection.

(c) A budget and personnel to provide sufficient, effective Park Policing and Protection in addition to various vital Auxiliary or support services,

(d) Prohibition of the exploitation of natural resources

(e) Prohibition of the exploitation of natural resources.

(f) Research, monitoring and evaluation of different aspects of the biodiversity, ecological processes and the climatic conditions.

2.2.2 Community Participation

Cheelham (2002) opined that participation as a concept means involvement of the people in decision making, to choose a community project, plan, implement manage, monitor and control it. Participation occurs as community organizes itself and takes responsibility for managing its problem. Taking responsibility includes identifying the problems, developing actions, putting them into place and following through.

Hamilton (1992) remarked that participation is both a means and an end. As a “means" it is ensuring local peoples cooperation/collaboration with externally introduced programs or processes to facilitate/collaboration with externally introduced programs or processes to facilitate the effective implementation of such initiatives and to achieve a set of objectives, while as an 'end' it is the empowerment of people to take greater responsibility for their development through acquisition of people to take greater responsibility of skills, knowledge and experience. It further stated that self-reliance make a positive effect on rural community by participating in development. It helps to do away with the mentality of dependence. Promotes self-awareness and confidence and people participate not to solve their problems.

Nampila (2005) referred to community participation as a method whereby the residents of a community are given a voice and choice to participate in issues affecting their lives. Thereon (2005) asserts that if the process is well managed, the members are likely to take ownership of the projects that are to be implemented. Breuer (1999) described community participation as a process by which people are enabled to become actively and genuinely involved in defining the issues of concerns to them, hi making decision about

factors that affects that lives in formulating and implementing, policies in planning, developing and delivering services and in taking action to achieve change.

2.3 LITERATURE REVIEW

2.3.1 History and Origin of National Parks

National Geographic (2006) documented that the concept of National Parks originated in the United States of America (USA) with the creation of the first National Park in the World, Yellowstone, in 1872, by an Act of US Congress. The U.S. Congress, under President Woodrow Wilson, created the United States National Park Service in 1816, headed by a Director under the oversight functions of the U.S Department of the Interior.

The objectives contained in the legislation establishing the U.S. National Park Service in 1916, known as the "Organic Act", were to conserve the scenery, the natural and historic objects, and the wildlife therein, and to provide for the enjoyment of same in such manner and by such means as will leave the parks unimpaired for the enjoyment of future generations. The initial policy objective was for the efficient administration and management of all national parks and equivalent areas in that Country. By the year 2006, 400 unit parks had already been established in the U.S Park System, with about 20,000 full-time employees, to nearly 300 million recreational visits to the parks annually (National Geographic, 2006).

After the establishment of Yellowstone National Park, other countries soon followed. In Australia, the Royal National Park was created in Sydney in 1879. Rocky Mountain became Canada's first National Park in 1885. New Zealand had its first national park in 1887. In Europe, the first national parks were a set of nine parks in Sweden in 1909; Presently, Europe has 370 national parks.

Africa's first National Park, Albert National Park, was established in 1925 (Ajayi and Halstead, 1979). It was renamed Virunga National Park in 1926. This was when Albert 1st of Belgium designated an area around the Virunga Mountains in the then Belgian Congo, now

known as the Democratic Republic of Congo. The government of South Africa designated Kruger National Park as the nation's first national park. After World War II, national parks were founded all over the world. The Vanohise National Park in the Alps was the first French National Park created in 1963 after public mobilization against a touristic project (Wikipedia, 2006). Based on the American National Park System, Japan designated the first 3 of its National Parks in 1934. By 2007, Japan had 29 National Parks' (Japan's Ministry of the Environment, 2010).

2.3.2 Essentials for the Establishment of National Parks and Equivalent Area.

Warren and Goldsmith (1983) observed that the appropriate category of protected area depends upon five considerations;

(i) Those features which the area is designed to protect based on an evaluation of its biological and other features and the protection objectives thereby established.

(ii) The degree of manipulative management needed for, or compatible with the established objectives.

(iii) The degree of ecological tolerance/fragility of the ecosystem or species concerned.

(iv) The degree to which different types of utilization of the area are compatible with the established objectives, and

(v) The level of demand for different types of utilization and the management practicability of accommodation.

The initial requirement is to obtain the existing environmental baseline data. Next to the data comes the identification and measurement of the potential environmental impacts. These impacts could be positive or negative, direct or indirect (Egbon and Morvaridi, 1996). According to Mackinnon *et al.*, (1986) the Commission on National Parks and Protected Areas (CNPPA) is the Organization of the International Union for the Conservation of Nature and Natural Resources (IUCN) otherwise known as the World Conservation Union (WCU),

specifically responsible for promoting the establishment of a worldwide network of effectively managed Terrestrial and Marine Protected Areas and has distributed guidelines on this topic.

2.3.3 Protected Areas in Nigeria

Conservation of Wildlife resources in Nigeria started in the area of forestry, the first Forest Reserve was created in 1899, despite the problem of land tenure (Singular, 2008). The Colonial Government in 1900 initially established Forest Reserves for the protection of the natural environment and the development of timber resources in Nigeria (Happold, 1987). In 1916, Wild Animals Preservation Laws were promulgated. It further reported that Professor G.A. Petrides visited Nigeria in 1962 from overseas at the request of the Federal Government to assess wildlife species and their conservation status. It was observed that conservation measures were very inadequate and that most wildlife species were being depleted due to excessive and uncontrolled hunting. As a counter-measure, some recommendations made included.

(i) Strict (wildlife) legislation and enforcement of laws.

(ii) Total protection for all wildlife in Game and Forest Reserves.

(iii) Establishment of new Reserves in the regions not represented in the Reserve System, and

(iv) The formation of a Government Agency staffed by highly trained biologists (now Wildlife Officers) that would administer and research into wildlife resources for the purpose of evaluation and monitoring.

2.3.4 Network of National Parks in Nigeria

In 1968, Nigeria signed the new African Convention for the Conservation of Nature and Natural Resources together with 37 other African nations (Happold, 1987). This development gave rise to the formation of protected areas such as Forest and Game Reserves

in Nigeria from which the present generation of National Park System eventually emerged. Nigeria's National Park System originated in 1979 when the then Head of State and Commander-in-Chief, General Olusegun Obasanjo, enacted Decree No. 46 of 1979 (now abrogated) that approved the establishment of Kainji Lake National Park, the nation's Premier Park (Marguba, 2002). Thereafter, the promulgation of Decree No. 36 of 1991 (also-abrogated) led to the eventual establishment of the National Parks Governing Board that initially took off with six (6) National Parks; (i) Kainji Lake (ii) Yankari (iii) Old Oyo (iv) Chad Basin (v) Cross River and (vi) Gashaka-Gumti. See Table 2.1

Table 2.1: Profile of Nigeria's seven (7) National Parks

Name	**State(s) Located**	**Head Office**	**Size**
Chad Basin	Borno/Yobe	Maiduguri	2,258km^2
Cross River	Cross River	Akamkpa	4,000km^2
Gashaka-Gumti	Adamawa/Taraba	Serti	6,731km^2
Kamuku	Kaduna	Birninn-Gwari	1,121km^2
Kainji Lake	Kwara/Niger	New Bussa	5,340.82km^2
Okomu	Edo	Arakhuan-Udo	181km^2
Old Oyo	Oyo	Oyo	2,512km^2
Estimated total land of all the unit area Parks		**22,143.82sq.kms**	

Source: Adapted from Mamza, 2006.

Presently, there are seven (7) National Parks in Nigeria created by Act 46 of1999 (Law of the Federation of Nigeria (LFN) Chapter (Cap)-65 of 2004). The unit Parks are being operated under Category II of the IUCN (Marguba, 2002). Of these, Gashaka-Gumti is the largest, biologically most diverse, and the most scenic. The estimated total landmass of Nigeria's National Parks in Table 1 is 22,143.82sq.kms; about 3% of Nigeria's total land area of 923,768km^2. These Parks span across the various ecological/geological zones of the country, with the exception of the marine ecosystems.

2.3.5 Comparative Ecotourism Experiences of Selected Countries

National Parks in Kenya, Tanzania, Uganda and Botswana, for instance, charge foreign tourists a daily visitor fee of $20 (142, 960 at J4148 per $1) to $30 (N4, 440) per head (single entry). Ecuador's Galapagos National Park charges foreign visitors $100 (N14, 800) entry fee (Ecuadorians pay only $6 (N880) per head), and still the number of foreign visitors continued to rise each year and was approaching 80,000 (Spergel, 2001). In 1989, Botswana raised its Park entry fees for foreigners by 900%. This led to a dramatic increase in total revenues that effectively eliminated the subsidy being provided by the Central Government to its National Parks and other protected areas. The number of foreign visitors actually rose by 49% in the first two years after fees were raised.

Revenues generated recently from these Parks including Gashaka-Gumti, were very meager. For instance, between 1997 and 2002, only a total of 142,299 visitors visited all Nigeria's National Parks (Marguba, 2002) compared to that of Kenya where between 250,000 and 300,000 international visitors alone visit Kenya's protected areas, mainly National Parks, and spend about $200 million on the average annually (Swanson and Barbier, 1992). The author further reported that Nigeria's National Parks generated just $459,123,637.18k between 2000 and 2002. This meager amount was realized from sources such as part entry and viewing fees, lodging, catering services and souvenirs.

2.3.6 History of Kamuku National Park

Kamuku National Park was originally Kamuku forest which was gazette a Forest Reserve. No 2 in accordance with Section 36 of Forest Ordinance in 1936 by the Birnin-Gwari Native Administration. Under the second schedule, there were:

a) General right of way.

b) Reserved rights to the inhabitants of the sub district of Kamuku.

   i Fishing rights.

ii. Rights to necessary water supplies'.

iii. The right to collect edible free fruits and seeds.

iv. The right to collect dead wood for fuel.

v. The right to forage and thatching grasses.

Particular rights reserved to the community of Kokongo to occupy and farm within an area of approximately 0.8 square miles, (i.e. according to the Forestry Ordinance No.129 of 1936 Northern Province of Nigeria). However, in 1969 Kamuku forest reserve was upgraded to the status of game reserve. In accordance and in 1987, seven villages of Kalba, Shiri, Zage-Zagi, Magajiya, Maikidi, Murai and Matseri were resettled out of the game reserve to eliminate human impacts and to increase the reserve boundary. At present, the park is bounded on all sides by villages and at close range to the reserve boundary. These villages include Doka, Gwaska, Kakangi, Dagara, Kurigi, Gangamai, and Goron-Dutse. Most of the inhabitants of these villages are subsistence farmers, hunters, fishermen, herdsmen etc. unfortunately, the formation of Kamuku National Park did not provide for the bush meat concerns of the affected support zone communities.

2.3.7 Roles of Community Participation for Conservation

According to Conrad and Hilchey (2010) initiatives encouraging the involvement of members of the public in environmental activities, defined as community participation, are increasing on a global scale participatory approaches aim to fulfill a wide range of objectives in different contexts and effective engagement of communities is increasingly acknowledged as an essential component of achieving successful outcomes. There is a wealth of literature published on participatory initiatives for environmental outcomes which are summarized (Table 2.2).

Community participation for monitoring of environmental quality is particularly common across North America (Whitelaw Vaughan, Craig and Atkinson, 2003; Conrad and

Hilchey, 2010). Some monitoring initiatives may be driven by local governments or other external organizations in response to a change in circumstances, such as the citizen's environment watch in Toronto, which has enabled formal water quality monitoring to continue/despite government financial cuts in this area (Savan, Morgan, and Gore, 2003). Other environmental quality monitoring programs are initiated and driven by the communities themselves in response to an environmental issue or concern. In Louisiana, a community-driven project enabled local residents to challenge the ways in which air quality monitoring was conducted to unproved conditions in their local area and on the wider scale (Ottinger, 2010).

Table 2.2 Summary of Community Engagement Initiative Types

Types of Engagement	Partners	Drivers	Intended Outcomes	Examples
Environmental quality monitoring	Government agencies, conservation bodies, communities	Community-driven in response to environmental quality issue. Some examples driven through necessity such as finding cuts in government	Reduced government costs, empower local communities and improve local environmental conditions	Community-driven air quality monitoring in US challenged local Shell plant and resulted in challenges to regulatory standards (Ottinger, 2010), research institutes in Canada set up participatory 'Citizens Environment Watch' in response to government funding cuts. Water and air quality monitoring (Savan, Morgan and Gore, 2003, Whitelaw, Vaughan Craig, and Atkinson 2003)
Natural resource management	Government agencies, research groups, communities	Government and international conservation agencies shifting approach towards	Protection of species and habitats, e.g. reduced poaching,	Community based monitoring shaped favourable attitudes in Nepal (Mehta and Heinen, 2001), reduced

		participatory initiatives to successfully and sustainably conserve natural resources	sustainable habitat management local governance, support conservation decisions made	poaching and increase sympathetic habitat management. Pakistan (Nawaz, Swenson and Zakaria, 2008) and decreased poaching in Peru (Wheeler and Hoces, 1997). In Namibia, partnership approach has led to sustainable project governance by local communities (Stuart-Hill, Diggle, Tagg and Ward, 2005). Also identified as an important approach for management of natural resources such as rivers in the UK (House, 1999) and watersheds in the US (Koehler and Koontz, 2008).
Gathering data through local knowledge	Government agencies, researchers, communities	Research to determine status or distribution of species or habitats, feeds into policy or legislation for conservation decision making	Distribution gathered	Scottish Natural Heritage conducted a survey of farmers and other countryside uses to gather data based on local knowledge (Reading et al., 1996). Indigenous knowledge gathered from herders in Kenya provided biodiversity information and the potential for future wide scale biodiversity monitoring (Roba and Oba (2009).
Landscape scale wildlife conservation	Multiple government agencies, conservation	Increased understanding of conservation science and participatory	Sustainable long term wildlife conservation with local support	Identified as essential for specific species conservation e.g. wood white butterfly

	organizations, other stakeholders e.g. businesses, communities	approaches has led to a change in focus for wildlife conservation		(Jeffcoate and Joy, 2011), habitat management incentives on private land (Prager et al., 2012) and for linking habitat between protected sites (Cox and Underwood, 2011).
Wildlife management decision making	Multiple government, landowners and managers, academic community, other stakeholders e.g. businesses, general public	Human-wildlife conflicts, nature conservation or policy, e.g. public or wildlife health or safety. Participatory approach often driven through controversy of topic, i.e. ecologically, public perceptions/economic drivers.	Management of wildlife, reduced opposition and increased support from local people through stakeholder engagement.	Many different model of engagement used, e.g. deer management in US (Decker, Raik, Carpenter, Organ and Schusler, 2005) and UK (Austin, Smart, Yearley, Irvine, White, Dandy *et al*., 2011), Fisheries Management in Norway (Garcia 2008), and US (Miller *et al*., 2010) bears in US (Lafon, Mc Mullin, Steffen, Schulman 2004), Burkardt and Ponds, 2006), dingoes in Australia (Bums and Howard, 2003).
Wildlife population data gathering and monitoring	Government and government agencies research institutes conservation organizations, citizen scientists	Conservation policy and legislation, conservation organization objectives	Large amount of data gathered to inform conservation decision making and fulfill statutory responsibilities	A number of reviews conducted, revealing a large variety of schemes and species covered, particularly in North America and Europe (Crall*et al.,* 2010, Dickinson, Zuckerberg, Bonter 2010). Examples include long term bird monitoring studies in US (Lepczvk, 2005), and UK (BTO, 2010). Citizen science study in Australia conducted by

				the National Parks and Wildlife Services increased national database for koala population distribution (Lunney, Esson, Moon, Ellis, Matthews, 1997).

Source: Adapted from Prager et al., 2012.

Historically, the conservation and management of natural resources in many developing countries was approached using regulation and punitive action, and at the exclusion of local people (Ite, 1996; Colchester, 2004; Xu *et* al., 2005). However, growing acknowledgement of the weaknesses of this technique has led to revised approaches with a strong emphasis on community engagement and collaborative working in order to maximize the ecological and social benefits of natural resources (Wheeler and Hoces, 1997; Adams and Hulme, 2001; Colchester, 2004). An essential part of making this process sustainable in the long term is the development of strong positive relationships between decision makers and local people working in partnership (Stuart-Hill, Diggle, Munali, Tagg, and Ward, 2005). In addition, initiatives may also address specific targets such as encouraging the development of favourable attitudes of local people towards the management of protected areas (Mehta and Heinen, 2001; Nawaz, Swenson and Zakaria, 2008), or discouraging actions that have a negative impact upon wildlife such as poaching (Wheeler and Hoces, 1997; Mbitikon, 2004; Nawaz, Swenson and Zakaria, 2008). Successful community-based initiatives can lead to far reaching benefits, for example, a participatory approach in Nepal successfully reduced poaching levels by engaging with local communities and encouraging community-led project governance to increase local support (Martin and Martin, 2011). However in other cases, the success of community engagement initiatives have been mixed, and in situations where communities do not benefit from conservation initiatives, local people can become disengaged with conservation processes. Disengagement of communities can jeopardize the

potential ecological and social benefits, and may even lead to negative outcomes such as increased poaching levels (Songorwa, 1999).

Another participatory approach is that of using local knowledge to contribute to baseline data for conservation monitoring. Although the values and understanding of local people may not necessarily align directly with those of scientists (Lepczyk, 2005) but the input of community perspectives can enhance conservation projects as well as gaining valuable data (Lepczyk, 2005; Oba, Byakagaba, Angassa, Roba and Oba, 2009; Weckel, Mack, Nagy, Christie and Wincorn, 2010). For example, data gathered from indigenous herders in Kenya was based upon their practical use of the areas rather than with biodiversity in mind, yet this was identified as a valuable tool in the future long term monitoring of biodiversity (Roba and Oba, 2009). Despite the associated advantages of this approach however, it is yet to have been adopted widely as a tool for gathering of biological data (Sheil and Lawrence, 2004).

Similar to the management of natural resources as described above, engagement with diverse groups is now being increasingly considered as essential for wildlife conservation on the landscape (Vos, Verboom, Opdam, and TerBraak, 2001) in both more and less developed countries. Rather than protecting species and habitats on a site-by-site basis, governments, researchers and conservation organization now acknowledge the value of protecting networks of interlinked sites as habitat for wildlife (Cox and Underwood, 2011). In order to achieve this sustainably, stakeholders such as local landowners, businesses and community members must be successfully engaged and in support of the approach (Wiens, 2009), and the requirements of wildlife conservation must be balanced with the socioeconomic and other needs of the people who live and work within the landscape (Henson, Williams, Dupain, Gichohi, and Muruthi, 2009). This may be approached through habitat management incentives (Sanchez-Clavijo, Arbelaez-Alvarado, Renjifo, 2008; Prager, Reed, and Scott

2012), or by a focus on certain species or tax such as butterflies (Jeffcoate and Joy, 2011) or birds (Dallimer, Hanley, WIlson, Gaston and Armsworth, 2009).

In Europe, North America and Australia, participatory approaches increasingly rely on engagement with communities and other stakeholders for wildlife management decision making (Chase, Decker and Lauber, 2004; Decker, Carpenter, Organ, and Schusler, 2005; Cooper *et al.*, 2007 and Reed, 2008). These approaches may be driven by human-wildlife conflicts such as adverse effects on ecotourism caused by bears in the US (Lafon, McMullin, Steffen; Schulman, 2004, Burkardt and Ponds, 2006) or by dingoes hi Australia (Burns and Howard, 2003) or for conservation such as the management of deer in the UK and Australia (Decker, Raik, Carpenter, Organ, and Schusler, 2005; Austin, Smart, Yearley, Irvine, and White, 2010). Various groups of people may be affected by management decisions and participatory decision-making aims to reduce conflict by empowering these different stakeholders. For successful outcomes, interdisciplinary approaches that promote communication and learning throughout are recommended (Chase, Decker, and Lauber, 2004; White and Ward, 2010).

Participatory approaches for other types of environmental decision-making have been widely investigated, such as within the EU Water Framework Directive (Wright and Fritsch, 2011), and building multi-level resilience to enable adaptation to environmental change in Kenya (Robinson and Berkes, 2011). As a result of these studies, a large number of models and recommendations have been made for good practice (Reed, 2008). If these approaches are designed and conducted in a way that truly empowers stakeholders through the decision making process, then it is acknowledged that collaboration with stakeholders can enhance environmental outcomes and support for decisions made (Powell and Colin, 2008; Reed, 2008; Robinson and Berkes, 2011).

2.3.7.1 Understanding Engagement

Much of the early work builds upon Arnstein's (1969) ladder of participation, a typology describing the shifts in empowerment for organizers and participants through traditional 'top-down' (e.g. passive transfer of information, termed 'manipulation) to 'bottom-up' (e.g. driven by the participants, termed 'citizen control) approaches. This model suggests that only 'bottom-up' approaches constitute true participation, where empowerment fully lies with participants. However more current theories have suggested a range of frameworks for understanding participation, and have challenged the dichotomous nature of a two dimensional ladder approach, suggesting that true participation can occur at a variety of levels (Pretty, 1995; Lawrence, 2006; Reed, 2008). This is particularly relevant for initiatives that seek to encourage participation through citizen science, because where this approach would have been viewed traditionally as 'top-down' or extractive, therefore with little empowerment or benefits to participants themselves, it is now understood that engaging with nature through citizen science can bring individual and community-level benefits for participants (Pretty, 1995; Lawrence, 2005; 2006). An individual's engagement with nature and the benefits gained by it are personal, and therefore difficult to broadly define. With respect to engagement with nature of people living in more developed countries; Pretty *et* al., (2005) identified three levels:

i. Viewing nature - as through a window, or in a painting;
ii. Being in the presence of nearby nature - which may be incidental to some other activity, such as walking or cycling to work, reading on a Garden seat or talking to friends in a park; and
iii. Active participation and involvement with nature - such as gardening, farming, trekking, camping, cross-country running or horse-riding.

However, for initiatives seeking to engage with individuals and communities, activities such as cross country running or horse-riding, as defined in (iii) above may not be considered as active engagement with nature, rather an extension of being in the presence of nature as in (i) and (ii). Although the most active levels of engagement are likely to be most beneficial - and most measurable in terms of external benefits such as data collected or physical benefits for wildlife, engaging with nature on any level may benefit participants, particularly in terms of health and wellbeing as described above (Lawrence, 2006).

The ways in which people engage with nature will also affect their motivations to participate hi environmental activities. Research into practical environmental volunteering has found several key motivating factors for participants becoming and staying involved with conservation tasks. As well as the physical and mental well-being benefits of spending time outdoors (O'Brien, Townsend, and Ebden, 2010), important motivators include 'giving something back': either to the environment (Weston, Fendley, Jewell, Satchell, and Tzaros, 2003); to the locality (Lawrence, 2006) or to the community (Measham and Barnett, 2008). Social benefits (Hibbert, Piacentini, and Dajani, 2003; Bruyere and Rappe, 2007; Measham and Barnett, 2008; O'Brien, Townsend, and Ebden, 2010), and learning (Bruyere and Rappe, 2007), and its associations with career progression (Lawrence, 2006; O'Brien, Townsend, and Ebden, 2008) are also known to be important factors.

2.3.7.2 Barriers to Engagement with Nature

Globally, urbanization is increasing at an unprecedented rate, with approximately74% of citizens in developed countries living in urban areas, compared with 3% in the early 1800s (Population Ref Bureau, 2010). Through the process of urbanization, natural habitats are removed and fragmented, and pollution and disturbance caused by people, buildings and traffic can render the built environment unsuitable for many wildlife species (McKinney, 2002; Parris, 2006; Baker and Harris, 2007; Gledhill, James and Davies, 2008). The process

of urbanization also leads to changes in culture due to the increasing distances between people and nature (Katcher and Beck, 1987). Opportunities to encounter wildlife can be limited as many of the residential areas of large cities typically contain lower levels of biodiversity (Turner, Nakamura, and Dinetti, 2004), giving urban residents fewer opportunities to encounter nature close to their homes. Cultural factors may also play a significant role. For example, children playing in natural settings is becoming increasingly rare as they spend relatively more of their time indoors (Fjortoft and Sageie, 2000), which has been attributed to factors such as the perceived dangers of outdoor play (Bufdette and Whitaker, 2005). Lower rates of encounter with nature may lead to lower levels of engagement for many people and therefore as a knock-on effect, the social and ecological benefits of interactions with nature are likely to be reduced.

2.3.8 Participation in the UK

In the UK, the voluntary sector is considered to play a key role in the delivery of many government services (O'Brien, Townsend, and Ebden, 2008). For example, it was estimated that in 1995, 70% of the 60,000 individuals contributing to biological record collection in the UK did so on a voluntary basis (Burnett, Copp, and Harding, 1995) and this number is thought to have grown considerably since then (Bell et al., 2008).

In response to the growing distance between people and nature, and in reflection of the benefits of involving volunteers in environmental activities, the UK government has directed a significant proportion of funding streams towards initiatives that encourage public participation and engagement (Silvertown, 2009). The health and wellbeing benefits of walking and cycling for health in natural settings are promoted through schemes such as the NHS initiative Walking for Health (Walking for Health, n.d), and the National Cycle Network, which promotes scenic and traffic-free cycle routes (Sustrans, n.d). The importance of high quality parks and informal green spaces is acknowledged in terms of health and

wellbeing for individuals, but also for environmental, economic and community health (CABE, 2004, 2005).

It is clear that citizen science schemes should be inclusive to all societal groups in order to maximize both ecological and social benefits. However, a profile of practical environmental volunteers suggests that there is a bias in the types of participant currently involved, with white, middle class people of retirement age being most likely to participate (Trumbull, Bonney, Bascom, Cabral, 2000; Burningham and Thrush, 2001; Pope, 2005, O'Brien, Townsend, and Ebden, 2008). The profile of citizen science participants specifically is not well understood, however it is likely that a similar bias may also exist in this group (Trumbull, Bonney, Bascom and Cabral, 2000; Toms and Newson, 2006).

In response to this bias, there is increasing emphasis on inclusivity in environmental activities in the UK. Many participatory programs target ‘hard to reach groups (people living in socioeconomically deprived areas and ethnic minorities) in order to strengthen participation networks (Ellis and Waterton, 2004), and include diverse volunteers to aid community development and individual well-being as well as species conservation (O'Brien, Townsend, Ebden, 2008). In recent years, a number of initiatives have been launched in the UK with the aim of encouraging local communities to engage with and learn about the wildlife that surrounds them.

The Open Air Laboratories network (OPAL) is an example of one such initiative. OPAL is an England-wide partnership project which brings together scientists, natural history enthusiasts and the public through wildlife recording and other nature-related research and activities, working to five key objectives (Davies *et al.*, 2011; OPAL, n.d)

1. A change of lifestyle - a purpose to spend time outside observing and recording the world around us

2. An exciting and innovative educational programmed that can be accessed and enjoyed by all ages and abilities
3. A new generation of environmentalists
4. A much greater understanding of the state of the natural environment
5. Stronger partnerships between the community, voluntary and statutory sectors.

CHAPTER THREE: THE STUDY AREA AND METHODOLOGY

3.1 INTRODUCTION

This chapter deals with the study area, its location, physical, cultural features, and economic activities of the people. The chapter also deals with methodology of the research.

3.2 THE STUDY AREA

3.2.1 Location and Size

Kamuku National Park is located North-west part of Birnin-Gwari, which is 120 km from Kaduna. The park lies between latitudes 10^0 40' N and 11^0 05' N and longitude 6^0 11' E and 6^0 36' E covering area of 1,120 km. (See Figs. 3.1 and 3.2).

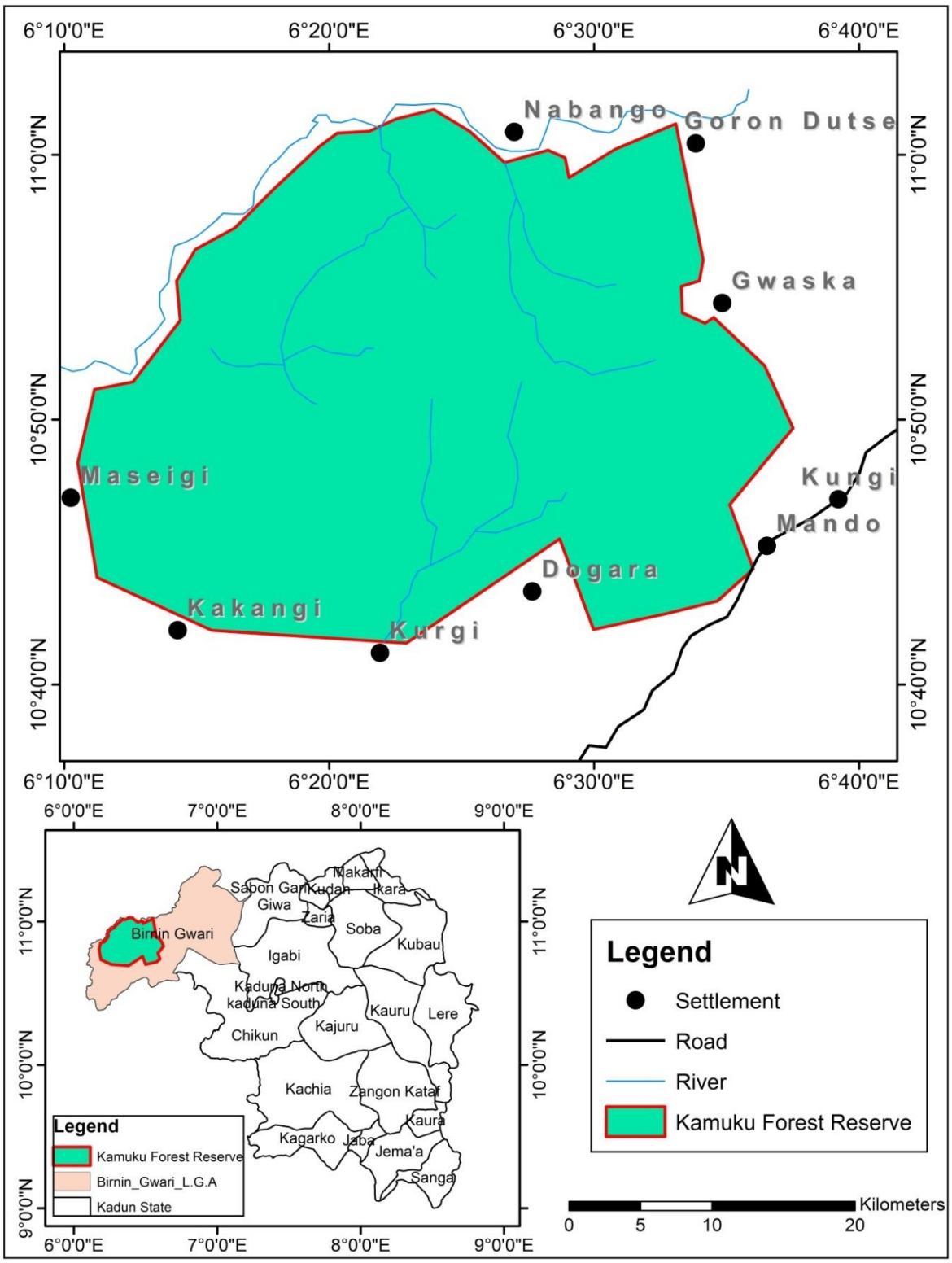


Figure 3.1: Kamuku National Park
Source: Adapted from Kaduna State Administrative Map

3.2.3 Climate

The Park lies within the Northern Guinea Savanna Zone. The mean annual rainfall for Birnin Gwari is 1250 m. The rainy season is between April and October, when the prevailing wind is from the Southwest. The dry season lasts from November to March, where the prevailing wind is from the Sahara known as the Harmattan. Temperatures are moderate (30°C - 35°C) and humidity is high. The temperature range for much of this area is between 30°C and 35°C, with temperatures normally rising hi March/April to 42°C.

3.2.4 Topography and Drainage

Kamuku National Park lies on rolling to gently undulating plain to the north and west into the Mariga River valley. The eastern part is both higher in elevation (averaging 470m) and more variable in topography than the western area (averaging 450m). The highest elevation is found in the South-East of the reserve at Dutse-Bugai, where a granite inselbergs rises above the surrounding country to 519m. The lowest elevation (380m) occurs in Mariga River valley on the South-West boundary.

The Mariga River and its tributaries, river Kuzomani is flows to the north and west and River Ukinkina to the south are the main drainage channels in the reserve. The main drainage direction is North, North-west. All streams and rivers are seasonal, ceasing flow early in the dry season. Kuzomani River retains pools at the lower reaches while there is still some subsurface flow in Mariga River. There are three small earth dams in the reserve. The one close to Kuzomani patrol post retains water throughout the year; the other two have silted significantly. They were built to provide water to the animals during the dry season particularly when the stream dries up.

3.2.5 Geology

Kamuku National Park lies within the basement complex region of Nigeria. The Whole area is characterized by numerous and sporadic occurrences of geological units made

up of coarse porophritic biotite granite of the older granite suite, quartzite, biotite hornblende granite gneisses, coarse grained and augen gneisses and migmatites. Little weathering of underlying rock has taken place.

3.2.6 Soils and Vegetation

The soils are shallow ferruginous loams and clays with areas of overlying laterite. The average weathered zone is less than 20m, with underlying basement rock frequently outcropping at the surface. The vegetation is Northern Guinea Savannah but in some places, some transitional Sudan savannah elements occur (Chettleborough, 1995). Dominant trees species of the park include Isoberlinia Doka (*Doha*), umbrella tree (Terminalia), Avicennioides and Detarium, Macrocarpum (*Taura*). Also common are Danellia Oliveri (*Maje*), Nauclea latifolia (*Tafashiya*), Acacia spp (*Gawo*),Lophiralanceolata (*Namijin Kade*), Parkia biglobosa (*Dorowa*), Prosopis Africana (*kiriya*) and Isoberlinia tomentosa (*Farandoka*), Elaeis guineensis (*kwakwa*) are common in riparian forest along seasonal rivers. Together with the forest reserves in this area, the park represents one of the best remaining blocks of Sudan-Guinea Savannah vegetation in the country.

3.2.7 Population and Socio-economic Activities

There are two major tribes in the park, the Gwaris and Kamukus. The major socio-economic activities of the people in the area is farming because they inherited it from their parent and they have available vast land suitable for agriculture although they are also pastoralist, expert craftsmen, weavers, traders, blacksmith and pottery makers.

3.2.7 Biodiversity

There are 177 species of birds recorded in the park (Marguba, 2002). The park is also important for such species as Secretary Bird (*Sagittarius Serpentarius*), Denham's Bustard (*Neotis denhami*) and Buccorrus (*abyssinicus*), all now uncommon elsewhere in the country.

Small and viable populations of African Elephant (*Giwa*) (Loxodonta Africana), Roan Antelope (*Gwanki*) (Hipporagus, Equins), Redunea redunca (*kaji*) and Western Hartebeest *(kanki*) (Alcelaphus buselaphus) occur as do small numbers of Lion (*zaki*) (panther leo).

3.3 METHODOLOGY

3.3.1 Reconnaissance Survey

The first phase involves the reconnaissance survey and categorization of the different stakeholders in the Park Management. This was the first activity that was carried out in the area which made the researcher to be acquitted with the environment. During this activity the location of the park and community around the park were known to the researcher. The work of the staff and the department of the park were also known to the researcher and the economic activities of the people of area were also known to the researcher.

3.3.2 Types of Data Required

In line with the stated objectives, information needed on this study include data on:

i. Characteristics of communities in the study area
ii. Activities of community associations around the park.
iii. Community attitudes towards park conservation
iv. Nature of community involvement in the conservation of the park.
v. Effects of community involvement in the park conservation
vi. Challenges of community participation in the conservation of the park

3.3.3 Sources of Data

3.3.3.1 Primary Source

The Primary data for this study were obtained from three main sources: questionnaire administration, focus group discussion, interviewing the key informants. Focus group discussion was conducted with ten discussants consisting of representatives the communities'

leaders, management of the park, and community association as well as tourists. Interview was conducted with the official in charge of the management of the Park as key informant.

3.3.3.2 Secondary Source

The Secondary data for this study were obtained from library, journals, dissertation, thesis, projects, internet and other published materials documents found in office files and were used as reference materials.

3.3.4 Sample Size and Sampling Technique

Varying number of communities association around Kamuku National Park were identified and used as the sample frame for this study. The surveyed carried out during reconnaissance, indicated that communities differ in their population, nature and number of community association. On the basis of this the following communities/localities were purposefully selected in this study. The selected localities includes; Bugai, Kakangi, Doka, Kungi, Goron-Dutse, Mashigi, Gwaska, Nabango and Mando. The above mentioned localities have a total population of 12,503 people (NPC, 2009). This figure was therefore used as the study population.

Krejcie and Morgan (1970) method of determining sample size was used, where population size of 10,000-14,999 will be represented with a sample size of 370 at 5% margin error and 95% confidence level. The number of questionnaire administered in each community is presented in Table 3.1.

Table 3.1 Distribution of Questionnaire to Respondents

Communities	1991	2006 Projections	2013 Projection	Number of Respondents
Bugai	416	596	680	20
Kakangi	691	991	1131	33
Doka	2973	4233	4821	143
GoronDutse	716	1020	1162	34
Gwaska	524	749	850	25
Mando	449	644	729	22
Kungi	910	1300	1477	44
Nabango	491	699	797	24
Mashigi	526	749	856	25
Total			**12,503**	**370**

Source: Compiled by the Author, 2013

In selecting respondents at each locality a systematic random sampling method was employed.

3.3.5 Data Analysis

The quantitative data were analyzed descriptively using Statistical Package for Social Sciences (SPSS version 20) and results presented in the form of tables, pie charts and bar charts while the qualitative data from focus group discussion were summarized and presented in statement format.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter discussed the analysis of data collected from the field on community participation in the management of Kamuku National Park, Kaduna and presented in the ensuing paragraphs below.

4.2 Demographic and Socio-Economic Characteristics of Respondents

4.2.1 The Age, Gender and Educational Background of Respondents

Table 4.1 presents the distribution of respondents by age and gender as well as their educational level. The table shows that majority of respondents (93.8%) was found to be male against their female with (6.2%). The reason for high percentage of male respondents was as a result of their culture which made the female difficult to access and most of the members of communities that contribute to the park management are male. The age bracket indicated that majority (42.2%) are between 30-39 years, followed by (25.7%) for 20-29 years. The proportion of those within the range of between 40-49 years, 50-59 years and 60 years upward accounted for 18.4%, 8.4% and 3.5% respectively. While those that are below the age of 20 years was found to be (1.8%). This goes to shows that the communities members that participate in the management are within their active age and most of the active association members are also within the same age category. The reason for having the age ranges of 60 and above to be minority because these ranges were old people so they have less impact on the park.

Furthermore, it is also presented in the table that the majority respondents were found to be those with no formal education which accounted for 34.1%, followed by 27.6% for secondary, 26.8% for primary, while 11.7% are those with tertiary educational qualification. The reason for having people with no formal education was because there were no rules or

regulations set aside by the park management regarding the educational requirement before individual can participate in the park management.

Table 4.1: Socio-demographic Characteristics of the Respondents

Gender Differences	**Frequency**	**Percentage**
Male	347	93.8
Female	23	6.2
Total	**370**	**100**
Age of Respondents		
Less than 20 years	7	1.8
20-29 years	95	25.7
30-39 years	156	42.2
40-49 years	68	18.4
50-59 years	31	8.4
60 years and above	13	3.5
Total	**370**	**100**
Educational Qualification		
Primary	99	26.8
Secondary	102	27.6
Tertiary	43	11.7
No formal education	126	34.1
Total	**370**	**100**

Source: Field Survey, 2014.

4.2.2 Occupation of Communities around the Park

Figure 4.1 presented the major occupation of peoples living in communities around Kamuku National Park. The figure shows that the main occupation of communities around Kamuku National Park is farming constituting about 80.8%, followed by trading with 8.4% while fishing, blacksmithing and others accounted for 3.0%, 5.4% and 2.4% respectively.

The higher percentage of farming as their major occupation was because they inherited it from their parents and in northern Nigeria, the rural community mostly depends

on farming as their major source of livelihood because of the availability of large land area suitable for farming. However, some members of these communities engaged themselves in grazing, trading, blacksmithing, fishing and other activities to earn their living.

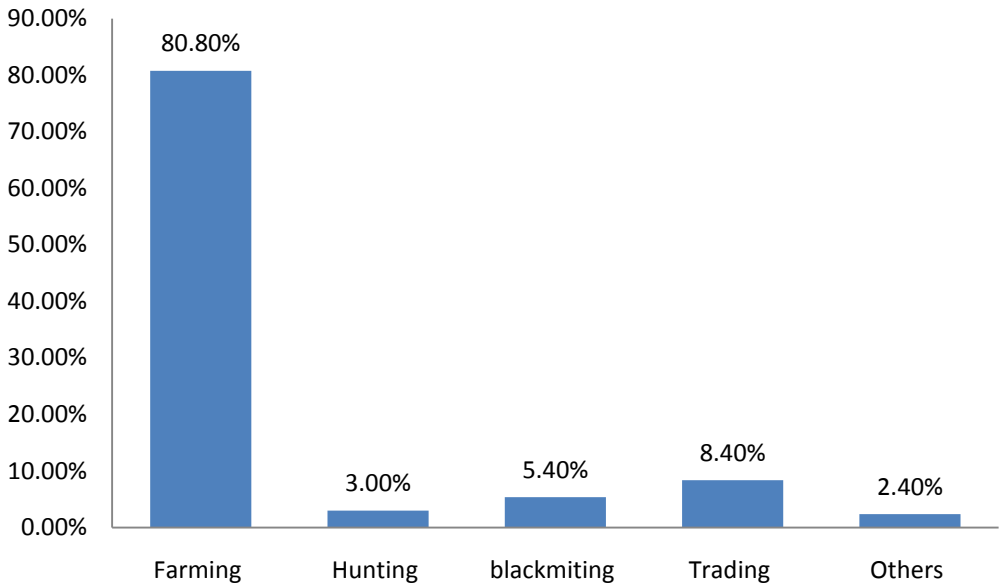


Figure 4.1: Occupations of the Communities around the Park
Source: Field Survey, 2014.

4.3 The Various Categories of Community Association around Kamuku National Park

4.3.1 Types of Community Association around the Park

Figure 4.1 present information on the different types of community associations around Kamuku National Park. The figure indicates that, as at the time of survey, Vigilante and ex-hunters club was found to be the major association in communities around Kamuku National Park having about 52.2% because in Kamuku Park these association help a lot in the safeguarding of the park, some time armed robbers used the park as their passage and some time as their hide out when they committed offence and park rangers cannot enter the park until when these people survey the park and make sure is safe for rangers to enter into the park and sometime the grazers take it as their advantage for them to graze safely followed by student conservation clubs with 26.2% the student does not participate actively in the conservation, they only participate in the area of conservation education and sensitization.

The figure further revealed that farmers club had 13.0% these associations participate in complying with the park rules regarding its park boundaries so as to avoid encroachment, and 6.2% for Birnin-Gwari concern citizen association, while others constituted for 2.4% and these association are not participating in the real protection mostly they report or give information on suspicious activities. The higher percentage for the involvement of vigilante and ex-hunters in the management of Kamuku National was as a result of serious insecurity in the area.

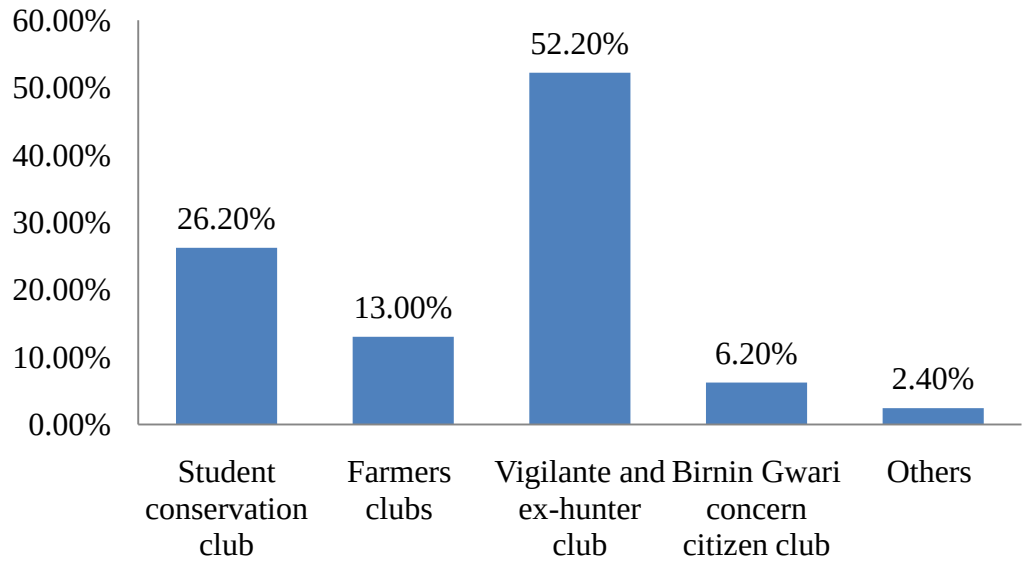


Figure 4.2: Type of Associations in the Communities around the Park
Source: Field Survey, 2014.

4.4 Contribution of Community Association in the Management of Kamuku National park

4.4.1 Community Association Contribution

Table 4.2 present the information on the communities' contribution to the park management. The figure indicated that giving information to park management is the major contribution communities give to the park management with 50% because of the nature of the

work and government policy attached, most of the work required by the park from the communities is usually information about the encroachers, grazers and mostly whenever the robbers enter the park the information is always gotten from the communities or if anybody coming from any place to enter the park, followed by agent with 15%. Some members of the communities were employed by the park to be their agent or informant and they reported cases to park on any suspected move or activities is observed or noticed. Historical site with 20%, it was also found out that the communities contribute to the park in the area of historical site, when tourist visited the park there are some historical site in the communities which the communities helped to accompany the tourist while conflict resolution with 15%, if there is conflicts between the park management and the community, the communities leader interfere and in order to resolve the conflict.

Table 4.2 Communities Contribution in the Management of Kamuku National Park

Effect of Contribution	**Frequency**	**Percentage**
Giving information	185	50
Agent (informant)	55.5	15
Historical site	74	20
Conflict resolution	55.5	15
Total	**370**	**100**

Source: Field Survey, 2014.

4.4.2 Effect of Communities contribution in the management of Kamuku National Park

Table 4.2 entails information on the effect of communities' contribution in park management. The table shows that majority of respondents 35.7% in communities around the park said that their contribution to the park management helped in reducing the rate of trespassing activities in the park, followed by 23.5% who helped to reduced vandals. It is also indicated in the table that, shares of 29.7% and 10.0% said their contributions to park management have also helped in reducing the rate of poaching and grazing respectively.

While a substantial share respondents amounting to 1.1% had contributed to the successful management of the park using other means.

The study shows that the higher proportion of reducing trespassing among communities is perhaps due to continue awareness brought to the people (members) in the communities and the consequences of such act.

Table 4.3 Effects Communities Contribution in the Park Management

Contribution	Frequency	Percentage
Reduced Poaching	110	29.7
Reduced Vandals	87	23.5
Reduced Trespassing	132	35.7
Reduced Grazing	37	10.0
Others	4	1.1
Total	**370**	**100.0**

Source: Field Survey, 2014.

4.5 Communities Participation Level in the Management of Kamuku National Park

4.5.1 Level of Communities Participation in the Management

Figure 4.2 present the distribution of respondent by level at which the communities participate in the management of Kamuku National Park. The figure revealed that majority of the respondents in the communities 73.5% participate at the level of given information, followed by 14.9% participate at the level of enlightenment process, the figure also revealed those who participate at the level of decision implementation and policy implementation to be 6.2% and 3% respectively. The high proportion for the communities to participate at the level of giving information was as a result of the nature of the work and the government policy which made more suitable to participate at that level.

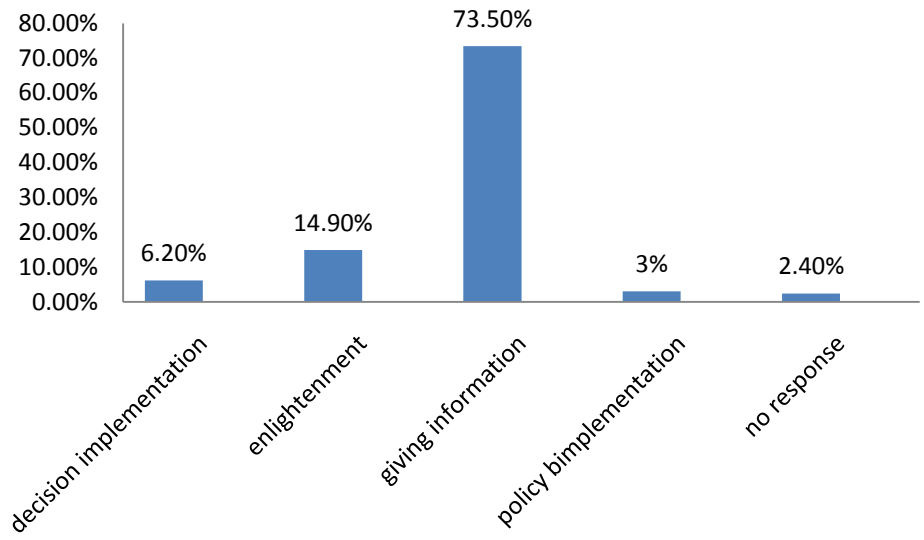


Figure 4.3 Level of Communities Participation
Source: Field Survey, 2014

4.5.2 Means by which Communities Communicate to the Park

Table 4.3 shows the distribution of respondents by means of communication between the park and surrounding communities. The table shows that majority of respondents 33.2% do communicate with the park management through the various community leaders, followed by 32.2% for those used informant as their communicating means. The proportion of those communicates through the staff indigenes in the community constituted for 18.6%, while 8.1% and 4.9% can communicate direct to the park officials and for other means respectively. This may justify the fact that, the park officials consider community leaders as the most important personality in the area and whenever there is an issue the park management in return communicates with the leaders first before the community members.

Table 4.3 Means by which Communities Communicates to the Park

Means of Communication	Frequency	Percentage

Through the community leaders	123	33.2
Through the staff indigenes in the community	69	18.6
Direct to the park officials	30	8.1
Through the informants	119	32.2
Other means	18	4.9
No response	11	3.0
Total	**370**	**100.0**

Source: Field Survey, 2014.

4.5.3 The Time Sequence for Communities Input in the Management of Kamuku Park

Figure 4.4 shows the distribution of respondents by time to seek communities input by the park. The figure shows that majority of respondents 45.7% considering the time for making input to improve the park management to be occasional, followed by 27.6% for irregular, while 22.2% seems it as regular. The figure also indicated the proportion of 4.6 % who had not responded to the question. The lesser share of 22.2% for regular is perhaps related to the bureaucratic nature of formal organizational setting which limits the rate of non-staff involvement into the management affairs of government establishment.

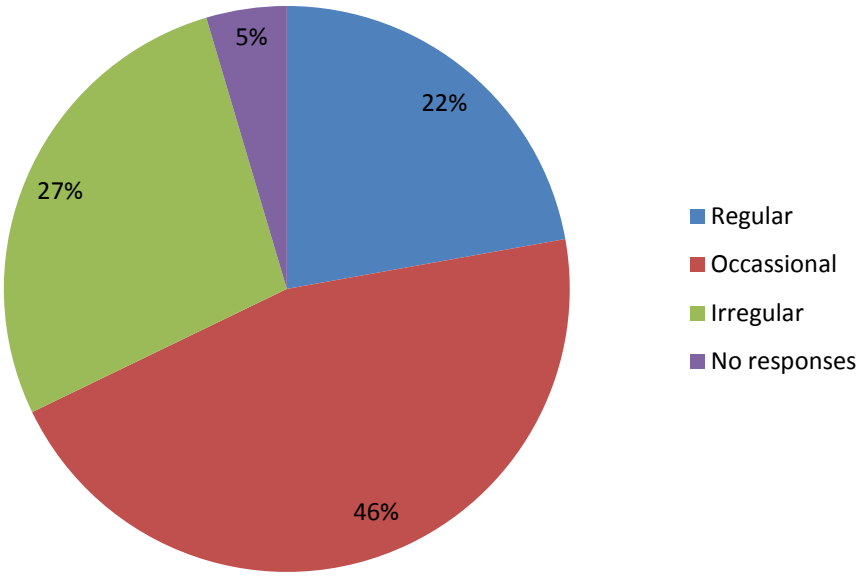


Figure 4.4: Needs of Community Input in the Improvement of Park's Security
Source: Field Survey, 2014.

4.5.4 Conducting of Conservation Programs around Communities

Figure 4.5 shows the view of respondents on whether the park used to conduct any conservation programs in communities around the park. The figure shows that majority of respondents 32.2% believe that the park runs conservation education programs in surrounding communities, followed by 38.4% who were not agree, while 26.2% not sure. Also in the figure 3.2% of respondents have not responded to the question. This justify the facts that the conservation education program organized by the park held at schools level and hence take care of mostly the school age population rather than the entire community.

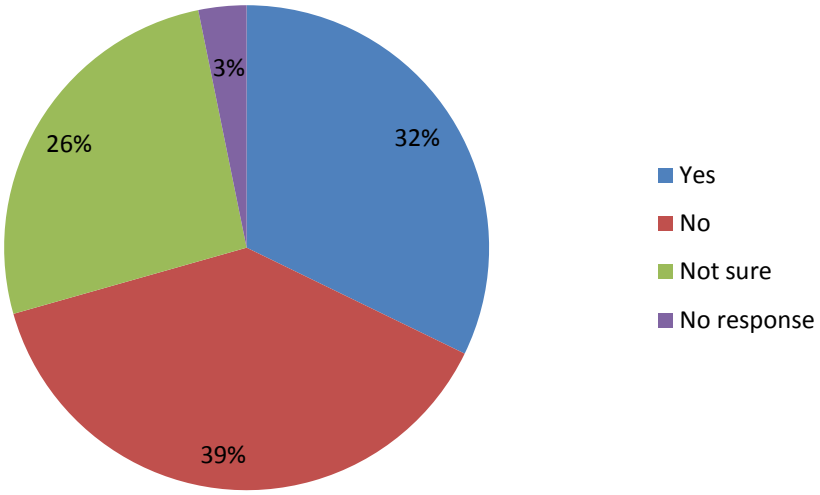


Figure 4.6: Conservation Education Program in the Communities around the Park
Source: Field Survey, 2014.

4.5.5 Means of Conducting Conservation Education Programs around Communities

Figure 4.6 reveals the information on how the park carried out programs in communities around the park. The figure indicates that most respondents 51.1% viewed that the conservation program is carried out at school level, followed by 27.0% for the whole community. Also in the figure are shares of 0.5%), 17.3% and 4.1% for house to house, neighborhoods level and others respectively.

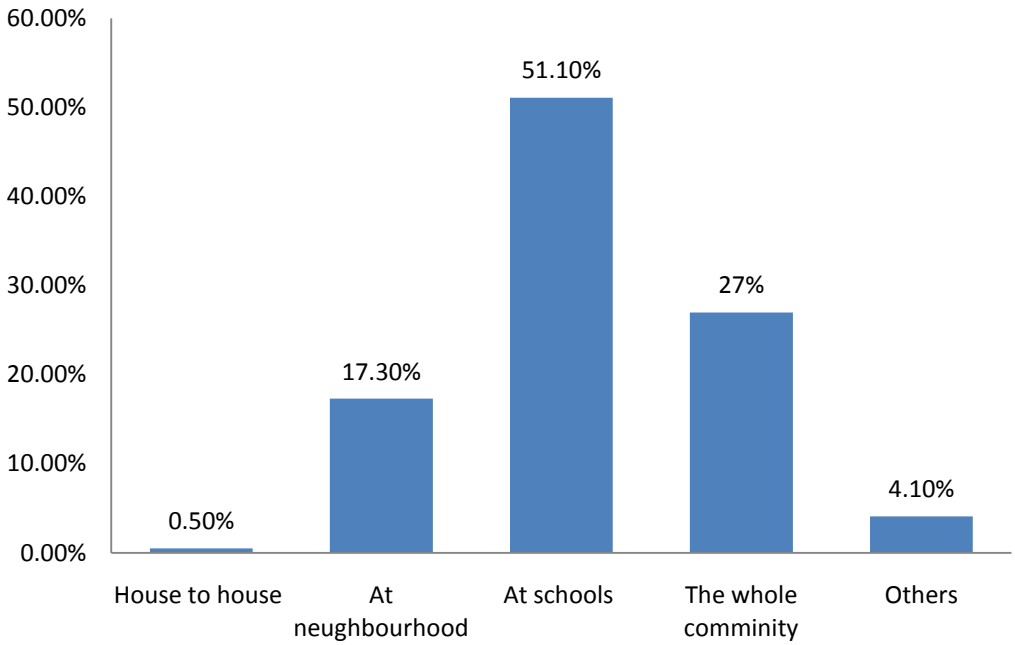


Figure 4.7: Means of Carrying out Conservation Program in Communities
Source: Field Survey, 2014.

4.5.6 Means of Rewarding Communities by the Park

Table 4.4 presented information on the various means by which the park used to rewards community's efforts. The table indicated that majority of respondents 36.8% agreed that the park does employed their members as part of rewards to community efforts, followed by 22.2% for the execution of development projects like in Dagara the park produced and donated 40 units of classroom furniture to local education authority Dagara. It is also presented in the table that provision of social amenities accounted for 21.9% in Zaman, Dagi and Rema communities park constructed culvert for them to ease their transportation, while 4.9% and 11.1% stand for issuing of stipends i.e. money but the amount was not disclosed and provision of relief materials respectively. More so, the table revealed 3.2% of respondents who did not disclose the information to the researcher.

This is in line with the statement of an indigene member at Doka community

> "*I can tell you that, no body is benefiting with this park more than the surrounding communities as most of the rangers if not all were our sons and daughters who earns living successfully. This has also reduced to the barest minimum of other social vices in our communities."* Mal Ibrahim *(*Dakacin Doka*)*

Table 4.4 Means of Rewarding Communities by the Park

Communities Rewards	**Frequency**	**Percent**
Issuing of stipends	18	4.9
Provision of relief materials	41	11.1
Execution of community development projects	82	22.2
Employing community members in the park	136	36.8
Provision of social amenities	81	21.9
No response	12	3.2
Total	**370**	**100.0**

Source: Field Survey, 2014.

4.5 Constraints to community participation in Kamuku National Park

4.5.1 Challenges Facing Communities in the Management of Kamuku National Park

Figure 4.8 shows the factors that hinder community efforts in the management of Kamuku Park. The figure shows that most of the respondents constituting about 43.5% considered poor sensitization and mobilization as the main constraints hindering the successful management of Kamuku National Park because with all the park management

effort towards sensitizing and mobilizing still some members of the communities are not fully aware on the importance of protecting biodiversity in the park, followed by 29.7% for poverty which some of them taught that poverty have retard they effort and can't do without the park resources. It is also revealed in the figure that Bureaucracy had a share of 19.2% some believed that due process have made their efforts to be reluctant, while 7.6% for time and nature of the work, some portion of the community members said that the time taken and the nature of conservation work have also affect their efforts.

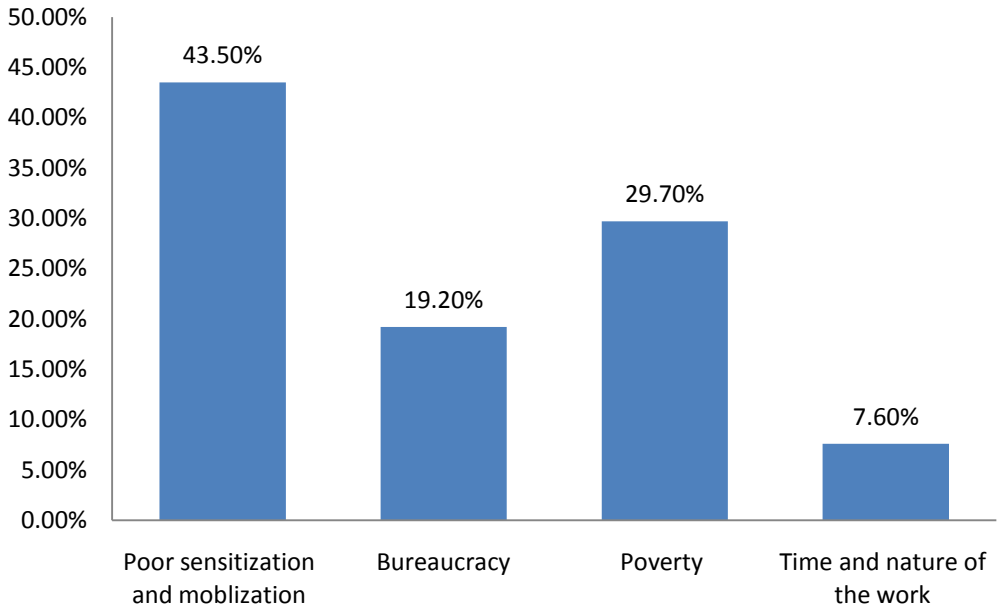


Figure 4.8: Communities Challenges in the Park Management
Source: Field Survey, 2014.

4.5.2 Limitation of Communities Association in the Management of Kamuku Park

Figure 4.9 shows the distribution of respondents by limitation of communities association in the management of Kamuku Park. The figure indicates that most of the respondents 31.9% had less recognition as major limitation to community association to the park management because they believed that the park is not given them good attention by providing them with what they want, followed by 27.3% for low awareness and some believed that low awareness by the members have limited their participation. Furthermore, the figure revealed inadequate man power, low interest and others which accounted for

18.1%, 20.1% and 2.2% respectively. Finally it was found out that low manpower and low interest among the members have also limited the community association efforts.

This result is contrary to a statement obtained during interview which indicates that;

> "*the major limitation to community participation in the management of kamuku national park are low funding and bureaucracy*" Ambi (SPI)

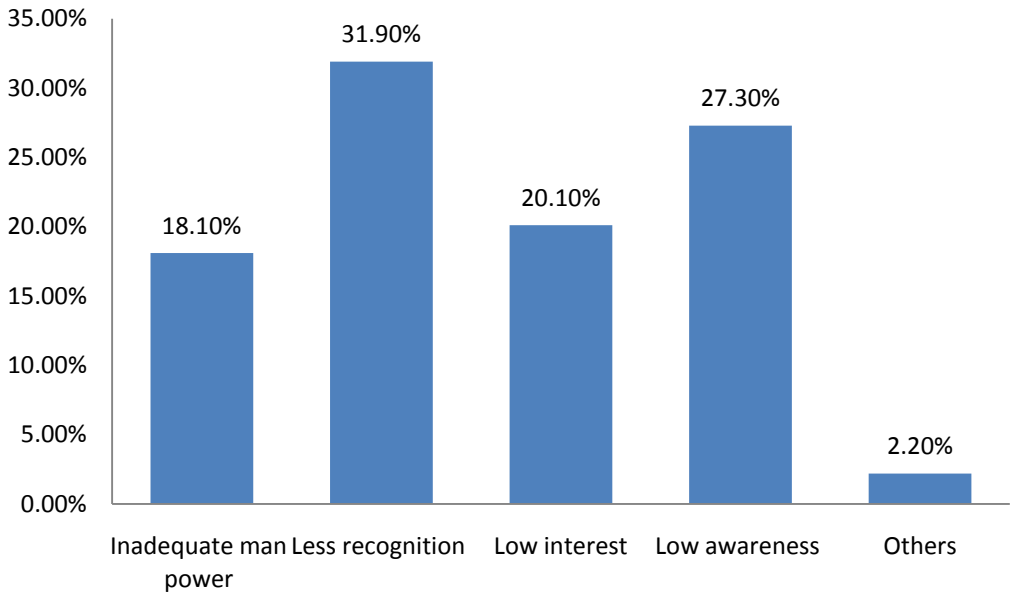


Figure 4.9 Constraints to Communities' Participation in the Park Management
Source: Field Survey, 2014.

4.5.3 Major Threats Considered by the Communities in the Park Management

Table 4.4 shows the factors identified by the communities as threat to park management. The table indicates that majority of respondents 36.2% considered grazing as the major threat to sustainable management of Kamuku National Park because the neighbouring communities believes that the vegetation of Kamuku National is good for the animal to graze on and some of them said it make their animals to grow and reproduce so quickly and also source of water for their animals i.e. why the communities considered

grazing to be the major threat to park resources, followed by poaching with 34.3% it was also found out that poachers are threat to park resource because of these poachers have sophicipicated weapon which they use to attack animals and sometime even rangers in the park, and exploitation of fuel wood and trapping of bees 23.2% it was also found out fuel extraction and trapping of bees are among the threat to park resources and fishing 2.2 % was also among the threat but just very small because most of the rivers in the park are seasonal rivers while 4.1% did not disclose information to the researcher.

The higher proportion for grazing has met up with the park management view that;

> "*Grazing is the major threat to biodiversity of Kamuku national park base on the record of arrest made in the park"*
>
> Park Prosecutor

Table 4.4 Threats to the Management of Kamuku Park

Major Threat	**Frequency**	**Percentage**
Grazing	134	36.2
Poaching	127	34.3
Exploitation of fuel wood and bees trapping	86	23.2
Fishing	8	2.2
No response	15	4.1
Total	**370**	**100.0**

Source: Field Survey, 2014.

4.5.4 Communities Feeling on Park Response to their Efforts in Park Management

Figure 4.9 entails information on communities perception regards to park responses on efforts made by community associations. The figure reveals that majority of respondents 43.8% were opined that the mode of responding to communities efforts by the park is less

appreciative, followed by 26.8 who consider it as appreciative Also in the figure are proportion of 7.3%, 17.8% and 4.3% for well appreciative, unappreciative and No response respectively.

This is perhaps related to the fact that communities places high expectation from the park, especially in monetary terms. This however, contradicts the lamentation that;

> "*our major concern on the neighbouring communities as rewards to their community's efforts are to provide employment for their indigene, carryout some social responsibility" ambi*

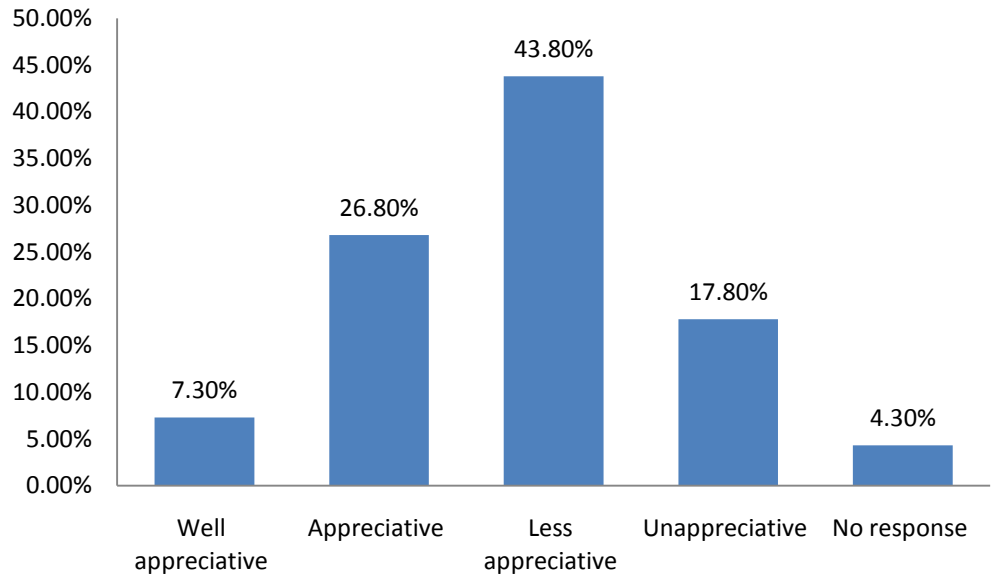


Figure 4.9: Communities Perception on How Park Official Response to their Efforts
Source: Field Survey, 2014

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 INTRODUCTION

The purpose of this chapter is to give the summary of this research work. This chapter also gives the conclusion of this project write up. It finally gives the recommendations based on the findings of the researcher on the effectiveness of community participation in Kamuku National Park, Kaduna.

5.2 SUMMARY OF MAJOR FINDINGS

From the analysis the study discovered the following;

i. that the park have community association that helped in the management of Kamuku National Park which include: vigilante and ex-hunters clubs, student conservation clubs, farmers clubs, Birnin-Gwari concern citizen club and others
ii. Also the communities contribute to the management of the park in the area of information giving, serving as agent, historical site as well as in conflicts resolution
iii. Among the constraints to community participation as identified by the study are less recognition of the community by the park management, low awareness and interest on the part of the community and inadequate manpower.

5.3 CONCLUSION

The results obtained in this study show that the communities around Kamuku National Park (support zone communities) do participate in the management of park resources and community participation is one of techniques adopted by the management of Kamuku National Park in managing the biodiversity in the park as confirmed from the result of the study. The research found out that the participation of the communities in the

management of Kamuku National Park is relevant which helps in the management of the park in terms of reducing encroachers.

5.4 RECOMMENDATIONS

Based on the findings and conclusion made from this study, the researcher gave some recommendations that if considered and implemented will help improve the participation of the community in the management of Kamuku Park and lasting solution to some problems will be achieved.

i. More awareness should be created to the communities on the importance of nature conservation, and other opportunities outside what they have been benefiting from the park. This is recommended because; the value of participating in the management of the park should be made known to the public most especially the jobless citizens of the study area.

ii. There is need for the park management to enlighten the communities in terms of their funding status and policies concerning community involvement so as to make the communities understand that the park management is appreciating their efforts towards safeguarding the park.

iii. The Federal Government should provide grazing reserve areas for the herders and put in place the basic amenities needed for them. This will drastically reduced the rate of uncontrolled grazing in the park.

iv. The park management should create a task force consisting of the park rangers and members of community associations for carrying out joint patrol.

v. The government should provide adequate fund needed for training and recruitment of qualified personnel in the park.

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Appendix I: List of Acronyms

CDAs: Community Development Association

FME : Federal Ministry of Environment

FOA: Food and Agricultural Organization

GGNP: Gashaka Gumti National Park

IUC : International Union for Conservation of Nature and National Resources

KNP : Kamuku National Park

KNP-MP: Kamuku national park management plan

LGA: Local Government Area

NGO: Non-Governmental Organization

NPS: National Park

OPAL: Open Air Laboratories

PA: Protected Area

SZCs: Support Zone Community

UNDP: United Nation Development Program

UNESCO: United Nation Educational Scientific and Cultural Organization

US: United State

WCPA: World Commission on Protected Areas

Appendix II: Research Questionnaire

Department of Geography,

ABU, Zaria,

KadunaState.

I Ibrahim AbdulkadirWaziri with Registration No. 3822/2010-2011 is undertaking a research on Assessment of Community Participation in the Management of Kamuku National Park, Birnin-Gwari, Kaduna State at the Department of Geography Ahmadu Bello University, Zaria. I solicit your cooperation in filling in this questionnaire. The information you give will be strictly used for this research and treated with utmost confidentiality.

Tick as Appropriate

1. Sex. (i) Male ☐ (ii) Female ☐
2. Age. (i) Less than 2o years. ☐ (ii) 20-29 years. ☐ (ii) 30-39 years. ☐
   (iii) 40-49 years ☐ (v) 60 years and above ☐
3. Educational Qualification.
   i. Primary ☐
   ii. Secondary ☐
   iii. Tertiary ☐
   iv. No formal education ☐
4. What is the major Occupation of people in your community
   i. Farming ☐
   ii. Hunting ☐
   iii. Poaching ☐
   iv. Blacksmithing ☐

v. Others specify……

5. Are you aware of any protection or conservation association in your community

   i. Yes ☐

   ii. No ☐

6. What type of association do you have in your community?

   i. Vigilante and ex-hunters ☐

   ii. Student conservation club ☐

   iii. Birnin Gwari concern citizen ☐

   iv. Surveillance Group ☐

   v. Others (Specify)_____

7. State the level at which your community participates in the management of Kamuku national park?

   i. Administrative decision making ☐

   ii. Decision implementation ☐

   iii. Enlightenment ☐

   iv. Policing ☐

   v. Others (Specify)_____

8. What is the state of community association in your locality?

   i. Active ☐

   ii. Negligence ☐

   iii. Passive ☐

9. What does your community considered as the major threat against effective management of the park?

   i. Grazing ☐

   ii. Hunting ☐

   ☐

iii. Exploitation of fuel wood

iv. Fishing ☐

v. Grazing ☐

vi. Others (Specify)_____

10. What can your community association offer to support the successful operation of Kamuku national park?

_____

11. Which is the major duty or role played by your community association in relation to the management of kamuku national park

i. Report offenders ☐

ii. Arrest offenders ☐

iii. Enlightments ☐

iv. Others specify…….

12. How does your community contributes to the management of Kamuku Park?

i. Helped to reduce poachers ☐

ii. Drive away hunters ☐

iii. Reduced vandals ☐

iv. Reduced trespassing ☐

v. Reduced grazing ☐

vi. Others (Specify)_____

13. What is the response of the park management committee on your community efforts in the management of Kamuku national park

i. Well appreciative ☐

ii. Appreciative ☐

iii. Less appreciative ☐

iv. Unappreciative ☐

14. How frequent does the park management committee seek your audience on how to improve the management strategy in Kamuku national park

    i. Very often ☐

    ii. Often ☐

    iii. Not often ☐

15. Which one among the following factors considered to be the major weakness of your community association?

    i. Inadequate man power ☐

    ii. Less recognition ☐

    iii. Low interest ☐

    iv. Inadequate knowledge about the importance of the park ☐

    v. Others specify……

16. Which one among the following challenges confronting your community to participate in the management ofKamuku national Park?

    i. Poor sensitization & mobilization ☐

    ii. Bureaucracy ☐

    iii. Poverty ☐

    iv. Time/Nature of the work ☐

    v. Others (Specify)_____

17. Does the park management committee informed communities problem/threat that may arise at the park

    i. Yes ☐

    ii. No ☐

18. Does the park management carry out conservation education programs in your community

    i. Yes ☐

    ii. No ☐

19. How does the conservation education programs are carried out in your community

    i. House to House ☐

    ii. At neighbourhood ☐

    iii. The Whole village ☐

    iv. At schools ☐

    Others (Specify)_____

20. How does your community members earns rewards/benefits of their services from the park

    i. Issuing of stipends ☐

    ii. provision of relief materials ☐

    iii. Execution of community development projects ☐

    iv. Employing community members in the park ☐

    v. Provision of social amenities ☐

21. Does your community association relates with the park

    i. Through community leaders ☐

    ii. Through the staff indigene ☐

    iii. Direct to the park officials ☐

    iv. Through informants ☐

Other specify……..