APPRAISAL OF THE SUPPORT ZONE COMMUNITY PROGRAMME IN YANKARI GAME RESERVE, NIGERIA

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A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL AHMADU BELLO UNIVERSITY IN PARTIAL FULFILLMENT FOR THE AWARD OF MASTER OF SCIENCE IN TOURISM AND RECREATIONAL PLANNING

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JUNE, 2014

DECLARATION

I declare that the work in the thesis entitled appraisal of the support zone community programme in yankari game reserve; Nigeria has been performed by me in the department of urban and regional planning under the supervision of E.S. Lema and A. Usman.

The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this thesis was previously presented for another degree or diploma at any university.

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Name of student	Signature	Date

CERTIFICATION

This thesis entitled APPRAISAL OF THE SUPPORT ZONE COMMUNITY PROGRAMME IN YANKARI GAME RESERVE; NIGERIA by Joshua Maxwell Elgen meets the regulations governing the award of the degree of Master of Science of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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Special regards to my family especially my children Rabecca M, Dominion M, Praise M, and Hossana M

To God is the Glory.

ABSTRACT

The support zone community program is designed to reduce or totally eliminate pressure on Park resources and focus attention on local people, their welfare and developmental needs. Studies have shown that people derive economic benefits in terms of income generation from the reserves in their localities, but reported inadequacy of infrastructural facilities which is necessary to the people. This study appraises the support zone community program in Yankari Game Reserve by examining the activities of the program and ascertaining its success and failures. Data was collected using focus group discussion (FGD), interview, field survey, relevant literatures and questionnaires. Descriptive statistics was used in the analysis with result presented on tables and interpreted to draw inferences. The study revealed that only few park employees had specialized training to enhance their job schedule of park protection. Most of the employees are able bodied indigenes on lower cadre like securities, cleaners, park rangers etc. To help communities build capacity in other economic activities towards reducing dependence on the YGR some basic infrastructures have been provided like access roads, water, education and health care centres etc. But these facilities are quit inadequate and some of them are malfunctioning. Farming innovations which have similar objectives have been introduced but adoption was partial due to financial constraint. The study also showed that the people are aware of the rules of conservation including ban on hunting, burning, deforestation, grazing in the reserve etc. This awareness had helped reduced illegal activities greatly. Certain benefits enjoyed at the onset of the program are not been sustained like the use of manual labour in the construction of tracks now replaced by modern machinery. Problems facing the program subsequently identified include partial compliance to conservation rules, intruders of large bands of visiting poachers, inadequate funding to finance the program etc. The study concludes by suggesting that the program has not been very effective. Recommendations made included that adequate funding be made available to implement the program.

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CHAPTER ONE

1.0 DESIGN OF THE STUDY

1.1 INTRODUCTION

Game reserves are designated areas for the protection of wildlife (Flora and Fauna).When managed appropriately they are recognized as offering many sustainable benefits to society. They play a central role in the social and economic wellbeing and quality of life of their host communities by improving their living standard.

Today Kenya, Tanzania, Uganda, Zambia, Zimbabwe, South Africa, etc are very important tourist destinations because of the success of their National Parks in that they have made the benefits of park conservation available to host communities.

The National Park Service Decree of 26th May 1999 (N0. 46) gives the Federal Government the powers to declare suitable forest and wildlife habitats as protected Areas. As of August, 2001 the National Park Service (NPS) manages eight such protected areas including Kainji Lake National Park, Chad Basin National Park, Cross River National Park, Gashaka-Gumti, Old Oyo National Park, Okomu National Park, Kamuku National Park and Yankari Game Reserve.

The decree provided strategic direction towards the improved conservation and management of National Parks. The Regulatory function of the NPS emphasize restoring the abundance and biodiversity of plant and animal species through protection measures such as ban on any farming or hunting activity and heavy restraint or access to protected Areas resources and produce by various users (Shashidharan, 2001).

Yankari Game Reserve was established in 1956 and open to the public in 1962. By a request of the Bauchi state Government, the Federal Government also

approved its upgrading in 1991to the status of a National park. It has again reverted to the earlier status of a Game Reserve. (Marguba, 2002).

The open country and villages that surround YGR are populated by farmers and herdsmen. Though there has been no human settlement in the reserve for over a century. However, there is evidence of earlier human habitation in the park including old iron smelting sites and caves. (Marguba, 2002)

Declaration of National Protected Area status has also resulted in relocation of communities that lived inside and in the periphery of the Protected Areas. Besides the hardship of relocation, these communities lost some of their traditional rights and access to the resources and produce emanating from the Park and its surrounding areas. Inevitably, this situation led to some conflicts between the communities and the Protected Area authorities. Infringement of rules like encroachment of Protected Area territories, illegal felling of trees or harvest of forest produce and poaching for wild animals were some of the common causes for the conflicts. The decree provides for a "buffer zone" around the Protected Area boundary which can have "multiple uses", as decided jointly by the NPS and the communities living around the Park. (Shashidharan, 2001)

The Nigeria National Park Service (established 1979) now adopted the Support Zone Community Programme (SZCP) in 1981as integral part of its solidarity with and contribution to the development of rural communities around the national parks. The programme is aimed at reducing or totally eliminating pressure on park resources and focus attention on local people, their welfare and developmental needs. It is to be supported by efforts that would make the benefit of national park protection and conservation available to local communities such as revenue generation, infrastructural development and service, and adoption of improved farming methods. (Tijani, 2007)

1.2 STATEMENT OF RESEARCH PROBLEM

As a policy, the authorities of Yankari Game Reserve (YGR) has subscribed to the strategy of support zone community programme (SZCP) .This involves inclusion of members of the host community in its job creation plan towards positive community attitude and habits in protecting and conserving the reserve's resources. This is assumed to encourage sustainability in the reserve through the reduction or total elimination of poaching, deforestation and bush burning activities in the park. (Odunlami, 1994) and (Ismail, 2003). Economic empowerment will make the host communities develop or adopt conservatory practices since it is a source of their livelihood apart from farming and cattle rearing.

The SZCP has not been very effective over the years. These are seen in the inability of the programme to organize adequate agricultural extension services such as use of hybrid, herbicide and pesticide etc. Consequently, the communities are not making the best use of the environmental resources like trees and land at their villages and farms to get optimum yields.Also, inadequate physical infrastructure facilities and services characterise the host community areas. These are evident in the limited number of schools, health facilities, water, access roads and electricity supply.

Inadequate provision of these facilities and services to improve the people's condition of living and livelihood does not augur well for sustainability of the reserve resources like animals, trees and bushes. It therefore makes the communities jeopardize the effort of staff and management through bush burning, hunting and deforestation for survival and immediate gain. It is therefore evident that there are successes and failures of the programme which need to be highlighted with emphasis on the effectiveness over a period of time. It is to establish whether there has been decline or improvement from the earlier stages till date.

Tijani,(2007),Adebayo,(2005) and Okafor ,(2000) in their studies reported the benefit that accrue to local communities as a result of the establishment of National parks and game reserves in various parts of Nigeria. According to their findings people derive economic benefit in terms of income generation from the parks in their localities. It is not clear how these results could be wholly valid since the studies also reported inadequacy of infrastructure facilities which are necessary to produce the kind of results that are required.Also these studies did not investigate if and how the host communities had benefited in improving their livelihood activities in farming such as maximizing the use of available land to avoid search for fresh land (bush fallow) during population growth, use of improved hybrid seedling, use of herbicides/pesticides, agricultural credit facilities etc, in order to obtain optimum output from their farming activities. Also, not much is said on the problem facing the host communities as a result of the game reserve.

The study attempts to answer the following research questions:

1. What are the successes and failures of the programme?
2. Has the program been effective in Yankari game reserve over the years?

1.3 AIMS AND OBJECTIVES

The aim of the study is to appraise the activities of the support zone community programme in the YGR as basis for making strategic recommendations for improvement.

The aim was achieved through the following objectives

1. To review the concept of sustainable management practices of game Reserves.

2. To examine the design and activities of the SZCP in Yankari Game Reserve.
3. To ascertain the successes and failures of the programme in the YGR
4. To make recommendations for improvement based on the successes and failures of the programme.

1.4 SCOPE AND LIMITATIONS

The study is limited to the appraisal of the support zone community programme in Yankari Game reserve. In areas of poverty alleviation, improvement in the livelihood of indigenous people (host communities) and conservation of the biodiversity in the reserve area. However, it covers the following villages Yelwa, Duguri, Pali, Bogwas, Jagudi, Yalo, Dogon Ruwa, Maiari, Tudun Wada, Jada and Mainamaji.

1.5 SIGNIFICANCE OF THE STUDY

This study would be of great significance as it would assist in proffering useful suggestions on how to move the tourism industry to a greater height. Secondly, it would help the stakeholders in making future budgetary allocation on the development and wellbeing of the host communities.

Moreover, with the help of this work policy decision on the development of the tourism industry can be made. Finally, it would help in proper planning and management that can be viable source of economic benefit for government, private entrepreneurs and local communities.

1.6 DEFINITION OF TERMS

Local Community: Concept of local community concerns a particular constituted set of social relationships based on something which the individual have in common usually a common sense of identity.

Wildlife: All non-domesticated animals, which live outdoors including mammals, birds, and fish, which may be hunted as controlled by law.

Conservation: It has different meaning for different people. For some it implies the exclusion of humans from protected natural reserves and for others, the protection of threatened species or habitats in ecosystems that are already occupied or exploited by human populations (Mortimore, 1998).

Biodiversity: The variety of different species and genetic variability among individuals within each species.

Community Based Tourism: This refers more specifically to tourism activities or enterprises that involve local communities occur on their lands and are based on their cultural and natural assets and attractions (Nelson, 2004).

Community Based Ecotourism: Is community-based tourism which focuses on travel to areas with natural attractions (rather than, say, urban locales) and which contributes to environmental conservation and local livelihoods (Nelson, 2004).

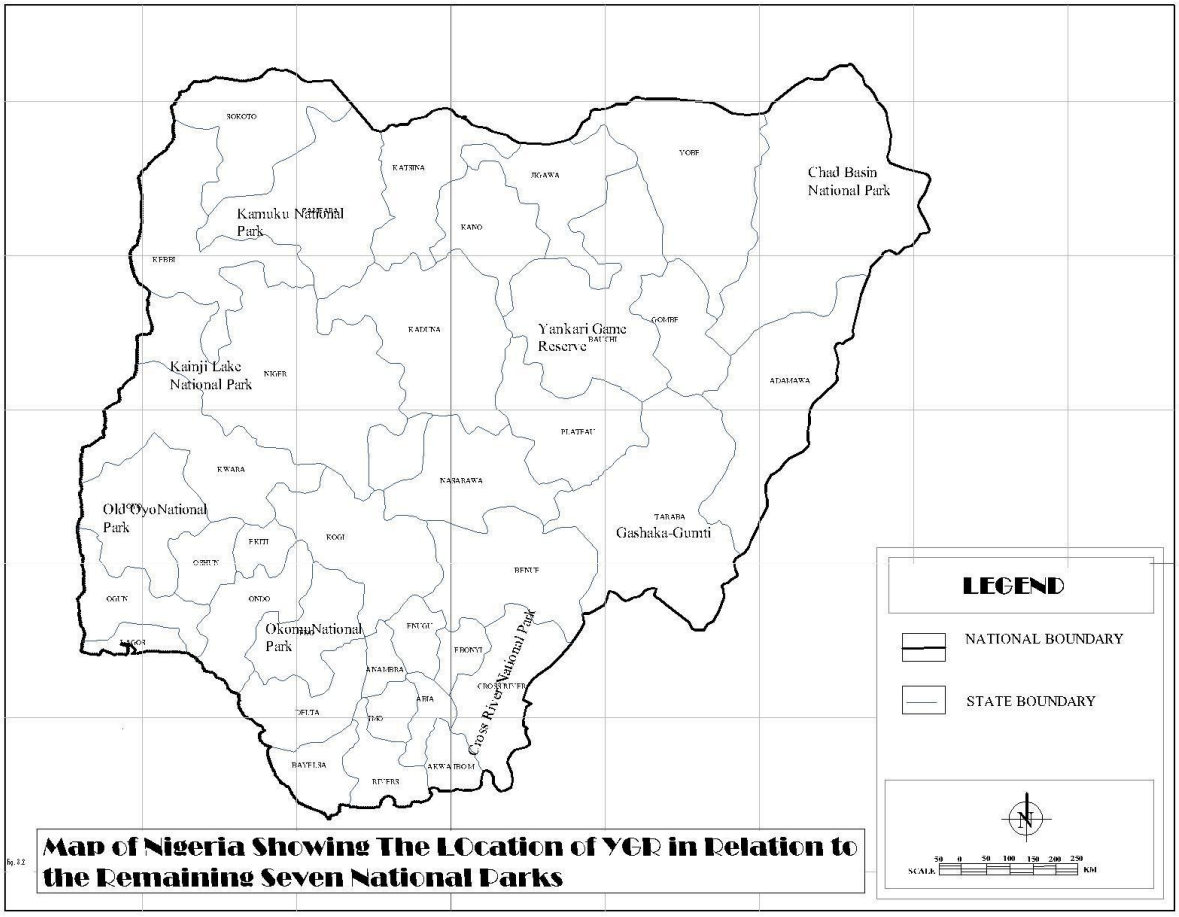
Ecotourism: There is no general definition currently in use. However any conception of it must involve travel to relatively undisturbed or uncontaminated natural area with the objective of studying, admiring, and enjoying the natural environment of that area. An important point is that the person who practices ecotourism has the opportunity of immersing himself or herself in nature in a way that most people cannot enjoy in their routine, urban existence. It has also been suggested by Stephen and John (2002) that it is a responsible travel that conserves natural environment and sustain the well-being of local people.

Sustainable Development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (World commission on Environment and Development, WCED, 1987 and Shittu, 1999). Environmental protection and management is central to sustainable development.

Habitat: An environment that provides everything: food, water, cover, space and arrangement wildlife needs to live.

Preservation: Non-use of resources.

Fig 1.1


SOKOTO
KATSINA
JIGAWA
YOBE
Chad Basin
National Park
Kamuku National
Park
KANO
KEBBI
KADUNA
Yankari Game
Reserve
BAUCHI
GOMBE
Kainji Lake
National Park
NIGER
ADAMAWA
PLATEAU
KWARA
NASARAWA
Old Oyo National
Park
TARABA
Gashaka-Gumti
EKITI
KOGI
OSHUN
BENUE
OGUN
ONDO
Okomu National
Park
ENUGU
EBONYI
ANAMBRA
ABIA
DELTA
IMO
BAYELSA
AKWA IBOM
RIVERS
Cross River National Park
LEGEND
NATIONAL BOUNDARY
STATE BOUNDARY
N
SCALE
KM
Map of Nigeria Showing The LOcation of YGR in Relation to
the Remaining Seven National Parks

CHAPTER TWO

REVIEW OF LITERATURE

2.1 HISTORICAL DEVELOPMENT OF GAME RESERVES AND PARKS

Parks like so many other expressions of our present civilization originated in Asia they exist in ancient Assyria, Persia, India and the Far East, as well as Egypt, Greece and Rome. The concept of nature conservation is not new because the setting aside of reserves and parks for the protection of the landscape and its plants and animals is as old as history. The development of parks could be traced back to thousands of years ago because of the following supportive evidence by Lasun, (1991).

Firstly, the Persians for whom tree planting was a sacred pastime continued the tradition. They called their parks Pairidaezia and thereby gave the world a word for a universal concept of a state of place for bliss. They enclosed their parks to harbour wild beasts.Secondly, in the Han dynasty of china (26 bc-220 ad) there were imperial parks such as the famous Shang-lin park, a fat walled enclosure where exotic animals exacted from vassal states were kept for the emperor for the emperor to hunt.

Moreover, the Romans too, had their pleasure parks and developed a country house lifestyle in order to escape the heat of the city. Such demonstration, manifestation and proof of mans dominance over wild animals as ordained by God and evidence of how it has been happening thousands of years ago goes further, More than 3000 years ago , king Tiglath-pileser 1 of Assyria boasted of parks in which he planted trees brought back from the countries he had conquered and of how he stocked the park around his place at Assur with wild oxens,stags, Goats young Elephants, letting them to grow up like sheep.(Oladele,2000)

Since those formations, there have been increasing interests in conservation of wildlife especially African wildlife endowments by individuals, private organizations and Governments.

Nigerians first game reserve – Yankari game Reserve (YGR) was established in Bauchi state in 1956. This was followed by Borgu in 1959. In Ilorin province (now in Niger state). The first national park, Nigeria Kainji Lake National Park was established in January 1975. The second national park was established in January 1988 – Old Oyo National Park (OONP). Research works such as those of Ayeni (1978), Afolayan (1980) and Ayodele (1988) on the importance, status and economic values of the Nigerian wildlife and that of other African nations brought the number of wildlife protected areas to 40 by 1985. Up till now, in Nigeria YGR and Kainji Lake national park (KLNP) is the most developed and managed parks.

Table 2.1: list of some parks and game reserves in Nigeria.

PROTECTED AREA	AREA (HA)	YEAR GAZETED	STATE
Kainji Lake National Park	534,084	1975	Niger
Gashaka Gumti National Park	636,300	1977	Taraba
Chad Basin National Park	228,000	1978	Borno
Cross-River National Park	446,225	1991	Cross-River
Old Oyo National Park	251,200	1991	Oyo
Dagida Game Reserve	29,400	1971	Niger
Yankari National Park	224,410	1991	Bauchi
Kamuku National Park	112,100	1999	Edo
Kwiambana Game Reserve	261,400	1971	Sokoto
Orle River Game Reserve	100,000	1960	Delta
Pandam Wildlife Sanctuary	22,400	1972	Plateau
Kwale Game Reserve	1,340	1960	Delta
Pai River Game	248,600	1972	Plateau
Gulli – Gilli Game Reserve	36,300	1960	Edo
West Game Reserve	186,500	1972	Plateau
Falgore Game Reserve	92,000	1969	Kano
Nasarawa Game Reserve	190,000	1972	Nassarawa
Lame – Burra Game Reserve	205,767	1972	Bauchi
Opara Game Reserve	248,600	1973	Oyo
Kashimbila Game Reserve	139,600	1977	Taraba
Wetland Game Reserve	29,700	1976	Plateau
Iron Game Reserve	28,200	1975	Ondo

Source: Aiyedun, (1997)

Table 2.2 List of Zoo and Biological Gardens in Nigeria

Name of zoo	Ownership	Year established
University of Ibadan zoo	University of Ibadan	1948
Obafemi Awolowo University	Obafemi Awolowo University Ile Ife	1968
University of Nigeria zoo	University of Nigeria, Nsukka	1972
University of Ilorin zoo	University of Ilorin	1976
Ahmadu Bello University zoo	A.B.U. Zaria	1967
Jos Wildlife park	Plateau state government	1975
Zanla Kyarimi park	Borno state government	1971
Kano state zoo	Kano state government	1970
Calabar zoo	Cross-River state government	1971
Zoo park Port-Harcourt	River state government	1970
Biological Garden, Enugu	Enugu state government	1971
Ogba Zoo, Benin City	Edo state government	1980
Ikogosi warms Spring	Ekiti state government	1988
Agodi Garden and Zoo	Oyo state government	1967
Makurdi Zoo	Benue state government	1976

Source: Aiyedun, (1997)

2.2 SUSTAINABLE MANAGEMENT OF GAME RESERVES AND PARKS IN AFRICA

In various parts of Africa, numerous planning and management frameworks have been developed to assist managers in preventing, combating or minimizing the negative effects of recreational use on natural environments.(Wearing and Neil, 1999)

There are strong arguments in support of ecotourism playing a central role in conservation and rural development in sub-Saharan Africa. The growth of tourism in these region has been among the strongest in the global market during the past 10 years, making an increasingly important industry, in many countries in east and southern Africa.(WTO,2001)

2.2.1. Private sector participation in South Africa

Over the past 16 years a quiet revolution in land use has occurred in the Eastern cape, south Africa. The development of private game reserves in the region has generated large income streams and contributed to environmental and social sustainability.The indalo group represents 13 of the private game reserves in the region. Prior to conversion to private game reserve the main land uses in the areas were stock farming and a very small amount of field agriculture. The conversion process saw small farms of just over a thousand hectares consolidated into larger land units. The major attractions in the region where the so called big 5, the Elephant, Rhinoceros, Lion, Leopard and buffalo. In some cases reserves have animals which do not naturally occur in the area which clash with the concept of conservation. (Chikezie et al, 2008)

As a consequence of the favourable financial viability of private game reserves compared to stock farming , the average employment of the area increased by 4.5 times, from 260 people employed on the land prior to conservation to 1172 employed by ecotourism currently. It was also found that the majority of the people living on the land at the time of conversion remained employed by the new reserves. In addition to income, the private game reserves provide decent housing with light, water and sewage system in contrast to lower standard of living prior to conservation. The 1172 people employed by the private game reserve supported an additional 3754 dependants.

It was noted however, that in some cases private game reserves where using land management practices which gave false savannah landscape as opposed to natural and in some cases stocking too many animals of certain types e.g. Lion at the expense of others.(Ibid)

2.2.2 Community – based ecotourism, ololosoquan Tanzania

According to Tanzania local Government Legislation, villagers are the basic unit of administration in rural areas. A village council is a corporate body capable of owning properties, suing, being sued and entering into contracts with other parties.(Nsala, 2002) .This institutional arrangement is critical for the development of community based tourism , and has since played an important role in facilitating the establishment of a range of community based natural resources management efforts in Tanzania (Nelson,2004). Local govt. Legislation by law also gives villagers right to develop.

In 1999, a South African company entered into contract with the ololosokwan village for the use of its rich village land to build a tourist lodge. the contracts provides ololosokwan with substantial income . An annual rent of U.S$ 25,000 increasing at 5% annually for access to the 25,000 acre parcel of land. there is also a bed night fee of $3.15 per person per night for guest staying at the small luxury encode, and fees for landing chartered aircraft on the strip built adjacent to the lodge (chikezie et al 2008)

Ololosokwan is the leading example of community based ecotourism in Tanzania in terms of income for the village. This success stem from two key factors, the increasing international demand for wildlife tourism in Tanzania and the village ability to use political process to reclaim the land that it had lost. The increase in tourism revenue from the late 1990s to the present has resulted in the village council annual budget increasing from about US$2,500 in 1995-97 to an average of US$57,000 between 2000 and 2002 (Nelson and olemako). By 2000 tourism revenue comprise more comprise more than 90% of the council income (Nelson and Olemakko forthcoming).

This income had funded an array of communal and individual livelihood benefits, ranging from social services such as schools, dispensaries, and the village office to individual grant from health care and secondary schools and universities tuition fees, employment of game scouts. Masara, (2000)

2.2. 3 Support zone community programme in Nigeria

The Nigeria park service (NPS) believe that the success of its conservation efforts in the national parks is closely linked to the attitude and perception of the host communities. This is because most of the natural resources in and around these parks are what most of the host communities depend upon for their livelihood. Such problems as poaching, deforestation etc are expected to be common place if left unchecked. It is in the light of these that NPS initiated support zone community programme (SZCP) in 1981 as an interventionist measure to dissuade the local communities from tempering with its conservational effort across the country. Tijani, (2007) and Chikezie et al (2008)

The stakeholders under under the SZCP executed projects for the surrounding villages in the following areas. General health care delivery, employment, physical development and agriculture. By so doing most people in the host communities will not have the economic need to engage in illegal poaching and encroachment. They will in fact get involved in ant poaching activities and regard the wildlife in their areas as an important source of community development with health care centres, schools roads and potable water supply systems being developed. Chris (1998).

2.2.4 The campfire programme in Zimbabwe

The campfire (communal areas management programme for indigenous resources) programme was an effort which is aimed at combining conservation, local resource management, community empowerment and development. Olthof,(1995). The target of the programme was to ensure a sustainable use of the local resources. The community base wildlife management sought to engender the cooperation of local communities in wildlife conservation. The scheme tried to ensure that these communities derive some share in the benefits that accrue from wildlife management and utilization. In this way the communities will be compensated for any loss they suffered. Barbier,(1992).

According to O' Connor (1974) the aim of conservation as an attitude to land use is to provide an input to land use planning and management. In this way, the demands of people upon natural systems can be balanced against their ability to support them. Creative conservation seeks to modify the landscape by, for example, reclaiming land from the sea. Chonnor (1994) states that this often left large areas of land for the creation of new biological systems.

The percentage of the population that is aware of recreational wildlife viewing and the benefits that could accrue from it is insignificant. Inah (I991cited in Okafor 2000), noted that a large percentage of Nigerian farmers daily engaged in the poaching of animals that stray out of conservation areas. In addition, he continued that herdsmen graze their cattle on parklands and in the process they transmit diseases, trample and destroy soil structure and cause fragile vegetation to be destroyed. Conservation has a number of benefits.

Principal among these is that it encourages sustainable development at all levels -be it global or local (Munasinghe, 1994).

He stated that by improving the incomes and welfare of local communities and simultaneously preserving physical and biological systems in protected areas developing countries may pursue both environmental and development goals in a complementary manner.

2.3 The significance of game reserves and national parks.

One of the primary objectives of wildlife conservation in national parks and game reserves is game viewing, seeing the variety of animals in their natural habitat. Apart from game viewing, there are a lot of other tourism related activities. Some with specific aims; to geographers, may be to climb. To botanist, may be to appreciate and identify the beautiful flora in their natural setting as created by God almighty. To an ecologist and naturalist, to appreciate and study the animals and plants in their environment and to sport lovers may be to fish, to sail, to walk and to run. (Oladele, 2000).

The importance of national parks cannot be overemphasized considering their value to humanity. Some of such values are

2.3.1 Scientific values

All our scientific advancement is built on the knowledge derived from nature (Ayodele, 1988). The national parks cannot be managed properly without adequate knowledge of what are to be conserved. Most of the advances in biological and medical fields are as a result of discoveries emerging from the studies of wildlife contained inside the parks (ibid) for example,

A. The rhesus monkey which revealed a new fact about human blood chemistry and prevention of diseases.

B. New drugs are first tested on primates because their physiological process is close to humans (Ajayi, 1979)

C. The anthers of deer are now used for measuring radioactive contamination of natural environment.

D. Various parts of animals such as faeces, bones, livers and others are used for curing one ailment or another. This has been stressed by Ajayi,(1986) and Afolayan(1987).

E. Snails have been discovered to be capable of improving the single tones of singers when taken regularly (Ayodele, 1988)

F. Various parts of plants – the roots, leaves and barks are useful in traditional medicine. The different plant species preserved in national parks could be of much benefit to the people in the long run.(ibid). The importance of these wild plants in west Africa have reported by Gbile et al (1985),Kio et al (1986),Gbile and Adesina (1987)

2.3.2 Education and research values

National parks provide a classroom eminently suited for education in environmental problems. In fact one may say that parks are living museums stocked with materials for instruction (Ayodele, 1988). The immense opportunity afforded by national parks for research is a potential source for promoting science, research and education. National parks are veritable field laboratories for research especially in the field of agriculture, medicine, psychology, spiritualism etc. Conservation of gene pool is of utmost importance because nobody can determine today, which specie (animal or plant) would be most valuable tomorrow.(Marguba, 2002)

2.3. 3 Environmental protection value

It is no accident that national parks in Nigeria occupy strategic ecological locations in the country. The Chad Basin National Park is mainly situated in the north east arid region. Apart from preserving unique arid adapted fauna and flora species such as Giraffe (Giraffa cameloparadalis), ostrich (Stuthiocamelus), red fronted gazelle (Gazella rubifrons) etc. The park is also strategically important in the protection of the Hadejia Nguru wetlands and sand dunes of northern yobe state. The wetlands serves as lifeline to draught prone areas of Jigawa, Bauchi and Yobe states.(Marguba,2002)

Gashaka gumti national park contributes immensely to protecting and sustaining the fertility of the soil of the mambila plateau for farming and livestock rearing, it also contributes to protection and conservation of some endangered species of mammals such as Chimpanzee (Pantoglodyets), Colobus monkey(colobus guereze) possibly cheetah (Acinonyx jubutus) which are strongly believed to cross in from Cameroon (ibid)

2.3.4 Enhancing ecological process value

The national parks are capable of enhancing essential ecological processes and life support systems like soil regeneration and protection, nutrient recycling, cleansing and purifying hydrological cycle etc. Through their genetic resources, a wide range of genetic materials is found which have the potential of enhancing agriculture through the development of disease and pest resistant crops. Thus, some typical examples of such ecosystems are Gashaka gumti national park where in 1995 five species of fish not seen anywhere else in the world where discovered by the world wide fund (wwf,uk). In the crossriver national park, some nine species of organisms where found by the wwf, in 1996, not previously known to science. Indeed

the discovery of a plant species Anceislodadus koropensis in the adjoining koroup national park, Cameroon, which was subsequently confirmed to be endemic to crossriver national park, is a typical example of the vast, inestimable potentials of our national parks. This plant has been identified to kill the virus that that causes AIDS. Another medicinally valuable plant discovered in the same parkis pronus Africana which is effective against prostate cancer. (Marguba, 2002)

2.4 SOCIO-ECONOMIC IMPACT OF GAME RESERVE AND PARKS ON THE HOST COMMUNITIES

The existence of YGR and Kainji Lake National Park (KLNP) in the neighbourhood where they are situated has tremendous effect on the status and economy of the people in the community. (Oladeye, 2000). These observations were very much in agreement with those of Adepoju,(1988), Ayeni,(1978), Afolayan, (1980) and Ayodele,(1988). The utilization of the resources available in the parks showed a high degree of opportunities are available and could be tapped.

The people's perception of the national parks projects is not in the narrow sense of tourism or related development but as development catalyst in the various communities. Hoping that employment should multiply and the general standard of living should manifest appreciably. Realising that what is taken away from them is substantial, and then what should be giving them in return should be tangible.

According to Ayodele,(2002), analysis of employment opportunities in the parks surveyed corroborates the above assertion. Interviews and official records confirmed that the presence of a national park in any location provides employment opportunities to members of the local communities.In the all the surveyed parks a significant number of workers are from contiguous local areas. When tourism development takes place gradually, most jobs in the initial stage are almost invariably

taken up by people from the immediate environment. There is bound to be an appreciable change generally in their lifestyle as compared to when they are jobless as a result of financial improvement (ibid)

In YGR most of the workers interviewed and who came from the contagious local areas to the park states equivocally that apart from water and electricity provided as a result of the existence of the park the job opportunity has afforded them to live a better life compared to what their situation where before they got the job. Workers at kainji lake national park expressed a similar experienced.(ibid

The existence of national parks in rural areas has a higher significant economic influenced in the local communities. The traders interviewed at contiguous locations to the parks reacted positively to increase in sales any time visitors to the parks stopped over and made purchase (ibid)

As a result of the existence of Kainji lake National park institutions such as Federal School of Wildlife, National institute for fresh water and fish resources, Niger river basin authority, fisheries school, National Electric Power Authority (NEPA), Air force base and barrack where established. The social benefit of the above on the living standard of the communities cannot be quantified.(ibid).

2.5 ECOTOURISM

Ecotourism, travel to natural areas to experience rare and beautiful ecosystem. The central attraction is the quality and uniqueness of the environment. This is often combined with encountering equally important cultural and historical resources associated with the indigenous population. Although some destinations may present an inhabited wilderness for example Antarctica most natural environments are to an extent modified by local inhabitants.

Ecotourism is often associated with other forms of non consumptive tourism based on natural history, such as nature tourism, wildlife tourism and adventure tourism. More conceptual definitions formulated by environmental organizations include a requirement for a contribution to the conservation of ecosystems at tourist destinations for sustainable tourism. Ecotourism usually refer to non consumptive recreation activities that are closely linked to natural history and that may also be related to wildlife, such as bird watching, wildlife watching, nature photography, botanical study, and wildlife treks and safaris.

2.5.1 Essential Requirements for Ecotourism

Ceballos Lascurian (1991) identified four essential requirements for ecotourism. They are economic competitiveness, adequate infrastructure, sufficient accessibility and aggressive marketing. A combination of the four fundamental requirements if well analysed and adequately taken care of will definitely go a long way in boosting the economy of any region. When any tourist destination is easily accessible and packed full with various activities, the influx of tourists will stimulate economic activities. The benefit that could accrue there from will be of tremendous effect in the region as a whole. Mcintosh (1980) identified three groups that are closely connected in the circle of benefits. They are;

THE TOURISTS seeking to maximize the amount of psychic benefit or rather rewards they expect to gain from travel experience, since there is a reason for sacrificing their discretionary time and the readiness to spend their money.

FIRMS (either individuals, organizations or even the government) providing tourists goods and services at tourist destinations to maximize profits. The primary aim of any organization to invest in any business is for economic reasons.

HOST COMMUNITIES and their governments attempting to maximize the primary and secondary benefits of tourist's expenditure in their area.

This is the reason it has been said often that the benefit from tourism cannot be compared with other sectors of the economy for one reason, that, it trickles down the line. Mcintosh argued further that the three groups of goals are often compatible in the sense that, if the tourist view the psychic benefit of travel to an area favourably and business are willing to provide necessary facilities and services, then the host community in the other hand views tourism positively in terms of its economic impact on the area and its people.

The degree of benefit a community can derive from tourism is very much dependent on the supply of resources (natural and cultural) that is available for tourist enjoyment. Some areas are better supplied with natural and cultural potentials as tourism destinations. It is however good to note that simply possessing attractive tourist resources is not an end by itself, some amount of capital will certainly be required to transform such tourist potentials into tourist centres/destination by providing infrastructures to back it up. (Oladele, 2000).

2.5.2 Participants in Ecotourism Development and Management

Once there is an objective for ecotourism to support conservation and hence economic development a lot of people must take part at all stages in its evolution. For parks that are at inception of development. Government official from the Nigerian tourism development cooperation and the federal ministry of tourism and culture, national park service and finally finance and administration, working together for a common goal will be responsible for putting the policies and structures in good and acceptable place that will enable a successful development.

National Park and Protected Area Personnel

They are to be more actively involved, coordinating all activities since parks and reserves are the primary attraction of ecotourism. Every worker on site needs to be involved and participate in the management process. There will undoubtedly be a need for training for such park personnel under a staff development programme. They are supposed to be very knowledgeable about the park or reserve since they are the day to day care takers of the natural resources that will attract the tourist. Their responsibilities cannot be overemphasized.

The Local Communities

In most cases, they are often neglected. They are regarded as apparently insignificant but they could bring about great deeds that could work against the aims and objectives of the park and reserve. Therefore, weather they spread out or isolated, they should be regarded as important in the implementation programme or else they may slow down the business process. They should be seen as critical part of the ecotourism development. The planners must be necessity bear in mind that such local people are the age long occupants of such locations and almost invariably their livelihood is often dependent on the natural resources that attract tourists. Therefore, in view of the serious mounting pressures on forest reserves in Nigeria, an approach for reducing the pressure may be ecodevelopment.

In order to reduce the serious extraction of forest reserves such as the omo forest reserve in Ogun state, Nigeria, the planners has to map out a sustainable limit for use by the local community. But the question remains what percentage of the sustainable limit can be enough in view of the supposedly rising demands for the future generation, since land is limited in supply vis a vis the clarion call for improve agricultural produce to boost food supply. (Oladele, 2000).

2.6 SUSTAINABLE TOURISM

In tourism management, a principle of futurity should be adopted by maintaining a minimum of environmental capital including the major environmental support systems of the planet together with the conservation of more conventional renewable resources such as forests, landscape, etc. Premium should be placed on the conservation of natural resources, wild life and landscape in development of tourism. In tourism planning and development, environment should be given due consideration. Urban planning should not ignore proper organization of public space. Intercity transport system will have to strike the right balance between the ability of transport to serve economic development and the ability to protect the environment and sustain future quality of life. Tourism is becoming an essential factor in preserving the environment, in view of its increasing economic and financial importance to the industry.

Tourism can only be sustained if and only if ***preservation*** of the environment, to which it is a contributory factor, is taken as a priority Tourism is also a powerful force in arenas other than economic. Much travel is motivated by educational, cultural, business as well as leisure and adventure needs, thereby having an enormous impact on the Social Fabric of the world. All travel, however, causes people to interact and communicate in a view and different ways, thereby giving rise to more connectivity.

Cliff Moughtin (1996) in *Urban Design: Green Dimensions* by Reed Educational and Professional Publishing Ltd Oxford, observes, "The long term survival of the planet as a hostess for unstained human occupation in anything other than a degraded life Ityle is in some doubt. In these circumstances any discussion of, (esthetics in a pure or abstract form unrelated to environmental concerns could be thought to be superficial. Sustainable tourism is development of tourism in a manner

which is non-damaging to the environment and which contribute to social and economic benefits of the host community."

Elucidating the concept of inter-generational equity, Moughtin **1**1996:5) wrote; "We have a moral duty to look after our planet and to hand it on in good order to future generations. Mankind is viewed as the custodian of the earth for future generations. It requires of any particular generation the wisdom to avoid irreversible damage, to protect important habitats, high quality habitats, high quality landscapes, forests and non renewable resources, minimum of environmental capital including major environmental support systems of the planet together with the conservation of more conventional renewable resources such as forests... Human activity should be hunted by consideration of the effect that activity may have on the ability of future generation to meet their needs and aspirations."

Premium is placed on the conservation of natural resources, wildlife and landscape:

1. The transport system serving the urban structure will have to strike the right balance between the ability of transport to serve economic development and the ability to protect the environment and sustain future quality of life.
2. The green house effect and the depletion of the ozone layer are two **of** the most threatening effects of pollution for mankind. Much of this atmospheric pollution is caused by the burning of fossil fuels in the creation of energy to support city life. Other hazards however include contamination of water source, overloading of environmental sinks, acid rain and air pollution in cities. Much of the pollution causing environmental damage can be attributed directly to the building process.

Approximately half of the CFCs (Chloroflore Carbon) produced throughout the world are used in buildings, as refrigerants in air conditioners, refrigeration's and

freezers and also in fire extinguishing systems while some insulation materials are dependent upon CFCs for their manufacture. The solution to present environmental problems may be found in good urban design, i.e. organization of public space rather than in monumental architecture. 3. Conservation of biodiversity - Conservation is no longer simply a matter of protecting animals on nature reserves but of conserving and utilizing biodiversity in all its forms. Measures to be taken by tourism to preserve the environmental heritage:

(i) Making the general public aware of the value of sites through cultural and environmental education - whereby tourists a change their behavior. This could be done through the travel companies which are the primary intermediaries with tourist. Systematic information should be distributed via travel agencies, guide books and brochures, and should be available on trains and planes as well as at hotels.

(ii) Maximize use of present natural resources as well as to s aside additional resources for future developments. Man need clean air so that he can safely enjoy his many recreational pursuits, so that he can enjoy nature's resources to the fullest. Wildlife also needs clean air to exist, reproduce and continue to be available part of our national heritage. Nigeria is endowed with bountiful and rich land resources some of which provide excellent sites for recreation. Unfortunately, millions of areas of land are being bulldozed each year for various purposes by our industrializing and materialistic society while thousands of acres of our land are suffering the menace of erosion. There is the need to set aside more land for better outdoor living, such as more play grounds and recreational sites, wildlife refuges and national parks. Tourism depends on water for may recreational activities which include boating, fishing and swimming. Unfortunately, the world's water is becoming

contaminated, especially with industrial wastes. This portends grave implication not only for recreation, but also, for our personal and industrial welfare.

The population growth, increased speed, technological advances, and increased leisure time mean that more - environmental resources - land, air and water will be needed for tourism facilities. Tourism must, therefore, consider the environment in planning for the future.

Tourism can be sustainable only if preservation of the environment, to which it is a contributory factor, is taken as priority. Government and local authorities have a decisive role to play in the conservation and enhancement of our precious and unique collective cultural and natural heritage, but managing tourism is becoming an essential factor in preserving the environment, in view of its increasing economic and financial importance for the tourism industry (Zu Hulsoff 1997).

2.7 DESIGN OF THE SZCP IN YANKARI GAME RESERVE

2.7.1 Stakeholders identified for the YGR and their objectives

The relevant stakeholders for the YGR include World Bank, Federal Ministry of Culture and Tourism, National Park Service, National Tourism Corporation, Yankari Game Reserve Management, Federal Project Support Unit, Bauchi State Government, Bauchi State Ministry of Tourism and Culture, Bauchi State Project Support Unit (gef/leemp), Alkaleri Local Government, Traditional Institutions, Support Zone Communities (CDA,CPMC,UGs) and other NGOs and Tourists (International/Domestic).

Thus, the primary goal of the stakeholders of the support zone community programe for the Yankari Game Reserve remains the conservation of its rich biodiversity for enjoyment and benefit of the present generation without compromising the needs and aspirations of future generations. The objectives may be summarised as follows

Global objectives

1. To conserve biodiversity and manage habitats in a unique site in the Sudan Savannah Vegetation Zones.
2. To alleviate poverty , conserve the culture and improve livelihoods of indigenous people(i.e., SZCs)

Supporting objectives

1. To sustainably co-manage, the natural resources of the YGR and its SZCs through properly sound environmental conservation practices.
2. To develop wildlife-based eco-tourism/recreation in the YGR and its SZCs as well as undertake bio-monitoring, education and research activities in the area.

2.7.2 Stakeholders task and responsibilities

The task and responsibilities of the stakeholders are among others, the provision of capacity building outreach and training programmes on participatory management and the promotion of ecologically sustainable livelihood in the support zone communities to reduce poverty and dependence on resources within the protected areas. Moreover, they carry out the task of appointment of agencies for the proper execution and supervision of approved community based micro projects and all project activities within the YGR and monitoring of project implementation in both the protected areas and the SZCs

Furthermore, they are responsible for the provision of funds for the conservation of the biodiversity of the reserve and assisting the SZCs in the provision of sustainable livelihood to reduce pressure on the resource of the reserve and also providing support for sustainable livelihood initiatives to promote biodiversity conservation and ecological viable developmental activities within the support zones of protected areas. More so, the conservation of biodiversity and all natural resources within the YGR . The stakeholders are responsible for the review and coordination of policy and regulatory framework related to protected areas and biodiversity management in general and public enlightenment and awareness on biodiversity issues. They also provide enable environment to attract external assistance and tourist

2.7.3 Status of community awareness

The following items of information that the community is expected to know were set out by the support zone community programme.

A. Ban on hunting in the game reserve.

B. Ban on collection of firewood and indiscriminate felling of trees in the reserve

C. Ban on bush burning in the reserve.

D. Ban on farming and grazing in the reserve.

All of the respondents and the FGD confirm that they are quite aware of these rules of conservation including ban on bush burning, ban on farming and grazing in the reserve, ban on hunting, ban on collecting fire wood and indiscriminate felling of tree in the reserve. Whether they comply with the rule, majority of them declared that awareness has made them carryout their best toward

CHAPTER THREE

METHODOLOGY

3.1 THE STUDY AREA

Yankari Game Reserve (YGR) is a wildlife park located in the southern part of Bauchi state in north eastern Nigeria. It covers an area of about 224,410 ha of uninhabited savannah woodland, there are over 532 vascular plants so far identified in YGR of which 351 species are dicotyledonous belonging to 81 families and 181 are monocotyledonous belonging to 23 families. Making it one of the largest reserves in Nigeria. It is the single largest elephant (Loxodonta africana) concentration site in West Africa. It also has hippopotamus, lions (Panthera leo), African buffalo (syncerus caffer), Roan antelope (Hippotragus equinos),Westafrican hartebeest (alceluphus bucelaphus) etc. There are about 153 species of birds, 147 species of fish and several species of reptiles and monkeys. It is home to several water springs as well as its location in the heartland of the West African savannah makes it unique for tourist and holiday makers to watch wildlife in its natural habitat.

Mainamaji village is one of the surrounding villages; it is where the reserves main entrance is located and has the same climatic features with the other villages. It is about 40km to the tourist wikki camp and 29km from Dindima (Bauchi – Gombe expressway).it is located within Duguri, Pali and Gwana districts of Alkaleri local Govt. Area of Bauchi state. The annual rainfall is about 70mm, mean maximum and minimum temperature is about 30.1 and 13.7 degree cent respectively. Vegetation is Sudan Savannah. Farming was the main occupation of the people including crops and livestock production.

3.2 DATA REQUIRED AND SOURCE

To achieve the objectives of the study the data obtained were on the following:

Table 3.1 showing data required and source

Data	Source
Support zone community program activities	field
Impact on communities	field
Base map	field
Blue print of support zone community program	Yankari game reserve

Source; (field survey, 2011)

3.3 DATA COLLECTION METHODS AND ANALYSIS

The methods used for data collections were as follows;

1. Field survey - This included mapping, measurement and recording and also direct personal observations on the people and their environment. One advantage of this method according to Asika (2006) is that the information so gathered is thoroughly reliable.
2. Interviews – The community people were asked questions and engaged in verbal discussions to extract information's. According to Ogundipe, lucas and sani (2005) the interview method will eliminate problems encountered by questionnaires like ambiguous wordings, ill defined categories and inadequate measuring instruments.
3. Questionnaires – structured questionnaires were administered to staff and the community people for getting answers to questions using a form which the respondent fills himself. Questions where framed for easy understanding to be

able to get information's in their own words. These were achieved after collection. In all 104 reliable questionnaires were sorted and tables made and interpreted. Analysis were carried out and inferences drawn on the various issues.

4. Review of relevant literature – Available literatures on the subject matter were utilized in addition to relevant documents from Yankari game reserve and

   Various information from the World Wide Web that is relevant to the study.

5. Focus Group Discussions (FGD) – FGD was carried out with community and opinion leaders, district heads and yankari game reserve officials to gain insight into the perspectives of the communities and to get various information's about the activities and the impact of the programme Since majority of them are illiterate. Various questions were asked as information was squeezed from the people one after the other on various issues. Youth are not left out only the women cannot be reached as they are always indoors. According to Chamber (1996),Guije and Veldhuiz(1998) and catley and Mariner(2002) using problem owners as partners in the research process is very important since they have relevant knowledge and learn and apply solutions better when they are part of the research.

3.4 DATA COLLECTION PROCEDURE

3.4.1 Sampling frame and size

The respondents were drawn from villages that fall within 10km distance from the reserves boundary. The 10km distance was recommended by the WTO (1996) for a good coverage of host communities of national parks and game reserves.

The sample frame of the study included twenty two (22) villages namely, Bogwas, Jada, Maiari, Mainamaji, Pali, Yalo, Yelwa Duguri, Kunjibar, Tudun Wada, Dan, Jagudi, Yuli, Mun, Garga, Dada, Mansur, Yankari, Bakwas, Futuk, Bori, Dada and bonga.

3.4.2 Sampling technique

Stratified sampling was used to group the villages into four (4) strata based on proximity to the park, closeness and or farness from the main road, from which two (2) representative from 2 strata and three (3) from the remaining 2 strata was selected using a simple convenient sampling this include Mainamaji, Yelwa duguri ,Pali, Dogon ruwa, Jada, Maiari, Tudun wada, Yalo, Jagudi and Bogwas

In all a sample size of 104 respondents was selected using a simple random sampling technique from the villages and staff/mgt. from a sample frame of about 1025 heads of household. However, Mainamaji village that is located at the reserves main entrance had more respondents than the others because of its location advantage to the reserve. This makes it enjoys all the incentives provided through the SZCP by the stakeholders. At the FGD the opinion leaders of the communities were the main target as they were engaged in various discussions to be able to get the desired information. One interesting topic lead to another and information were made to flow freely; information's were sieved to get what is needed. The people were made to feel relaxed having in mind that the outcome of the research and recommendations will be a guide to the govt and stakeholders to know their plight and to take action on the various issues concerning them.

3.5 DATA ANALYSIS

The purpose of the analysis is to assess the activities of the support zone community programme in the areas of provision of employment, provision of infrastructures, improvement of agricultural productions and training of employees of the yankari game reserve as it affects the people who are beneficiaries. Also, the effectiveness of the programme in achieving its basic objectives of reducing or total elimination of illegal activities like poaching, grazing, burning, fishing, collection of firewood or felling of trees and cutting of grass. These were done through the collections of data such as field survey, interviews, questionnaires, review of literatures and focus group discussion.

Data analysis was carried out using the descriptive statistics which include frequency and percentages to summarize the data. The results were presented in table these were interpreted to draw inferences for decision on the outcome of the appraisal as required in the research questions.

Figure 3.2 :Map of Yankari Game Reserve Showing the Surrounding Settlements

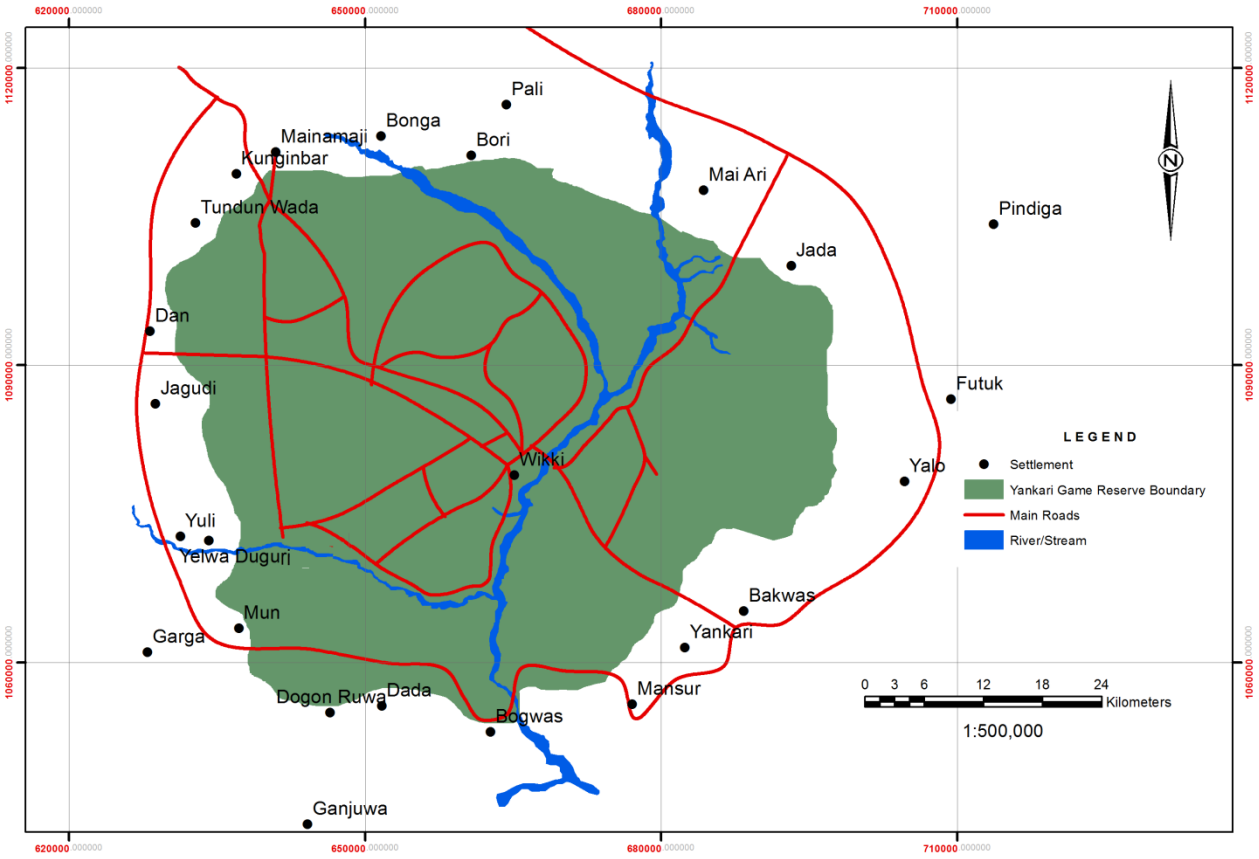


Fig 3.1

CHAPTER FOUR

RESULT PRESENTATION

4.1 INTRODUCTION

This chapter presents detailed findings on the activities of stakeholders of the SZCP. In doing this, emphasis was placed on issues such as infrastructural development, employment, adoption of Agricultural innovations, conservation of biodiversity and some general issues.

4.2 SOCIO ECONOMIC CHARACTERISTICS OF THE SUPPORT ZONE COMMUNITIES

4.2.1 Population of the selected SZCs

The overall population of the SZCs is estimated to be about 106,250. With that the ten selected communities accounting for estimated 27,372. However there are reasons to believe that within the communities the population has increased tremendously due to little or absence of birth control measures owing to tradition and religious beliefs. This has led to pressure on farmlands and consequent encroachment into the park for illegal activities.

Table 4.1 Estimated Populations of selected SZCs of YGR

S/N0	Community	Total	Male (15%)	Female (30%)	Children (55%)
1.	Bogwas	2,000	300	600	1100
2	Dogon ruwa	2,125	315	630	1168
3	Tudun wada	2,000	300	600	1100
4	Jada	2,000	300	600	`1100
5	Mai ari	2,625	394	788	1443
6	Mainamaji	3,750	562	1124	2063
7	Pali	3,125	469	937	1718
8	jagudi	2250	337	675	1208
9	Yalo	4375	656	1312	2406
10	Yelwa Duguri	3125	469	937	1718
	Total	27,372	4102	8204	15054

Source: (fieid survey,2011)

Ethnic Composition of the selected SZCs

The support zone communities, their locations in relation to the reserve as well as their ethnic compositions are presented below:

Table 4.2 Ethnic Compositions and Estimated Distances of selected SZCs from YGR

S/N0	Community	Location to the reserve	Distance to reserve	Ethnic groups
1.	Bogwas	South	1km	Gobirawas/ Angas/Hausa
2	Dogon ruwa	south	3km	Dugarawas, Fulani
3	Tudun wada	North west	2km	Wurkunawa/Fulanis/Hausa and Tangales
4	Jada	East	2km	Fulanis
5	Mai ari	East	3km	Fulanis/Hausa
6	Mainamaji	North	3.5km	Jarawas/Hausa/Fulani
7	Pali	North East	5km	Fulanis/Hausa
8	jagudi	west	3km	Fulanis, dugarawa
9	Yalo	East	2km	Fulanis
10	Yelwa Duguri	West	2.5km	Dugarawas (Jarawa clan)

Source: (field survey, 2011)

4.2.2 **Religion and other characteristics of the SZCs**

The predominant religion in the communities is Islam but Christianity is practiced freely, the average Muslims and Christians population is in the following proportion, Muslims 87% and Christians 13%.

The housing type is nucleated; the housing type is mostly mud bricks with zinc roof and cement block with zinc roof. Majority of the resident are polygamist, the age composition of the community comprises of youths < 25 years – 35 %, Middle age (25 – 50 years) – 45% and elderly (above 50years) – 20%. The average household size is 12 – 15 and the predominant occupation in the communities is farming. Social groups like co-operative society, religious group, and Community Development Association and Fadama users group also exist. The Traditional leaders and elders are

responsible for resolution of conflict and maintaining peace and order in the communities

4.3 ASSESMENT OF THE SUPPORT ZONE COMMUNITY PROGRAME ACTIVITIES

The views of the support zone communities and staff on the programme were obtained using the methods of data collection mentioned earlier. In order to enrich the response of the people interview questions were extended beyond schedule. Clarification and observations were thoroughly carried out to get what is actually happening. Focus group discussion (FGD) with representatives of the communities was also carried out to dialogue, analyse and make decisions based on mutual understanding. Secondary data were collected from relevant documents from official records of YGR. Information obtained was considered carefully and opinion made to draw inferences on the various issues.

4.3.1 Provision of employment to the SZCs

4.3.1.1 Nature of employment

The employment status of the sampled communities showing the estimated number of employees in the various establishments in the villages is shown below.

Table 4.3: Number of employees from the communities

Infrastructures provided	**Number of employees in each village**									
	Mainamaji	**Pali**	**Bogwas**	**Yelwa Duguri**	**Jagudi**	**Dogon ruwa**	**Tudun wada**	**Mai ari**	**Yalo**	**Jada**
Primary schools	15	16	2	14	15	5	12	8	16	5
Secondary schools	5	4	N.A	4	10	NA	NA	6	13	NA
Game reserve	20	10	2	12	7	7	NA	8	10	4
Health centres	15	4	N.A	20	3	NA	NA	3	7	NA
Total	55	34	4	50	35	12	12	25	46	9

NA: Not Available
Source: Field Survey, 2010.

The support zone community programme has provided several employment opportunities to the rural dwellers in the rural communities. in the primary schools established in Mainamaji, Pali, Bogwas, Yelwa duguri, Jagudi, Dogon ruwa, Tudun wada, Maiari, Yalo, and Jada. The number of indigenes employed in these areas to work in the schools as teachers are 15, 16, 2, 14, 15,5,12,8,16 and 5 respectively

Secondly, the secondary schools provided by the programme in Mainamaji, Pali, Yelwa duguri, Jagudi, Maiari and Yalo has helped to employ 5, 4, 4,10,6 and 13 workers respectively from these communities with the relevant qualifications to work in the schools. However there are no secondary schools in Bogwas, Dogon ruwa, Tudun wada and Jada therefore there are no employees from the area.

Moreover, the game reserve itself has employed many of the indigenes by the management from Mainamaji. Pali, Bogwas, Yelwa duguri, Jagudi, Dogon ruwa, Maiari, Yalo and Jada to work in various sections of the reserve as securities, hotel

attendants, drivers, cleaners, tour guide etc. the number of employees from the villages is 20, 10, 2, 12,7,7,8,10 and 4 respectively.

Finally, the programme has established and employed many of the indigenes in its health centers in Mainamaji, Pali, Yelwa duguri, Jagudi, Maiari and Yalo to carryout various nature of work as nurses, attendants, and cleaners. The number of employees from the villages are 15, 4, 20, 3,3 and 7 respectively. However there is no health centre in Bogwas, Dogon ruwa, Tudun wada and Jada therefore there are no employees from that area.

The Focus Group Discussion revealed that a good number of people have been employed but plenty employees are on casual basis especially in Yankari Game Reserve, which is not quite attractive, only few are on permanent basis. Moreover, people from neighbouring local Governments and states that has taking up employment to occupy some vacancies could be seen.

Field inspection revealed that majority of the park officials, are indigenes ranging from security, park rangers, tour guide, drivers, etc. They have lived for a long time around the park and are quite familiar with the areas. They can therefore provide adequate information to tourists and researchers out of their experience. Moreover, a good number of the indigenes work in the healthcare and education centres etc provided by the programme. To compare the employment opportunities, it is evident that Mainamaji have better employment opportunities than the other communities located at the interior part of the zone due to their location advantage been situated at the entrance gate of the reserve, they have more employees in the park, moreover, they have the most of infrastructure facilities like health care centres, schools etc therefore more job opportunities for its people. Table 4.5 below confirmed to this findings where the overall nationwide pattern is paraded together showing the

high percentage of indigenes working in the park located near their communities when compared to non indigenes.

In summary, Mainamaji village that is located at the main gate of the reserve has 55 employees that are beneficiaries of the SZCP working in the game reserve and the communities in the health centres, primary and post primary schools. Yelwa duguri is second with 50 employees followed by Yalo, Jagudi and Pali with 46, 35 and 34 employees respectively benefiting from the activities of the programme.

The communities with the least number of employees that are beneficiaries of the programme working in the game reserve and the community's health centres, primary and post primary schools include Maiari with 25 employees, Tudun wada and Dogon ruwa with 12 each. Unfortunately, Jada and Bogwas have only 9 and 4 employees respectively. Relative to the population growth of the SZCs the number of employees is not quite reasonable.

4.3.1.2 Categories of employment

The distribution of employed indigenes on the basis of junior and senior staff placement in their places of work is shown on the table below

Table 4.4 Placement of employed indigenes

S/NO	RESPONSE	FREQUENCY	PERCENTAGE (%)
1	indigenous junior workers	60	58
2	indegenous senior worker	28	27
3	Equal proportion	16	15
	Total	104	100

Source: field Survey, 2010

Table 4.4 above shows that 60 respondents representing 58% affirm that majority of the indigenes are able bodied men in junior cadre of work carrying out

works like driving, clerks, mechanics, securities etc. and 27% respondents declared indigenes in the senior levels whereas 15% opined that they are of equal proportion.

However, focus group discussion confirmed that majority of the workforce are indigenes in the junior level and some working on casual basis on poor remuneration.

Field observations shows that due to the high level of the indigenous workers in the reserve and in the communities, graduates could be better used to work as park officials in the park and the communities as they can exhibit better human relation and can make better tour guide. Although, as the tourist get in contact with the uneducated villagers there can be another dimension of fun that can be experienced. Researchers will find their work easier with educated indigenes.

4.3.2 Provision of infrastructures and services

It has been shown by majority of the respondents that basic infrastructures has been provided by the SZCP they include Roads and culverts, schools, water supply like boreholes, well, earth dam, Electricity and Medical facilities including maternities, dispensary clinics, primary health facilities. These have been confirmed at the focus group discussion.

The infrastructural status shows that Mainamaji village enjoys most of the infrastructures provided by the SZCP more than the other communities due to its location advantage as it is situated at the main entrance gate of the park. The table below shows the infrastructures provided by the SZCP to various communities

Table 4.5: Number of infrastructures provided to the communities

Infrastructures	**Number of infrastructures provided to the communities**									
provided	**Mainamaji**	**Pali**	**Bogwas**	**Yelwa Duguri**	**Jagudi**	**Dogon ruwa**	**Tudun wada**	**Mai ari**	**Yalo**	**Jada**
Roads	1km	1km	NA	1km	1km	NA	1km	1km	1km	1km
Electricity	Provided	N.A	NA	Provided	Provided	NA	Provided	NA	Provided	NA
Health centres	3	1	NA	3	1	NA	NA	1	1	NA
Boreholes	3	4	NA	6	3	1	3	5	6	1
Primary schools	3	2	1	2	1	1	1	1	1	1
Secondary schools	1	1	NA	2	1	NA	NA	1	1	NA
Police station	1	NA	NA	1	NA	NA	NA	NA	NA	NA
Bank	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total	14	9	1	16	8	2	6	9	11	3

NA = Not Available
Source: field survey, 2010

In summary, Yelwa duguri is seen to enjoy a lot of infrastructures provided by the SZCP as it is ranked first with 16 infrastructures including electricity, access road, boreholes, health centres, police station and a number of primary and post primary schools. Mainamaji village located at the main gate of the reserve also enjoys a good number of the infrastructures provided it is ranked 2nd with 14. Yalo community comes 3rd with 11. Others with good number include Pali and Maiari with 9 each making them 4th.

The less beneficiaries of infrastructures provided by the provided include Jagudi (8) and Tudun wada (6) in 5th and 6th positions respectively. Jada, Dogon ruwa and Bogwas have the least with 3, 2 and 1 infrastructures in 7, 8 and 9th positions respectively.

4.3.2.1 Roads

The programme has actually provided roads to the support zone communities but the provision of these roads is quite inadequate compared to the demand for roads as shown on the table above.

The main access road by the programme to the communities like Mainamaji. Pali, Yelwa duguri, Jagudi, Tudun wada, Maiari, Yalo and Jada is mainly about 1 kilometre long linking the village roads. The SZCs internal roads are generally rural tracks in despicable states of disrepair, being motor able only in the dry season. Many SZCs are completely cut of during the rainy season, with no access to the markets or their relatives in other communities. The program has therefore not provided adequate roads network to the support zone communities

4.3.2.2 Electricity

The programme has provided electricity to some communities in the support zone communities as shown on the table above, places like Mainamaji , Yelwa duguri Jagudi, Tudun wada and Yalo has power supply. Unfortunately Pali , Bogwas, Dogon ruwa, Maiari and Jada are yet to be connected to the source of power.

Most of the communities don't have power supply due to the fact that it has not been provided. Mainamaji, Yelwa Duguri, Jagudi, Tudun wada and Yalo out of the 10 selected villages have electricity provided by the programme. Power supply along the Mainamaji line has improved drastically due to the fact that the power supply leads to the Yankari Game Reserve wikki camp for the tourist. The programme has not actually done enough in the provision of rural electricity to the communities.

4.3.2.3 Health Centres

The programme has reasonably provided various degrees of health facilities to the support zone communities as shown on the table above.

Out of the selected village Bogwas, Dogon ruwa, Tudun wada and Jada are seen not to have any health centre. Therefore the people would have to trek several kilometres to the nearest health centre for treatment and delivery of their pregnant women. Even the villages that have these facilities like maternities clinics and dispensaries lack adequate staff, drugs and equipment. There is therefore need for provision of more health centres and stocking the available once with staff and drugs as such the support zone community programme has not done enough in this aspect of its activities.

4.3.2.4 Boreholes

The programme has provided various degrees of boreholes to the support zone communities as shown on the table above. Before the intervention of the program all the communities within the support zone lacked portable water. Water was obtained from open wells, streams and ponds leading to periodic outbreaks of diseases such as cholera ad guinea worm epidemics. The program have provided boreholes to some communities, the remaining other villages like Bogwas and others will also soon enjoy portable water through the intervention of the programme. Despite the appreciable effort of the program there is therefore need for improvement in the area of water supply.

4.3.2.5 Primary Schools

The programme has provided various numbers of primary schools in the support zone communities as shown on the table above. Most of the villages have primary schools provided by the SZCP. Bigger villages like Mainamaji and Yelwa Duguri have more than one primary schools provided due to the large population. The schools have provided education for the children in those communities. Even though Bogwas has just recently had it primary schools due to its small population.

Therefore, the programme has actually tried in the area of provision of primary school education in the SZCs. There is need for improvement in terms of qualified teachers and the provision of adequate furniture and classrooms to accommodate the increasing population growth.

4.3.2.6 Secondary Schools

The programme has provided some secondary schools mostly junior secondary schools to the support zone communities as shown on the table above.

With exception of Bogwas, Dogon ruwa, Tudun wada and Jada the selected villages have secondary schools although most of which are junior secondary schools. Inadequate educational facilities such as good primary and secondary schools contributed negatively to the literacy levels of the SZCs. The communities are looking forward to the programme intervention to upgrade the junior secondary schools to full senior secondary schools and to equip the available schools with qualified staff and facilities. Adequate furniture and classrooms should be given due consideration due to increasing population growth in the communities.

4.3.2.7 Police Station

The programme has not provided enough police stations to aid security in the support zone communities as shown on the table above. Mainamaji and Yelwa Duguri have been provided with divisional police station to help in tackling security issues in their communities and neighbouring communities to enforce law and order. There is therefore need for the stakeholders especially the federal government to establish more police stations in the rural areas to help in fighting violators of the rules of conservation that can be caught by the people before reporting to the reserve officials. Inadequate police can make violators of conservation rules go unpunished although

there is remarkable decrease in the rate of encroachment and breaking of the rules. The importance of police cannot be overemphasised in the communities

4.3.2.8 Banking Service

The programme has not encouraged the provision of banking services to the support zone communities as shown on the table above.

Banking service is lacking in the SZCs, therefore the villagers would have to trek long distance to neighbouring towns for the banking services. Only Mainamaji community has a bank (UBA) which is not functional. The main reason for stoppage was for security reasons against arm robbers as robbers could attack in the rural communities. Most villagers keep their money after the sale of their farm produce and animals at home. Banking services are necessary in those communities and the awareness and benefit to keep money in the bank should be created to the people. The banks should be adequately secured to scare away possible threat from all angles.



Plate 1: Nigeria police station located in Mainamaji.



Plate II: UBA providing banking services to tourist and the communities in Mainamaji



Plate III: construction of more block of classrooms in junior sec. Sch, Mainamaji



Plate IV: Furniture Provided in Schools



Plate V: Classroom Blocks in Sec. Sch. Yelwa duguri

4.3.2.9 Functional facilities

In response to the question whether or not the facilities provided are working well respondents have been grouped according to the functional and non functional categories as shown in table 4.6

Table 4.6: Functioning of Facilities Provided.

S/NO	RESPONSE	FREQUENCY	PERCENTAGE (%)
1	functional	60	58
2	nonfunctional	44	42
	Total	104	100

Source: Fields Survey, 2010

Table 4.9 above shows that 58 % of the people declared that the facilities are functional whereas 42% declared that the facilities are non functional. The three (3) boreholes provided in Mainamaji village one is non-functional, two (2) out of the four (4) provided in Pali are non functional, one (1) out of the six (6) boreholes provided in Yelwa duguri is not functional, one of the three (3) provided in Jagudi is non functional, two (2) of three (3) in Tudun wada is non-functional, two (2) of the

five in Maiari is non-functional and two (2) of the six in Yalo are non-functional. The UBA bank provided in Mainamaji to help the villagers and tourist has stopped functioning for sometimes now.



Plate VI: Access Roads through the Communities to Yankari Game Researve



Plate VII: Heavy Machines used for Reconstruction of Dilapidated Roads from Yashi to Yelwa Duguri and from Alkaleri to Pali



Plate VIII: Constructed bridge through the communities to Yankari game reserve

Table 4.7 Reasons for Non-functionality of Some Facilities

S/NO	OPTION	FREQUENCY	PERCENTAGE (%)
1	No adequate maintenance	26	59
2	No adequate supervision	6	14
3	Pressure on few facilities	12	27
	Total	44	100

Source: Fields Survey, 2010

The reasons by the 44 respondents (table 4.7) that the facilities are not working well include inadequate maintenance of Roads. Water, Electricity, pressure on few facilities due to population growth and lack of adequate supervision by the SZCP officials and the communities

Observations to find out what is really happening revealed that most of the facilities are functioning at the time of field investigation. Educational centres and health care centres are operational, electricity power supply is available, main roads are motor able but some of the roads are dilapidated and can be very difficult during the rains. Some of the roads are under reconstruction especially Yashi to Yelwa Duguri and Alkaleri to Pali are under reconstruction. More classroom blocks are under construction in Mainamaji junior secondary school.

4.3.2.10 Adequacy of facilities

The facilities provided by the programme to the support zone communities was examined to determine whether they are adequate and strategically located is shown on table 4.8 below

Table 4.8 Adequacy of Location of Facilities

S/NO	RESPONSE	FREQUENCY	PERCENTAGE (%)
1	Adequate	64	73
2	Inadequate	40	27
	Total	104	100

Source: Field Survey, 2010

Table 4.8 above shows that 64 respondents representing 61% declared that infrastructures are inadequate and not located in strategic places to meet the needs of the people whereas 40 respondents representing 39% declared that the facilities are enough.

The focus group discussion revealed that the facilities are inadequate and that in some instances communities must meet certain criteria such as registration as an organization and obtain certificate of membership before they could be attended to by some stakeholders of the programme.

Field observations showed that infrastructures are not adequate, senior secondary schools are hard to come by, only junior secondary are available in most communities. Health care centres are not strategically located as population had increased. Most of the interior roads are not accessible in rainy season because they are not tarred. Local and international tourist find it difficult to visit these local communities due to the condition of the roads.



Plate IX: Health Care Centre in Yelwa Duguri



Plate X: Plate Electricity Transformer in Mainamaji

The facilities provided to the support zone communities could be adequate therefore whether there are adequate furniture, equipments and drugs in educational and Medical centres is shown on table 4.9 below

Table 4.9 whether there are adequate furniture, equipment and drugs

S/NO	RESPONSE	FREQUENCY	PERCENTAGE (%)
1	Positive response	50	48
2	Negative response	54	52
	Total	104	100

Source: Field Survey, 2010

Table 4.10 below presents data on why there are no adequate furniture and drugs in education and medical centres.

Table 4.10 Why there are no adequate furniture and drugs in educational and medical centres

S/NO	RESPONSE	FREQUENCY	PERCENTAGE (%)
1	Have been vandalized	10	18
2	Have been stolen	4	8
3	Not provided	40	74
	Total	54	100

Source: Field Survey, 2010

Table 4.10 above shows that 50 respondents representing 48% gave a positive response that furniture, equipment and drugs are adequate whereas 54 respondents representing 52% gave a negative response that it has not been adequately provided. The focus group discussion agrees that it is not well provided and that in most instances communities must meet certain criteria of registration to some organisation bodies and obtain certificate before they can be provided such items.

Observations of what is obtainable showed that furniture's in schools are quite inadequate and some are broken and out of use. Drugs and equipments are quite inadequate in the health centres. There is no standard pharmacy in the health centres. Complex cases are referred to general hospital in bigger towns like alkaleri Local Government headquarters and Bauchi town. Equipment, are not available for some services like scanning and x-ray cases. Some of the reasons why there are no adequate furniture include the fact that some furniture have been vandalized others have been stolen by thieves and in some cases it has not been provided.

The programme has provided manpower and maintenance to the infrastructures established to the support zone communities therefore the distribution of respondent showing whether there is adequate Manpower and Maintenance for the School, Medical Centres, Roads, and Electricity Etc. is shown on table 4.11 below

Table 4.11 manpower and maintenance of facilities

S/NO	RESPONSE	FREQUENCY	PERCENTAGE (%)
1	Positive response	66	63
2	Negative response	38	37
	Total	104	100

Source: Field Survey, 2010

Table 4.11 shows 66 respondents representing 63% gave a positive response that there are adequate manpower and maintenance for schools, medical centres, roads, electricity etc. whereas 38 respondents representing 37% gave a negative response that there is no adequate manpower and maintenance, the reasons include lack of enough grant from stakeholders, poor remuneration for workers and the vandalisation of the facilities by the villagers.

The focus group discussion shows that there is no adequate manpower, maintenance due to the fact that the programme cannot fully meet the need of all the people due to increasing population. Maintenance of the available facilities is poor. Some of the workers are not quite capable to work in the education and healthcare centres. Qualified people prefer to work and stay in urban centres. Most roads and culverts are in dilapidated conditions that need urgent attention.

4.3.3 Introduction of new farming methods

Beside jobs obtainable in the game reserve and the community, farming is the main occupation of the people of the support zone communities (SZCs) including crops and animal production. Lack of sufficient farm land and population increase in

the SZCs is among the prevailing factors that drive SZCs inhabitant to encroach on the YGR for illegal activities. Majority of the respondents and the FGD agreed that the following innovations were introduced they include proper application and use of chemical like fertilizers, herbicides etc. Vaccination and health care of livestock, selection of good breading stock and use of improved seedlings, others are early preparation of farm land, planting and harvesting in good times, location of source of inputs and credit facilities these farming techniques have been encouraged by Agric. Extension agents to the support zone communities as a means of improving their crop and animal production. other innovation include Bee keeping (apiculture), fish ponds, post-harvesting processing unit (groundnut oil expeller, and use of modern firewood stove where fewer firewood is used for large cooking, to discourage indiscriminate felling of trees for much fire wood. The table below shows the adoption of these innovations

Table 4.12 Adoption of Innovations

S/NO	RESPONSE	FREQUENCY	PERCENTAGE (%)
1	Poor adoption	16	15
2	Partial adoption	60	58
3	Total adoption	28	27
	Total	104	100

Source: Fields Survey, 2010

The constraints to adoption is summarised in table 4.13 below

Table 4.13 Constraints to Adoption of Innovations

S/NO	RESPONSE	FREQUENCY	PERCENTAGE (%)
1	Financial constraint	64	62
2	No credit facilities	28	27
3	No input available	4	3
4	Extension workers not readily available	8	8
	Total	104	100

Source: Fields Survey, 2010

Table 4.13 above shows that 60 of the respondents representing 58% declared that the adoption of the farming methods is partial, whereas 28 respondents representing 27% declared that there was total adoption and 16 respondents representing 15% affirm there is poor adoption by the people.

The major constraint to adoption is shown to be first, financial constraint which has led to poor and partial adoption; secondly, there are no credit facilities. Finally, the extension workers are not readily available to help the villagers.

The focus group discussions affirm there is poor and partial adoption to the innovation and the main constraint to adoption has been financial problem. Observation revealed that the new innovations were not supported by credit facilities to enable the poor villagers adopt the innovation and to repay after the harvest. The people keep using their local seedlings and no money to buy fertilizers thereby experiencing poor yield. Only few people could afford the expensive fertilizer and improved seedlings, health care for animals, etc. Poverty is shown to be their main handicap, therefore they could not afford these innovations.

4.3.4 Training of YGR employees

Whether the programme has provided specialised training to indigenes to work as park officials in various areas of the reserve and in the community's schools, health centres etc. is summarised on table 4.14 below

Table 4.14 Issues on training

S/NO	RESPONSE	FREQUENCY	PERCENTAGE (%)
1	Positive response	26	25
2	Negative response	78	75
	Total	104	100

Source: Field survey, 2010

Table 4.3 shows that out of the 104 questionnaires, 26 respondents representing 25% agreed that some indigenes were trained for the purpose of working in the game reserve, education and health centres etc. Their points of view are that majority of the workers passed through the schools in the community provided by the programme. Whereas 75% of the respondents declared there was no specialised training for the purpose of taking job in the communities and the reserve as tour guide, park rangers, or hotel workers. The focus group discussants confirmed there was no specialised training.

It was observed that the management of YGR could not arrange for much specialize training to the park officials in other to enhance their productivity and conservation practices. Only very few park officials had opportunity of training in biodiversity conservation and eco-tourism issue which is still not sufficient to provide the required professionalism required to handle local and international tourist. Unfortunately, the villagers are not occupying key positions in their educational, healthcare centre, etc. As none indigenes could be seen occupying some key areas.

This perhaps is because there are no qualified indigenes. This is quite discouraging if they can make the best use of these facilities provided.

4.4 EFFECTIVENESS OF SUPPORT ZONE COMMUNITY PROGRAM

4.4.1 Conservation of park resources

The support zone community programme has set out these rules on conservation, to what extent the Programme has reduced Game Poaching, Deforestation, bush burning etc. Is revealed by the data on table 4.15 below

Table 4.15 Conservation of park resources by the communities

S/NO	RESPONSE	FREQUENCY	PERCENTAGE (%)
	Highly effective	52	50
	Moderately effective	52	50
	Poor	0	0
	Total	104	100

Source: Fields Survey, 2010

Table 4.15 above shows that 52 responded, representing 50% shows that the program has been highly effective in reducing game poaching, bush burning etc. More so, 52 respondents representing remaining 50% declare that the programme has reduced it moderately. The focus group discussion confirm the rules have been highly effective in reduction of bush burning, hunting etc and the main reason is due to the awareness and the effort by the management to improve their living standard by provision of jobs, and infrastructures.

Despite ban on use of park resources collection, processing and marketing of products like honey, locust beans, shear-butter, baobab leaves (kuka), fruit, , grasses for brooms and thatching of roofs and use of medicinal plants represent a source of income for women and interestingly for men and youth also are carried out lightly . Such produce are sold to supplement income.

The villagers at a low degree still involved in poaching activities not only for protein source but also as means supplementing income. Fishing activities are still carried out using hooks and line, net, basket, etc. Moreover, poachers, illegal grazers and other inhabitants still carryout bush burning for various purposes including flushing out of wildlife, stimulation of the vegetation to produce new flush of grass for livestock. Uncontrolled bush fire often spread into the reserve to destroy vegetation and animals. Furthermore, migrants, nomads, and Fulani herdsmen who live around the reserve still carryout illegal grazing in the protected areas the key attractions is the availability of drinking water, grass and the natural salt leak within the YGR.

Finally, cutting and felling of trees is still carried out. The exploitation of Borassus palm trunks by local merchant is a thriving business around some villages in southern edge of YGR. The records of the YGR relating to offences and arrest is summarised on table 4.16

Table 4.16 Nature of Offences Arrested in YGR from Year 2007-2011

Offence	2007	l %	2008	%	2009	%	2010	%	2011	%
Poaching	36	35	34	34.3	33	35.1	34	33.7	35	35.3
Grazing	57	55	59	59.6	56	59.6	60	59.4	58	58.6
Illegal fishing	5	5	4	4	3	3.2	5	5	4	4
River poisoning	2	2	1	1	_	_	1	1	1	1
Cutting grass	3	3	1	1	2	2.1	1	1	1	1
Total	103	100	99	100	94	100	101	100	99	100

Source field survey 2011

Table 4.16 shows that recorded cases of arrested offences in the reserve are few because of the programme along the years. Illegal grazing activities ranked highest with an average of 58 cases annually. This is an average of 58% within the

years 2007-2011. This is due to the activities of fulani herdsmen and other villager that graze close to the reserve and subsequent encroachment by the attraction of fresh grass and salt lick in the reserve.

Poaching activities ranked second, records shows that there is an average case of 34 cases i.e. 35% annually. This is due to the unpatriotic individuals that are jeopardising the conservation efforts. Despite cases of large band of organised visiting poachers, arrest is usually difficult since it is planned. This would have raised the figure.

Illegal fishing is seen to rank third with an average of 4 cases at 4% annually during the raining season. Cutting of grass for thatch roof and other purposes is at 2% as most of the people now use corrugated iron sheet for roofing. Finally river poisoning is experienced at 1% annually perhaps for fishing.

The attitudes of some protection staff could aid illegal activities due to poor incentives they could connive with Fulani herdsmen, hunters and other offenders after collecting bribe. Moreover, poor coordination and monitoring from the protection

Staff resulting to late arrival to the scene of offence after offenders had escaped.

Shows that year 2007 recorded the highest number of offences committed with 103 cases followed by year 2010 with 101 offence cases. Year 2008 and 2011 are 3rd with 99 cases each. The least cases of offences between the year 2007 and 2011 was recorded in year 2009 were 94 cases was recorded. However, the total offences arrested and recorded during the years 2007-2011 was recorded at 498 cases.

4.4.2 Opinion on compliance

The reduction in the recorded offences committed by the people over the years is negligible as it does not seem to reduce reasonably on annual basis. From year

2007-2011 it shows 103, 99, 94, 101 and 99 cases respectively. Showing an average of 99 recorded cases of all illegal activities such as grazing, poaching, fishing etc in the reserve with an average reduction of 5 cases yearly. Year 2009-2010 shows an increase moving from 94-101 before reducing to 99 in 2011. These show that even though the people comply to the rule to some extent (as an average of 99 offences per year would have been more cases if not checked). There is no remarkable decrease in illegal activities yearly. Therefore the rate of decrease in illegal activities is low as the programme with all its effort have tried in checking illegal activities to some extent. At the moment from all indications the programme has not been very effective in reducing the illegal activities. Perhaps as the years go by and there is more intervention of the programme to the people the average yearly cases would reasonably drop.



Plate XI: Poachers Arrested by Park Rangers



Plate XII: Guns Confiscated from Arrested Poachers



Plate xii1: Confiscated Traps used by Poachers

4.4.3 Improvement of Community Relationship

The programme is supposed to bring about good relationship and harmony between the staff/management of the game reserve and the support zone communities Whether There Has Been Conflict between the Reserve Management/Staff and the People in the Community Recently is given on table 4.17

Table 4.17 Relationship of SZCP and community

S/NO	RESPONSE	FREQUENCY	PERCENTAGE (%)
1	there have been conflict recently	26	25
2	No major conflict of recent	78	75
	Total	104	100

Source: Field Survey, 2010

Table 4:17 above shows that 78 respondents, representing 75% declared there was no conflict recently between the reserve Management /staff and the communities. Only 26 respondents, representing 25% declare there was some form of conflict since there cannot be total compliance.

The focus group discuss also declared that there is relative peace between the YGR and the Support Zone Communities Observation and interviews revealed that domestic animals can be caught and released to owners after paying fine in the reserve. Poachers are caught by ant poachers and are taken to court on arrest. Currently, YGR management plans do not provide for any sharing of over populated animal species with the communities during a culling exercise. Similarly, there is no compensation for crops damaged by the wild animals. These issues have not yet reached the boiling point, but with increasing wild animal population, perhaps it is only a matter of time before serious conflict might takes place between the reserve official and the communities.

4.4.4 Sustainability of support zone community program activities

The respondent where asked what benefit was provided/enjoyed at the beginning of the programme but is no longer provided/enjoyed presently**.** Majority of the respondent, especially in the focus group discussion declared that it was easier getting labour work in the past in the construction of track path for game viewing and in clearing of some specific areas in the park. Manual labour is highly carried out by

mostly the people of the support zone communities in which they get paid The people affirm that in the past the management of the reserve seem to be more directly involved in the education of their children in that, they organize inter-school quiz competition within the SZCs. Hardworking and talented students are detected and rewarded and also encouraged to keep it up but these kind of activity is not done at present. Moreover, there used to be a meeting forum between the park officials and community leaders, were the people freely express their minds and their experiences in relation to the park conservation and their suggestions are noted and taking into considerations for planning. Such meeting has reduced drastically or almost stopped. Resuming these meetings more regularly will be appreciated by the people.

On gate fees, the members of the SZCs use to have the advantage of entry into the reserve through the gate with their motorcycles without hindrance due to their location advantage but observations have now shown that it is very difficult for the villagers to have access to the reserve Wikki camp due to high gate fee that is charged, only park officials could assess the reserve were they are working.

Most of the villagers declared that in their opinion, the reason for discontinuity is because the management don't seem to give priority to some issues that pertains to the communities or they consider such issues of less importance. Also, the management seem not to make plans on budgetary allocations in such areas that directly affect the people like sponsoring of inter school quiz competitions, employing labour to maintain the constructed roads and tracks in the reserve. Moreover, others testify that the reserve have now gotten machines, that can be used for the work so there is no need for manual labours .And due to increasing population it is more difficult now to solve the unemployment problems of the people . Also, on entry to the reserve for free by the indigenes and their motorcycles, the noise of such

motorcycles could scare the animals. Strangers could disguise as indigenes to mislead the park officials to gain entry and carryout illegal activities.

Thorough observations indicated that the stoppage of some of those activities is justifiable in that management are emphasizing on provision of more facilities to meet up with population increase. Sophisticated machines can now do the labour work better and faster, the local people don't actually deserve free access to the park as their entry is not for tourism purposes as tourists are the main target. The tourist or researchers can meet the local people at their communities to get the information they so desire about them and their culture.

Respondents were asked What Benefit is Obtainable now that was not provided/Enjoyed at the Beginning. Most of the people declared that their villages have gained popularity in the country and the world at large being the host to the famous Yankari Game Reserve. Their existence is known to Nigerians near and far and foreign tourists. Their culture and history is known internationally by foreign tourists. There can be documentary telecasts of their communities as host communities to YGR on Television satellite. Secondly, they have the opportunity of viewing some important dignitaries that would visit the reserve as they pass across their communities ranging from the president, state Governors and foreign personalities etc. These personalities come with other tourists in car convoy which makes it very interesting to the local people. Moreover, since they have been moved out of the reserve, they have concentrated population which has encouraged them to carryout business activities like surveniers for tourists to earn money. It has increased their source of income. Various marketing strategies have been developed making the people more business oriented. Finally, the villagers have more awareness and access to loan facilities presently than at the beginning. Even though these loan facilities are

not readily accessible, more fertilizer is made available to them than before. Though, the land before is more fertile due to freedom of shifting cultivation. There is general/improvement in their living standard due to development of the infrastructure facilities like roads, schools, medical centres etc. Which are very much underdeveloped before now. Therefore, more job opportunities have become available to them through the activities of SZCP in their communities.

4.4.5 Other associated benefits of the SZC program

There is increase in revenue generation in the park due to the comfortable modern infrastructural development in the park which has encouraged very important dignitaries and foreigners to visit the reserve. With such increase revenue, there is good prospect that awaits the rural community in terms of improvement in their living standard. The park has become more popular over the years been owned by the Federal Government before returning to the state government. Under the federal government, the place has been exposed to the international world and the glory is still attached to the reserve. The people are complying with the rules of conservation. Despite some illegal activities, efforts have intensified by the park officials to punish violators. Over the years, the population of the surrounding villages has increased drastically and more business activities have emerged. The villagers are more civilized now due to infrastructures and contact with various tourists and educational researchers than when they first left the reserve. They have more loan access because of improvement in education development and general infrastructural development has improved their living standard having raised their villages to mini towns. The table below shows the changes in the programme over time.

Table 4.18 Changes seen in the Programme over Time.

S/NO	RESPONSE	FREQ.	PER. (%)
1	There is significant improvement of the programmed and its activities to the people	64	62
2	There is little improvement of the programmed and its activities to the people	20	19
3	The programmed is stagnant,	4	4
4	There is decline in the programmed performance	16	15
	Total	104	100

Source: Fields Survey, 2010

Table 4.18 shows 64 respondents representing 62% declared that there is remarkable improvement of the programme and its activities over time this could be due to infrastructural development and general improvement in living standard of the people. However, 19% respondents declared that there is only little improvement. 4% opined that the programme is stagnant in terms of development, whereas 15% respondents declared that the programme has decline in value. Majority of those in the Focus Group Discussion confirmed that the program has improved compared to when it started.

It is quite evident from observations that these communities have access road, education and health centres, electricity etc than when the programme actually started. Much people have gotten job in the reserve and in their communities. However, there are still unemployed youths due to population growth; poverty is still experienced in most homes due to large household size because of polygamy.

To say the programme has declined could be because not all the youth could be employed and there is no adequate arrangement to meet up with their protein needs after the ban on hunting and no adequate compensation on damages to their farms due to increasing population of animals and probable conflict and arrest when they violate

any of the rules of conservation, owners of animals caught grazing in and around the reserve are made to pay fined before the animals are released to owners.

4.5 PROBLEMS INDIRECTLY LINKED TO THE SUPPORT ZONE COMMUNITY PROGRAM

Majority of the respondent and the focus group discussion declared that their main problems include. Stray animals from the reserve like Monkeys, Elephants etc. that destroys their farm lands and increasing wild animals that could attack them and their domestic animals and there is usually no adequate compensation to this effect.

Secondly, some claim they have difficulties in accessing farm inputs and credit facilities even when it is available it is not usually sufficient to meet all the needs. Sometimes Fertilizer is not made available in good time and the cost is usually high considering their meagre income.

Thirdly, due to the increasing population of the youth, there is still need for more employment opportunities to employ the idle once. The management of the YGR don't seem to be quite sensitive to the increase in population as such, in adequate plans and budgetary allocations are made on the activities of the programme.

Moreover, ambiguity about the boundary/limit of the protected areas is of great concern as the reserve is seen to have taking more land area for protection than necessary.

Other problems include, intruders of organised large bands of visiting poachers into the communities, their inability to expand their farms due to population growth and after the introduction of the ban on collection of fire wood, ban on killing of animals for meat etc no adequate provision for supplement has been made and the

villagers cannot afford buying Kerosene as fuel and the firewood stove introduced is in short supply.

Finally, despite efforts by the reserve management to carry the villagers along, their effort is still not enough as there is still poor reserve management/park officials and SZCs relationship/communication leading to some illegal activities detrimental to the wildlife habitats.

4.6 PROBLEMS ASSOCIATED WITH THE SUPPORT ZONE COMMUNITY PROGRAME

4.6.1 Inadequacies of the programme

The villagers find it difficult to comply totally to the rules of conservation of no killing of animals, no fire wood collection etc. as some of them staying close to the reserve could kill stray animals, strangers could come at night from outside the host communities in form of organised large bands of visiting game poachers with deadly weapons, resisting them could be very dangerous to whoever will attempt.

Inadequate funding to finance programme activities is also militating against the programme. Poor accessibility for anti-poaching patrol and surveillance due to the poor condition of patrol track is a major handicap. Some tracks have been closed down due to lack of maintenance. The management is encourage to take maintenance of tracks seriously for both anti-poaching patrols and game viewing as no enough attention is paid to the development of network of tourist seasonal jeep tracks as these tracks also function as fire breaks.

Another problem is poor anti-poaching strategies, lack of co-ordination and monitoring often resulting in late response to information on poaching activities.

Patrol teams turn up when animals have been killed or other forms of illegal activities have been carried out.

Lack of training and capacity building for protection staff, lack of incentives for the protection staff, corruption and poor attitude of protection staff towards protection of the reserve by either not carrying out patrol assignments diligently or conniving with Fulani herdsmen and poachers after collecting gratifications. There is also lack of basic field equipments (example safety wears, camping tents, mosquito nets, first aids kits etc.).

There is still insufficient training of the YGR management officials on community based management approach to conservation of sustainable natural resources. The YGR personnel officials are still committed to the militarised policing approach.

CHAPTER FIVE

SUMMARY, RECOMMENDATION AND CONCLUSION

5.1 SUMMARY

The study appraises the SZCP in Yankari Game reserve. It is designed to reduce or totally eliminate pressure on park resources and focus attention on local people, there welfare and development needs. The main findings of the study are summarized as follows:

Specialized training to indigenous park officials or community people in other to enhance their professionalism and conservation practice was not encouraging. Various numbers of people have been employed from the villages in the game reserve and the communities. Most of the workers (indigenes) are able bodied men that belong to the lower cadre working as park rangers, securities, drivers, mechanics, cleaners etc. Graduates from the communities are encouraged to take up employments in the reserve and the communities as they their influence on tourist and the people could be positive.

Secondly, various degrees of infrastructures have been provided to the villages such as roads, boreholes, education and healthcare centres etc. Most of the facilities are functioning well although some are dilapidated due to pressure on few facilities, inadequate supervision and maintenance. Infrastructures are quite inadequate especially the education centres, only few senior schools and health care centres are provided. Boreholes and electricity are lacking in some areas due to insufficient grant from the providers. The furniture, equipment and drugs in the education and medical centres are also quite inadequate because it was not provided and some have been vandalized. Moreover, there are no adequate manpower and maintenance in the

education and healthcare centres as some of the workers are not quite capable to work in schools and health centres.

Thirdly, various farming innovation were introduced to be adopted by the people Such as hybrid seeds, vaccination of animals, use of chemical etc. but only few people could afford the innovations due to lack of proper credit facilities. Financial constraints are the main reason for partial or no adoption of the innovation.

Fourthly, the people are aware of the rules of conservation as they no longer use the park resources like before, the villagers still involve in some poaching, fishing, grazing and other illegal activities around the reserve. Effort of the park rangers to track the violators is not enough. There were no major conflicts between the reserve management and the communities recently. Animals caught grazing is released on payment of fine to their owners and poachers are prosecuted. Perhaps only a matter of time before serious conflict could take place between the officials of the park and the communities due to over populated species of animals.

Fifthly, certain benefits enjoyed at the early stages of the programme include manual labour in track constructions in the reserve; organize quiz competitions in schools, forum between parks management and community leaders to express ideas on park conservation, freedom of access to the park with motorcycles etc. Stoppage was due to modern machines been used. Motorcycles could scare animal and some issues don't seem important to the park officials. The benefits enjoyed presently includes popularity as the villagers are known to local and international tourists, documentary of YGR and the surrounding communities on TV satellites other benefits. Their abilities to view president, Governors and other local and foreign dignitaries passing across their communities. They are more business oriented and now have more infrastructures and improved living standard due to increase in

revenue in the reserve and improvement in infrastructure in the reserve and the communities, the park is more popular over the years etc. moreover, on what changes is seen in the programme over time. There is significant improvement of the programme over time as it is quite evident from observation that their communities have roads, water, education, healthcare centres and more youths are employed.

Finally, the problems facing the community include stray animals like, Monkey, Elephants etc from the reserve to destroy their farm produce without adequate compensation. Such animals can attack them and their domestic animal. There is more need for jobs due to increasing population, ambiguity about the boundary and limit of protected areas as the reserve is seen to have taken more land area than necessary. Moreover, intruders of organized large bands of visiting poachers are a great problem and there is still poor reserve management/park officials and SZCs relationships/communication leading to some illegal activities detrimental to wildlife habitat.

On the problems facing the programme it includes difficulty by the villagers to comply totally to rules of conservation, large bands of organized poachers at night with deadly weapons, inadequate funding to finance programme activities, poor accessibility and strategies for anti-poaching patrol, lack of co-ordination and monitoring often resulting in late response to information on poaching. Lack of incentives for protection staff, corruption and poor attitude of protection staff toward protection of the reserve. Also lack of field equipment e.g. camping tents, safety wears etc. there is still insufficient training of the YGR management officials, on community based management approach to conservation of sustainable natural resources.

5.2 RECOMMENDATIONS

Based on findings:

1. The stakeholders should be able to provide adequate funding to finance programme activities. Funding is needed to maintain and repair infrastructure like boreholes, schools and even provide new ones as this will create employment opportunities to the increasing population of youths in the communities. Hardworking casual workers should be made permanents with improved welfare. This will subsequently help in higher reduction of illegal activities in the reserve.
2. Stakeholder should look into the problems of the people with a view to alleviating their sufferings towards effective conservation. Adequate compensation should be given on report that stray/wild animals from the reserves has killed someone, livestock or destroyed crops in neighbouring farms. The people are at risk of been killed by large ban of visiting poachers who come with deadly weapons.
3. Patrol tracks in bad conditions should be repaired for good accessibility for anti poaching patrol and surveillance. Basic field equipments example safety wear, camping tents, mosquito nets, first aid box should be provided to park rangers to ease their works.
4. Adequate training and capacity building should be provided by the stakeholders to protection staff; also incentives should be given to discourage corruption and poor attitude to protection as staff could connive with Fulani herdsman and poachers after collecting bribe. Training will improve anti-poaching strategies, co-ordination and monitoring to discourage late response to information in poaching and other illegal activities by some few stubborn villagers.

5. Stakeholders should endeavour to train/sponsor some indigenous park officials to be professionally oriented and qualified to work in the game reserve and communities. Adequate facilities should be provided in health and education centres like furniture, drugs etc. to enable the people make best use of these infrastructures. Indigenous qualified graduate should be encouraged to take up jobs were relevant vacancies exist with good welfare as they can better influence the people on conservation of natural resources and its immediate and futures benefits to the communities.
6. Efforts should be intensified towards improvement in the reserve management/park official and SZCs relationship/communication which will lead to further reduction in illegal activities, improved communication will make the community's report cases of intruders of organized large band of visiting poachers and other violators of conservation rules to appropriate authorities for prompt response.

5.3 CONCLUSION

In conclusion, the stakeholder could not provide adequate specialized training to indigenous park officials or those working in the communities to enhance their productivity and professionalism. Most workers are able body's indigenes in the junior cadre and some on casual basis. Graduate indigenes are encouraged to take up job when ever relevant vacancies exist in the reserve and communities; as they can better influence the people on conservation issues positively.

The programme has provided infrastructures to a good number of the rural communities and the facilities provided are fairly working while some are not strategically located to meet the needs of the people. Strategic location can better make impact in the people's life. However, there are no adequate furniture, equipments and drugs in the schools and medical centres therefore the people cannot get the best of these facilities. There is also insufficient capable manpower in the various establishments.

Adoption of the new farming methods is partial as the villagers are faced with financial constraint. Inability to use the new farming methods can discourage them on conservation of park resources.

The people are aware of the rules of conservation and have reduced pouching, deforestation, grazing in the reserve as the people still carryout little illegal activities. The fairly cordial relationship between the management/park officials with the community has been of great help in reduction of these illegal activities.

Presently, the benefit of more jobs, infrastructures, reduction in illegal activities than when the programme first started has improved the people's life. These have shown improvement of the programme and its activities over time.

Finally, the people are faced with some problems which need to be addressed to encourage the people on the rules of conservation and to improve the programme and its activities to the people.

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