ANI

MAY 2021

GASHAKA GUMTI NATIONAL PARK
SOCIO-ECONOMIC SURVEY

CENTRE FOR
MICROENTERPRISE
DEVELOPMENT

NATIONAL PARK SERVICE
NIGERIA

TDL
Translantic Development Limited

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Glossary

APW	Assistant Park Warden
ANI	Africa Nature Investors Foundation
CMD	Centre for Micro-Enterprise Development
CPR	Chief Park Ranger
CPW	Chief Park Warden
FAO	Food and Agriculture Organisation
FGD	Focus Group Discussion
GGNP	Gashaka Gumti National Park
HH	Household
ILO	International Labour Organisation
IFC	International Finance Corporation
KII	Key Informant Interview
LGA	Local Government Authority
NGN	Nigerian Naira
NGO	Non-Governmental Organisation
PkS	National Park Service
PW	Park Warden
TDL	Translantic Development Ltd
UNDP	United National Development Programme
VIP	Ventilated Improved Pit
WWF	World Wide Fund for Nature

Executive Summary

ANI Foundation and Gashaka Gumti National Park commissioned a socio-economic survey to collect qualitative and quantitative data from the communities within the park and its support zone to establish a social baseline and to formulate a community partnership and development strategy based on identified needs. The survey had two aims:

- Engage in and around the park to inform them about the aims of the survey and solicit their opinions

- Collect qualitative and quantitative data from sampled communities within GGNP and its buffer zone to understand their socio-economic profile and development challenges to inform a community development strategy.

The survey was carried out in 13 communities over a period of 3 weeks starting on April 23rd to 15th May 2021, by two organisations: Translantic Development Limited (TDL) and the Centre for Micro-enterprise Development (CMD) using 27 surveyors and another 12 rangers and porters. This involved detailed logistical planning given the size of the area to be covered and the mountainous terrain of the park.

The survey focused on the communities that live permanently in and around the park but was unable to adequately capture data on the nomadic pastoralists since it took place at the start of the rains when most of the herders had left. A separate survey will be commissioned to focus on this specific group of important stakeholders.

KEY FINDINGS FROM THE SOCIO-ECONOMIC SURVEY INCLUDED:

There is generally a good relationship between the park and communities. All were welcoming and keen to collaborate to protect the park

At 70% literacy levels are low even for this part of Nigeria. Correspondingly, poverty levels are high with high levels of food insecurity.

Most villages around the park are small, the largest surveyed had 740 people, the smallest had 66 people

Overall, social amenities/ infrastructure is lacking in almost all communities. Apart from one community on the highway, none of the communities surveyed had a functioning school or health centre, potable water or electricity.

50% of the people in the study area are semi-nomadic Fulani followed by the Mambilla (17%), however there are many other ethnic groups including Nyim-Nyim, Ndoro, Jibu, Kaka, Tiv and others. 90% are Muslim.

For agriculture, the main livelihood in the area, key challenges are lack of access to inputs (tools, fertilizers, technical support) and access to markets.

85% of people are engaged in subsistence farming and agri-related livelihoods while 10% are cattle herders. Many people combine both livelihoods.

The project is in the process of building partnerships with the park's communities so they can be guardians and stewards of the park. However, we recognize that for this to be a mutually beneficial relations, the park must support the communities with employment opportunities and development benefits. Form the survey results above, key elements of a development strategy should include:

- Support for livelihoods compatible with conservation especially agriculture and pastoralism. This could include extension advice, agroforestry, regenerative agriculture, veterinary support, etc. Assistance with access to markets will also be key.

- Support for education – which could include improvement of school buildings, furniture, and teaching supplies.

- Social infrastructure improvements especially access to potable water

Finally, it will also be important for development interventions to be part of a "social contract"

or agreement with the communities, so this support is in return for assisting with agreed park protection measures.

Coordination with various stakeholders will be critical for sustainability. The project will coordinate any activities with the state government and local government so they can be involved in the continuation of interventions. Interventions must be community owned and led with cost recovery wherever possible. So, building the capacity of community institutions and groups to run and maintain any interventions will be important.

Overall, the survey team were well received in all the villages we visited. This is testament to good relationship between the park and the communities over the years. Everywhere the team was welcomed. People were open and indeed pleased to receive visitors to their villages. They were eager to learn about new plans for the park and how they could participate in them, and the surveys have provided a solid foundation for further engagement and partnership.

Introduction

1.1 PROJECT BACKGROUND

Nigeria's largest protected area, Gashaka Gumti National Park, established in 1991, covers **6,731 km²** in Taraba and Adamawa states on the border with Cameroon. The north of the park is predominantly flat and covered in guinea savanna woodland, while the south is mainly mountainous and covered in thick rainforest. Besides harbouring important wildlife, the forested mountains of the park also function as a critical watershed for the River Benue.

The Park is in one of the poorest parts of the country with 10 villages located inside the park and another 38 located in the outer 2km buffer zone; engaged in cattle herding, farming, and petty trading. The Park faces several threats principally from illegal cattle grazing, poaching, artisanal mining, and logging. For many years, the park has not had the necessary resources required to counter these threats.

Africa Nature Investors (ANI) Foundation is a Nigerian not for profit organization that aims to demonstrate the private sector investment can make nature conservation profitable and can provide development benefits, locally and nationally. ANI has signed a 30-year partnership agreement with the Nigerian National Park Service (PkS) to provide technical, management, and financial support for Gashaka Gumti National Park.

As part of this support, ANI in partnership with PkS, has invested heavily in re-training and equipping the park's ranger force to adequately protect the park. However, we recognize that building partnerships with the park's communities is equally important however for this to happen we must identify common goals and

achieve mutual benefits. We hope to enroll the communities as guardians and stewards for the park and for the park to provide them with jobs and development benefits in return. However, an essential first step is to engage the communities to inform them about the aims of the ANI project, solicit their opinions and to collect socio-economic data on the settlements.

ANI together with GGNP commissioned socio-economic survey to collect qualitative and quantitative data from the communities within the park and its support zone to establish a social baseline and to help formulate a community partnership and development strategy based on identified needs.

The survey was carried out in 13 communities over a period of 3 weeks starting on April 23rd to 15th May 2021, by two organisations: Translantic Development Limited (TDL) and the Centre for Micro-enterprise Development (CMD). TDL focused on the collection of quantitative data primarily from focus group discussions and Key Informant Interviews while CMD was responsible for the collection of qualitative data gathered from Household surveys. In all the villages visited, a 100% household survey was carried out.

Survey Objectives:

These were as follows:

- Engage thirteen (13) communities in and around the park, inform them about the aims of the survey and solicit their opinion

- Collect qualitative and quantitative data from sampled communities within GGNP and its buffer zone to understand their socio-economic profile and development challenges to inform a community development strategy.

It is important to note that for the conduction of the Household Survey, CMD recruited 20 young man and women from the communities around the park to be research assistants. The Research and Planning Department of GGNP also supplied 3 staff who also collected the qualitative household data. TDL supplied the surveyors with handheld tablets, and we spent 3 days training the surveyors on the use of these to enter answers to the survey questionnaire. The local knowledge of the surveyors was drawn upon to adapt the questions to the local culture and context.

Methodology

The survey was conducted using several techniques to collect both qualitative and quantitative information from the communities.

Quantitative data was collected using a pre-designed questionnaire that was designed as a household questionnaire. Household data was collected in 100% of all the houses in the villages located within the park. Quantitative data was also collected in these same villages via focus group discussions and key informant interviews. In the villages outside of the park, only quantitative data was collected.

2.1 QUANTITATIVE HOUSEHOLD SURVEY DATA COLLECTION:

A questionnaire was developed by ANI, TDL and CMD and then loaded onto tablets instead of the old-fashioned method of filling in forms and transposing data into excel spreadsheets.

CMD recruited 14 young people from the local communities to conduct the household data

collection supplemented by 4 ANI staff and 4 staff from the national park's Research and Planning Department making a total of 20 surveyors.

At the start of the survey, the 20 surveyors were trained in the use of the tablets, and we road-tested the questionnaire in the classroom. This was useful since the 14 surveyors from the local communities were able to adjust some of the questions to make them more culturally appropriate.

Then once the actual survey started, the data collection was tweaked yet again after surveys were done in the first two communities. It was found that the use of the tablets was slow to start with, but once the team became proficient and data collection speeded up.

2.2 QUALITATIVE DATA COLLECTION

Qualitative data was collected using Focus Group Discussions (FGD), Key Informant Interview (KII), and Direct Observations.

FIGURE 1: QUALITATIVE DATA COLLECTION METHODS

Focus Group DIscussions	Key Informant Interviews	Direct Observations
Discussions with segregated groups (Men, Women, Hunters)	Interviews with opinion leaders, traditional leadership	Collecting evaluative information from communities based on observations

2.3 FOCUS GROUP DISCUSSIONS

FGDs were used as a qualitative approach to gain an in-depth understanding of socio-economic issues in all engaged communities. This approach was adopted mainly to gather data from segregated groups, i.e., men and women. A total of 16 FGDs were conducted across 13 communities with the following distribution.

TABLE 1: NUMBER OF FOCUS GROUP DISCUSSIONS CONDUCTED ACROSS COMMUNITIES

Community	Number of FGDS
Gumti	2
Nyumti/Hendu	2
Selbe/Tale	2
Filinga/Djaram/Tukurwa	2
Mayo Sabere	2
Mayo Yum	2
Konkita	2
Bodel	2

2.4 KEY INFORMANT INTERVIEWS

Key informant interviews primarily targeted opinion leaders, traditional leadership, and identified professionals within the communities. This approach was adopted to gather information from knowledgeable people in the community, who may provide confidential information that would otherwise be concealed in other qualitative surveys such as FGDs. For this study, KIIs were conducted in all thirteen communities.

2.5 DIRECT OBSERVATION

Direct observation was used to collect evaluative information from communities as they went about their normal activities in their natural environment. These observations covered the people's way of life and how they generally interacted. This approach was largely covert, with information gathered triangulated with KIIs and FGDs.

2.6 DATA ANALYSIS

The data analysis followed a methodological approach that ensured the quality and analysis of the dataset (meeting notes) using NVivo[1] and subsequent interpretation of the data by triangulating data from all four survey collection methods discussed above.

2.7 LIMITATIONS TO THE SURVEY

The survey took place in 13 out of the 48 communities living on and around the park. Further surveys to capture data from the remaining communities will take place in future.

The survey focused on the communities that live permanently in and around the park but was unable to adequately capture data on the nomadic pastoralists since it took place at the start of the rains when most of the herders had left. A separate survey will be commissioned to focus on this specific group of important stakeholders.

2.8 SURVEY PREPARATION AND LOGISTICS

This report would not be complete without an account of the logistics involved in conducting such a survey. Gashaka Gumti National Park is the largest park in the country, with no internal roads and a huge range of mountains. More than half the villages to be surveyed live up in the mountains so access was always going to be a logistical challenge.

→ **Meeting the traditional leadership:**

First, the park and ANI held a meeting with the Lamdo of Gashaka to explain the purpose of the survey and to obtain his permission for it. He was every supportive of the survey and invited all the Ardos and Jauros from the survey area to instruct them to receive us in his communities.

1 NVIVO is a quantitative data analysis software

It must be stated that the good relationship between the park and the communities helped this welcome that the team received. Given the fact that there were so many villages to cover, and the survey had to be completed in 3 weeks due to the impending rains, it was decided to assemble a large team so that the work could be done in a short space of time.

→ **Assembling and training the team:**

Thus, to do the work, a team of 27 surveyors was assembled including 5 people from TDL, 4 people from the GGNP research department and 16 people from CMD.   Fourteen of the surveyors from CMD were local youth (high school graduates) recruited from the project area. Besides giving opportunities to local people, it also meant that the team could benefit from the surveyor's knowledge of the communities when designing the survey tools and planning the community meetings.

To kick off the survey, the entire team of 25 surveyors were assembled at the Gashaka Outpost where a two-day training exercise was carried out to familiarize everyone with the survey questionnaire and to train them on how to use the electronic pads for collecting the data. During the training, we decided to split the survey into 2 parts – the first half of the survey up in the highlands within the park, and them the second part of the survey in the lowlands before finishing in Sabere.

→ **Ascending to the highlands inside the park:**

In planning to with the park to get 25 surveyors into the highlands with all their luggage and with ranger cover, it was decided that the team would need 8 rangers and 4 porters which together with two ANI staff made a total number of 42 people to get up into the highlands. This required 18 donkeys, and 18 motorbikes to transport luggage and those unable to make the arduous 6 hour climb up to Selbe village at 1,000m above sea level.

Selbe agreed to accommodate us in a semi completed health centre building in the village that had over 10 rooms to sleep in.

Then having sent the donkeys loaded with luggage in advance, it too the entire day for the survey team to climb up to the health centre. Needless to say, the team was completely exhausted by the difficult climb during which several threatened to turn back!

Carrying out the survey:

Having reached the highlands, the surveys took place relatively smoothly. It took a while for the surveyors to use the questionnaire on the handheld pads, but once they got used to it, the surveys took place quite quickly in each and every household. In parallel meetings were held in all villages separately with men, women, farmers herders, hunters, and other groups. Once all the villages in the highlands were complete, the team descended back down to Serti and the from there the

remainder of the villages around the west and south of the park were carried out. Sabere was the last community to be surveyed where the team were all accommodated comfortably by the village in the Jauro's house which was also large with many rooms. Needless to say, the team had many adventures along the way, and it was quite a bonding experience.

→ **Our reception:**

Overall, the survey team were well received in all the villages we visited. This is testament to good relationship between the park and the communities over the years. Everywhere the team was welcomed. People were open and indeed pleased to receive visitors to their villages. They were eager to learn about new plans for the park and how they could participate in them, and the surveys have provided a solid foundation for further engagement and partnership.

Community Profiles

This section describes the history, ethnic groups, and major livelihoods of the identified communities in and around the national park. The information presented is mainly based on primary qualitative data gathered from the identified communities.

MAP SHOWING COMMUNITIES SURVEYED
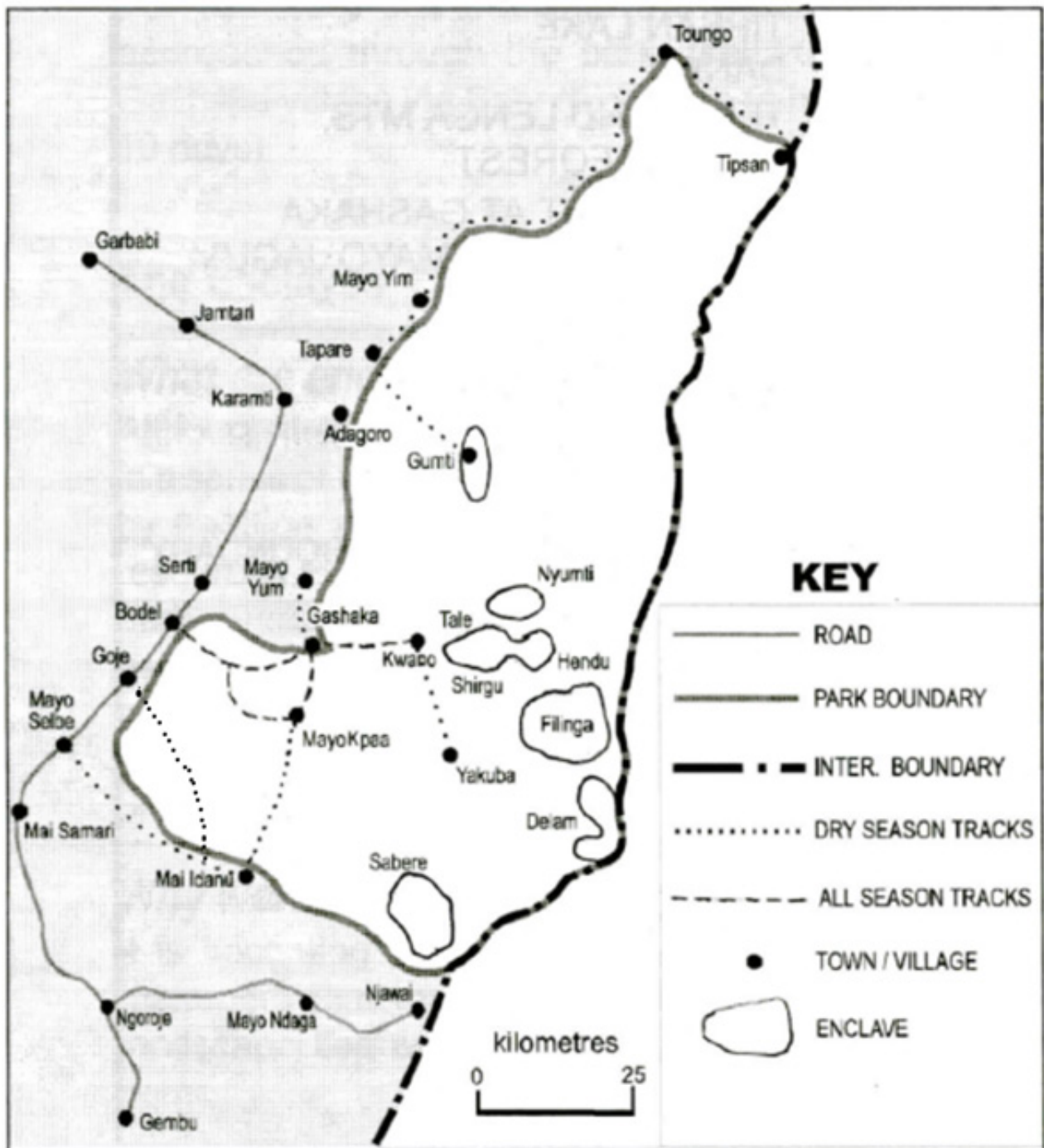
There are 10 enclave villages within the park:

No	Name of Community	No	Name of Community
1.	Selbe/Shirgu	6.	Filinga
2.	Tale	7.	Djaram
3.	Hendu	8.	Turkwa
4.	Nyumti	9.	Delam
5.	Gumti	10.	Sabere

There are another 38 villages in the parks Support Zone (approx. 5 km from the park boundary):

No	Name of Community	No	Name of Community
1.	Bodel	20.	Toungo
2.	Mayo Yim	21.	Mayo Butale
3.	Kila	22.	Mayo Gogo
4.	Goje	23.	Mayo Bakari
5.	Mayal	24.	Waloji
6.	Mayo Jarandi	25.	Buspan
7.	Mayo Selbe	26.	Tipsan
8.	Mayo Fandam	27.	Dadiri
9.	Bam	28.	Lelewan
10.	Mai Idanu	29.	Boyega
11.	Shirip	30.	Daaga
12.	Dundere	31.	Hama Diko
13.	Njawai	32.	Gum
14.	Mayo Dalle	33.	Tapare
15.	Mayo Yum	34.	Matashirip
16.	Pampo	35.	Mataya
17.	Karamti	36.	Mayo Biriji
18.	Adagoro	37.	Mayo Jankasa
19.	Konkita	38.	Gashaka Village

Overall, a total of thirteen (13) communities were surveyed: 9 within the park and 4 outside the park, as follows.

- Gumti
- Nyumti
- Selbe
- Tale

- Hendu
- Filinga
- Mayo Sabere

- Mayo Yum
- Konkita
- Djaram

- Bodel
- Mai Idanu
- Tukurwa

All thirteen communities had similar livelihoods –*crop farming, livestock keeping and trading*– with a marginal percentage difference in each community[2]. It should be noted that the households in almost all the communities as we observed were sparsely distributed with some degree of distance between them. This is typical of pastoralists.

3.1.1 Gumti

According to the people, the true expansion history of the Gumti community can be traced to West Africa, specifically Mali. The common claim is that the people migrated from Mali and settled in Laro in the present Adamawa State. They further migrated from Laro to Kwacha and Deu-deu in the Republic of Cameroon before settling in Gumti. People have been living in the Gumti village for the past two centuries. The early settlers of Gumti are Fulani by ethnic group and constitute about 50% of the community. Other minority ethnic groups in Gumti include Jibawa, Dakawa, Potipo, Ndoro, Hausa and Kanuri.

Islam is the predominant religion of the inhabitants of Gumti (98%). Compared to ten years ago, the people acknowledged an increase in population due to natural growth and immigration from other ethnic groups, specifically Hausas, to the community.

Crop farming is the principal means of livelihood, constituting about **80%** of the livelihoods in the community.

Fishing and trading each make up approximately **5%** of the livelihood activities in the area,

with cattle herding and motorbike taxis[3] constituting **10%.**

Gumti has a school (with no teachers) and a health centre (that does not function).

They go to Karamti on the Jalingo-Serti Highway to access the nearest market, school, and health centre.

3.1.2 Nyumti/Hendu

Nyumti and Hendu are enclave communities of the national park and share common economic, traditional characteristics, and livelihoods. The inhabitants of these communities sell cattle at an open space in Nyumti. Fulani, Nyim-Nyim[4], Gude, Mambila, Ndoro, Jibawa and Hausa are the main ethnic groups in these communities.

Islam is the predominant religion of the inhabitants of Gumti (98%)

2 Refer to meeting notes (Appendix 8)
3 Motorcycle used to transport goods or people for profit
4 This ethnic group constitutes about 2% of the population in the communities

Around **80%** of the population in these communities are involved in cattle and sheep herding as their primary livelihood. In comparison, crop farming is a secondary livelihood.

3.1.3 Selbe/Tale

Selbe and Tale are enclave communities having common economic and traditional attributes, including means of livelihood. The Ndoros were the early settlers (they claim over 200 years), while the Fulanis –currently the majority ethnic group– have existed in the community for about 50 years. Other ethnic groups in Selbe/Tale include Chamba, Mambilla, Jibawa and Hausa. According to the people,

> an estimated **60%** of the population are herders of cattle and sheep.
>
> About **30%** also engage in subsistence farming,
>
> while traders and motorcycle riders constitute **5%** each.

Due to similarities in their demography, the Focus Group Discussions were conducted in clustered groups at Selbe for the two communities.

3.1.4 Filinga/Djaram/Tukurwa

The villages of Filinga, Djaram and Tukurwa, are likewise enclave communities in the National Park, with similar economic, cultural and livelihood characteristics. Filinga is the largest community and serves as the focal point for the social needs of the other two villages. The major ethnic groups of these communities are Fulani, Nyim-Nyim, Gude, Mambilla, Ndoro, Jibawa, Ndola, and Hausa. The Fulani are the majority in these communities. Respondents indicated that the Nyim-Nyim ethnic group were the first to arrive (over 200 years ago). Filinga is occupied mostly by grazers (like Selbe) who farm as a secondary livelihood. The settlement has no school and no health centre. The town used to be vibrant reputedly, but it has suffered much conflict and has shrunk with much reduced economic activity.

3.1.5 Mayo Sabere

Mayo Sabere is over 250 years old and existed before the creation of the park in 1991. It is sub-divided into ten smaller settlements. Mayo Jarandi is the main centre of Sabere and is mostly Fulani. Santie is composed of people who were formerly engaged in mining but are now farmers from different states. In terms of ethnicity, Fadare is comprised of Mambila farmers. Sabare Church are Kaka. Maungwa Sali is Mambilla as are Mai Balewa, Maungwa Garba, Ba Hosere, Mayo Fauro and Sabon Gari. Mayo Sabere has no school or health centre.

> Inhabitants of Mayo Sabere are mainly farmers **(80%)**,
>
> while the remaining **20%** are involved in cattle herding, trading, and motorcycle taxis.
>
> The main agricultural produce is maize, beans, rice, ground nuts and sugarcane which is sold at the markets of Njawei and Mayo Ndaga.

Seasonal grazers come from the nearby Mambilla Plateau every dry season and pay the park authorities for grazing permits. However, there are many other nomadic Fulani who also come to Sabere annually without paying for permits.

3.1.6 Mayo Yum

Mayo Yum is a community of the Jibawa people and has existed for over 400 years. Other ethnic groups include Ndoro, Yandan, Dakawa, and Fulani. The latter only moved into the community 5 years ago.

> The major livelihood of the people of Mayo Yum is crop farming **(90%)**
>
> with a few cattle herders **(5%)** and
>
> motorcycle riders **(2%)**.

They have a school (with no teachers) and no health centre. They go to Serti for their main market, schooling, and health.

Inhabitants of Mayo Sabere are mainly farmers 90%

3.1.7 Konkita

Konkita is in the buffer zone of the national park and is entirely comprised of the Chamba-Daka ethnic group. It is small with not more than 35 households and an estimated 150 people. The inhabitants practice Islam **(60%)** and Christianity **(40%)**.

Over **90%** of the inhabitants are engaged in farming

while other livelihoods are cattle herding **(7%),**

Trading **(2%),** and

motorbike riding **(1%)**.

They go to Karamti for schooling and health since the community has no school or health centre.

3.1.8   Bodel

Bodel has over 6,000 people and is located on the Jalingo-Mambila Plateau highway and is at the main entrance to Gashaka Gumti National Park (GGNP).

The village is over 250 years old with the Jibawa being the predominant ethnic group. Other ethnic groups include Ndoro, Bayawa, Mambilla, Tiv, Mumuye, Chamba, Jonjo, Margi, Kaka, and Fulani.

> An estimated **90%** of the people are farmers,
>
> **5%** are miners, and
>
> **5%** are traders.

Bodel is comprised of two sub-villages:

- **Bodel 1** - all are farmers. This has a primary school and a health clinic.

- **Bodel 2** - relocated in 2001 from Tonga

within the park. All are farmers. It has no school or clinic, but it is close to Bodel 1.

3.1.9   Mai Idanu

Mai Idanu is more than 60 years old with has twenty settlements (including Bam and Mataya) under its control. Each settlement is headed by a Mai Angwa who reports directly to a Jauro. The predominant ethic group is Mambilla while others include Kaka, Jibawa and Ndoro. The people are primarily farmers who cultivate maize, rice, groundnut, cassava, potato, cocoyam and guinea corn for subsistence and sale. The part of the park closest to Mai Idanu is affected by illegal mining. The community has lost much forest outside the park but sits almost on the park boundary. Their main market is Goje (Goje does not have forest also having farmed right up to the park boundary).

An estimated **90%** of the people are farmers

THE HISTORY OF SETTLEMENT OF THE PARKS ENCLAVE VILLAGES[5]:

When the original reserve was being planned during the late 1960s and early 1970s, the Lamido in Serti, Hamman Gabdo, insisted that the highland enclaves and their Fulani and farming communities must all remain intact, within specially created enclaves. The taxes levied on the cattle were (and still are) important contributions to the local government's finances. Furthermore, the Fulani needed the continuing presence of the farmers to produce maize. When Richard Barnwell (a forester with Gongola State) arrived in September 1972, the deal was already signed and sealed. Gumti enclave was also insisted upon, because Gumti was a historically important village.

The communities on the Sabere plateau have been there a long time and were probably there during the German times. Filinga and Djaram villages are also old and were certainly in existence in the 1950s.

But the more elevated highlands are a very different story. In 1959, a British veterinary officer trekked from the Mambilla plateau to Filinga village via the Sabere plateau. He then trekked up onto Chappals Hendu, Shirgu/Selbe, Tale and Nyumti. Not a single person lived up there. It was a complete wilderness, without a trace of human beings. The vet recorded hearing leopard and seeing buffalo. He was told that hunters occasionally went up there. People were afraid of these highlands as they were often very cold and frequently beaten by thunderstorms and lightning.

 The vet then had a bright idea, seeing all this empty grassland and wrote a report extolling the potential of these highlands as a perfect place for cattle. The colonial government was impressed with the report and in 1961 invited Fulani from the over-crowded Jos plateau to move to the Gashaka highlands. The first Fulani trekked up there with their cattle in 1961 and began to settle in virgin territory. Quite soon, they were running out of food and had to descend frequently to Gashaka village with their donkeys to purchase sacks of maize. They found this onerous and expensive and asked the local government to invite farmers to settle on the Chappals. The first farmer was Maiangwa (village headman) Shaa and he moved from Yakuba up onto Chappal Tale and founded Shirgu/Selbe village in about 1963. This brief history shows that the Fulani and the farmers are relatively recent arrivals on Chappals Hendu, Shirgu/Selbe, Tale and Nyumti.

 The nomadic dry season Fulani are even more recent arrivals in the area. In the 1970s, the nomadic Fulani were moving down the western side of the reserve from Toungo, but not in great numbers. Further south, they came down the road to Beli and a few came as far as Jamtari. They probably reached the Serti area in the 1980s.
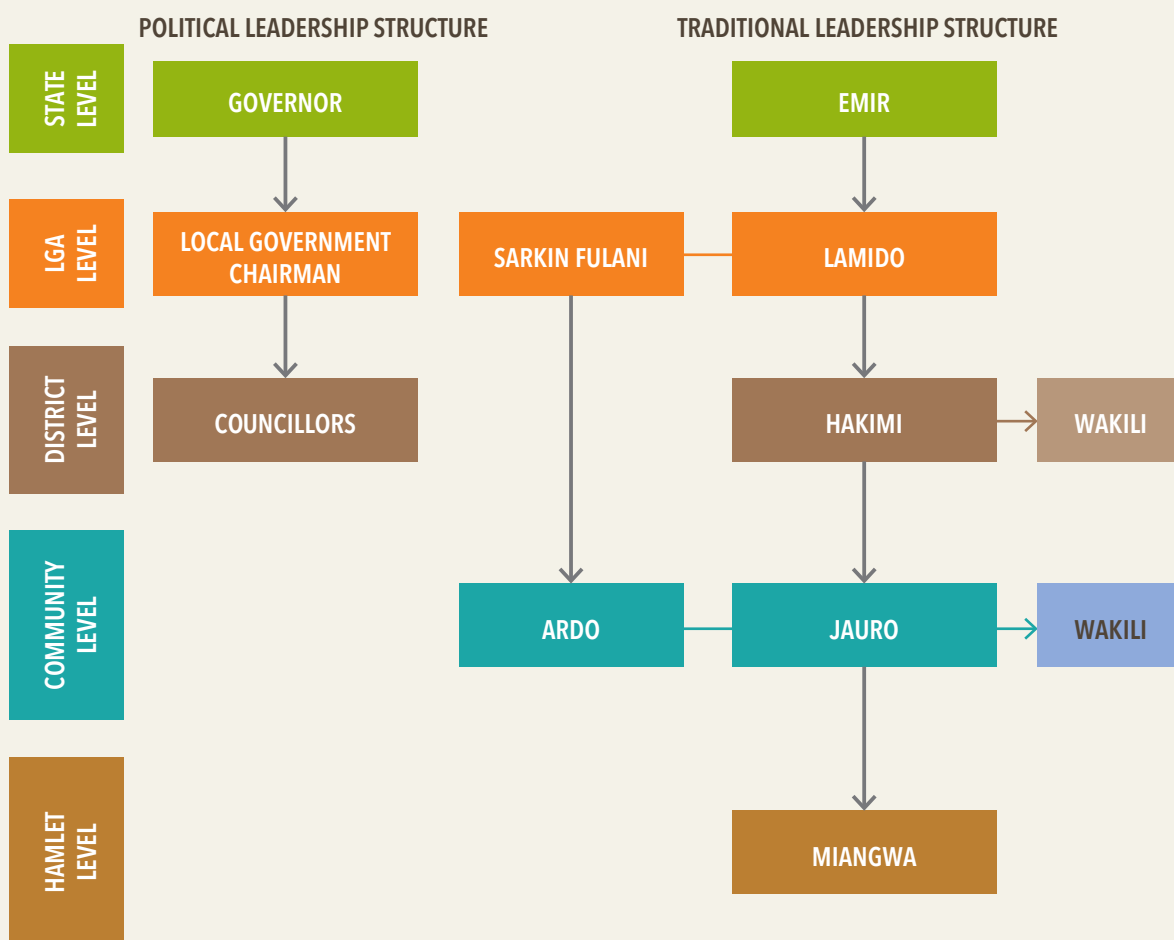

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5   Anecdote from Richard Barnwell. He was a forester with Gongola State initially and then he went on to work for the World Wide Fund for Nature (WWF). He managed GGNP alongside the National Park Service for many years.

Political and Traditional Leadership Structure

Nigeria is a federal republic composed of three levels of government: federal (central), state, and local. At the state level, the governor is the head of state. At the Local Government Authority (LGA) level, the local government Chairman is the head of the LGA overseeing councilors who participate and represent the local community in decision making.

Running in parallel to the state administrative structure are the traditional authorities. There are two noticeable traditional leadership structures in all the communities of Adamawa and Taraba states, at least within the study areas.

FIGURE 2: POLITICAL AND TRADITIONAL LEADERSHIP STRUCTURE

	POLITICAL LEADERSHIP STRUCTURE	TRADITIONAL LEADERSHIP STRUCTURE
STATE LEVEL	GOVERNOR	EMIR
LGA LEVEL	LOCAL GOVERNMENT CHAIRMAN	SARKIN FULANI — LAMIDO
DISTRICT LEVEL	COUNCILLORS	HAKIMI → WAKILI
COMMUNITY LEVEL		ARDO — JAURO → WAKILI
HAMLET LEVEL		MIANGWA

Overall, the Emir is the spiritual and political head of the traditional leadership structure at the state level, while the Lamdo is the leader at the local government level. Lamdos are categorised as first-class, second-class, and third-class chiefs. Hakimi's are responsible to the Lamdo, thus report to him. Figure 2 shows the political and traditional leadership structure in the project area.

Hakimi's are district heads with authority over a Jauro. Each Hakimi is supported by several Jauro's, who are the traditional leaders at the settlement level. Jauro's are often supported by a wakili[6] , who is a trusted individual and usually a family member, who shares responsibilities for managing the settlement in a chief of staff capacity. The wakili has the authority to manage the community affairs in the absence of his principal. At the base of the traditional leadership structure is a Mai Angwa, who is the leader of a sub-settlement such as hamlets, sub-villages, and compounds. The Mai-Angwa answers directly to the Jauro.

Within the study areas, the Fulani cattle herders are led by a Sarkin Fulani at the local government level and an Ardo, at the community level. The Sarkin Fulani may have as many Ardos as necessary depending on the number of villages under his jurisdiction.

The Sarkin Fulani is answerable to the Lamdo (as are the Ardos to the local Jauro and Hakimi). It is important to emphasize that the Sarkin Fulani only has authority over the Fulani's and traditionally do not possess ownership or transferable rights to land. At the same time, the Hakimi and Jauro are responsible for all the ethnicities in their areas of jurisdiction. However, because the Hakimi and Jauro are landowners, Ardos and the Sarkin Fulanis often liaise with the Jauro and Hakimi in areas of interest.

6   Wakili is an assistant. Hakimi's and Jauro's have wakilis

Demographics

5.1 POPULATION OF COMMUNITIES SURVEYED

Out of the thirteen communities engaged, nine communities are located inside the boundaries of the park. From Table 2 and Table 3 below, a total of 412 households consisting of 2,463 persons are resident inside the park.

TABLE 2: NUMBER OF OBSERVED HOUSEHOLDS PER COMMUNITY RESIDENT WITHIN THE PARK

Community	Number of Households
Sabere	127
Selbe/Shirgu	87
Filinga	78
Djaram	34
Tukurwa	23
Gumti	18
Hendu	18
Tale	15
Nyumti	12
Total	**412**

TABLE 3: POPULATION OF INDIVIDUALS RESIDENT WITHIN THE PARK BY COMMUNITY

Community	Number of individuals
Sabere	740
Selbe/Shirgu	466
Filinga	592
Djaram	151
Tukurwa	122
Gumti	100
Hendu	132
Tale	94
Nyumti	66
Total	**2,463**

TABLE 4: NO OF HOUSEHOLDS PER COMMUNITY SURVEYED IN THE PARK SUPPORT ZONE

Community	No. Of Households
Bodel	69
Mayo Yum	34
Mai Idanu	31
Konkita	14
Total	**148**

TABLE 5: POPULATION OF PERSONS BY COMMUNITY IN SUPPORT ZONE

Community	Population
Bodel	414
Mayo Yum	147
Mai Idanu	168
Konkita	54
Total	**3246**

5.2 GENDER ISSUES

We found that the male population of the surveyed communities was slightly higher than the female population. This is shown in Figure 2: Gender Distribution as 52.09% (1,691) males and 47.91% (1,555) females.
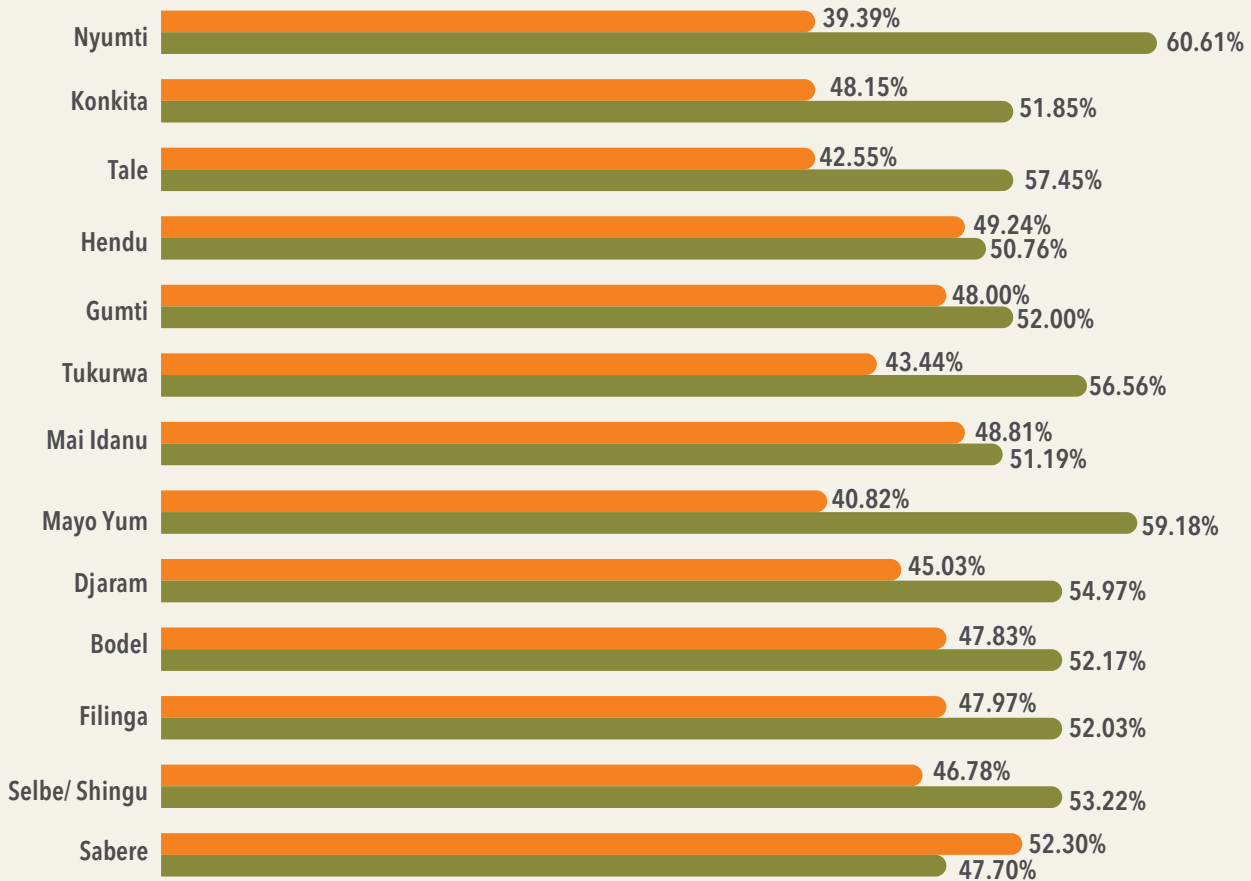
FIGURE 3: GENDER DISTRIBUTION

| | Females | **47.91%** |
| | Males | **52.03%** |
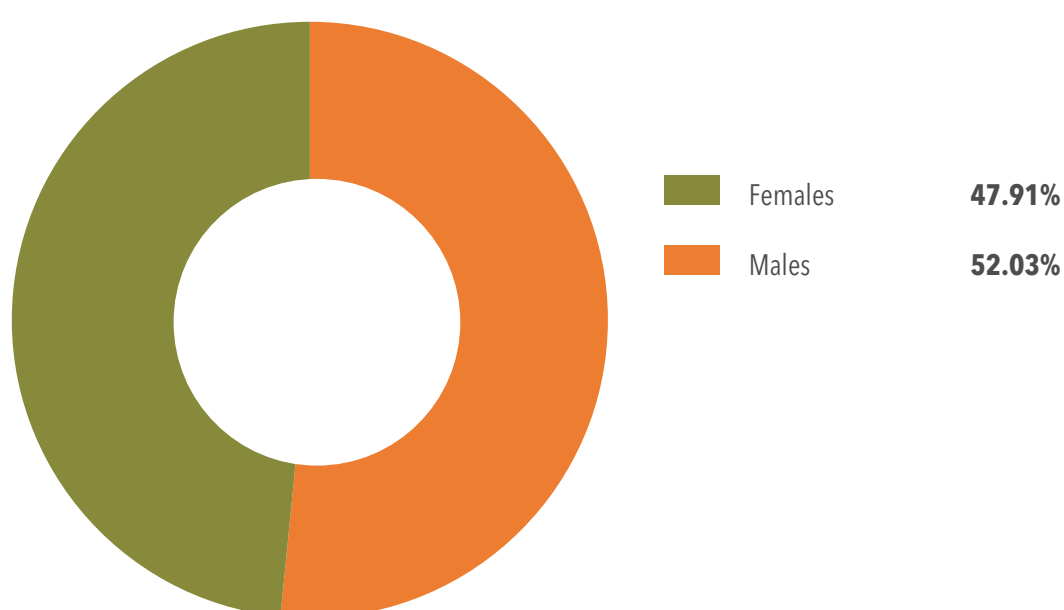
FIGURE 4: GENDER DISTRIBUTION OF COMMUNITIES

Community	Female	Male
Nyumti	39.39%	60.61%
Konkita	48.15%	51.85%
Tale	42.55%	57.45%
Hendu	49.24%	50.76%
Gumti	48.00%	52.00%
Tukurwa	43.44%	56.56%
Mai Idanu	48.81%	51.19%
Mayo Yum	40.82%	59.18%
Djaram	45.03%	54.97%
Bodel	47.83%	52.17%
Filinga	47.97%	52.03%
Selbe/ Shingu	46.78%	53.22%
Sabere	52.30%	47.70%

Women's rights are written into the Nigerian constitution and Nigeria is a signatory of international charters and conventions on the non-discrimination of women. However, Nigeria continues to be a predominantly patriarchal society managed by national, customary, and Islamic law, with varying impacts on women's everyday life. Many women in the project area live in predominantly Muslim villages and the religion prescribes the way they dress, marry, divorce and the level of power they have within the home and society in general.

There have been widespread reports of gender violations throughout the country, including high rates of domestic violence, harassment, forced marriage, female genital mutilation (FGM), disinheritance of wives and daughters and harsh treatment of widows. This overt discrimination is also compounded by subtler forms of discrimination such as less favourable treatment than men at work, low access to education, particularly in the northern states, in addition to women being withdrawn from school for marriage or care giving[7]. Focus group discussions with many women in the surveyed communities indicated that mothers encourage their daughters to marry as soon as they have finished primary school, which has a direct impact on girl's education levels.

Work is being done by NGOs and civil rights groups to increase the rights of women in both the public and private spheres in Nigeria. However, women in rural areas face challenges in overturning historic practices, due to their remote location, limited access to education and continued poverty.

7   Grace Adikema-Ajaegbo (2014) 'The Rights of Women in Nigeria', The Lawyers Chronicle. Available at: http://thelawyerschronicle.com/the-rights-of-women-in-nigeria/.

5.3 AGE DISTRIBUTION

We observed as presented in Table 3 Age Distribution of Population that 3.17% of the population in all the communities are older i.e., over 61 years and the productive population 18 – 60 years constitute less than half the population (44.89%).

TABLE 6: AGE DISTRIBUTION OF POPULATION

Age Distribution of the Population		
Age Range	**Frequency**	**%**
0-17 years	1,686	51.94%
18-40 years	1,160	35.74%
41-60 years	297	9.15%
Over 61 years	103	3.17%
Total Response	**3,246**	**100.00%**

However, the largest age group is children of 17 years and below who make-up 51.94% (1,686) of the total population.

5.4 ETHNIC GROUPS

In the communities surveyed, 46.86% are Fulani followed by the Mambilla who make-up 17.53% of the population.

TABLE 7: ETHNIC GROUPS

Ethnic Groups Living in the Communities		
Ethnicity	**Frequency**	**Ethnicity (%)**
Fulani	1521	46.86%
Mambilla	569	17.53%
Nyim nyim	280	8.63%
Ndoro	249	7.67%
Jibu	199	6.13%
Kaka	146	4.50%
Tiv	68	2.09%
Baya	1	0.03%
Other	213	6.56%
Total	**3246**	**100.00%**

Fulani comprise of
46.86%
from the communities surveyed

5.5 RELIGIOUS AFFILIATION

FIGURE 5: RELIGIOUS AFFILIATIONS

RELIGIOUS AFFILIATION OF THE POPULATION
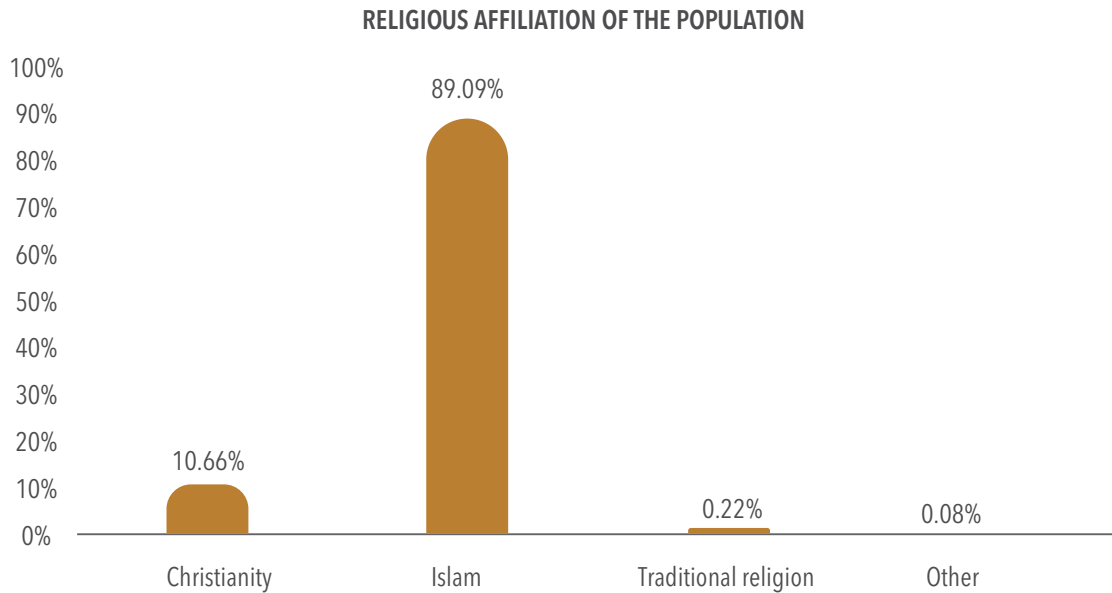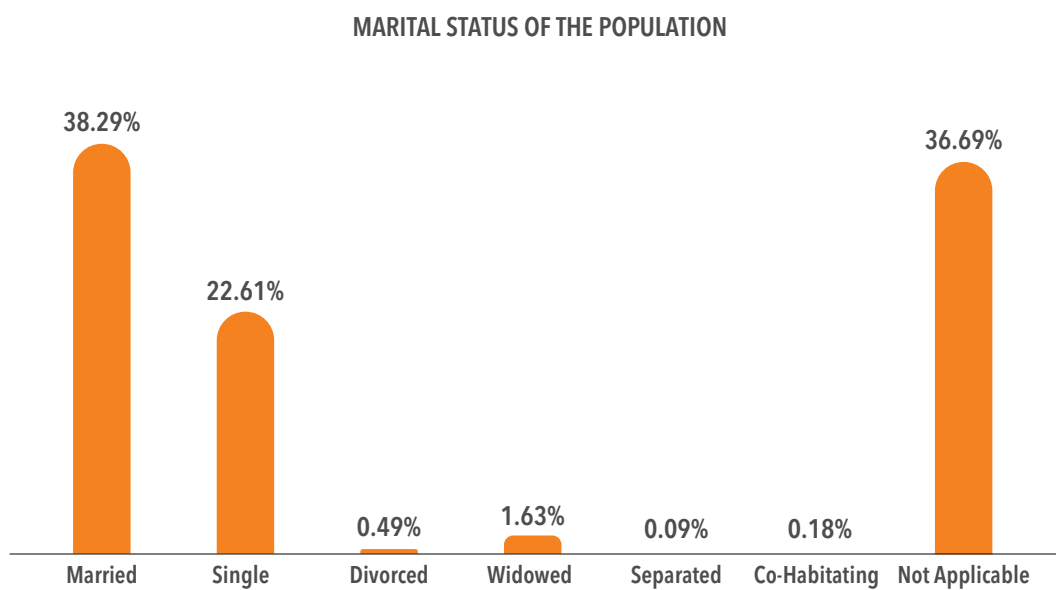

5.6 MARITAL STATUS

It was found that that 38.29% (representing 1,243 persons) of the population are married while 22.61% are unmarried.

FIGURE 6: MARITAL STATUS OF RESPONDENTS

MARITAL STATUS OF THE POPULATION

We also see that only 0.49% (16) out of the population of couples are divorced while 1.63% (53) have lost a spouse and 36.69% (1,191) were not ready to disclose their marital status.

5.7 LANGUAGES USED IN THE COMMUNITIES

Language spoken is consistent with ethnicity. As such, Fulfulde is the predominant language in the area by far.

PRIMARY LANGUAGE USED IN THE COMMUNITIES
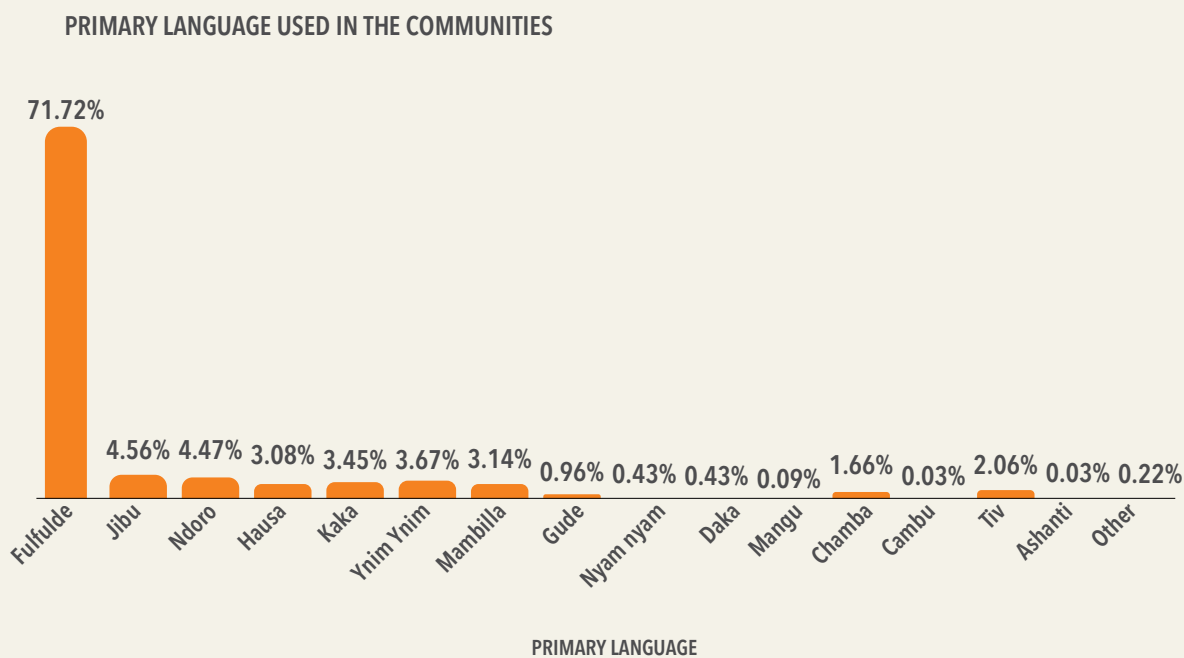
It was found however that most people are multilingual speaking several languages including Fulfulde and Hausa.

5.8 TYPE OF RESIDENCY IN COMMUNITIES

TABLE 8: TYPE OF RESIDENCY IN COMMUNITIES

Resident Nature of the Inhabitants		
Residential Status	**Frequency**	**Status (%)**
Year Round	3,181	98.00%
Seasonal	65	2.00%
Total	**3,246**	**100.00%**

98% (3,181) of the population of the communities surveyed are permanent dwellers in their respective communities, however, we also observed that a small proportion, i.e., 2% (65) are seasonal residents (nomads, and seasonal settlers) usually for grazing cattle or mining and other activities such as poaching and hunting. Note however that *this survey targeting residential villages and did not capture the nomadic cattle herders that enter the park in great numbers temporarily every dry season.*

5.9 LITERACY LEVEL AND SCHOOL ATTENDANCE IN COMMUNITIES

The most disheartening part of this report is the literacy level of the inhabitants of these communities. We observed that 74.32% (2,434) of the total population cannot read or write. This is incredibly low even by national standards (over 75% can read and write in Lagos State).

TABLE 9: LITERACY LEVEL OF RESPONDENTS

Literacy Level in the Communities		
Literacy Level	**Frequency**	**(%)**
Cannot read or write	2434	74.32%
Read English only	40	1.22%
Write English only	12	0.37%
Can read and write English	238	7.27%
Read local Language only	168	5.13%
Can read and write local language	290	8.85%
Can read and write both local language and English	93	2.84%
Total Responses	**3,275**	**100.00%**

This result is in line with our observation that none of the villages within the park had a functional school.

FIGURE 8: ATTENDANCE OF SCHOOL

Yes   **15%**

No   **85%**
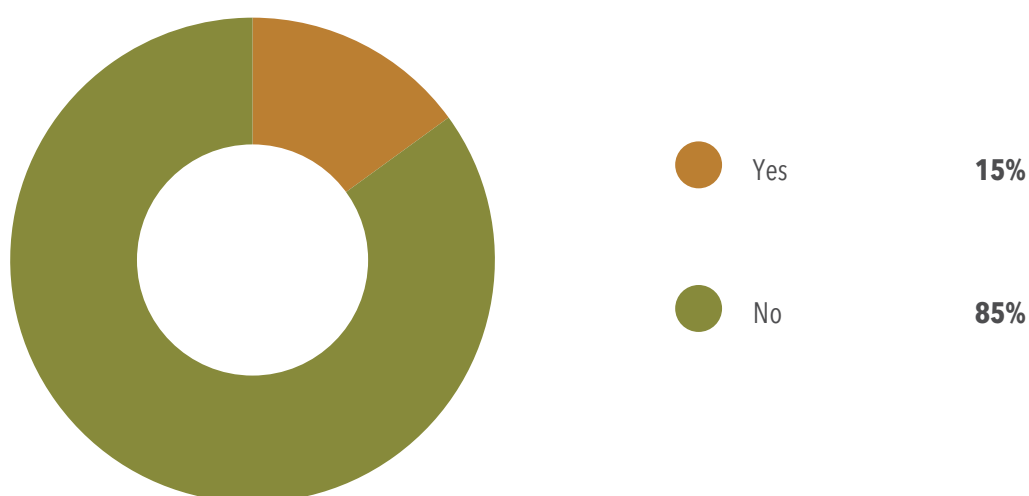
Similarly, level of education attained was low. It was found that 84.90% indicated they had not been to school (2,756 persons). Only 15.10% had been to school (i.e., 490 persons).

TABLE 10: HIGHEST EDUCATIONAL LEVEL ATTAINED

Highest Level of Education among Persons in the Communities		
Level of Education	Frequency	Literacy Level (%)
Primary School	183	37.35%
Junior Secondary School	71	14.49%
Senior Secondary School	126	25.71%
Tertiary	13	2.65%
Other	97	19.80%
Total	**490**	**100.00%**

Out of the 490 that had been to school, only 13 (2.65%) persons had attended and received certificates from tertiary institutions such as universities, polytechnics, and colleges of education.

5.10 DISABILITY

The rate of physical impairment among the population of the communities is low and affects 1% of the population.

TABLE 11: DISABILITY STATUS OF INHABITANTS OF THE COMMUNITIES

Status	Frequency	Disability Status (%)
No Disability	3,213	98.98%
Blind	5	0.15%
Physical Impairment	8	0.25%
Deaf/ Mute	5	0.15%
Mental Illness	5	0.15%
Chronic Disease	5	0.15%
Other	5	0.15%
Total	**3,246**	**100.00%**

5.11 VULNERABILITY

Vulnerability is reflected in an individual or group's ability to access socioeconomic or environmental resources, or low status in certain socioeconomic indicators (health, education, income etc.). Vulnerable individuals and groups are often less able to adapt to socioeconomic or bio-physical change and usually find it hard to access benefits from Project related changes. There are several distinct factors that make the population in the Project area particularly vulnerable.

Rural Poverty

Rural poverty is an issue throughout Nigeria with 62% of the population in Nigeria classified as living below the income poverty line and 30% classified as being in severe poverty.[8] The Park is in the rural parts of Taraba and Adamawa States where, over 80% of the population lives below the poverty line.[9]
 This is reflected in survey findings where many households reported suffering from food shortages at some point throughout the year. The reason for these food shortages was reportedly due to the high number of dependents compared to economically active members of the household, coupled with gaps in crop harvesting during the year and households having no food reserves. Local farmers are reliant on the weather and have limited access to farm inputs, which means agricultural production is highly seasonal and at risk to pests, poor rains, or other shocks.

Girls and Women

Due to the patriarchal nature of the local society, women are also considered vulnerable due to their lack of participation in decision-making and inability to contribute to community information sharing. Women are reliant on male relatives to provide them with project related information, are unable to own land and have fewer freedoms within civil society. This potentially makes women less able to take advantage of project benefits, including compensation.

Fulani

It should be noted that in the context of this survey, the fully nomadic Fulani, who are predominantly cattle graziers are considered more vulnerable than other communities in the area (see box 5.1).

Identified vulnerable groups

Overall, the following groups in the project area have been identified as vulnerable.

- **Household head is female:** Within a patriarchal society, women tend to be prevented from participating in local decision-making. They may also lack access to independent means of income generation.

- **Household head is disabled or chronically sick:** Physical or mental disability and long-term illness tends to inhibit access to independent means of income.

- **Household with a disabled or chronically sick member of the family:** Physical or mental disability and long-term illness adds additional burden to the family income, with higher medical and care fees.

- **Household head is more than 60 years old and lives alone:** This is the retirement age in Nigeria and age tends to inhibit access to independent means of income.

- **Household monthly income is less than one US dollar per day**[10]: This indicates that the household is below the income poverty line.

- **Household head is less than 60 years old and is unemployed:** The household head has no regular means through which to generate income.

- **Household with young head of family:** A household with a young head of family may likely have lower income and a lower status within the community.

- **Fulani:** insecure land rights and reliance on farming traditional leadership for access to grazing land.

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8 UNDP Human Development Report 2015
9 UNDP Human Development Report 2005
10 316 NGN as of December 2016, http://www.xe.com

BOX 5.1: CAN THE FULANI BE CONSIDERED INDIGENOUS?

THE IFC'S PERFORMANCE STANDARD 7: Indigenous Peoples recognises that Indigenous Peoples are "social groups with identities that are distinct from mainstream groups in national societies, are often among the most marginalized and vulnerable segments of the population. In many cases, their economic, social, and legal status limits their capacity to defend their rights to, and interests in lands and natural and cultural resources, and may restrict their ability to participate in and benefit from development".

A country report on Nigeria published in 2009 by the ILO and the African Commission on Human and Peoples' Rights[11] noted that the Fulani are widely considered to be among the most neglected and marginalized groups in Nigeria and often experience discrimination from local communities. On the other hand, much of the scientific literature including a World Bank policy document states that there is a lack of consistent agreement as to whether the Fulani of West Africa are indigenous people or not[12]. This assessment considers several criteria for assessing indigenous peoples in accordance with IFC PS 7:

- **Distinct lifestyle:** In Nigeria as a whole, the Fulani by and large no longer have a distinct lifestyle from the rest of the population. They have intermarried extensively with the Hausa and are largely settled or semi-nomadic. This is evident in the park where most of the enclave communities consist of semi-nomadic Fulani pastoralists, who migrate across the landscape leaving their families behind in the community.

- **Distinct language, culture, and beliefs:** Again, as stated above, Fulani cultural identity is not clearly distinct from that of the mainstream in Nigeria. Having intermarried so extensively with the Hausa people, their culture and beliefs are often indistinguishable from the Hausa. Their language – Fulfulde is one of the most widely spoken languages in the north of Nigeria and so is by no means a "minority" language. As Muslims, they also share the same religious beliefs as the Hausa. In fact, it is often stated in the literature that the Hausa-Fulani ethnic group is the largest ethnic group in Nigeria.

- **Distinct social, economic, or political systems:** The Fulani of Nigeria cannot be considered as to be clearly marginalised economically as an ethnic group in Nigeria. Across the country, they are often better off than some of their farming neighbours because due to their cattle ownership. This is also the case in the project area. Politically, in Nigeria, the Fulani hold considerable political power and in fact, the current President of Nigeria – Mohammadu Buhari - is Fulani.

- **Self-identification as indigenous peoples:** the Fulani do not self-identify as an indigenous group in Nigeria.

It is also notable that even though the Fulani in and around the park can be considered financially better off (due to the ownership of cattle) than their farming neighbours, the fully nomadic Fulani should be treated as vulnerable both because of their lack of clear ownership of land and their reliance on farming communities for access to land.

11 ILO and African Commission on Human and Peoples' Rights (2009) "Nigeria: constitutional, legislative and administrative provisions concerning indigenous peoples". http://www.chr.up.ac.za/chr_old/indigenous/country_reports/Country_reports_Nigeria.pdf
12 World Bank Policy Brief. Indigenous People Still Among the Poorest of the Poor. http://siteresources.worldbank.org/EXTINDPEOPLE/Resources/407801-1271860301656/HDNEN_indigenous_clean_0421.pdfaccessed 06.12.2016

Employment and Livelihoods

6.1 EMPLOYMENT STATUS

The survey found that 16.51% of the population are self-employed while only 0.46% are in formal employment (by government and other employers). The survey found that 76% (2,467) are total dependents comprising of 51.94% of children from age 17 and below, a large proportion of youth (35.74%) and older persons. This is a high dependency rate for Nigeria.

OCCUPATIONAL COMPOSITION OF THE SURVEY COMMUNITIES
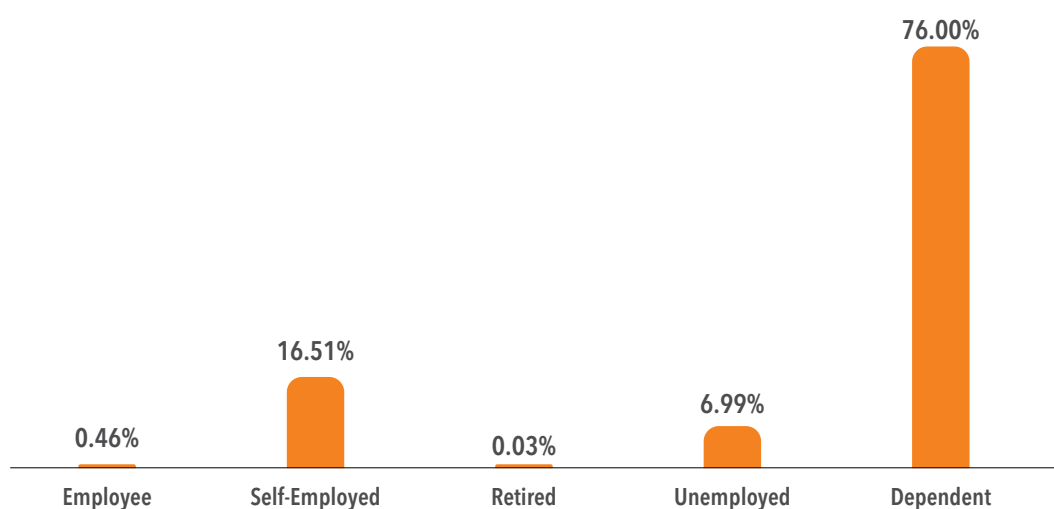
6.2 EMPLOYMENT STATUS BY GENDER

TABLE 12: EMPLOYMENT STATUS BY GENDER

Sex/ occupational status	Employee	Self-employed	Retired	Un-employed	Dependent
Male	0.46%	13.49%	0.03%	5.08%	32.29%
Female	0.00%	3.02%	0.00%	1.91%	43.72%

The survey found that 0.46% males are employees of some organizations while no woman was employed. Furthermore, 13.49% males are self-employed. However, on retired persons, 0.03% males are retired while no woman was retired from an employable job (since none were employed to begin with).

16.51%
of the population are self-employed while only
0.46% are in formal employment

6.3 BREAKDOWN OF LIVELIHOODS

Farmers/crop farming is the predominant means of occupation/livelihood in the communities, represented by the 51.18% followed by food processing (35.03%). Other important livelihoods include cattle herding, trading, artisanship, teaching, and transportation.

FIGURE 10: MEANS OF LIVELIHOOD

MEANS OF LIVELIHOOD

PERCENTAGE

Occupation		
Farmer/ Crop Farming	51.18%	0.00%
Cattle Herder	7.80%	14.70%
Food Processing	28.13%	28.03%
Trader	5.26%	9.07%
Transportation/ Driver	1.27%	3.81%
Religious Leader	0.73%	1.63%
Health Worker	0.18%	0.36%
Teacher	1.09%	0.54%
Civil Servant	0.18%	0.00%
Hunter	0.18%	1.45%
Artisan	3.27%	3.99%

OCCUPATION/ LIVELIHOOD
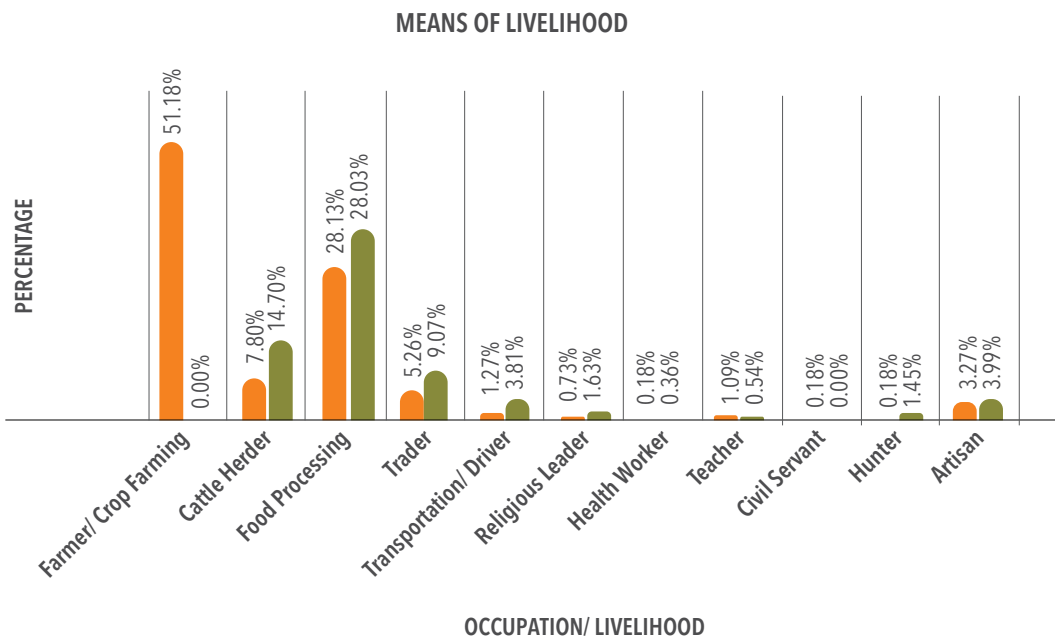
6.5 CROP FARMING

Crops most grown by farmers in the communities include cereals, legumes, root crops, and vegetables. The most predominant crop is maize followed by cassava and potatoes.

TABLE 13: FARM PRODUCE CULTIVATED

Common Produce Cultivated in the Communities		
Crop	**Frequency**	**Crop (%)**
Maize	500	99.21%
Cassava	154	30.56%
Potatoes	138	27.38%
Cocoyam	132	26.19%
Beans	128	25.40%
Millet	98	19.44%
Rice	82	16.27%
Banana	69	13.69%
Pepper	28	5.56%
Yam	27	5.36%
Plantain	15	2.98%
Benny Seed	7	1.39%
Mixed vegetables	8	1.59%
Total responses	**504**	

FIGURE 11: TYPE OF CULTIVATION

- Subsistence **57%**
- Commercial **2%**
- Both Subsistence & Commercial **41%**
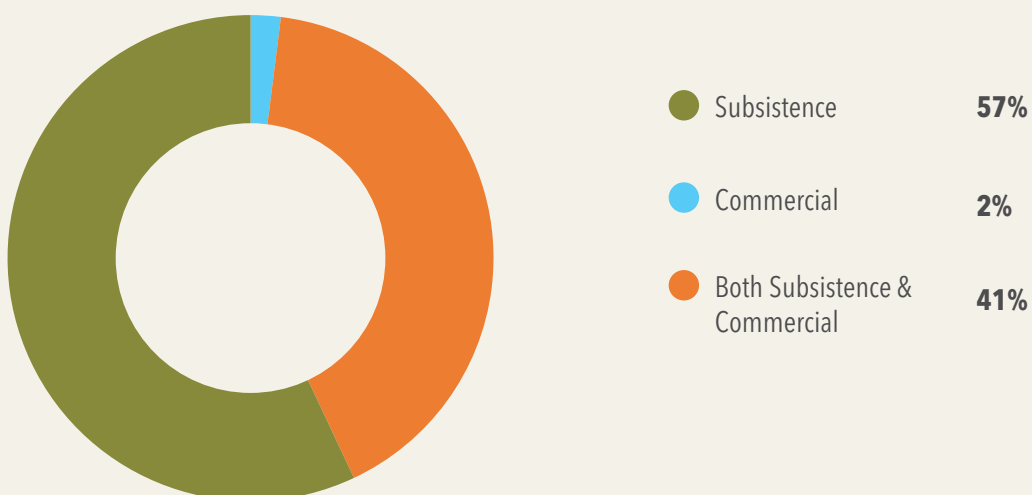
The survey also found that 56.75% of farmers cultivate on subsistence basis while 40.87% cultivate both subsistence and for sale. Only 2.38% farmed solely for commercial purposes. Key challenges for this sector include the lack of inputs such as fertilizers, improved seeds, and pesticides.

Another key challenge is the lack of agricultural extension services. Of those surveyed, 89.88% attest that the farmers in the communities lack expert advice and this affects their productivity.

FIGURE 12: ACCESS TO AGRICULTURAL EXTENSION SERVICES

NO — 89.88%

YES — 10.12%

A large proportion of the farmers practice Mixed Cropping (29.37%) followed by Shifting Cultivation.

FIGURE 13: PREDOMINANT FARM PRACTICES

TYPES OF FARM PRACTICES PREDOMINANT IN THE COMMUNITIES

Farm Practice	Percentage
Mixed Cropping	29.37%
Shifting Cultivation	26.19%
Simple Farm Tools	25.99%
Bush Burning	21.43%
Use of Fertiliser	21.03%
Crop Rotation	13.10%
Mechanised Farming	1.59%
Hybridised Livestock	1.39%
Improved Variety Seed	0.60%
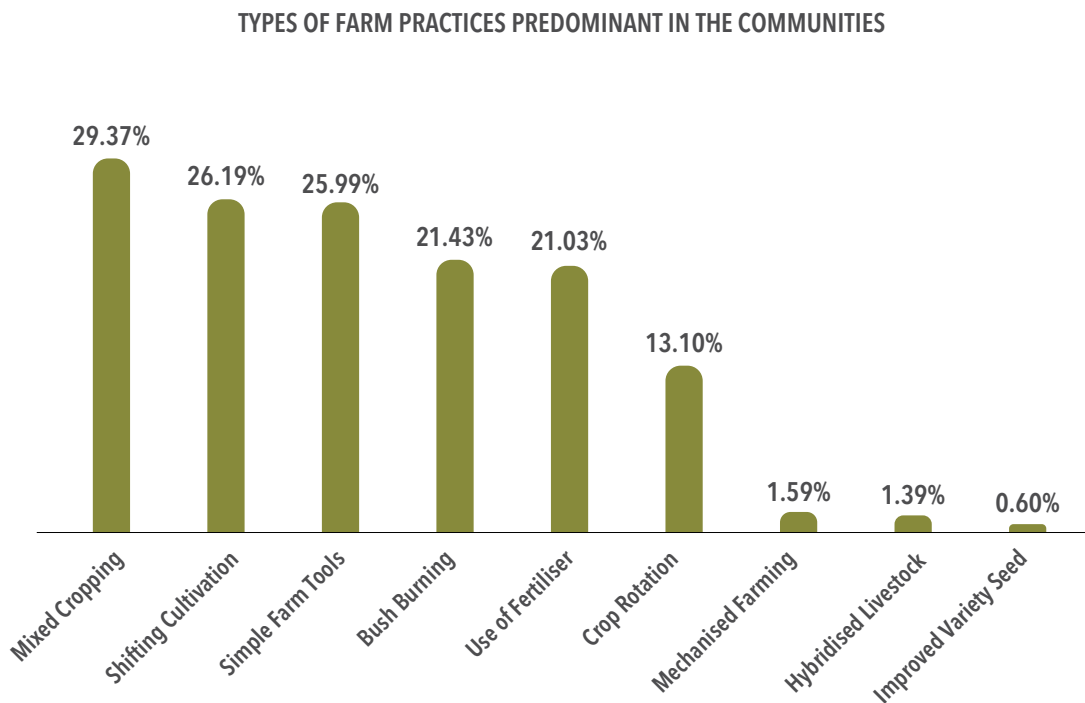
The survey also found the most farmers used simple farm tools (25.99%) instead of improved farm tools. Very few used chemical fertilizers, mechanized farming, hybrid livestock and improved seeds. The figure below shows that pest infestation is a major challenge followed by inadequate farm inputs.

FIGURE 14: CHALLENGES WITH CROP FARMING

CHALLENGES WITH CROP FARMING
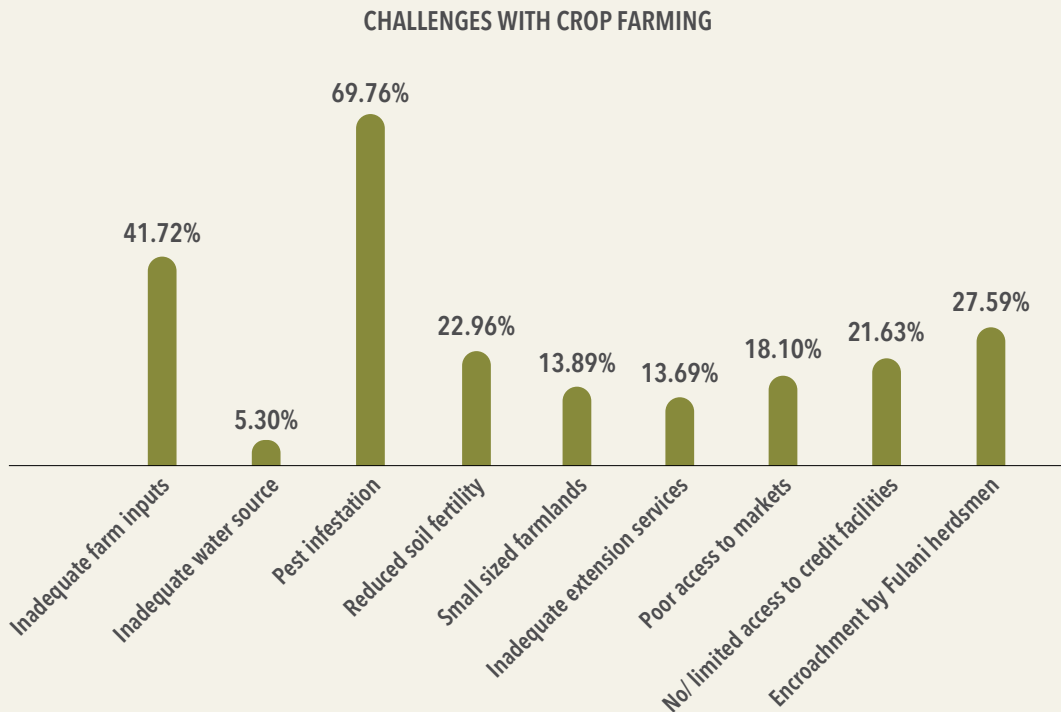
Other challenges are encroachment by Fulani herders, soil infertility, limited/non-access to farm credit facilities, poor access to markets, small-sized farms (Land Tenure System issues).[13]

FIGURE 15: TRANSPORTATION OF AGRICULTURAL PRODUCE TO MARKET

TRANSPORTATION OF AGRICULTURAL PRODUCE TO MARKET
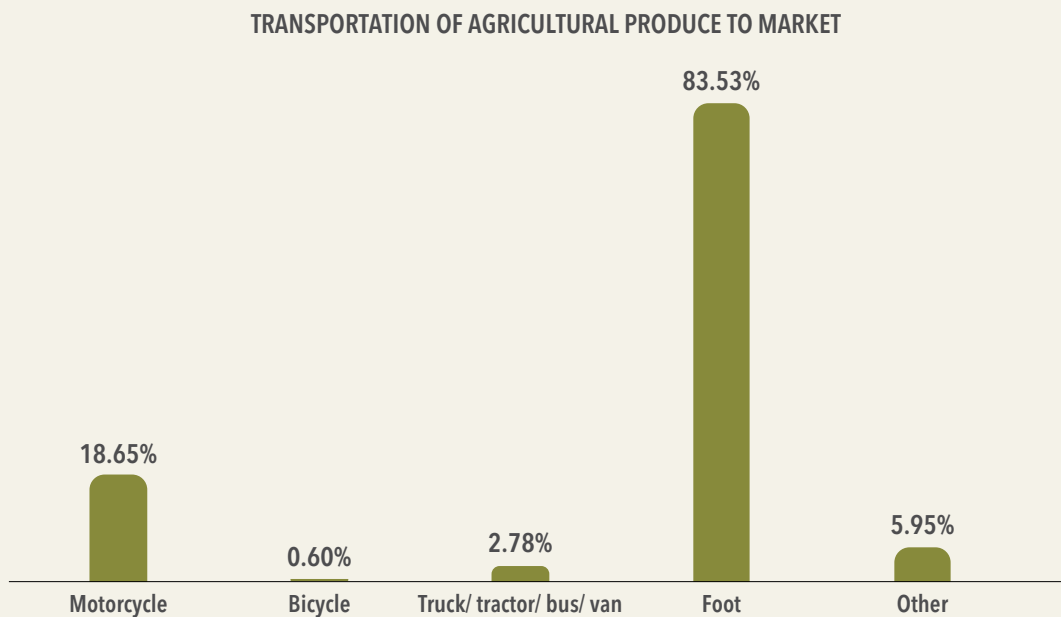
13 The soil quality in Nigeria is rated low to medium quality for growing crops. The Food and Agricultural Organization (FAO) concluded that much of the land is medium quality if managed and maintained properly. Read article at https://www.canr.msu.edu/news/farming-challenges-in-nigeria

The survey found that most farmers transport their produce on foot (83.53%) followed by 18.65% who transport their produce using motorcycles. Access to markets is clearly a big challenge for farmers in the area.

6.6 LIVESTOCK REARING

The survey found that poultry farming is predominant in the communities at 77.93% followed by cattle and sheep at 34.27% and 34.04%.

FIGURE 16: LIVESTOCK REARED IN THE COMMUNITIES

LIVESTOCKS, BIRDS AND OTHER ANIMALS REARED IN THE COMMUNITIES
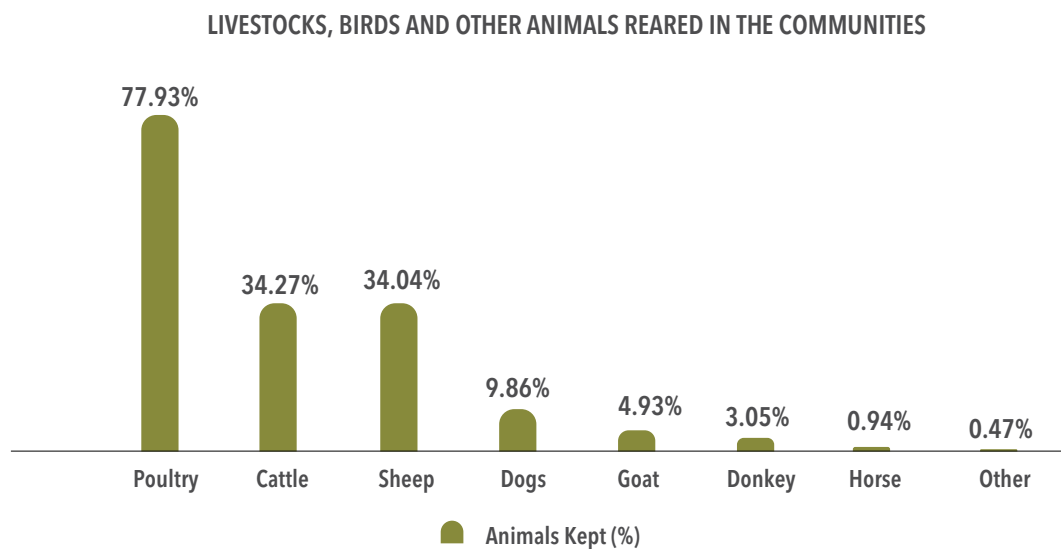
FIGURE 17: CHALLENGES WITH LIVESTOCK FARMING IN THE COMMUNITIES

CHALLENGES FACING LIVESTOCK FARMING IN THE COMMUNITIES
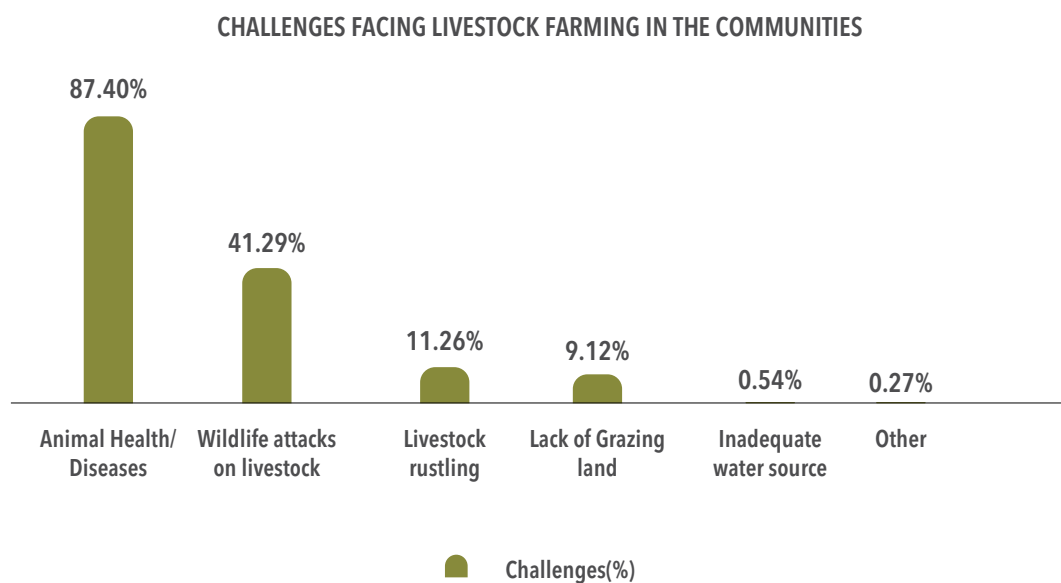
FIGURE 18: PERIOD OF LIVESTOCK RUSTLING

PERIOD OF LIVESTOCK RUSTLING
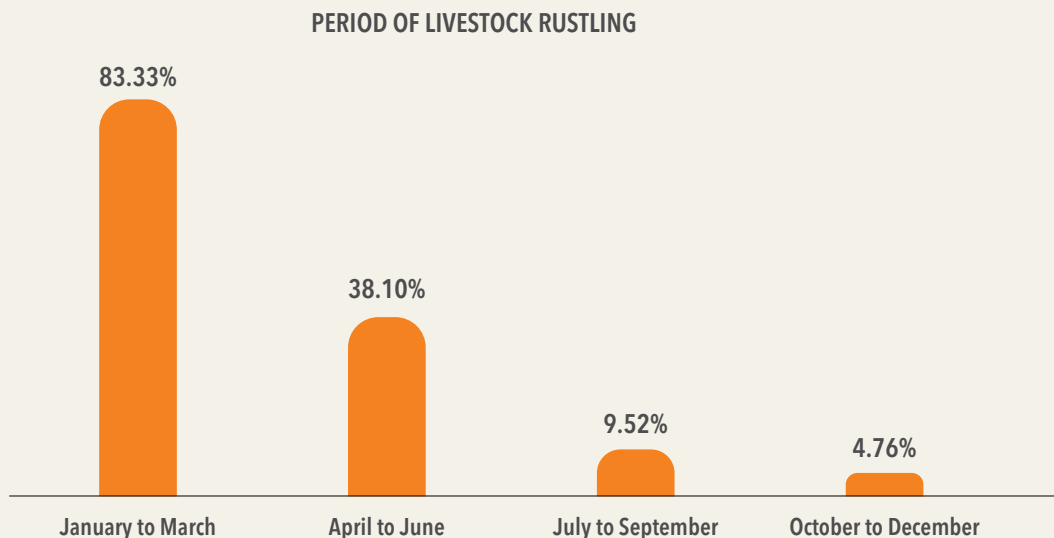
Figure 18 shows that livestock rustling is most pronounced during the dry season when the nomadic Fulani come into the park.

6.7 HUNTING

TABLE 14: MAJOR PURPOSE OF HUNTING

Major Purpose of Hunting		
Purpose	**Frequency**	**Purpose (%)**
Household consumption	18	64.29%
Sale	2	7.14%
All the above	8	28.57%
Total	**28**	**100.00%**

The survey team found that 64.29% hunters in the communities' hunt for household needs although 28.57% hunt in the park for both consumption and income. Hunting is the minor livelihood for most people. Although, there are others who hunt as an alternative source of income to supplement farming, especially during the dry season when no farming activity takes place.

Game is primarily for sale, but small animals (e.g., guinea fowl) are used for family consumption. The animals commonly hunted include antelope, porcupine, guinea rat, baboon, python, guinea fowl, buffalo, waterbuck, hartebeest, warthog, and assorted bird species. While good income comes from large game (antelope, waterbuck, hartebeest, buffalo etc.), they are not easily found. Species such as warthog, baboons, and monkeys (prohibited to be eaten in Islam) were not hunted some years ago because the hunters are predominantly Muslims, but due to high commercial demand by adjoining ethnic groups (such as the Tivs), these species are now being hunted and sold.

As a result of this surge in demand, the number of most animal species has dwindled over the last ten years. Hunters said that animals are now found only within the national park, and even within the park, hunting has been difficult in the last five years compared to ten years earlier due to the decrease in the number of animals.

From a general perspective, animals were said to be easier to hunt during the dry season because they usually come out to look for sources of water when most of the small streams in the park have dried up. So, during the dry season, all places that accumulate water are potential sites for hunts.

The only community to have an organized hunting group was Sabere where it is a major means of livelihood for about 20 persons. The hunters' group in Sabere is not registered even at the local government. However, they are making efforts to be registered and have identification cards.

FIGURE 19: HUNTING ITEMS USED BY HUNTERS

ITEMS USED BY HUNTERS

The most common tool for hunting is snare (traps) followed by Dane-Gun. Bow and arrows, traps, dogs, and catapults (for birds) are also used.

Social Infrastructure

Social infrastructure is a key part any community's support system for its populace enabling access to necessary resources and providing opportunities for education, healthcare, markets, among other social amenities. The lack of basic social infrastructure is one of the most significant issues identified across all communities within the study area. The lack of social infrastructure and social services constitute significant constraints to accessing markets, healthcare, education, electricity, and telecommunication. Table 2 shows the existing social infrastructure in the study area.

TABLE 15: LIST OF SOCIAL INFRASTRUCTURE THAT EXISTS IN COMMUNITIES IN THE STUDY AREA

S/N	Community	Infrastructure	Details of Infrastructure
1	Selbe	• Health Centre (1) • School (1) • Religious Institutions • Open Market [14] (1)	• Health centre- three rooms, three beds, no doctor, and no medical equipment • The school in Selbe is a Primary school with no teacher • A church and a mosque • An open market where people sell cattle and some other items.
2	Filinga	• Market (2) • Mosque	• Cattle Market • General Market • 2 Mosques
3	Nyumti	• School	• A primary school with only one teacher.
4	Hendu	• Religious institution	• A mosque
5	Tale	No infrastructure observed	N/A
6	Djaram	Market Mosque	A General Market A Mosque
7	Tukurwa	No infrastructure observed	N/A
8	Konkita	Religious Institutions	A church and a mosque
9	Mayo Yum	No infrastructure observed	N/A
10	Gumti	School	A primary school with six (6) classrooms but only one teacher.
11	Mayo Sabere	Mosque (under construction)	N/A

14 Open market refers to markets with no permanent infrastructure in place. These are often streets in the community where traders showcase their goods for purchase.

S/N	Community	Infrastructure	Details of Infrastructure
12	Bodel	Borehole School Religious Institution Health Centre Access road	A hand-pump borehole A primary school A mosque A drug dispensary A motorable access road in and out of the community
13	Mai Idanu	Health centre School Source of water	• A health centre with nine rooms and four hospital beds. It is currently in a deplorable state. • The primary school has three classrooms, and it is in a bad state. • Mbam stream and Mamukon stream. Mbam stream is available year-round, while Mamukon is seasonal. There are no boreholes in the community

From Table 2, it is evident that most of the surveyed communities have little or no access to functional healthcare facilities, educational facilities, or potable water. The only community with decent infrastructure is Bodel which is located on the main highway to Jalingo. The health centre and school in Mai Idanu are typical of the study area. The health centre is in a deplorable state, lacking both equipment and staff. The school is in the same condition.

FIGURE 20: HEALTH CENTRE IN MAI IDANU

FIGURE 21: PRIMARY SCHOOL IN MAI IDANU

7.1 HEALTH FACILITIES

FIGURE 22: HEALTH FACILITY FREQUENTLY VISITED BY HOUSEHOLDS

HEALTH FACILITY FREQUENTLY VISITED BY HOUSEHOLDS

Private Hospital	General Hospital	Traditional Herbalist/ Spiritual Home	Pharmacy	Communtiy Health Centre	Chemist/ Chemical seller	None
3.75%	24.11%	16.79%	0.71%	15.89%	76.07%	0.36%
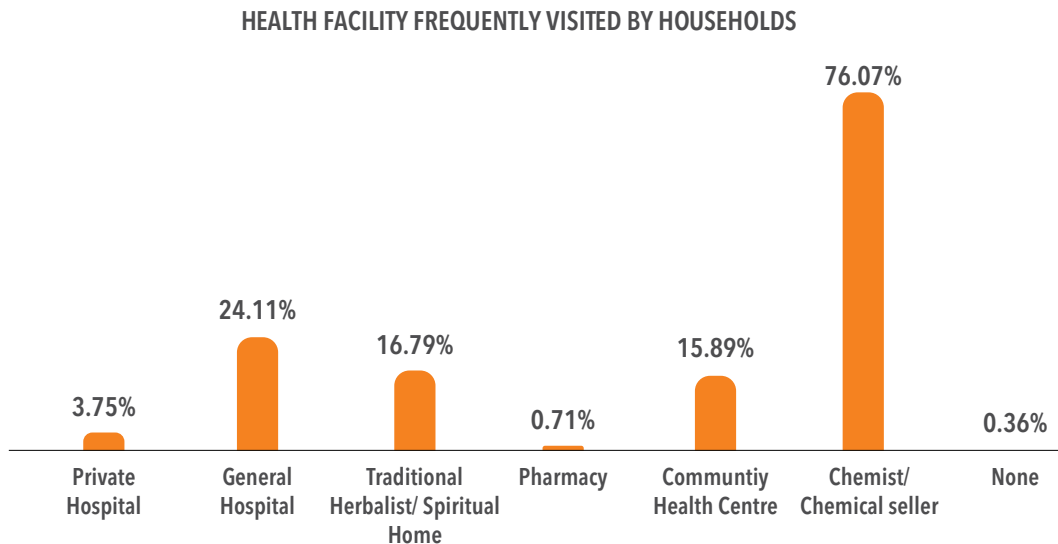
The survey found that almost all the communities (other than Bodel on the highway) lack government medical facilities hence the sick must be taken to bigger towns to access healthcare. Figure 16 above shows that 76.07% of the population visit chemists/roadside medicine sellers for their health needs and consultation while 24.11% go to general hospitals closer to them in nearby town(s). The remaining 16.79% and 0.71% go to traditional herbalists, community health centers (few exist) or pharmacies for their health care needs. Healthcare in the study area is almost non-existent.

FIGURE 23: TIME REQUIRED TO REACH HEALTH FACILITY

TIME REQUIRED TO REACH HEALTH FACILITY

Less than 10 mins	11 to 30 mins	31 to 60 mins	More than 1 hour
6.43%	16.79%	20.36%	56.43%
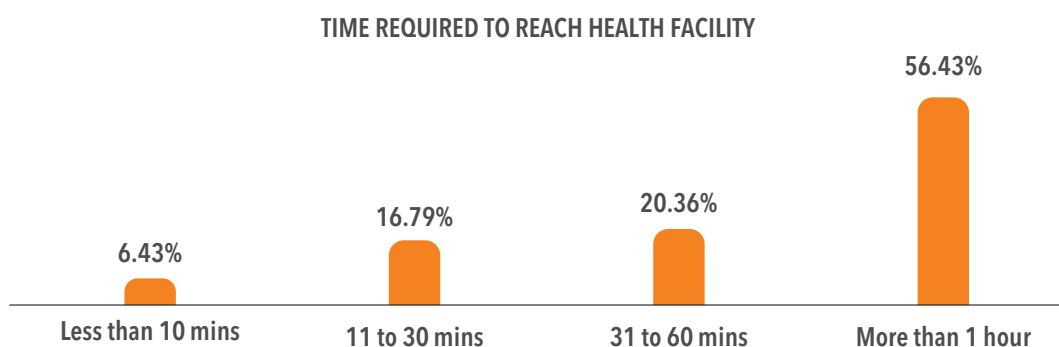
The survey investigated time to access a healthcare facility. Results show that 56.43% take over an hour time to access the nearest health facility. In Selbe community for example inside the park, the nearest health centre is in Serti outside the park. It takes between 3-4 hours to get to Serti on a motorbike and over 8 hours on foot. This is typical unfortunately.

7.2 ASSETS OWNED

The survey found that most of the households' own assets such as mobile phones, beds, television, fan, DVD players, refrigerator, gas cooker, iron, and the like.

FIGURE 24: ASSETS OWNED BY HOUSEHOLD

ASSETS OWNED BY HOUSEHOLD
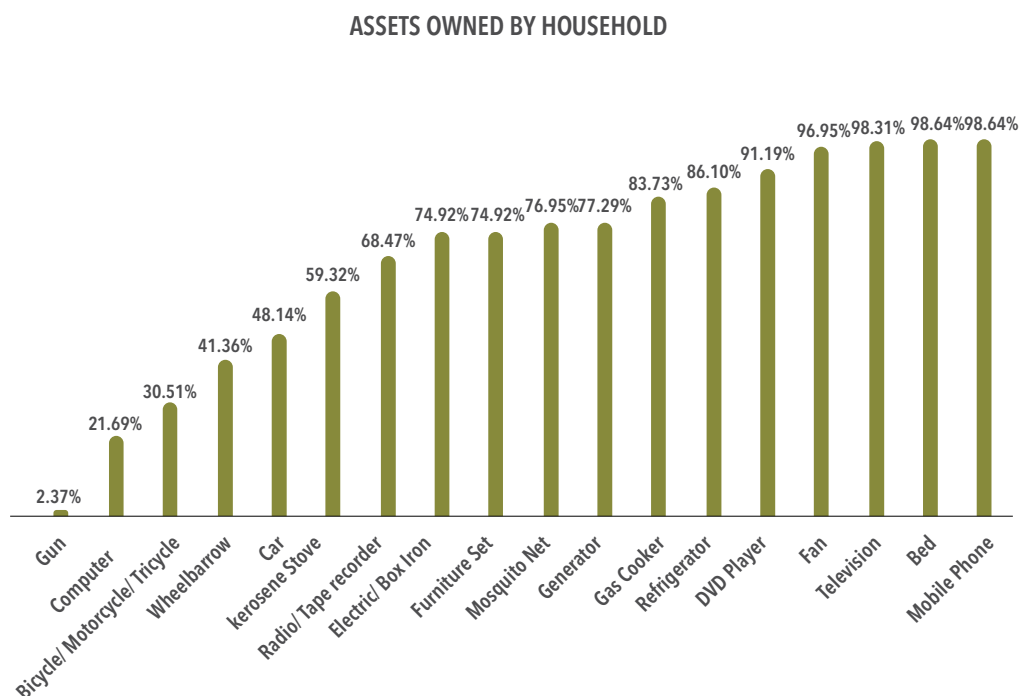
It was found that over 90% of households have DVD players, fans, a television, beds, and mobile phones. Over 80% make use of gas cookers, and refrigerators. Furthermore, 30.51% own motorcycle, 21.69% own computers and 2.37% own guns.

7.3 TOILETS AND WASTE DISPOSAL

TABLE 16: TOILET FACILITY USED BY HOUSEHOLD

Toilet Facility Used by Household		
Type	**Frequency**	**(%)**
VIP laterine/ Water Closet	2	0.36%
Public Toilet	1	0.18%
Pit Laterine	469	83.75%
No Toilet (Bush)	89	15.89%
Total HH	**560**	

A survey of toilet facilities found that 83.75% of households use pit latrines while 15.89% have no toilet facility at all and so make use of the bush[15]. This implies that basic sanitation is a serious health problem in most of the communities causing the spread of water borne disease.

TABLE 17: METHOD OF WASTE DISPOSAL BY HOUSEHOLD

Method of Waste Disposal by Household		
Method	**Frequency**	**(%)**
Burnt	112	20.00%
Dumped in a dedicated place	280	50.00%
Dumped anywhere	245	43.75%
Total HH	**560**	

The survey found that 50% of households dump their waste in an allocated point, 43.75% dump anywhere they wish, while 20% burn them.

7.4 LIGHTING AND ENERGY FOR COOKING

FIGURE 25: SOURCE OF LIGHT ENERGY FOR HOUSEHOLD (%)

SOURCE OF LIGHT ENERGY FOR HOUSEHOLD (%)

1.43%	9.46%	1.25%	0.18%	89.82%
Kerosene Lamp	Wood(fire)	Portable Solar	Electricity-Generator	Torch & Batteries
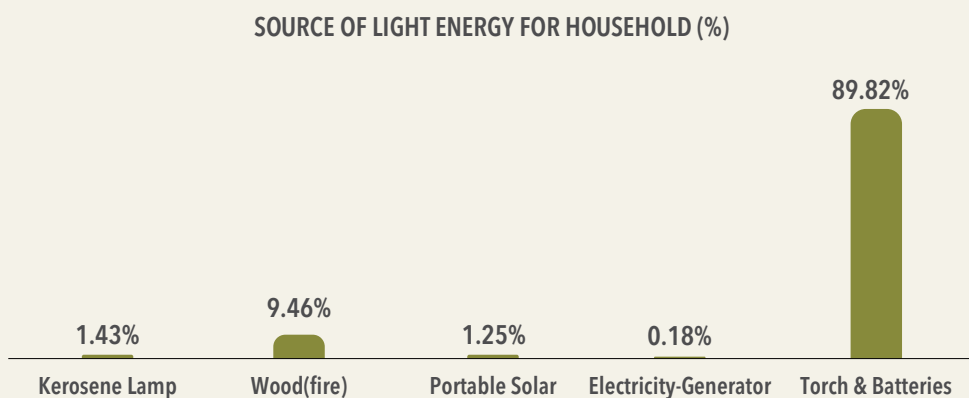
Regarding lighting, 89.82% use torch lights/batteries, 9.46% use wood (fire) for their lighting. Very few, 1.43%, 1.25% and 0.18% make use of kerosine lamps, portable solar and electricity-generators, respectively for their lighting purposes.

There is no grid electricity in any of the communities surveyed. It was found that all (100%) of communities use firewood for cooking.

7.5 ACCESS TO WATER

The survey found that the major source of water for domestic use are rivers (50.36%) and streams (47.86%). Only 6.61% draws water from wells with hand pumps and another 2.50% draw from wells without hand pumps.

15 An improved sanitation facility is that which hygienically separates excreta from human contact and is used by only members of one household: toilets flushing to sewer systems or septic tanks, ventilated improved pit (VIP) latrines, pit latrines with a slab, and composting toilets. However, about 32% of the global population, or about 2.4 billion people, do not have access to improved sanitation. See www. mdpi.com/journal/sustainability
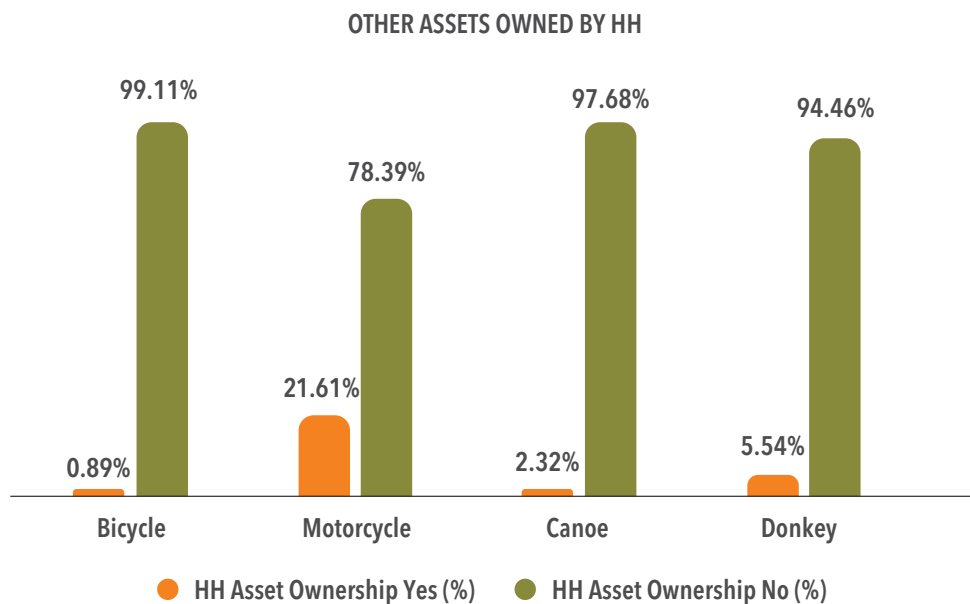
FIGURE 26: SOURCES OF WATER FOR DOMESTIC USE

SOURCE OF WATER FOR DOMESTIC USE
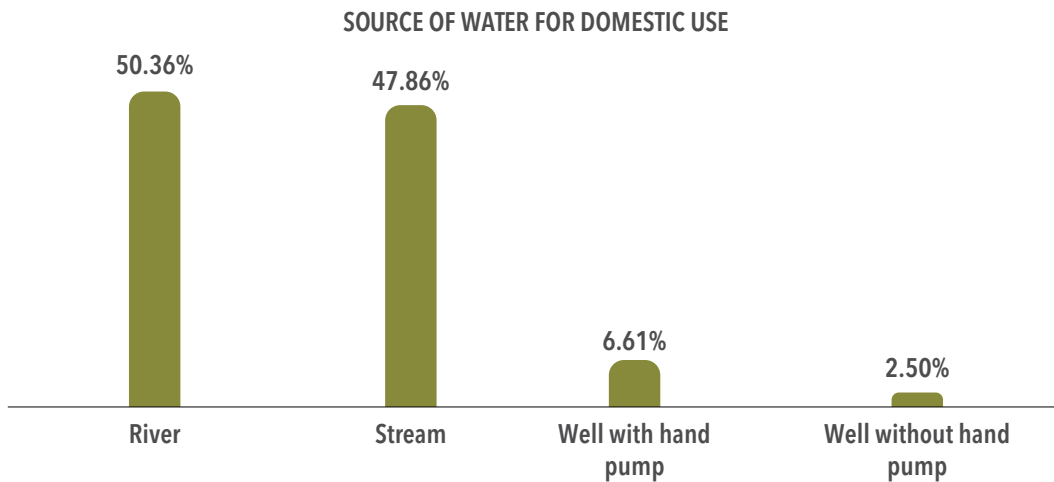
Survey results also found that the average distance covered to fetch water from the rivers or streams is approximately 1.12km.

7.6 OWNERSHIP OF MEANS OF TRANSPORT

FIGURE 27: OWNERSHIP OF MEANS OF TRANSPORT

OTHER ASSETS OWNED BY HH

The survey also revealed that only 0.89% of the households own Bicycle whereas 21.61% own motorcycle. Furthermore, 2.32% and 5.54% of the households own canoes and donkeys, respectively.

7.7 HOUSING STOCK

FIGURE 28: TYPES OF HOUSES IN THE COMMUNITIES

TYPES OF HOUSES IN THE COMMUNITIES

Block House	Brick House	Mud Hut
52.86%	35.18%	11.96%
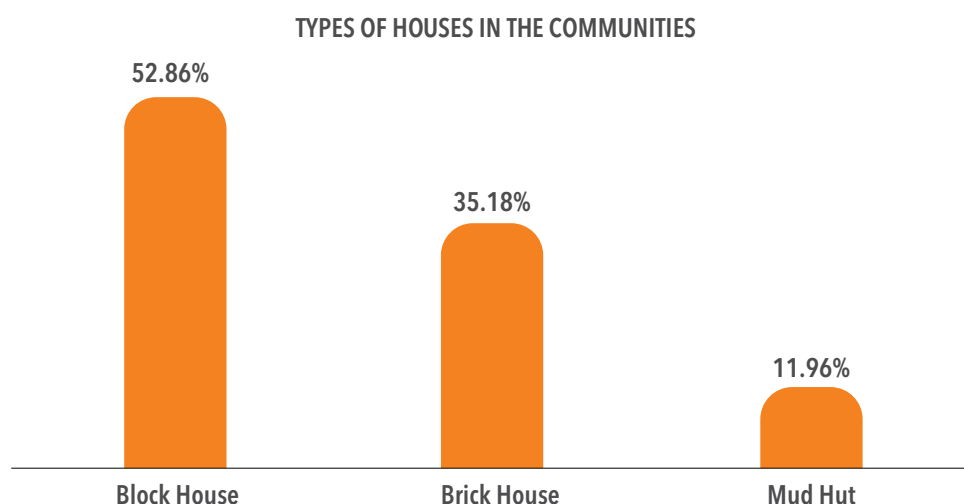
The survey found that 52.86% of houses in the communities are made of cement blocks, while 35.18% are made of mud bricks, the latter comprises mostly of the communities within the park; the remainder of 11.96% are mud houses. A further investigation into the roofing of houses in the communities found that 55.54% are thatched while 44.46% are roofed with zinc sheeting.

TABLE 18: NUMBER OF ROOMS IN A HOUSE

Average number of rooms in a House	3.67
Minimum number of rooms in a house	1
Maximum number of rooms in a house	7

The average number of rooms in a typical house was 4 with a maximum of 7 and a minimum 1.

FIGURE 29: STATUS OF HOUSE OWNERSHIP

STATUS OF HOUSE OWNERSHIP

95.89%

4.11%

Own   Rent
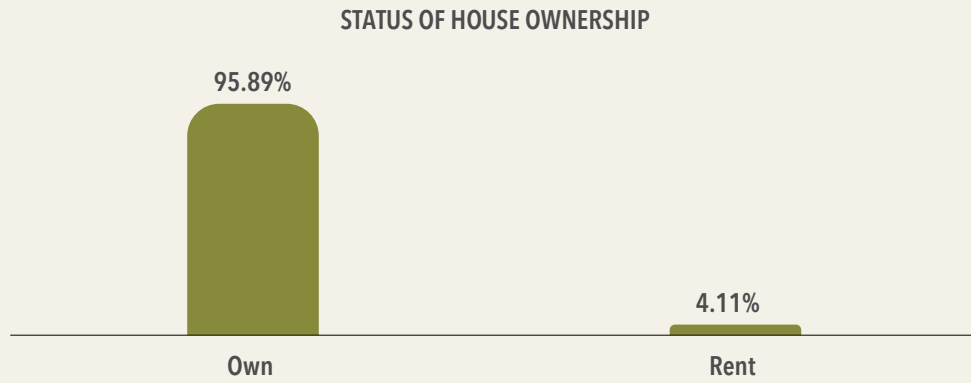
It was found that 95.89% of houses in the communities are owned by the household owner with less than 4.11% rented from their owners.

Key findings and conclusions

KEY FINDINGS FROM THE SURVEY INCLUDED:

- There is generally a good relationship between the park and communities. All were welcoming and keen to collaborate to protect the park

- Most villages around the park are small, the largest surveyed had 740 people, the smallest had 66 people

- 50% of the people in the study area are semi-nomadic Fulani followed by the Mambilla (17%), however there are many other ethnic groups including Nyim-Nyim, Ndoro, Jibu, Kaka, Tiv and others. 90% are Muslim.

- 85% of people are engaged in subsistence farming and agri-related livelihoods while 10% are cattle herders. Many people combine both livelihoods.

- At 70% literacy levels are low even for this part of Nigeria. Correspondingly, poverty levels are high with high levels of food insecurity.

- Overall, social amenities/infrastructure is lacking in almost all communities. Apart from one community on the highway, none of the communities surveyed had a functioning school or health centre, potable water, or electricity.

- For agriculture, the main livelihood in the area, key challenges are lack of access to inputs (tools, fertilizers, technical support) and access to markets.

The project is in the process of building partnerships with the park's communities so they can be guardians and stewards of the park. However, we recognize that for this to be a mutually beneficial relations, the park must support the communities with employment opportunities and development benefits. Form the survey results above, key elements of a development strategy should include:

- Support for livelihoods compatible with conservation especially agriculture and pastoralism. This could include extension advice, agroforestry, regenerative agriculture, veterinary support, etc. Assistance with access to markets will also be key.

- Support for education – which could include improvement of school buildings, furniture, and teaching supplies.

- Social infrastructure improvements especially access to potable water

Finally, it will also be important for development interventions to be part of a "social contract" or agreement with the communities, so this support is in return for assisting with agreed park protection measures.

Coordination with various stakeholders will be critical for sustainability. The project will coordinate any activities with the state government and local government so they can be involved in the continuation of interventions. Interventions must be community owned and led with cost recovery wherever possible. So, building the capacity of community institutions and groups to run and maintain any interventions will be important.

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