SHIRORO SCHEME AND RESETTLEMENT
A CASE STUDY OF ZUMBA AND GUNI OF NIGER STATE NIGERIA

BY

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PGD-GEO-2000-2001-121.

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MINNA

MARCH 2002.

TITTLE PAGE

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(PGD/GEO/2000/2001/121)

A TECHNICAL REPORT SUBMITTED IN PARTIAL FULFILMENT OF REQUIREMENTS FOR THE AWARD OF POST-GRADUATE DIPLOMA IN ENVIRONMENTAL MANAGEMENT TECHNOLOGY

DEPARTMENT OF GEOGRAPHY FEDERAL UNIVERSITY OF TECHNOLOGY MINNA, NIGER STATE OF NIGERIA.

MARCH 2003.

CERTIFICATION

This project has been read and approved in partial fulfillment for the award of post Graduate Diploma in Environmental management Technology at Federal University of Technology Minna

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DECLARATION

I hereby declare that this thesis has been conducted solely by me under the guidance and supervision of Dr. Abubakar Ahmed Sadauki of Geography Department Federal University of Technology Minna and I have neither copied some one's work nor as some one else done it for me. Credit have been given to the writer, whose has been referred to in this project.

ABDUL-SALAM TANKO MUHAMMADU ZUMBA.
STUDENT NAME

STUDENT SIGNATURE

8/4/2022
DATE.

DEDICATION

This project is dedicated to my late parents MALLAM MUHAMMADU And MALLAMA AMINA ZUMBA and my Beloved wife HALIMATU SADIA ABDUL -SALAM TANKO ZUMBA

ACKNOWLEDGEMENT

I must thank the Almighty Allah (S.W.A.) for his wisdom and courage toward my entire life and opportunity to run this programme that is post graduate Diploma in environmental management Technology. Glory be to Him.

My Sincere profound gratitude goes to the principal Government science college IZOM, Mal. Muhammadu B.S Aliyu for his kind understanding through out the course of my study.

I must thank Mal. Musa Umar of Government Science College IZOM, for the advise and courage he gave me during the course of study .

I am indebted to my supervisor Dr Abubakar Ahmed Sadauki, Deputy Dean, Student affair federal University of Technology for his eminent contribution and encouragement to write out this project I am also indebted to my brother and sisters for their wonderful contribution toward the achievement of my course, they are Muhammed Bawa, Yahaya Aishetu and Habiba Muhammadu Zumba.

My Cousin Sister Chief Nursing Officer Mrs Kande Salamatu Mohammed of General Hospital Minna is not left out

My regards also goes to Mohammed Makusidi and Mallam Baba Gwam for their kinds and generous assistant and all my friends and those that their names are not mentioned in this project write –up may Allah bless them all Amen.

ABSTRACT

The purpose of this write up is to investigate the resettlement scheme of the Shiroro hydro-electric power project, in Zumba and Guni communities and other three villages each .

The method employed in data collection were construction and distribution of questionnaires to the target groups individually at random and through verbal discussions with some of them.

Also references were made to text books, magazines, Journals and research publications.

Sixty questionnaires were distributed out and all which were collected and returned to me for scoring.

During the write-up a study of the Histo-cultural, socio economic and occupation aspects were look into.

Based on the analysis of the feed back received from the respondents 60% of the inhabitants were fishermen during the pre-dam period. Before changing in to different occupation which seems "Strange" to them During the post –dam period

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CHAPTER ONE

1.0 INTRODUCTION

1.1 DEFINATION OF BASIC CONCEPT: RESETTLEMENT.

A resettlement is a unit or organised group of peoples (Men, Women, and Children's) making living out of their normal environment.

The course of resettling people from one area to another may be due to some reasons, such reasons are as follows.

(I) Dam construction Example the people of Borgu (Kainji), Jebba and Shiroro (Zumba) were resettled to give rise to hydro electric power generation for both internal and external Consumption.

(II) For Construction of road people can be resettled to give allowance for road construction example there was demolition of Houses and Structures along Bosso road in 1976 as a result of road construction and there was also demolition exercise that took place in 1992 opposite AP filling station for the purpose of construction of central mosque in Minna.

(III) Relocation federal Capital city from Lagos to Abuja was another reason of resettling people to different areas, that is people of old Gawu were transferred to New Gawu Babangida which has no cleared demarcation to show between Lambata community and old wuse community, were also transferred to new Wuse immediately after diko Village along Kaduna Express road, new Bwari Gwarinpa, Katanpe were also resettled to pave way for development of Abuja.

(IV) For Localisation of industry History has shown that people were relocate from their original place to new place at birgi Village just close to Sauka-kauta Village in Minna so as to pave way for development of industries

2.1 THE GENERAL OVERVIEW OF THE STUDY AREA.

The Study area stretches from the River Kaduna south gauging station to Shiroro Dam and to Wuya gauging station although the Shiroro dam is the main area of focus (Fig. 2.1) The Shiroro Lake is situated on Kaduna River at the confluence of Kaduna River and River Munya.

The Lake is located on latitude 9^0 58^0 N and latitude $6^0$51E Kaduna River is the Major river feeding the lake (fig. 2.2) the river take its origin around the west and North – west of Jos plateau.

The rivers flows west ward and south-west – ward from the plateau at an elevation of 1500m through Kaduna town at an elevation of 633m.

The major left hand tributaries of Kaduna River are the River Sarkin-Pawa and River Munya. The rise from the Hilly areas within the basement complex plains near kaduna. The major right hand tributary is River Tubo (Jimoh, 1992) see fig. 2.1

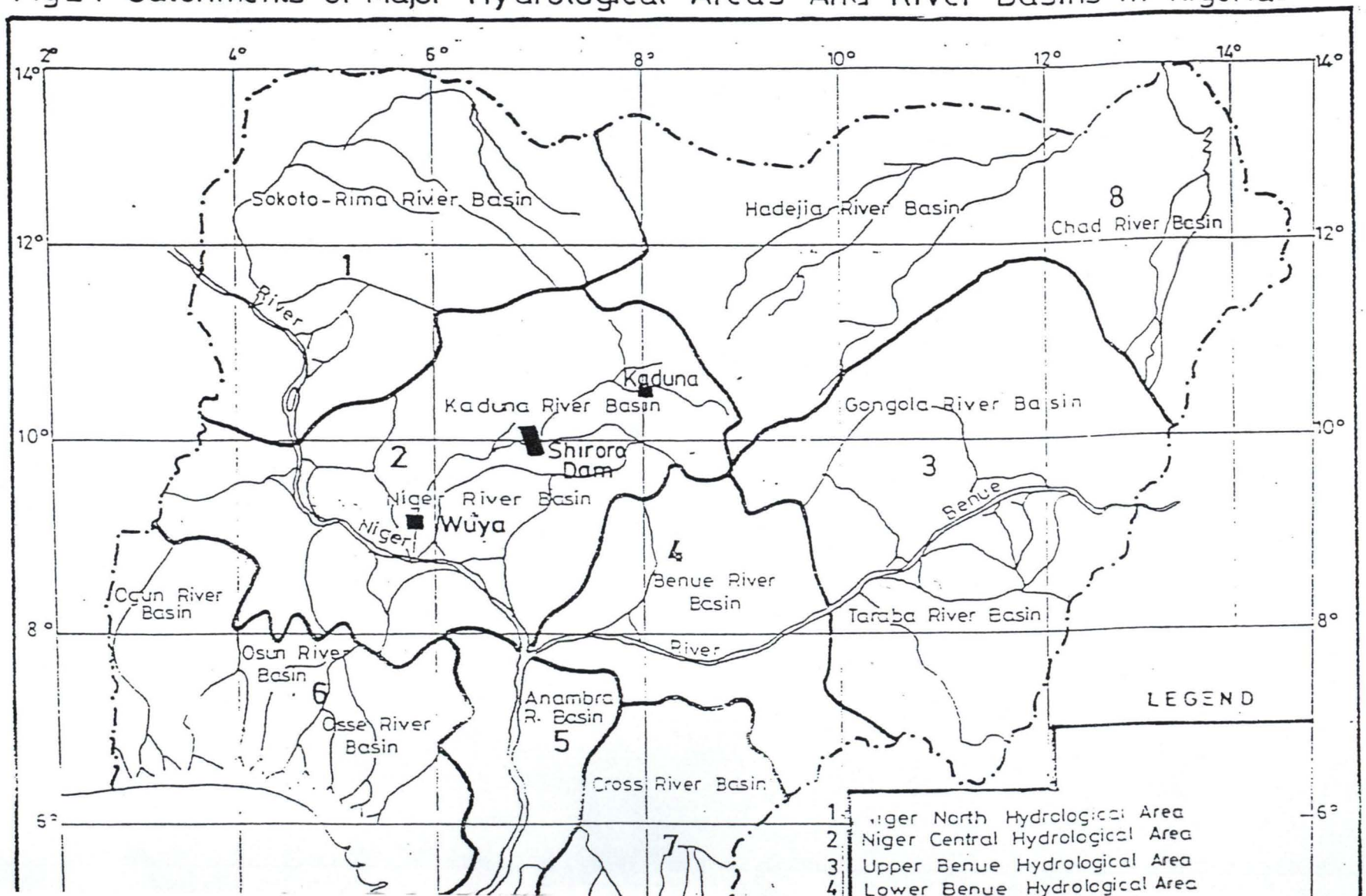
The Shiroro Hydroelectric project was initiated by the defunct Northern Nigeria Government and the former Electricity co-operation of Nigeria in 1957. It was originally conceived to meet the electricity requirements of Kaduna, Zaria and Kano areas.

Work on the dam commenced in 1978 and was commissioned in 1990.

The dam has a vast catchment area covering about 2o, 300 kilometers in Niger State a lone and drains about 27% of the land mass of the state. It is a total area of about 65,530 square kilometers from its head waters to the gauging station at Wuya bridge (Shekolo, 1990). The reservoir it self has surface areas of about 306sqkm an elevation of 382 in and a tremendous capacity of 604 billions.

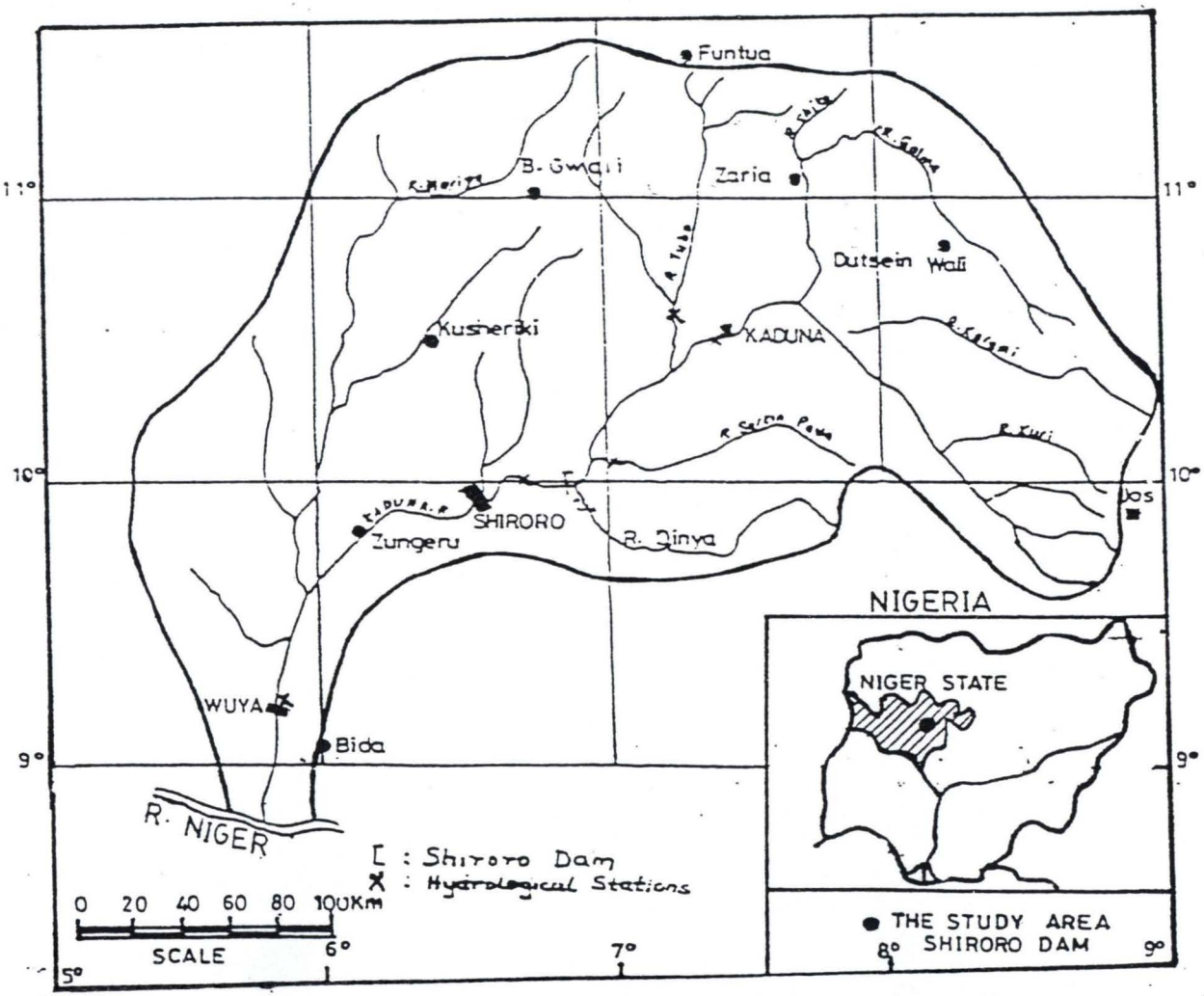
The Jos Plateau is the higher platform with an elevation of 1500 to 1800 metres.

Fig.2.1 Catchments of Major Hydrological Areas And River Basins in Nigeria.



Source: (Adapted froM FUTMIN Consult, 1992)

FIG. 2-2: LOCATION OF SHIRORO DAM AND MAIN RIVERS WITHIN ITS CATCHMENT



Source: (Adapted from FUTMIN Consult, 1992)

This plateau has a south – west scare which over looks the high plains from a height of about 600 metres in the north-east. However it falls to these plains rather gradually. The Highest part is the share Hills north-east of Jos where the elevation exceeds 1650 metres above sea level. Many rivers in northern Nigeria rise from this north central Plateau that covers nearly one fifth of the area of country. The Hadejia and Gongola flow to the east the Sokoto and Kaduna flow stewards to the Niger, while other smaller rivers like the mada and Gbako flow southwards to River Niger.

The Courses of these rivers on the Jos. Plateau and the High plains are gentle but where they descend the step slope from the higher to the lower plateau form, they tumble over a series of picturesque waterfalls and Carve a number of deep impressive gorges. The Kurra falls on the Kurra River and the Shiroro Gorge on the Kaduna River are typical examples of these features.

2.2 GEOGRAPHICAL BACKGROUND OF STUDY AREA

The description of the geographical back ground of the study area takes into consideration climate and physiographic aspect which include hydrogeographic features, terrain features and geology vegetation and soils.

2.2:1 CLIMATE

2.2:1.1 RAINFALL

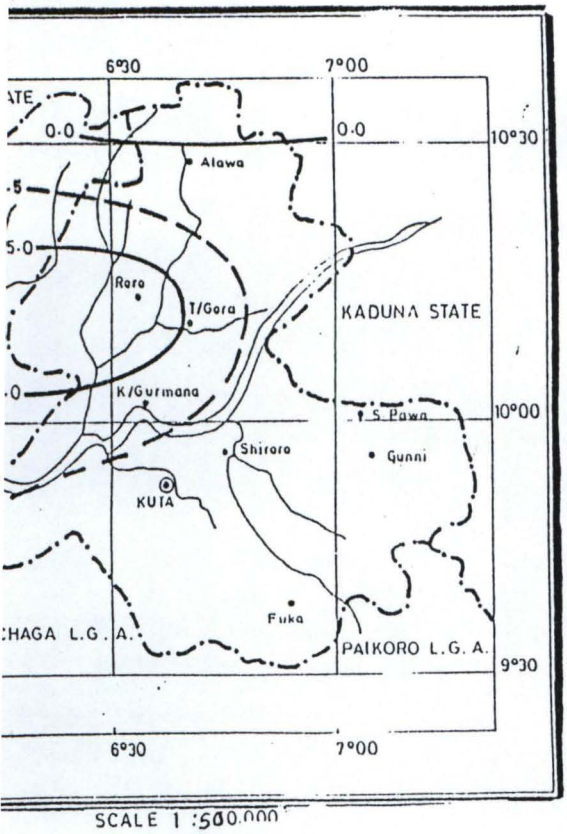
Adefolalu (1992) has summarized the rainfall characteristics of the study area from January to December.

He said that rainfall in January to march (figures 2,3 a.b.c) is very low ranging from 5mm in January to about 40mm in the extreme south west in March. By April (Figure 2,3 d) rainfall of 70mm or more covers the central parts of the study area while the lowest value is 40mm in the extreme north west corner.

In the Catchment basins of River Kaduna, the amount of rainfall to be expected as from April is between 60 and 80mm. Between may and July (figures 2,2 e,f,g), the Shiroro lake watershed receives in excess of 100mm

Fig. 2·3 : MEAN MONTHLY RAINFALL AMOUNT

(a): JANUARY (mm)

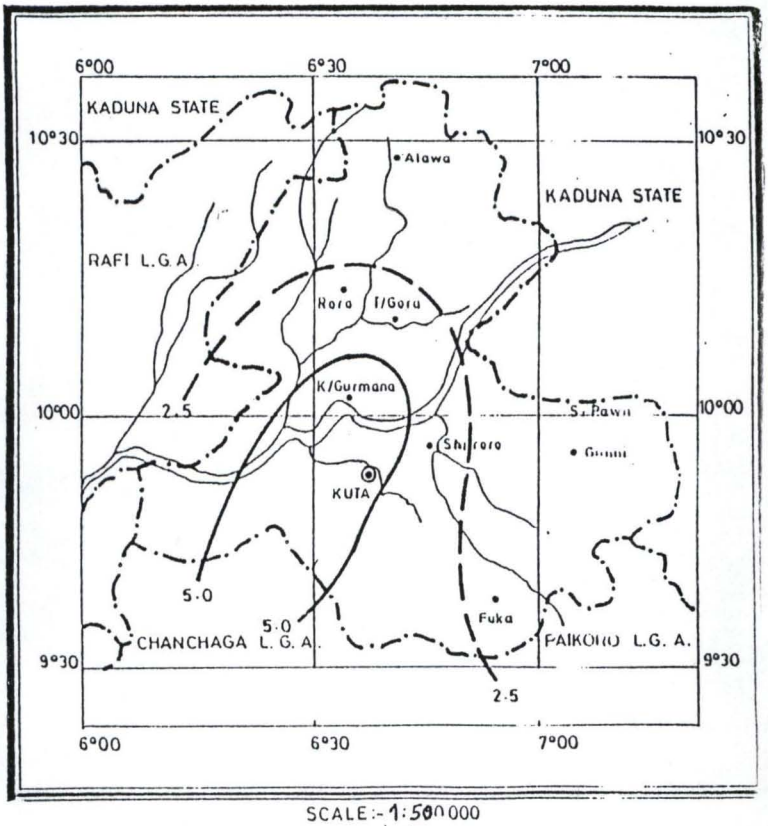


SCALE 1 :500,000

LEGEND

< 10 mm

Fig. 2·3 (b): FEBRUARY (mm)



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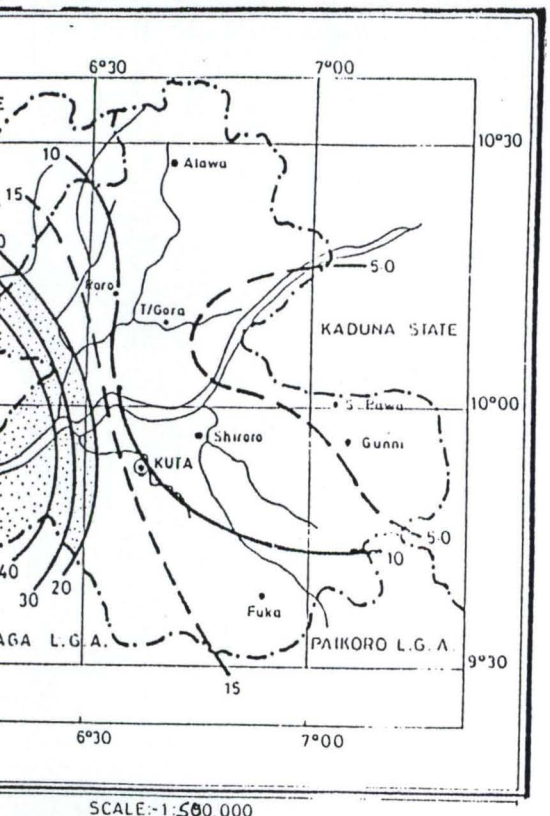
LEGEND

≤ 10 mm

(c): MARCH (mm)



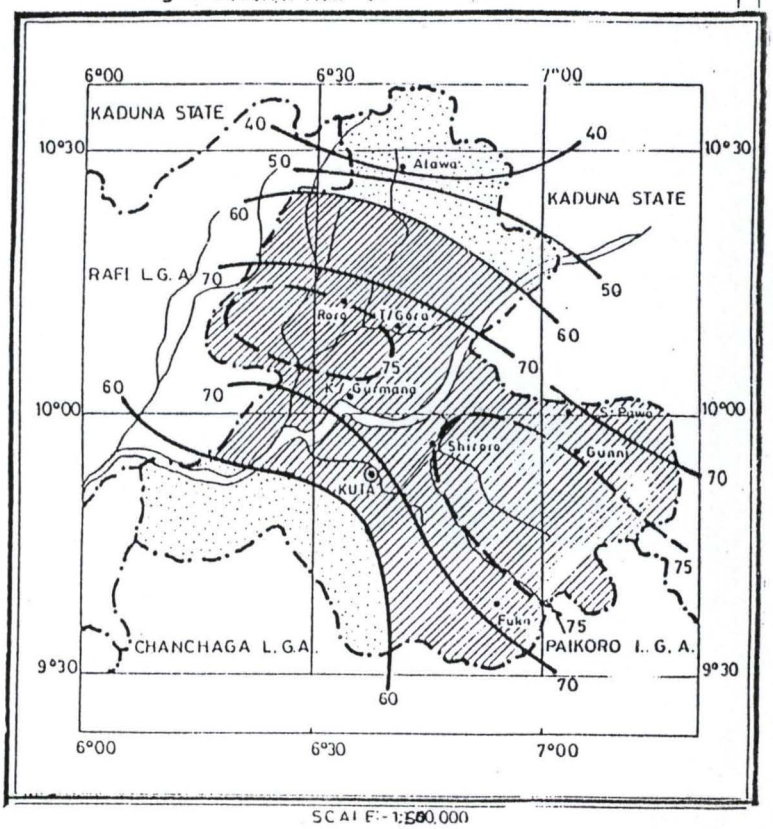
SCALE:- 1:500,000

LEGEND

< 20mm

> 20mm

Fig. 2·3 (d): APRIL (in mm)



SCALE :- 1:500,000

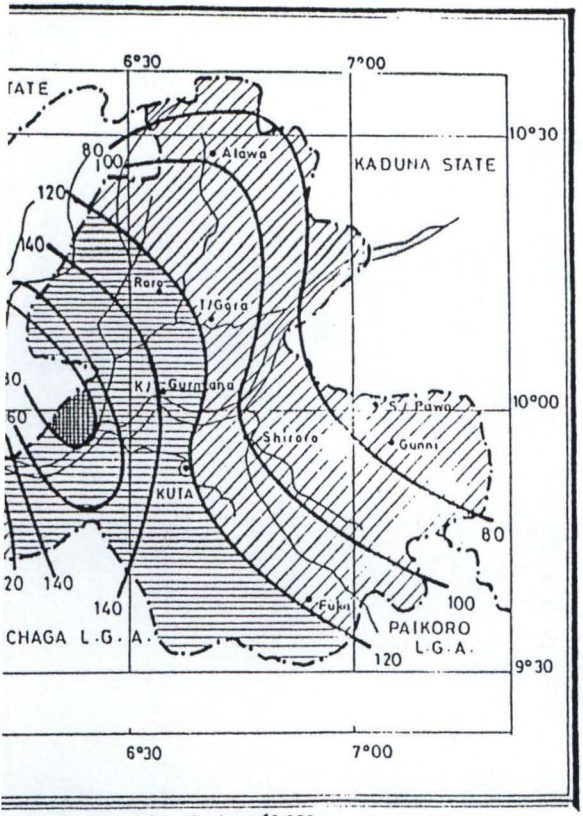
LEGEND

< 60mm

> 60mm

(Adapted from Adefolalu 1992)

·2·3(e) MAY (in mm)

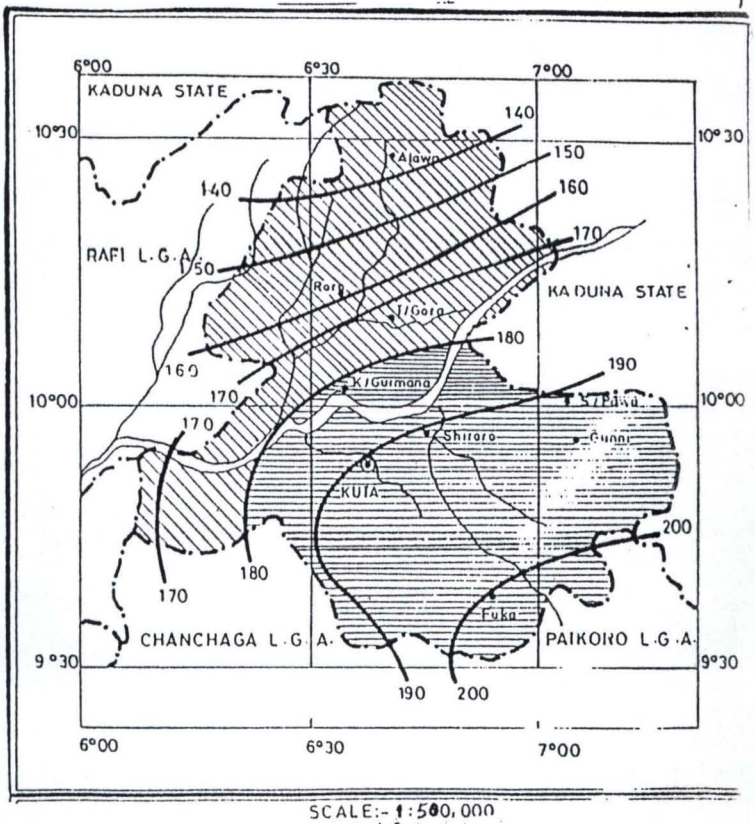


SCALE:-1 : 500,000

LEGEND

120mm | 120 - 180mm | > 180 mm

Fig. 2·3(f): JUNE (in mm)

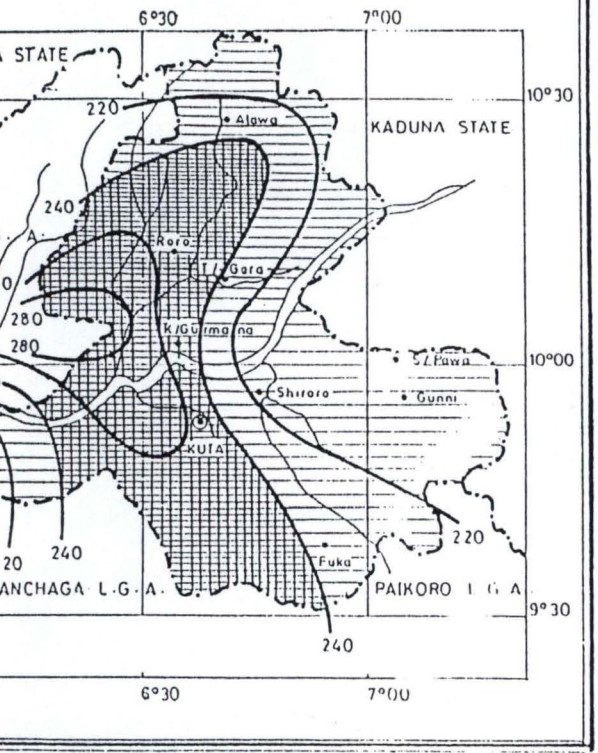


SCALE:- 1:500,000

LEGEND

120 - 180 mm | > 180 mm

·3(g): JULY (in mm)

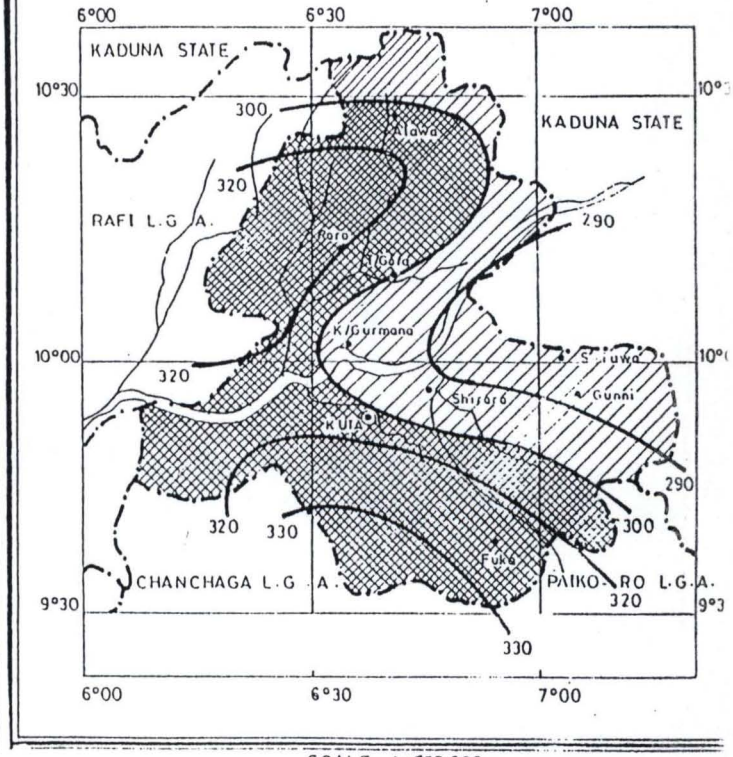


SCALE:-1:500,000

LEGEND

180 - 240mm | 240 - 300mm

Fig.2·3(h):AUGUST (in mm)



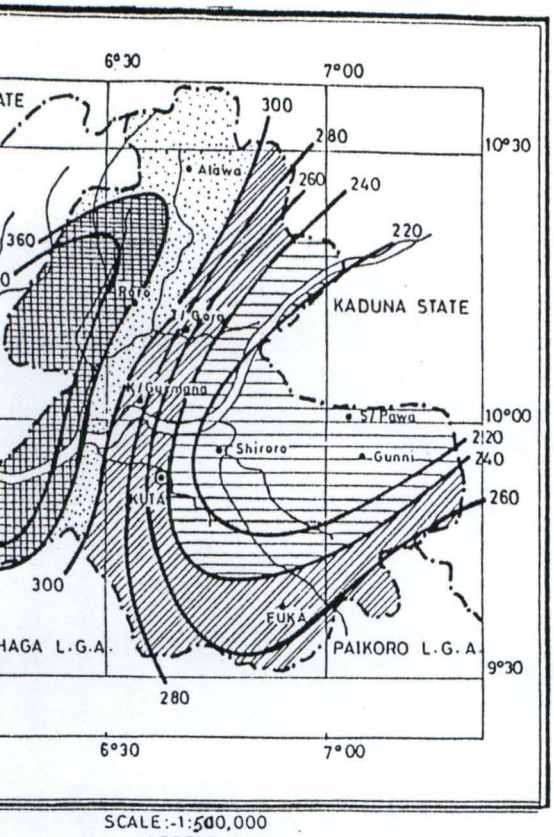
SCALE:-1:500,000

LEGEND

240 - 300mm | 300 - 360 mm

(Adapted from Adefolalu 1992)

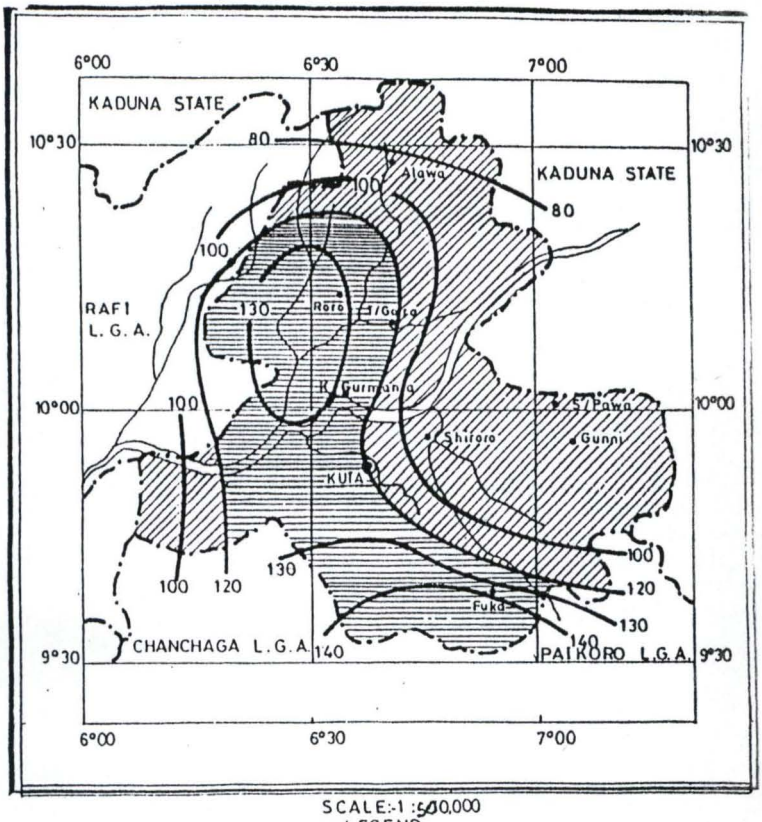
EPTEMBER (in mm)



SCALE:-1:500,000
LEGEND

240 -300mm 300 -360mm >360mm

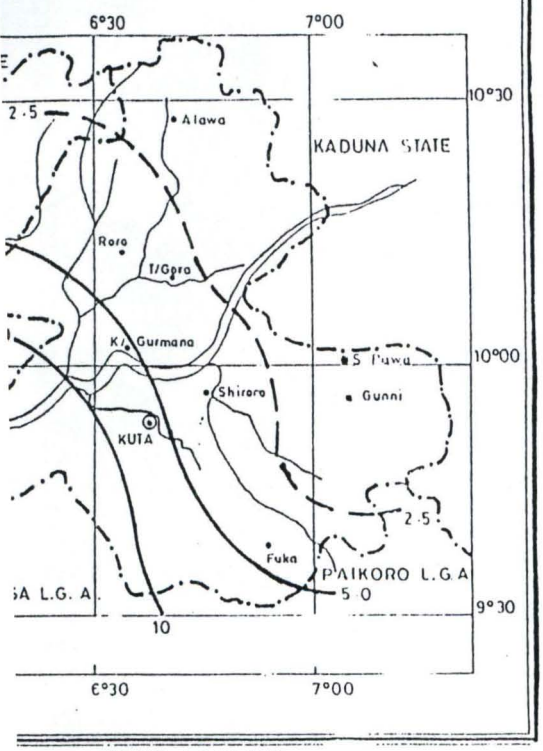
Fig. 2·3(j): OCTOBER (in mm)



SCALE:-1:500,000
LEGEND

< 120mm > 120 mm

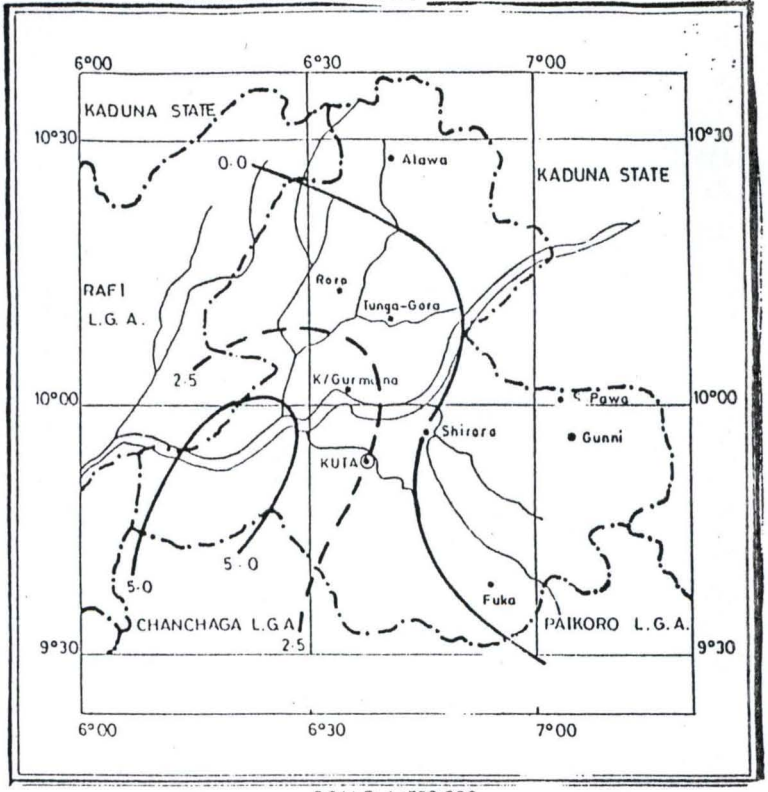
) NOVEMBER (in mm)



SCALE:-1:500,000
LEGEND

≤ 20mm > 20mm

Fig. 2·3(l) DECEMBER (in mm)



SCALE:-1:500,000
LEGEND

< 10 mm

(Adapted from Adefolalu 1992)

with a peak value of about 280to 300mm in July in the south west of Shiroro and Kuta respectively.

Further, there is no part of the water shed that receives less than 180 – 200mm at rainfall in July. August and September(Figures 2,3 h,i) constitute the peak of the rainy season within the Shiroro lake water shed with amounts in excess of 300mm in the western half of the Shiroro L.G.A Highest rainfall of over 400mm is to be expected in September (see figure2.3I) during normal rainy years .This is contrary to the popular belief that maximum rainfall is to be expected in August a factor which may create recharge problems of proper care is not taken.

The above characteristics are severaly contrasted with the situation in October (fig.2.3j) which ought to have similar features with July. However, rain fall drops Sharply to a maximum of mere 130 –150mm in contrast to the 400mm maximum in September. As may be expected November and December are very similar to January- march when monthly rainfall is as low as 5-100mm (fig. 2.3 a b c).

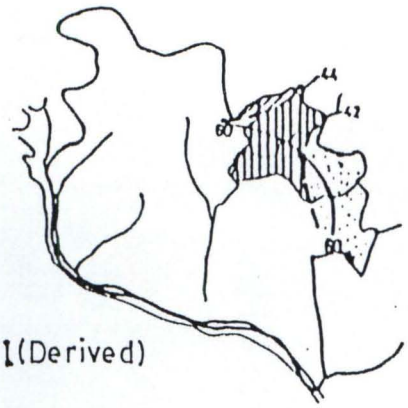
The onset of the rains is between 20-30th of April and the length of rainy season (L.R.S) is between 161-200 days. In Zungeru area, the onset is between 10th –20th April and the L.R.S between 141 to 180 days

2.2.1.2 CHILL FACTOR

The combine effect of wind drive and low temperature has been estimated to give the chill factor i.e effective cold condition. Fig. 2.4b. Shows that the northern half of the study area has a "very cold air advection" possibilities while the lower half relatively cooling the dry season. Thus is because of the very strong and dominant northeasterly wind flow experienced in the north, which decreases substantially to the south.

Figure 2.4 OTHER CLIMATIC ELEMENTS

Fig.2.4a: Rainfall Intensity (RI)-in mm time

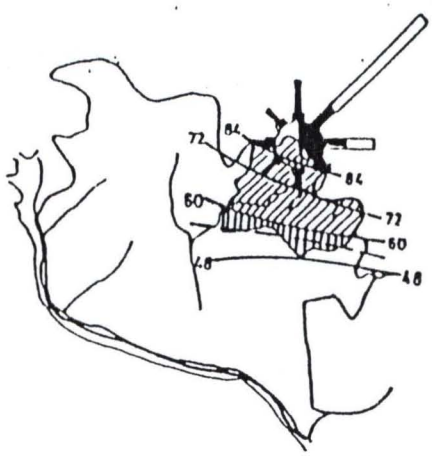


1Hr RI(Derived)

KEY

Maximum flood erosion
Moderate flood erosion
Possible flood erosion

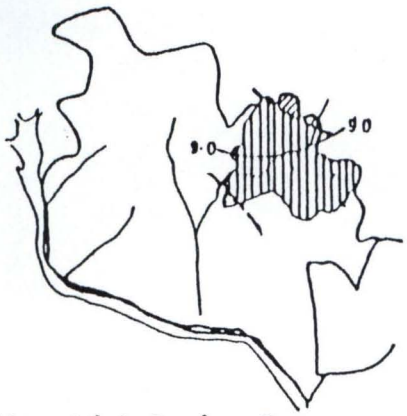
Fig.2.4b : Chill Factor



KEY

Very Cold Air Advection
Relatively Cool

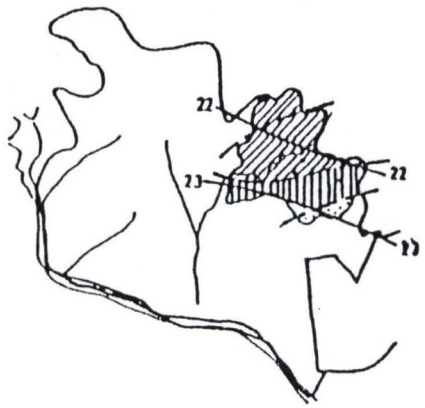
Fig.2.4c: Sunshine Hours & Radiation



KEY

Very High Drying Power
High Drying Power
Moderate Drying Power

Fig. 2.4d: Effective Temperature Factor



KEY

Cold/ Cool Zone
Cool/Warm Zone
Warm/Hot Zone

Adapted from (Adefolalu 1992)

2.2.1.3 SUNSHINE HOURS AND RADIATION

Long hours of sunshine combine with high radiative power across the study area resulting in high drying power across the entire area. The planning implications of these features relate to water storage (deficts) during the period discharge exceeds recharge (i.e October through may).

2.2.1.4 EFFECTIVE TEMPERATURE FACTOR

The study area is in the cold/ cool to cool / warm zone with the colder sector in the northern half of the study area. The above characteristic feature suggests that effective heating rate is low in the Shiroro lake water shed.

This may have a compensating effect on the sunshine / radiation factor.

If these two factors of evaporative power cancel each other out, the controlling factor of maximum water loss due to evaporation will be the chill air advection (especially at night), water loss due to evaporation is probably in the Shiroro lake water shed.

2.2.1.5 RELATIVE HUMIDITY

Relative humidity for the water shed ranges between 32% to 78% for pre-dam condition, the values being higher between July to August. The value range between 40% to 88% for posts dam condition.

The highest values occur between July and August while the lowest values occur between December and February.

2.3 OTHER PHYSIOGRAPHIC ASPECTS

2.3:1 Hydrological Features

River Kaduna is a major tributary of the Niger, which flows, in a North south direction. It takes its source from the western scopes of the Jos Plateau and has a total area of about 65, 530 Square Kilometers from its head water to the ganging station at Wuya bridge unlike most rivers in northern Nigeria the Kaduna rivers is a perennial river although it is subject to great seasonal fluctuations in level. River Kaduna cuts its Channel through crystalline rocks

up to wushishi where it enters the sedimentary formation of the Bida basin, (Adefolalu, 1992). The river flows in a fairly straight course in the upper and middle stages with some meanders at the lower course, its long profile consist of a number of steep gradient valley steps which is separated by stretches of other with low gradients.

Erosion is defined to the steep parts of the profile. The lower course of the rivers is characterized by electrical banks, islands and multiple channels which cause the spreading of the river in numerous places to as much as 1.5kilometres wide (Adefolalu, 1992). Its course is interrupted where it crosses hard rocks. Deep gorges have been cut across the areas of more pronounced steps in the valley. These include the 5.0 kilometer ravine in the granite at Shiroro and the 9.5 kilometer gorge through schist at Guria.

Flood water from Kaduna river valley often extends far inland during the rains converting large areas in to swamps, several villages (e.g Agwi, Kwasa, Erena, Blanda Kogo, Juko etc) be came isolated and can only be reach by canoes.

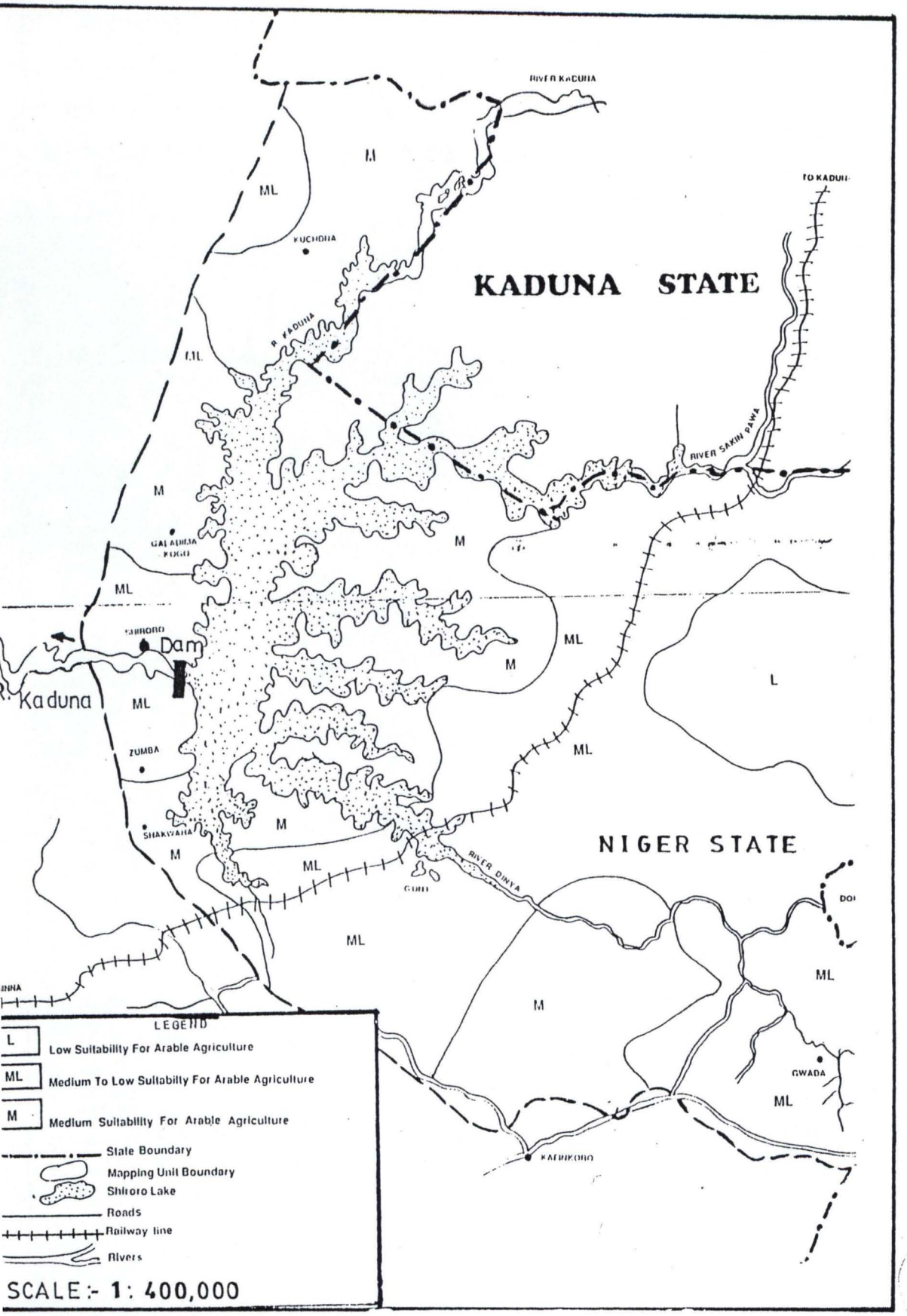
There are about 15 tributaries of Kaduna rivers within the Shiroro lake waters shed, the major among them being rivers Munya, Sarkin Pawa guni, Erena and Muyi. The tributaries flow in the north south direction and few western tributaries flow in the north west to south east direction.

The surface hydrology has the problem of low base flow of rivers.

The storage does not sustain river flow during extended dry season. This explains the seasonality characteristic of these rivers since they depend on rainfall. It is obvious therefore that the volume of the river varies with the quantity of the supply of rain water.

Thus in the wet season the rivers swell in volume with ranging torrent while in the dry season they dwindle to dry up.

g. 2. 5: HYDROLOGY OF THE SHIRORO WATERSHED



Source: (Adapted from FUTMIN Consult, 1992)

2.3:2 TERRAIN FEATURES AND GEOLOGY

The topography is highly undulating and varied in highs. Isolated hills of river 600m above sea level are common while the valleys in between can get as low as 400m above sea level.

Katarina hills in Kaduna State form part of the ranges that extend across River Kaduna. These ranges continue south wad close to Sarikin Pawa village up to the lake site and terminates at Kolafe, kabula hills before Doka forest reserve.

The forest is close to Katari village along Suleja /Kaduna road.

The study area is underlain by rocks of the precambrain Nigeria basement complex with out crops prominent all around. The complex is mainly of granites and granodiorite are introduced in to the older rocks.

These rock types are therefore found inter woven.

The gorge on which the dam is located is a result of Kaduna River eroding a NW-SE fault zone which crosses a prominent NNE-SSW ridge of granite hills up to 600m above sea level. The range of granite hills almost 3km wide from the western edge of most of the lake. Deep lateristic soils are limited in the dam and reservoir areas. The undulating hills are made up of granite rocks while schists and gneiss are dominent rocks in the lower terrain. Gneiss and schists which are Precambrian metamorphosed sediments under he most of the reservoir area, and west of the granite ridge.

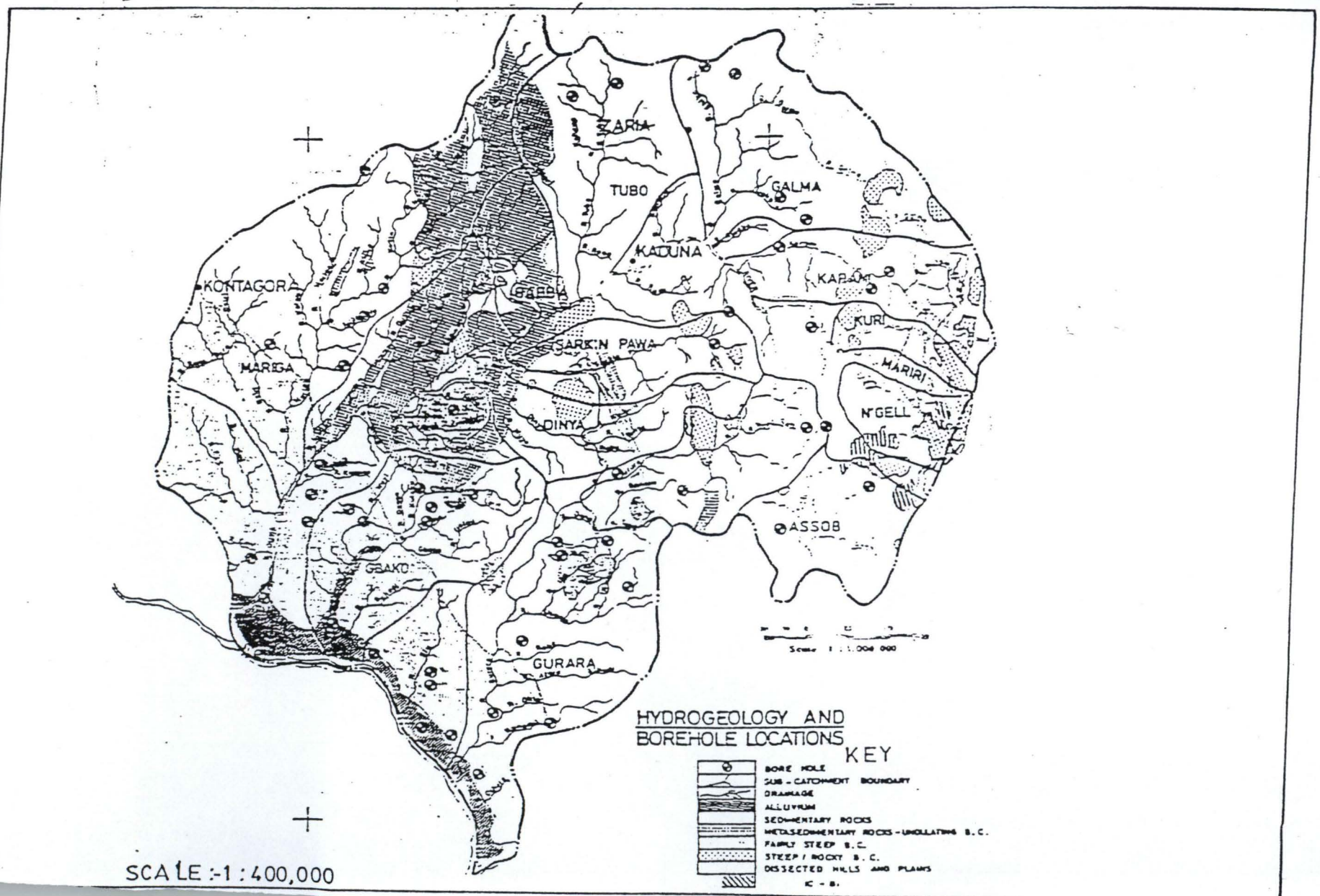
The massive biotite granite rocks later introduced the schist and geniss.

This intrusion was accompanied by regional folding with major NNE-SSW trends. Tears faulting in the direction N-S and NW-SE also resulted from this crystal movement. Prolonged weathering resulted in the characteristic topography of peneplain of inselberg and domes of resistant rocks giving varied topographic heights.

2.3:3 VEGETATION

The vegetation type of the watershed is Guinea savanna. There are marked difference which occur at close intervals both in floristic composition are the

Fig. 2.6 HYDROGEOLOGY AND BOREHOLE LOCATIONS



open character of the vegetation which is often caused by variations in soil types, topography, ground water situation and human interference.

The vegetation is composed of montane forest of mainly trees with little shrubs and grasses. The grasses are between 1.5 to 3.5m high. The trees are short bold broad leaf trees of up to 16.5m in height riparian and gallery forest predominate along the river valleys. Most of the plants in other areas are shrubs with scattered trees most especially butyrosperum paradoxum, parkia clappertonians and occasionally Afiellia Africana.

Other dominant species include pilostigima thonningii, combretum molle corcorus spp,igoberlini doka, monotes kersting, terminalia avicenniodes bush fallow and mixed slow growing legumious wooded savana are prominent. Examples include the isoberlina uapaca wood land found around Kurumin Giwa.

The Terminalia wood lands Detarin wood land and Daniellia vitelaria wood land which is the most wide spread type. Where the mixed legumious wooded savanna has been farmed repeatedly as it is common in the water shed only.

The large and economic trees, the so called farm trees (scattered farm tree system of Agro forestry). Like vitteria spp, parkia sp Deniellia spp isoberlinia sp, Terminalia sp and few mango trees are preserved, the rest of the woody vegetation having virtually disappeared.

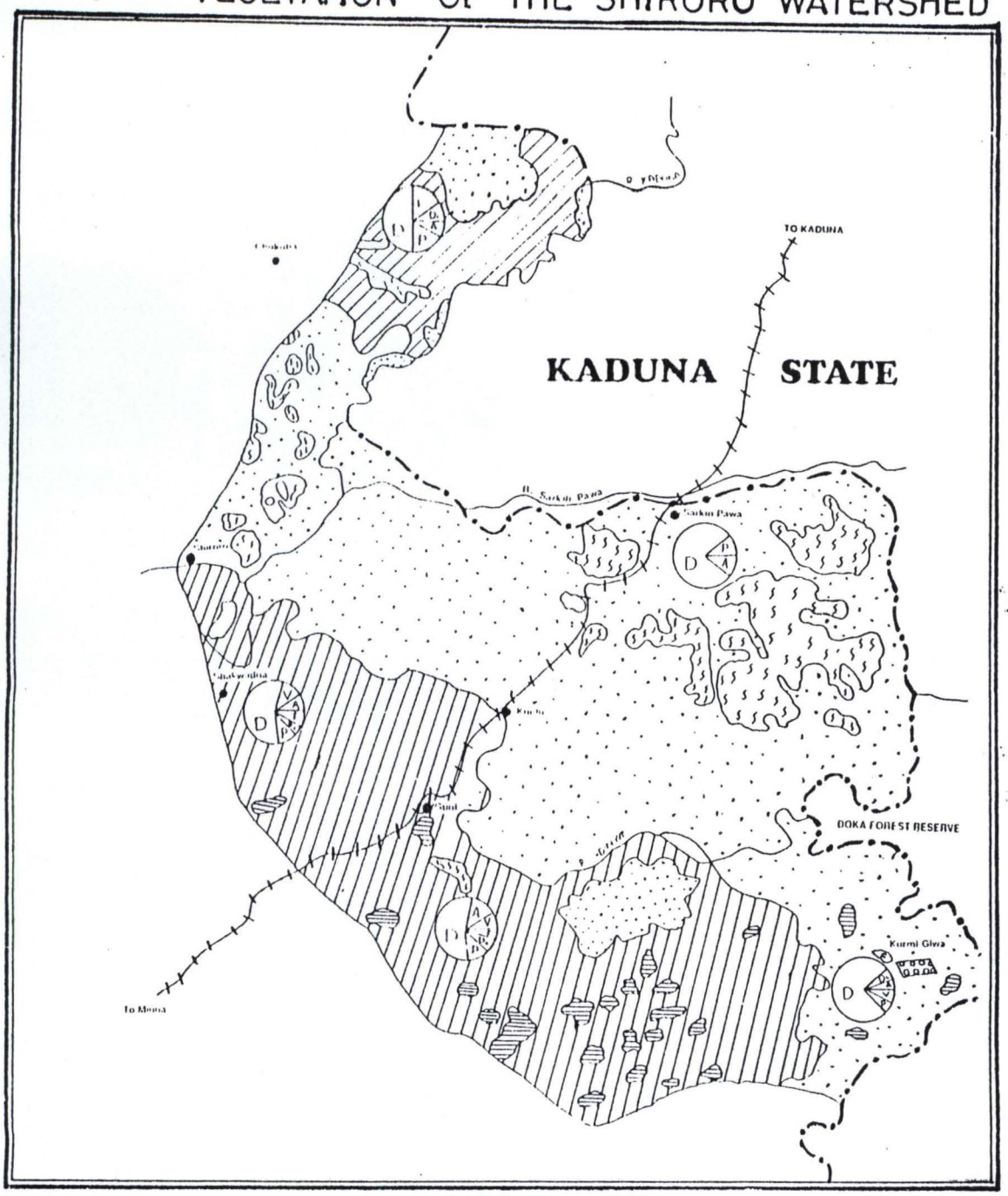
This produces a country side in which only the tall trees and grasses lower layer survive and which has a park like appearance.

The major influence affecting the vegetation i.e the increase in cattle population. Thus, coupled with the effect of the drought years compelled the Fulani herdsmen to more south wards has led to much greater pressure being put on the wood land. The vegetation type is a by product of centuries of tree devastation by man and fire and a continuous attempt by the plants to adapt themselves to the climate environment.

PLATE 1: The vegetation around the dam site upstream showing plain grassland as a result of the heavy cultivation that was practised before dam construction.

PLATE 2: The vegetation downstream which has not been cultivated showing the Guinea Savanna type of Vegetal cover.

Fig. 2.7: VEGETATION OF THE SHIRORO WATERSHED



SCALE:- 1 : 400,000

LEGEND

- Mosaic 60 Farmland
- Mosaic 60 Farmland
- Forest Reserves
- Hill Scrap or Plateau Vegetation
- NALDA Agricultural Project

Source: (Adapted from FUTMIN Consult, 1992)

Thus the trees grow long tap roots and develop thick back which enable them to survive the long dry season and resist bush fires. Some of them have curious shapes and a few small leaves. Most of them have umbrella- shaped canopies which not only shade the ground and limit loss at soil moisture, but also present a thin edge to the wind. They shed their leaves in the dry season in order to minimise loss water by transpiration.

The grasses have durable roots which remain under ground after the tops have been burnt away after a dry season fire. The sprout again with the onset of the first rains the following year.

During the dry season the landscape looks dry while in the wet season, it is green with fresh leaves and tall grasses. The gallery forest is found along river banks where the ground is moist. They are usually greener the grounding vegetation and grow dense enough to cover the rivers.

2.3.4 SOILS

The soil type is primarily the result of the interaction between climate (mostly rain fall and temperature) flora and fauna (biotic) parent materials and geomorphic factors over varying periods of time.

The soils of the Shiroro catchment area are developed from the precambrain Basement complex rocks comprising granite, schists gneiss and amphiboles. The soil association are named after important features such as towns, rocks etc which have been used by some soil scientists (valette,1773).

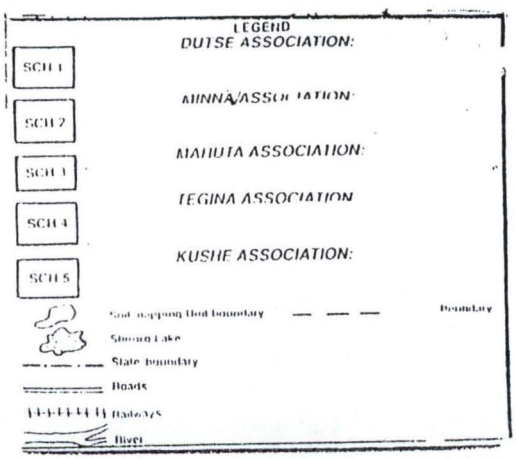
They include DUTSE ASSOCIATION, MINNA ASSOCIATION MAHUTA ASSOCIATION, TEGINA ASSOCIATION AND KUSHERIKI ASSOCIATION.

Soil from DUTSE ASSOCIATION are developed on gneiss granites, silts and amphiboles. They are shallow to moderately deep. The soils on crests and upper slopes are generally underlain by ironpan, ferruginised schists or amphibolite and are medium to coarse textured. Some are gravely to bouldery Some of the soils occurring at the upper and the middle shapes brown, strong

Figure 2.8: SOILS OF THESHIRORO WATERSHED

SCALE:- 1 : 400,000

KEY



:(Adapted from FUTMIN Consult 1992)

brown reddish to yellowish brown or red in the subsoil and very dark gryish brown or dark brown in the surface soils.

The soil texture is generally course to medium in the surface and fine to medium in the subsoil.

Some members of this association are moderately well structured, friable to form loamy sand, sandy clay loam or Sandy clay soils. This association lie between Erena and River Kaduna

The soils of MINNA ASSOCIATION occur on undulating to rolling dissected plain developed on undifferentiated Basement complex consisting mainly of granitic rocks , gneiss and schist.

The surface soils are greyishbrown or grey and the sub soil is strong brown to yellowish red. The surface soils are usually loamy sand to sandy loam. Most of these soils are gravelly except the soils formed on collevial materials. The subsoil texture is sandy clay loam to loam. The MINNA ASSOCIATION is in the south west portion of the state.

The soils in the upper MAHATA ASSOCIATION are well drained Shallow to moderately deep and are very dark greyish brown to dark or strong brown to yellowish red. The soils in the priddle to lower positions are well drained and moderately deap with very dark greyish brown to dark yellowish brown surface layers

The MAHUTA ASSOCIATION lies within the western portion of the study area including Zumba. The TEGINA ASSOCIATION lie with the northern part of the state.

The soil developed on undifferentiated meta-sediments made up of migmatites gneises and schists. The soils are neutral to slightly and in the surface layers and neutral to moderately acid in the sub-stratum. They have moderate high organic matter levels.

The surface soils are greyish brown or grey and the sub soil is strong brown to yellowish red. The surface soils are usually loamy sand to sandy loam. Most of

these soils are mainly gravely except the soils formed on alluvial materials. The sub soil texture is sandy clay loam to loan.

The KUSHERIKI ASSOCIATION lies within an area south of river Sarkin - Pawa. The soils of the plains are coarse to medium textured.

The soils are well structured friable and have many gravels and quartzstones at shallow depths.

2.3.5 FLORA AND FAUNA OF THE SHIRORO WATERSHED.

The flora at Shiroro watershed belongs to the class Angiospermopsida. Riparian and gallery forests are observed along the river valleys as explained in 2.3.3

The dominant plant species are Terminalia aviocennodes. Isoborlina doka and monotes kerstingii. Thesehave been discussed in 2.3.3. The fauna found around the vicinity of the lake include monkeys antelope gaint rat, baboon, snakes, hedgehogs grass cutter and guinea fowl. Most of the fishes caught in the lake are usually found in vegetation areas along the edges of the reservoir open water, rocky and muddy bottoms. The dominant species include citharirus distichodoides labeo senegalensis, lates, nitoticus, Chrythichthys Nigrodigitatus, Endenoglaius occidentalis, oreochromis niloticus , schillbac mytus, alestes nurse galilaca (sikoki 1992).

3.3:6. ENVIRONMENTAL IMPACT STUDIES OF THE SHIRORO DAM

In a rapid inventory survey (R.I.S) of the Shiroro water shed, (Jimoh, 1992) has identified that sheet erosion from the catchment of River Kaduna takes place.

Jimoh (1992) in the same study has stressed that the suspended sediment in Kaduna River is 0.49/1 and that of sarkin pawa is 12.6g/1.

He also noted that there is a high deposit of sand and clayey loamy soil on the river course of River Sarkin Pawa during period of low flow.

from the foregoing, the Shiroro hydroelectric power dam has not received much prepared post dam environmental impact studies.

It is a very large project and a project of such magnitude is bound to have some positive or negative effects on the environment in which it is located.

2.3:7 SOCIAL AND ECONOMIC ASPECT.

There is one strong ethnic group the Gwaris (Gbayi) who live around Zumba and Guni and other smaller groups include the Hausa, Ibo Yoruba, Tiv, Igala, Nupe and the Idoma people.

The population density is about over one million people occupying these areas and this is one of the factors which have retarded its economic development.

The people depend mostly on farming, fishing Hunting and trading for their livelihood. For fishing, they use dug-out canoe and catch the fish with either baited lines or fish traps Guniea-corn and maize are the most wide spread crops that are gown in these areas. And for the hunting they use locally made Guns, bowl and arrows to kill the animals in the forest.

2.3.8 HISTO- CULTURAL ASPECT.

The history has shown that Zumba drived it name after winning a war with its neighbouring villages. Zumba means a surprising thing i.e bees was their biological weapons to fight their enemies whom happened to face them.

The people of Zumba still believes in Tradition and any one who violet these tradition disrespect their gods and punishment normal follows.

In Zumba culture, people are Strongly advise and won not to attempt in any occasion or festival to beat a drum usually called ASHAMA and any one who violet these, does not seen the end of that very day i.e the person die.

Some traditional belief practice in these area are Abwagyi, Amadawa, Agbinu Ashan and Amoa moa.

People of these area some still use local dresses such as Saki in Yoruba is called Ashoke, Banufa in Hausa, Babanriga and some fair number of old age

men still use BANTE i.e incomplete pant but they only use it in their houses when they are receiving fresh air

ZUMBA culture belief to accommodate other visitors in the area, the people in essence are so caring lovely and friendly.

2.3.9 JUSTIFICATION OF THE STUDY

Construction of the dam in the country are given too much of structural or engineering construction with little or no Environmental impact assessment. After the design and construction of theses clean, environmental problems are usually devastating. Taking a case with Bakolori dam in Katsina State, Kainji and Jebba dam in Niger State were many life were loosed as a result of improper compensations and up till now trouble is still there.

And in the case of Shiroro dam no life were loss but money pay to these people of these community does not worth an atom for the people to bear with and that is why there is still trouble going on too in the community.

2.4.0 LIMITATION

In the study area history has shown that there were villages that were relocated or resettled together with these towns Zumba and Gunu for the case of Zumba settlement, the villages are Shakodna Dnabo Idah ,while Guni settlement the villages are Tahala, Tawo and Muyan.

2.4:1 AIM AND OBJECTIVES

Is to asses the problem associated with Shiroro hydro-electric power scheme with in the two settlements Zumba and Guni and provide proper recommendations.

2.4:2 SPECIFIC OBJECTIVES

(1) To asses social economic impact of the dam on the people

(2) To asses the histo- cultural impact of the dam

(3) To profile possible solution to the problem associated identified in one and two above.

2.4:3 **ORGANISATION OF THE THESIS**

This thesis is divided in to four chapters

The first chapter deals with background information on Terrance overview of the study area:

Chapter two gives literature review of the study area.

Chapter three centre on methodology

Chapter four deal with analysis and discussion of result

Chapter five deal with summary conclusion and recommendation

CHAPTER TWO

2.0 LITERATURE REVIEW

Abubakar of (1997) estimated microclimate change of dam site of Shiroro dam that maximum temperature has find to decrease about 10^{0c} from pre-dam to post-dam period.

The maximum temperature during the pre-dam was 30^{0c} in August and 20^{0c} after post –dam.

Social economic and Histo-cultural aspect was the main aim of the project.

New Zumba and Guni are rural type of settlement and well planned.

The settlement can not be compared to new Bussa resettlement scheme which came up during the kanji project in 1967.

The new Zumba and Guni are comparable to many other resettlement schemes in term of reasons and the process involved but differs in some other aspect from others.

For example a resettlement scheme in Hong Kong (reed A. 1979) was brought about by poor living condition, which was very cramped, and not create room for a development project.

The people's view were not sought as it was said earlier considered some criteria before allocating new area to them as this authority rightly put it "Factors which favour choice of settlement site "(O Fun J .A).

He enumerated that as availability of water supply well-drained building site communicated route and defence. These were government consideration.

Plate 3: The new location of Zumba showing some numbers of houses.

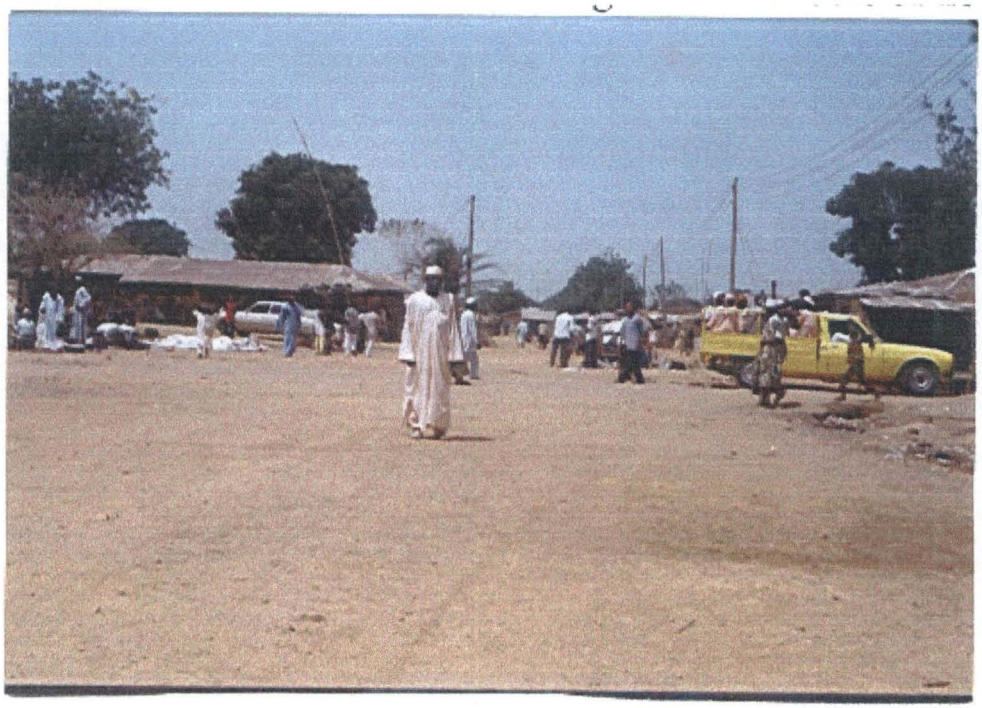


Plate 4: The new location of Guni showing some number of houses

Source: by Author

2.1 WATER SUPPLY

The new site has a source of water supply. There is a river running from the North to south which serve people of these settlement. The river how ever got it route from Zumba.

In case of expansion, river can be dammed or reserved for use.

The can also use the Banks of the river to grow some crops even by irrigation If need be .

2.2 ACCESIBILITY

The Settlement area are on the major roads. Incase of Zumba is located on Minna to Shiroro dam and if bridged at the down stream of Shiroro dam can serve people from Erena, Chikuba and even Birnin Gwari of Kaduna State and in the case of Guni the road is off Shiroro dam road at Gwada town.

There is also Airport just close to new settled village before reaching Zumba called Idah (Air port).

2.3 AVAILABILITY OF LAND

Generally, the land here is fairly fertile for Agriculture which is a major area of interest by the people. There is enough land for expansion but the soil guarantees the growing of few types of crops like Yam (Guinea-corn, cassava maize beans and groundnut)

2.4 WEATHER CONDITIONS.

The weather conditions are not much different from that of their original home. Because all of them are in tropical region and with the same mean annual temperature of $20^{c} - 30^{0c}$

It is favourable for human habitation the amount of rain fall is also reasonable. It ranges from 100cm to 150cm pa.

Like any other place in the North they have both dry and wet seasons.

This settlement begin when the inter mediate body called the Niger state Resettlement unit was set up by the Niger state Government. This unit had dealings with the federal Government and the people affected in the scheme.

The Niger State resettlement like volta Resettlement Authority was charged with the provision of houses for the people. The unit conducted a mini census of households.

It was this census that gave the insight into the number of houses needed by the scheme.

Thousand and five hundred Houses (2,500) house holds found to be involved (see table) 1).

Like volta resettlement unit had all their equipment which they used for clearing land for the construction. The work was completed within a short time. Land were allocated to the people taking into consideration the different village involved and relations.

There fore during the allocation exercise, people from the same compound were kept close to each other given the same line to Share that relationship they had in their former place

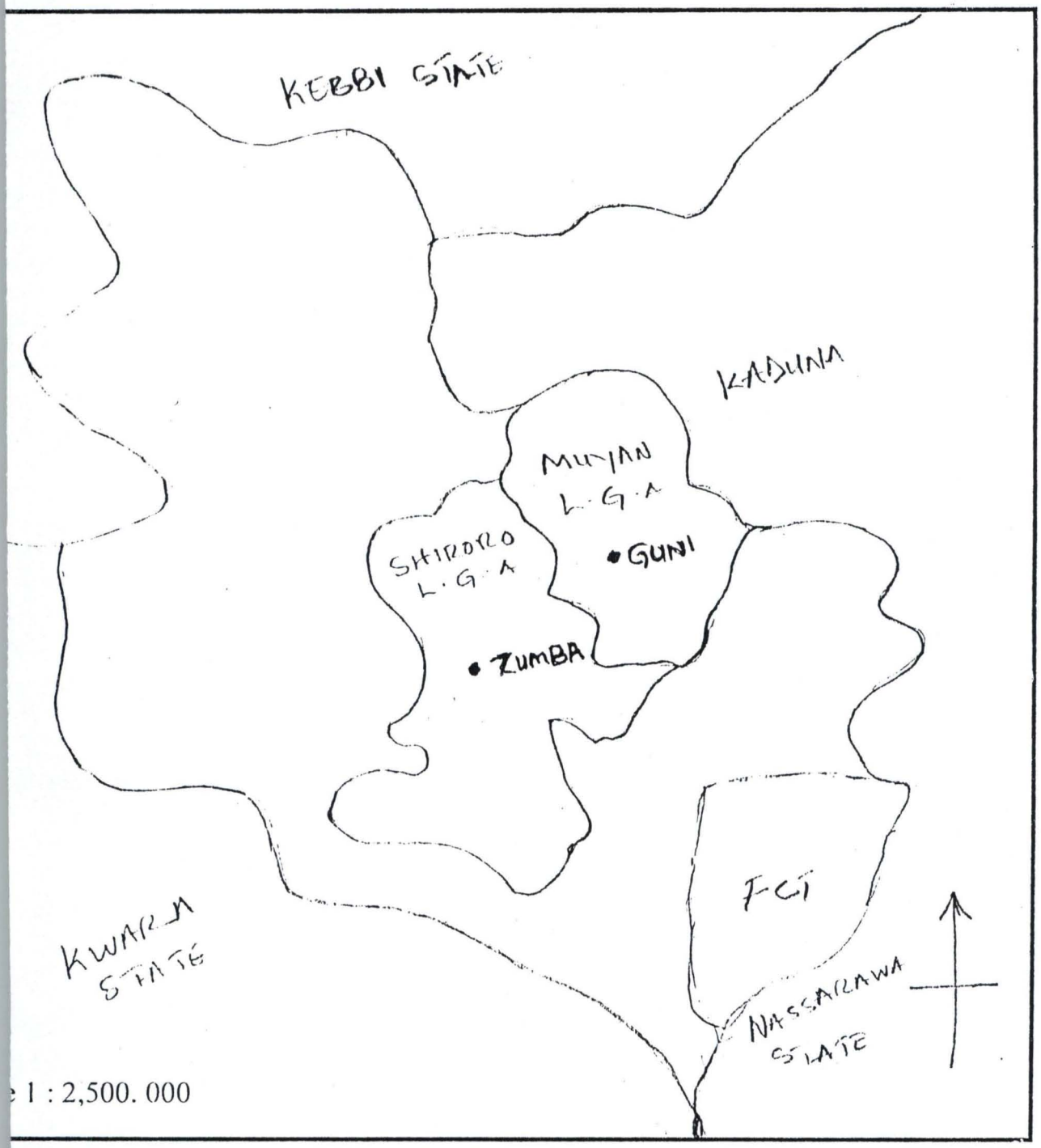
Those from different Villages were grouped accordly , it was done in this way to reduce any classes or confrontation by languages or villages

MOVEMENT OF HOUSEHOLD BASIS PER SETTLEMENT

Name of Villages	No of House hold
Zumba	1,000
Shakwodna	100
Dnabo	150
Idah	100
Guni	900
Tahala	60
Tawo	40
Muyan	50
Total	2,500

Source: (Niger state resettlement unit)

2.9 LOCATION OF ZUMBA AND GUNI IN SHIRORO AND MUNYA LGA OF NIGER STATE



Source: Niger State Ministry of Information

The other role played by this unit was the transportation of these people to this new site. It was not easy like that of New Bussa or the volta scheme, because the distance was considerable.

New Zumba is about 5-10 km to their old site and moreover the three Villages are scattered while Guni is also about 10-20km to their old site and other three Villages are scattered just like the other village from Zumba settlement. The movement was done Village by Village the people and their belongings had to be moved to the present site.

The chief and Village heads were not separated from their people. It was through this means or system that the scheme did not meet with so many hardships. Another assignment of the resettlement unit was the payment of compensations.

Thus payment was a major success of the movement. Some people were not ready to move, but when they saw the money , they all decided to leave for the new site. Every person was compensated on the bases of his materials left behind. These compensations included farm land produce and tree crops including possible damages. The whole process did not end with out the provision of social amenities. This is to give the people another lease of life in the new site.

2.4 THE FACILITIES

2.5.1 SCHOOLS

A primary school was provided to care or prepare pupils to junior secondary school. A junior girls secondary was provided at temporary site base at Kuta and federal Technical college which transfer of these school proved abortive. It was later 1993 which NEPA Shiroro struggled to have one senior secondary school at Shiroro (Zumba) through the ministry of education Niger State.

2.5.3 ELECTRICITY

In 1982/83 effort were made to provide light to the new settlement with electricity. But they are still yet to be provided to Guni settlement and other settled villages.

2.5.3 RECREATION FACILITIES

In the settlement, they have play ground for children and adults.
Shiroro dam site serve as a central of attraction.

Film house is also available where people will go and watch films of various kind

2.5.4 OTHERS:

Other provisions such as markets police station market square is also provided which enables the people to sell their commodities with out going too far markets.

Basic clinic is also provided to give them good medical care.
Drugs and medical personnel were employed for the same purpose.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 INTRODUCTION

During collection of data and information for this studies there were numbers of approaches in order to get strong and reliable results.

The most important method used is the administration of sixty YQuestionnaires to sixty Target groups in randomly selected Villages of both Zumba settled area and Guni settled areas.

The Villages selected under Zumba settled area are Zumba, Shakwodna Dnabo and Idah while in Guni Settled area are Guni, Tahala. Tawo and Muyan. The researcher also collected information for the research through filling and verbal discussion with the target groups. Magazine Text books, new letter, journals and newspapers were read and relevant information collected.

During the exercise, personal interviews with the target group were conducted in some village heads. Several approaches were made to Target groups for maximum cooperation both in their farms, houses, markets

Efforts were also made to make very thing simpler by talking to the target group both foreign language (English) and local language, Hausa and GWARI (Gbagyi).

The main occupation of study area is farming fishing, hunting and Trading.

The practices both Islamic, Christianity and Traditional religions they have a few number of primary schools and one secondary school and non-existence of tertiary institution.

References were made in the same text books, journals and also personal experience as the writer of this project

3.2 DESCRIPTION OF THE DATE SET

The data include Zumba settled area and Guni settled area data.

TABLE 4.1 SUMMARY DATA

RESETTLEMENT AREAS	TARGET GROUP	NO OF TARGET GROUP CONSULTED IN ZUMBA/ GUNI
ZUMBA/ GUNI	Traditional heads	15
	Administrators	10
	Teachers	05
	Farmers	05
	Traders	05
	Hunters	05
	Fishermen	15
	TOTAL	60

Source: by the Author

The data used in this study were obtained from both the primary and secondary sources . The primary sources consist of field work under taken to make the inventory of the major Target groups; Traditional Heads, Administrators, Teachers farmers, traders, Hunters and Fishermen

The secondary data use in this study are written interview

3.3 TECHNIQUES OF DATA ANAYSIS

For computational analysis Traditional Heads, Administrators Teachers, Traders farmers, Hunters and Fishermen were successfully carried out.

3.3.1 TRADITIONAL HEADS.

From the research been carried out, it has shown that fifteen numbers of traditional Head were consulted to give first hand in formations concerning the citing of Shiroro Hydro power dam.

and the Villages around the rivers of Muya and kaduna which happens Zumba and Guni area were among to be relocated to new settlement.

Number of houses and economy trees were counted with the village Heads in attendance for the smooth operation.

Compensation were made according to the villages heads but little amount of money were offered to the people any how without considering future standard of living

3..3.2 ADMINISTRATOR.

Research has also indicated that ten administrator were consulted to give detail accounts of resettlement of two communities. Such administrator were NEPA staff and the two local government areas staff that is Shiroro and Munya local Government areas which happened to be the area of research studies.

From the data obtained it has shown that federal Government play a partial role in compensating the people of these areas.

3.3.3 FARMERS

Information gathered from the research been carried out shows that five farmers were consulted to give details or first hand information's both in Zumba and Guni area concerning the construction of Shiroro hydro –power dam.

According to farmers been interview, review that they federal Government were not fair to them in term of compensation I don't care attitude was the federal Government watch ward as they want they people of these areas to leave and that is why in most area that were affected people have migrated to different areas in search of farm land to feed their family and places migrated to are Lapai area, Katcha area, Kateregi and some part of Kaduna State.

Research has shown that most of the people still use crude method of farming while few numbers use modern method which involve the use of

Chukuba and upstream people from kaduna areas which usually come for fish market at Zumba such area are chibeyi and Wuroto areas.

Research has also Shown that the people not only use local canoes or speed boots but also five fishermen also use calabash to fish on river and also for crossing to other settlement Research has indicated that there has never be any compensation on seasonal flooding which usually wash or carry away the fishes and other useful aquatic animal from the base of the dam down to down stream.

3.3.7 TEACHERS

Research has also shown that teachers were also consulted to give details background the number of Literacy and Illiteracy in these areas. From the data so far received review that little attention is given on education in these areas only few number of people have higher qualifications such as National Diploma, Nigeria certificate in education, Higher National Diploma Bachelor Degree and master degree

Research has shown that people of these area are not so much interested to go to schools, there are high level of Illiteracy in these areas, high level of drop-out few number that attended primary schools are few number of indigene in secondary school with large number of non indigenes in secondary schools from the information obtained NEPA have never assisted any indigenes of these areas to pursue their education at all which is federal Government parastatal.

No appeal funds have never being raise to uplift the standard of Education to these areas. And there has never being any environmental awareness except environmental sanitation which was a nation wide programme adapted by past Bushari / Idiagbon regime 1983 and abolished by Obasanjo regime 1999. According to data obtained shown that there were no proper compensation which has been vaded to total failure in their children to farm and get married

CHAPTER FOUR

4.0 ANALYSIS AND DISCUSSION OF RESULTS.

From the analysis Carried out about 8 settlements formed the research domain are these include Zumba, Shakwodna, Dnabo Idah, Guni Tahala Tawo and Muyan

The settlement located at the upstream location include Guni Tahala Tawo and Muyan while those located down stream are Zumba Shakwodna, Dnabo and Idah.

4.1 OCCUPATIONAL CHANGES

About 90% of the respondents were found to have been resettled from their former abode. At Zumba analysis has shown that 60% of the inhabitants were mostly fishermen who inherited the profession from their fore fathers during pre-dam period The settled inhabitants have now being forced to go in to Farming, an occupation which seems "new" to them during the post dam period.

At Shakwodna analysis has shown that 20% of the inhabitants were mostly fishermen who inherited the profession from their forefather during pre-dam period. The resettled inhabitants have now being forced to go into farming an occupation which seems "new" to them during the post dam period.

At Dnabo, analysis has also shown that 10% of the inhabitants were mostly fishermen who inherited the profession from their forefathers during pre-dam period. The resettled inhabitant have now being "forced" to go into farming , an occupation which seems "new" to them during the post dam period.

At Idah analysis has also shown that 10% of the inhabitants were fishermen who inherited the profession from their forefathers during pre-dam period. The resettled inhabitants have now being "pressed" to go into farming an occupation which seems "new" to them during the post dam period.

At Guni analysis has shown that 40% of the inhabitants were mostly fishermen who inherited the profession from their forefathers during pre-dam period. The resettled inhabitants have now being "Pressed" to go into farming an occupation which seems "new" to them during the post dam period.

At Tawo analysis has also shown that 20% of inhabitant were most fishermen who inherited the profession from their forefathers during the pre-dam period. The resettled inhabitants have now being "forced" to go into farming an occupation, which seems "Strange" to them during the post dam period.

At Muyan analysis has also shown that 20% of the inhabitant were mostly fishermen who inherited the profession from their forefathers during pre-dam period. The resettled inhabitants have now being "forced" to go into farming an occupation, which seems "Strange" to them during the post dam period.

4.2 ECONOMIC CHANGES

About 90% of the respondents were found to have been resettled from their former abode. At Zumba analysis has shown that 40% the inhabitants were mostly fishermen who happen to inherited the profession from their forefathers during the pre-dam period. The resettled inhabitants have now being "forced to go into cattle business, an occupation which seems "fresh" or strange to them during the post – dam period.

At Shakwodna analysis has shown that 20% of the inhabitants were mostly fishermen who also happen to inherited the profession from their forefathers during pre-dam period. The resettled inhabitants have now being "forced" to go to fowls business as mostly seen in the market an occupation which seems "New" to them during the post dam period.

At Dnabo analysis has also shown that 20% of the inhabitants were mostly fishermen who happen to inherited the profession from their forefathers during the pre-dam period .The resettled inhabitants have now being "forced"

to go to sheep and Goats business. An occupation which seems "Strange" to them, during the post dam period

At Idah analysis also shown that 20% of the inhabitants were mostly fishermen who also happen to have been inherited the profession from their fore-father during the pre-dam period. The resettled inhabitants have now being "pressed" to go into bush meat business an occupation which seems "strange" to them during the post dam period.

At Guni the case is much different analysis has also shown that 50% of the inhabitant were mostly fishermen who inherited the profession from their forefather during the pre-dam period

The resettled inhabitant have now being "forced" to go to sheep and cattle business an occupation which seems "new" to them during the post dam period.

At Tahala analysis has also shown that 20% of the inhabitants were mostly fishermen who inherited the profession from their forefather during the pre-dam period. The resettled inhabitants have being "necessitated" to go to salt and paper business which seems "fresh" to them during the post-dam period.

At Tawo analysis has also shown that 20% of the inhabitants were mostly fishermen who inherited the profession from their forefathers during pre-dam period. The resettled inhabitants have now being "pressed go in to fowl business which seems "strange" to them during the post dam period.

At Muyan, analysis has shown that 20% of the inhabitants were mostly fishermen who inherited the profession from their forefathers during pre-dam period. The resettled inhabitants have now being "forced" to go into cattle business, an occupation which seems "strange" to them during the post dam period.

4.2 HISTO CULTURAL CHANGES

About 90% of the respondents were found to have been resettled from their former abode.

At Zumba analysis has shown that 20% of the inhabitants were mostly idols worshiper who inherited the tradition from their fore-fathers during the pre-dam period. The resettled inhabitant have now being "Pressed" to change in to Islam and Christianity religion an tradition which seems "new" to them during the post-dam.

At Shakwodna analysis has shown that 40% of the inhabitants were mostly Idol worshippers who inherited the tradition from their forefather during the pre-dam period. The resettled inhabitants have now being "Necessitated" to change in to Islam and Christianity religions an tradition which seems "strange" to them during the post dam period.

At Dnabo the story still remain the same, the analysis has also shown that 30% of the inhabitants were mostly Idols worshipers who inherited the tradition from their forefathers the pre-dam period. The resettled inhabitants have now being :"pressed" to change in to Islam and Christianity religion which seems "fresh" to them during the post- dam period.

At Idah the analysis has also shown that 10% of the inhabitant were mostly Idol worshipers who inherited the tradition from their forefathers during the pre-dam period. The resettled inhabitants have being "pressed" to change in to Islam and Christianity religion because other people who came to settled with them which seems "strange" to them during the post – dam period. At Guni analysis has shown that 60% of the inhabitants were mostly Idol worshipers who inherited the tradition from their forefathers during the pre-dam period.

The resettled inhabitants have now being "destined" to change from their tradition in to other religion such as Islam and Christianity an religion which seems "New" to them during the post dam period.

At Tahala analysis has also shown that 20% of the inhabitant were mostly Idol worshiper who inherited the tradition from their forefathers during the pre-dam period. The resettled inhabitant have being "Pressed" to change from Islam and Christianity religions which seems "Strange" to them during the post dam period.

At Tawo analysis has also shown that 10% of the inhabitants were mostly Idol worshipers who inherited the tradition from their forefather during the pre-dam period. The resettled inhabitant have being "forced" to change from their original tradition into Islam and Christianity religion, which seems "changed" to them during the post- dam period.

At Muyan analysis has shown that 10% of the inhabitant were mostly Idol worshipers who inherited the tradition. From their forefather during the pre-dam period. The resettled inhabitant have being "Necessitated" to change to other religion such as Islam and Christianity which seems "Strange" to them during the post-dam period.

4.4 CHANGES IN SOCIAL STATUS

At Zumba about 90% of the respondents were found to have been resettled from their former abode. 30% of the inhabitants were not expose to social life during pre-dam period. The resettled inhabitants have now being "Destined" to accept new changes such new technology which seems "Strange" to them during post dam period

At Shakwodna analysis has shown that 10% of the inhabitant are not use to modern life such as watching films foot ball during the pre-dam period. The resettled inhabitants have being " Occasioned" through their Children to adopt modern way of life during post dam period.

At Dnabo analysis has shown that 20% of the inhabitants were not use to other activities and programmes such as competition and drinking of Alcohol such as beer Guilder, Stouts during the pre-dam period. The resettled inhabitants have being " Necessitated" to change to this during the post dam period.

At Idah analysis has also shown that 30% of inhabitants were not used to cocktail party during the pre-dam period. The resettled inhabitant have being "forced" to adopt from other areas which seems "Changed" to them during the post dam period.

At Guni analysis has shown that 60% of inhabitants were not used social life such as cocktail during pre-dam period. The resettled inhabitants have being " Destined" to adopt the same style from other areas which seems "strange" to them during the post-dam period.

At Tahala analysis has shown that 10% of inhabitant were not use to social life such as watching films football during the pre-dam period the resettled inhabitants have being ""pressed" to adopt these kind of life which seems "Strange" to them during post –dam.

At Tawo analysis has shown that 10% of the inhabitants were not used to what is called DISCO during the pre-dam period. The resettled inhabitant have been "pressed" to this which seems "fresh" to them during the post –dam period

At Munya analysis has also shown that 10% of the inhabitants were not used to social life like Drinking alcohol such as beer During the pre-dam period. The resettled inhabitants have being "forced" to copy from other areas which seems "strong" to them during the post –dam period.

4.5 COMPENSATION PROBLEMS

90% of the respondents were found to have been resettled from their former abode.

At Zumba analysis has shown that over 60% of the inhabitants were relocated from their former abode during the pre-dam period. And there were no proper compensation paid to them as against their farm lands Houses economic tress which the inherited from their forefathers during pre-dam period. The resettled inhabitant have now being "Necessitate" to leave their forefather land to new settlement which seems "fresh" to them during the post dam period.

At Shakwodna analysis has shown that 10% of the inhabitants were relocated from their former abode during the pre-dam period. There were no proper compensation paid to them as against their farm land, Houses economic tree which the inherited from their forefather during the pre-dam period. The resettled inhabitant have now being "Necessitated" to live their fore father land to new settlement which seems "Strange" to them during the post dam period.

At Dnaba analysis as shown that 10% of the inhabitant were relocated from their former abode. There were no proper compensation paid to them as against their farm land Houses, economic trees which they inherited from their forefather during the pre-dam period. The resettled inhabitants have now being "Pressed" to live their forefather land to new settlement which seems "Strange" to them during the post dam period.

At Idah analysis has also shown that 10% of the inhabitant were relocated from their former abode There were no proper compensation paid to them as against their farm lands, Houses Economic trees which the inherited from their forefathers during the pre-dam period. The resettled inhabitants have now being "pressed" to live their forefather land to news settlement which seems "Strange" to them during the post dam period.

At Guni analysis has shown that 50% of the inhabitants were relocated from their formal abode.

There were no proper compensation paid to them as against their farm lands, Houses, economic trees which the inherited from their forefathers during the

pre-dam period. The resettled inhabitants have now being "Pressed" to live their original land to new settlement which seems "fresh" to them during the post dam period.

At Tahala analysis has shown that 15% of the inhabitants were relocated from their formal abode. Analysis has shown that there were no proper compensation paid to the resettled areas as against their farmlands, Houses, economic trees which the inherited from their forefathers during the pre-dam period. The resettled inhabitants have now being "Destined" to live their original land to new settlement which seems "fresh" to them during the post dam period.

At Tawo analysis has shown that 15% of the inhabitants were relocated from their formal abode. There were no proper compensation paid to them as against their land Houses, economic trees which the inherited from their forefathers during the pre-dam period. The resettled inhabitants have now being "pressed" to live their original land to new settlement which seems "fresh " to them during the post dam period.

At Munya analysis has also shown that 10% of the inhabitant were relocated from their formal abode. There were no proper compensation as against their farm lands Houses economics tress which the inherited from their forefathers during the pre-dam period. The resettled inhabitants have now being "Pressed" to live to new settlement which seems "fresh" to them during the post dam period.

4.6 FLOODING PROBLEMS

About 90% of the inhabitant were found to have resettled from their formal abode Zumba which is located at the down stream analysis has shown that 60% of the inhabitants were mostly affected with floods, many lives were lost properties were destroyed and most of their farm land were eroded. The resettled inhabitants have now being "occasioned" to always remain alert at all time when spill way gates are open at the dam.

At Shakwodna analysis has shown that 15% of the inhabitant were affected with floods disaster two people lost their lives, their farms were eroded and Houses were destroyed by flood. The resettled inhabitants have now being pressed to always remain alert at all time when spill gates are open at the dam.

At Dnabo analysis has also shown that 7.5% of the inhabitants were affected with flood disaster no life was reported but properties worth thousand of Naira were destroyed. 2% of the settled inhabitants have now being "pressed" to migrate to another local Government and such as Lapai area.

At Idah analysis has also shown that 7.5% of the inhabitants were affected with floods disaster no life was loss their farm were eroded with floods. 10% of resettled inhabitants have now being "Pressed" to also migrate to other areas such as Kaduna State areas like Gwalagwada and Chibeyi

CHAPTER FIVE

SUMMARY AND CONCLUSION

About 90% of the respondent were found to have been resettled from their former abode.

The eight settlement which formed the research domain include down stream settlement such as Zumba, Shakwodna, Dnabo Idah and up stream settlement such as Guni, Tahala Tawo and Munya.

About 60% of the inhabitants were mostly fishermen who inherited the profession from their forefathers during pre-dam period. The resettled inhabitant have now being pressed to go in to farming as a result of change in environment and poverty, an occupation which seems "fresh" to them during the post –dam period

RECOMMENDATION

1. Government Should always provide awareness to settlers on the important attach to resettlement.
2. Government should provide Houses and other social amenities to setters in future instead compensating them by cash.
3. They settlements at the dam- stream should always be informed before opening the spill-way gate
4. Government should always provide the communities with relief material whenever they are affected with floods.
5. Government should encourage their Children to pursue their education through scholarship.
6. The Government should always encourage the community to formed community base organisation so as to promote environmental awareness
7. As a matter of urgency government should revisit the communities like resettlement areas as to make proper compensation to them.

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APPENDIX I

Federal University of Technology

P. M.B. 68,

Minna.

Date:.....20.....

Dear Target Group,

I am Tanko Mai anguwa Zumba Final year student of post Graduate Diploma in Environmental Management Technology at the above University now on a 3 months research project which is for the partial fulfillment for the award of post Graduate Diploma in Environmental Management Technology set out by Federal University of Technology Minna.

I have chosen to study the resettlement scheme of Shiroro hydro electric power dam on two communities i.e. Zumba and Guni and How these people were compensated and resettled, with the aim to make possible recommendations for proper consideration.

The questionnaires has nothing to do with your wealth rather it will enable me gather information for this study.

I seek for your co-operation. All information will be treated confidently. The questionnaires will be collected within two weeks.

Thank you for your kind co-operation.

Yours sincerely,

ABDUL-SALAM TANKO MUHAMMADU ZUMBA

APPENDIX II

QUESTIONAIRE

1. How long have you been living in your former place of residence?
   (a) 1-30 years (b)31-60 years (c) 61-90 years (d) 91 and over .
2. What was your major occupation before
   (a) Farming (b) fishing (c) Trading (d) other specify.
3. What is your major occupation now?
   (a) Farming (b) fishing (c) Trading (d) other specify .
4. If the answer in 3 is different from 2, what is the cause?
   (a) Change of environment (b) poverty (c) others specify.
5. How is your present economic situation with emphasis on resettlement?
   (a) Excellent (b) Good (c) fair (d) poor
6. Has the resettlement scheme in any way change your histo-cultural back ground (a) Yes (b) No
7. If the answer in 6 is yes, how?
8. Has the resettlement scheme affected your social life? (a) Yes (b) No
9. If the answer in 8 is yes, how
10. Are you satisfied with the compensation procedure?
11. What was the method of compensation
    (a) cash (b) construction of houses.
12. If the answer in 11 is (a) Where you adequately paid enough to Compensate for your lost houses, farm lands and economic trees.
13. If the answer in 12 is (b) were the houses construction adequate and the histo- Cultural background taken into consideration.
14. Are you normally informed by the dam officials before the spilling gates are opened (a) yes (b) No
15. If the answer in 14 is No how do you cope with the excess water flood

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16. Are you generally happy with the general operations of the dam
    (a) Yes (b) No