

GEOGRAPHY OF NASARAWA STATE: A STUDY OF FLORA AND FAUNA

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INTRODUCTION

The geographical entity known as Nasarawa State came into existence in October 1996. It has a central location in the Middle Belt region of Nigeria. The state lies between latitude 7° 45' and 9° 25' N of the equator and between longitude 7° and 9° 37' E of the Greenwich meridian. It shares boundary with Kaduna state in the North, Plateau State in the East, Taraba and Benue states in the south while Kogi and the Federal Capital Territory flanks it in the West. The state has a total land area of 27,137.8 square kilometer and a population of about 1,826,883, according to the 2005 population estimate with a density of about 67 persons per square kilometer.¹ Nasarawa state is divided into 13 local government areas (Table 1).

Table 1.1: Nasarawa Local Government Areas

S/No.	L.G.A.	Area (sq.km)	2005 pop. estimates	Population Density
1.	Akwang ga	1000.04	104671	104
2.	Awe	2800.00	116080	41
3.	Doma	2729.0	137,220	50
4.	Karu	2810.39	181,702	64
5.	Keana	1075.00	69,694	64
6.	Kokona	1847.03	110,591	59
7.	Lafia	2797.53	364,013	130
8.	Nasarawa	5743.84	193,373	33
9.	Nasarawa Eggon	1199.34	110,613	92
10.	Obi	955.20	152,882	160
11.	Toto	2743.89	135,521	49
12.	Wamba	1276.00	58,621	45
13.	Keffi.	140.47	91,902	654
	TOTAL	27,137.8	1,826,883	67

Source: (i) Area from Bureau of Land & Survey; (ii) 2005 Population estimates – computed using 3% growth rate

PHYSIOGRAPHY

The general topography of Nasarawa State is that of hills/ dissected terrain, undulating plains and lowlands. A walk through the state from the south to the north will reveal the following; the southern local government areas of Awe, Doma, Nasarawa and Toto are bounded by the river Benue in the south. Its valley and troughs extend inland for some 30 kilometers and it is made up of flood plains laying generally below 250 metres. The flood plains further protrude inland along the coast of rivers Dep, Mada, Guma, Ayini and Farin ruwa which are the major rivers draining into the river Benue. The area consists of very fertile alluvial soil deposited by the seasonal flood of river Benue.

The hydromorphic soil provides a generally level plain, except where it is broken by the folded features of Awe to the south east and those of Toto to the south west. The flood plains cover some 25 per cent of the state landmass. The flood plains gives way to a rolling topography which is quite extensive and it covers about 52 per cent of Nasarawa State. The undulating plain has a general altitude of about 400 meters above sea level with notable inselberg occurrences. The soils in this region are those of sandstones derived from old sedimentary rocks with extensive occurrences of lateritic crust.² Hills and dissected terrains occupy a sizeable portion of Nasarawa state, they are scattered all over the land mass with height range of between 600 - 1200 meters. The northern part of the state has a greater concentration with the Monkwa hills in the northeast and the Mada rolling hills stretching from Wamba through Akwanga down to Nasarawa Eggon local government areas. The Rafin gabas hills are a prominent feature in Kokona L.G.A., while the north western borders of the state are flanked by hill ranges. In the southern part of the state, high relief features also occurs in Toto and Awe local government areas. Soils at the foot of these hills are mostly volcanic in nature and therefore loamy and rich, while the higher grounds are characterised by thin soil.

CLIMATE

Nasarawa state falls under the koppens climatic classification of **AW**, that is, tropical rainy climate with distinct dry season in winter. The rainy season span a period of seven months (April-October) with an annual rainfall of about 1200-2000mm. The southern part tends to record more rainfall than the northern part. The temperature is moderate in January as a result of the harmattan influence. The northern part however tends to be colder than the southern part of the state. The

January temperatures ranges between 22.5-25°C for the north and 25-27.5°C for the south. The spatial variation in temperatures is greatly reduced by July when the whole state will be under the influence of the rains. Humidity is generally high during the rainy seasons, about 95 per cent in parts of the state. The figure drops to about 55% for the dry season. Sunshine hours are high between January to April and decreases between May through to October because of the effects of cloud. There is a noticeable increase in sunshine hours again by November. With its numerous natural blessings in the form of good relief, suitable climate and soils, Nasarawa state definitely has the potentials for abundant floral and fauna output.

FLORA AND FAUNA

Floral Description

The major floral formation of Nasarawa State is the dry woodland savannah. This broad zone can further be divided into forest savannah and southern guinea savannah. Within each formation, there exist pockets of thickets, tree savannah, open grass savannah, fringing forest in the river valleys and gallery forest at the foot of mountains and their valleys. A greater percentage of this vegetation cover has however been influenced through fuel-wood extraction and land clearance for cultivation. This has affected the indigenous woody plant species. The result is that most places close to human settlement are now covered with exotic species such as locust bean, Shear butter, cashew and other economic trees. Forest reserves are scattered all over the state.

Forest savannah (Dry woodland savannah)

Annual rainfall in this region ranges between 1500 - 2000mm. The duration of rains here is rather lengthy spanning between 7 and 8 months (April - November). This zone covers the lowland areas; it is characterized with deep fertile alluvial soils which are enriched with abundant forest biomass. The forest savannah zone covers Toto, Nasarawa, Doma, Keana and Awe local government areas.

Common woody species found in the forest savannah region of Nasarawa State include: *Dainella olivera*, *ceiba pentandra* and *parkia biglobosa*. It is not surprising that some trees of the moist woodland savannah are also found in this region, since the line of division is not absolute but rather arbitrary. The most abundant grasses in this area are species of *Andropogon*, *Hyparrhenia*, *panicum* and *ctenium*.

Southern Guinea Savannah

This zone has an average annual rainfall of about 1000 - 1500mm spread over six months (May - October). The local governments in this zone include Karu, Keffi,

Kokona, Nasarawa Eggon, Akwanga, Wamba and parts of Lafia and Obi. The most abundant woody species in this zone are: *Drypetes floribunda*, *vitex doniana* and *Entoda abyssinica*. Here, it is common to see species predominant in the forest savannah and northern guinea savannah occurring in the southern and northern fringes of the zone. The common grass species found here include *pennisetum*, *Andropozon*, *Hyparrhenia* and *ctenium*.

NON-WOOD RESOURCE OF THE FOREST

Fruits and seeds

Nasarawa State is blessed with abundant trees that produced important fruits which apart from meeting the immediate dairy requirement, also assist in inter state trade. Some of these fruits can be processed via establishments of agro-based industries where they occur in substantial quantity. Some of the trees include:

Mangifera indica (Mango) species abound in the state including exotic varieties. It is eaten in its fresh form by both humans and animals. It can also be processed to extract refreshing juice. This tree specie occurs more abundantly in the northern part of the state and can also be found in the southern local government area of Toto, Nasarawa and Doma. A processing industry will be most suitable in Akwanga because of its central location and accessibility.

Anacardium Occidentale (Cashew) this fruit tree abounds all over Nasarawa State. The flesh of the fruit is eaten while the nuts are roasted for oil extraction and is also eaten in the roasted form. It has great potentials for agrobased industry development.

Citrus sinensis (oranges) Different varieties of these fruit thrives in Nasarawa State. They occur in commercial quantity in almost all the local government areas. The fruit is eaten in its fresh form and can form the raw material base for canning industry in the state.

Parkia biglobosa (Locust bean) This is a most valuable fruit tree generally found in the guinea savannah. The pulp is eaten; while the epidermis is soak in water to form local paint. The seed is soaked, cooked and grounded to form a local delicacy called 'dadawa' in Hausa. It is found in all the local government areas of the state.

Elaies guineansis (Palm tree). This is a tree of the savannah woodland. It is more common in the southern part of the state. The tree is tapped for a leisure drink, the leaves are shredded for brooms and the trunk is sawed for roofing. The Nasarawa State government is encouraging the growth of the oil yielding variety through provision of scedling.

Vitellaria paradoxa (shear butter) - This fruit tree occurs sparsely in the northern part of the state. The fruit is edible and the seed is ground to produce edible oil. The oil is also said to be medicinal and frequently used to treat cold and rheumatism.

RESOURCES OF THE FOREST

A lot of forest reserves have been established in Nasarawa State. These include: Dama forest reserve, Lafia kurmin Adebisi forest reserve, Lafia N.A. no. 2 Obi forest reserve, Dep river forest reserve, Ambakar forest reserve, Akwanga N.A Forest reserve, Wamba forest reserve and Otugu forest reserve. Others are being developed near major urban centers like Lafia, Nasarawa, Keffi, Akwanga and Wamba while the former are meant to take care of the fuel wood needs of the urban centers it will also serve as heatsink or balancing factor in the quest for an environmentally clean air. The later on the other hand will meet the timber demand of the state as well as feed the proposed timber processing, industries to be sited at Karu and Doma. These wood resources include mahogany and mazobia found in the gallery forest, obeche and oroji found in the savannah woodland and *Daniella oliveri*, *nauclea latifolia*, *diospyros ellioti* and *ceiba pentandra* found in the southern guinea savannah. The wood resources of the forest of Nasarawa State also serve as raw materials for the production of important wood items such as drums, sitting stools, hoe handles, knife handles, carving of mortar and charcoal production.

The leaves, barks and roots of these forest resources are equally important as they form the major base for the preparation of concoction for the treatment of ailments and the making of soaps. Plants for these purposes can be found in any vegetation formation in the state. The numerous forest reserves scatter all over the state also serve as refuge zone for the abundant wildlife resources found in Nasarawa State.

FAUNA DESCRIPTION

In the middle belt region, Nasarawa State is one of the states that is blessed with a relatively high concentration of fauna population. Their spread as observed in the state is a function of vegetation, water and cultural factors. Wildlife resources are also abundant and mostly concentrated in the southern part of the state where gallery forests are many.

Generally, the state can be divided into two pastoral blocks. The Northern pastoral block comprises the local governments north of Nasarawa, Doma, Keana and Awe. It is largely made up of guinea savannah grassland with relatively dry

condition in the dry season. There is no major source of water during the dry season. This block constitutes 60 per cent of the state landmass. The southern block consists of the aforementioned areas including Toto. It is typically savannah woodland characterised with tall grasses. It stretches down to the flood plains of the Benue and its tributaries such as rivers Dep, Mada, Guma, Ayini and Farin-ruwa. Water is available all year round in this block.

Types and Population

The varieties of animal life found in Nasarawa State include cattle, goats, sheep, pigs, rabbits, poultry and fish. Livestock's statistics is generally unreliable, often based on estimates that vary greatly with source and purpose.³ Table 2 below shows the average estimates of animal population in Nasarawa State in the year 2003. This table excludes wildlife, which are in the wild because it is difficult to keep count on them.

Table 1.2: Types and Estimates of Animal Population in Nasarawa State.

Types of Livestock		Estimated Population
Cattle		2,009,270
Goats		3,300,000
Sheep		2,008,000
Pigs		210,000
Rabbits		3,000
Poultry		
-	Local fowls	3,750,000
-	Improve fowls	3,500,000
-	Ducks	42,000
-	Turkeys	14,000
-	Guinea fowl	1,500

Source: Nasarawa Agricultural Development Programme and State Ministry of Agriculture and Natural Resources, Lafia (2001.)

Cattle

These are found all over the state and mostly in the custody of the Fulani herdsmen. The zebu and the white Fulani local varieties are predominant. They are characterized by long horns, white coat colour with occasional black spots and a reasonable height of about 125cm. They do attain a full weight at maturity of about 350kg⁴. Their total estimated population as at 2003 was put at slightly over two million.

Cattle farming is not without hindrance in the state, this is because diseases such as contagious bovine pleuro-pneumonia (CBPP), Brucellosis, foot and mouth

Disease (FMD), streptothrichosis, mastitis, fascioliasis, Anthrax, trypanosomiasis (NADP, 2004). These diseases are spread by pest such as ticks, lice and mites.

Goats

They are all over the state, unlike cattle, goats are kept by majority house holds irrespective of ethnic group. Apart from supplementing the dietary requirements, people in the state keep goats as readily available collaterals that could be sold to solve immediate problems. It is no wonder goats constitute the highest fauna population in the state (Table 2). The most common breed of goats in the state is the dwarf which has the tendency to be stocky if well kept.

Goats and sheep in Nasarawa State also suffer the menace of ticks, lice and mites. Apart from the pest earlier mentioned, diseases such as pest des petit ruminants (PPR), mastitis, fascioliasis, anthrax and trypanosomiasis are also common.

Sheep

These like the goats are found all over the State. The common variety known as Hausa sheep are found in most house holds. They are generally tall, 90cm for adult rams and 80cm for the matured ewes. They are normally white in colour with black patches at times. The other variety known as the Fulbe sheep is kept mostly by the nomadic Fulani. The rams often have long twisted horns while the ewes have none. A well fatten ram of this breed often attain weight of between 45 -55kg⁵. Estimated population of sheep in Nasarawa State is put at slightly over two million. Pest and diseases have been discussed under goats.

Pigs

Pigs are relatively small in the state with an estimated number of about 210,000. This small figure is understandable because not all parts of the state keep pigs. Cultural and religious factors combine to dictate their spread. Diseases such as African swine fever, *Hogcholera*, *cysticercoids* and *trypanosomeasis* also inhibit their growth.

Rabbits

The estimated population of rabbits in Nasarawa State is put at about 3,000. They are mostly reared in the urban centers and at times kept as pets. Though the usually end up in the soup pots of the owners.

Poultry

Nasarawa State has an impressive number of fowls. These are found all over the state. The local fowls are found in most house holds of urban and rural settings.

They are estimated to number about 3.75 million. The improved or hybrid variety is also growing in number as a result of the rapid expansion in poultry farming by individuals and institutions alike. The government policy banning the importation of chicken into the country is what galvanized this rapid expansion. Presently their estimated population stands at 2.5 million birds. Nasarawa State equally has an impressive distribution of ducks, turkeys and guinea fowl as shown in Table 2.

Fish

Fish constitute an important aspect of the aquatic life in Nasarawa State. Catches have been good and spread is within the central and southern local government areas of Kokona, Nasarawa-Eggon, Lafia, Toto, Nasarawa, Doma and Awe. Here the existence of rivers and ponds ensure the capture of fisheries all year round. In addition, government have taken steps to improve and encourage fish farming by establishing fish ponds in Lafia and Doma local government area.

CONCLUSION

The geographical location of Nasarawa State enables it to enjoy abundant floral and fauna life, which coupled with the conducive climate makes Nasarawa State a potential land for investment now and in the future. Timber and canning industries can thrive very well in the state. The numerous game reserves serves as home for the stock of wild life found in the state. The Nasarawa State government has also taken steps to encourage the rapid breeding of domestic life stock. Over half a million animals were vaccinated against various diseases in the year 2004⁶³. With these and more in the pipeline it is the authors believe that Nasarawa State can hold its own status among states that are rich in biodiversities.

ENDNOTES

¹ A. Lyam, "Nasarawa State" in A.B Mamman *et al* (ed) *Nigeria: People United, A Future Assured. Survey of States* (Abuja: Gabumo Press, 2000)

² A.L. Tukur and M.B. Ardo, "Livestock" in A.A. Adebayo and A.L. Tukur (ed) *Adamawa State in Maps* (Yola: Paralete, 1999).

³ *ibid*

⁴ *ibid*

⁵ *ibid*

⁶ Information from Ministry of Agriculture and Natural Resources, Lafia