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POPULATION AND ECONOMY OF THE ORINOCO BASIN

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ABSTRACT

Orinoco Llanos is considered the third most significant river system on planet Earth. The main natural features of this region are diverse wetlands, grasslands, and forests with very rich biodiversity. It covers the territory of two South American countries: Colombia and Venezuela. In recent years it has experienced rapid agrarian development. Livestock, oil, and gas fields are the most important branches of development. Increased demand for water and other ecosystem services soon will outstrip natural supplies. An appropriate management style is required to protect the nature of this region.

Key words: South America, Orinoco, the population, and the economy.

INTRODUCTION

The Orinoco Basin is also known as Los Llanos. It is located in the northern part of the South American land. It covers the western part of the Orinoko River Basin between 3 degrees of north latitude and 10 degrees of north latitude and from 62 degrees of west latitude up to 74 degrees west latitude. More precisely, it is in the territory of the states of Venezuela and Colombia. The traces of settlement are confirmed by the Indian tribes of the Ciboney, Arawak, and Carib people. Searching the country of El Dorado, German researchers came to the territory of Los Llanos of Orinoco in the 16th century. Los Llanoshas 2 523 556 inhabitants (2011), with an average population density of 3 in/km². The population of Los Llanos is engaged in cattle breeding, fishing, and crop farming. Oilfield and natural gas sites are prospective. By 1970, the region was the world's largest oil exporter. Oil revenues developed at the end of the 20th century. They were followed by the development of bauxite and iron mining. Metallurgy, as well as the petrochemical and chemical industries, developed based on these raw materials. Despite the great economic wealth, Los Llanos of Orinocohas great economic difficulties. The middle layer of the population is getting poorer and poorer. The differences are great between the rich minority and the poor. In recent years, great unemployment has been more pronounced.

GEOGRAPHIC LOCATION AND SIZE OF THE ORINOCO LOWLANDS

In the Orinoco River basin, as part of the transcontinental lowlands of northern South America, Orinoko lowlands are situated. The Orinoco springs from Sera Parima. Mathematically and

geographically, it ranges between 3° and 10° north latitude and from 62° to 74° west longitude. The Orinoco lowlands are determined in the north by the Caribbean Andes, and in the south by the Guiana River. In the west, the border of the Orinoco lowlands extends to the Eastern Cordillera and Merida, while in the east it extends to the Guyanese Mountains. In the northeast, it is open to the Atlantic Ocean. It is elongated in a southwest-northeast direction of 1 400 km in length and 400 km in width.

A dense hydrographic network surrounds the Orinoco lowlands. The main hydrographic artery is the Orinoko River. After the Amazon, Parana, Madeira Mamore, the Orinoco with a length of 2 740 km is the fourth-longest river of South America. This is the fifth South American river basin by area after the Amazon, Parana, Tokantis, and Paraguay. It covers an area of 880 000 km². Considering the flow of the river mouth, it is just after the Amazon, with 33,000 m³/s.

In scientific literature, the savanna expanses of this lowland are known as Llanos (Vasović, M. 1971). The lowland is about 500,000 km². It covers the territory of the State of Venezuela and Colombia. In the territory of the state of Venezuela, it covers 31% of the territory. Federal states are Apure (San Fernando de Apure), Barinas (Barinas is also the capital of Llanos), Portuguesa (Guanare), Kohedes (San Carlos), Guarico (Vale de la Pascua), Anzoategvia (El Tigre) and Monagas (Maturin). In Colombia, it covers 17% of the territory. The federal states of the Colombian Llanos are Arauka, Meta (Vilavisonsio, the largest city of Colombian Llanos), Vicada (Puerto Carenjo), Casanare (Jopal), Guinea (Puerto Inirada), and Guaviare (San Jose de Guaviare) (Natek, K. 2005). Although in administrative terms it extends over the territory of the two states, this area forms a unique lowland. In the biogeographic view, it represents a unique ecoregion.

THE GEOLOGICAL PAST AND RELIEF OF THE ORINOCO LOWLANDS

The Orinoko lowlands were formed in the Lower Paleozoic as a basin and subsequently filled with Mesozoic, Tertiary, and Quaternary sediments. During the Mesozoic, transgressions, and regressions alternated in the Orinoco lowlands, as evidenced by numerous fossils in the sedimentary series. Alluvial deposits were formed in the Tertiary and Quaternary, which is confirmed by the fact that this is a young lowland (Vujadinović, S., Šabić, D. 2011).

The Orinoco lowland is dominated by two elevation zones, the Low Llanos and the High Llanos. These two unique entities are the main features of the lowland division. Low Llanos covers the western part of the lowlands and extends between the Guariko and Apura rivers in the north and Meta in the south. This part of the lowlands is often called esteros. Esteros altitude does not exceed 200 m. It is leveled and a slight slope is noted to the east. Llanosare affected by water erosion due to the geographical position presented in tropical and subequatorial regions with a pronounced wet season. Over the lowest parts of the lowlands, rivers often pour large quantities of sediment so that certain parts of this lowland are turned into wetlands. In the Andean lowlands, the Low Llanos is scattered with elevations that are constructed of fluvial-denudation material. They are suitable for breeding cattle.

High Llanos is otherwise called Llanos Monagas. It covers the area east of the Guariko River, south of the Meta River, north of the Orinoco River, and to the west, there is the Andes Mountain System. The altitude of the space is 150-300 m. The High Llanos is filled with sedimentary rocks and is unbended by fluviododudation processes.Along the coast of the

Atlantic, the lowlands are covered by sand, which forms dunes. Llanos Monagas is built of continental sandstones and represents one of the richest oil fields.

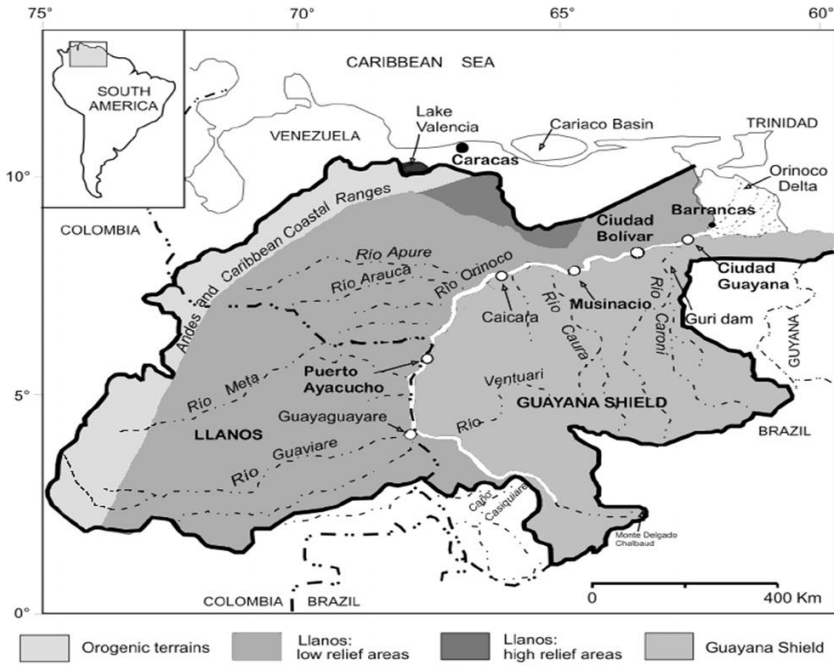


Fig. 1, Geographic location of the Orinoco River Basin (Relief of the Lianos Orinoko). Source: Reworked based on Research gate, Alain Laragueand associates, 2003.

CLIMATIC FEATURES OF LLANOS

The geographical location of Llanos Orinoco was determined by climatic characteristics. It is located in sub-equatorial latitudes, which determines the shift of moist equatorial and dry trade winds. The average annual air temperature is 27°C. Seasonal precipitation is a major feature of the climate of this area. The wet season lasts from April to October, alternating with the dry season starting from November to March. Changes in rainfall are affected by trade winds, which bring more rainfall to the southern parts of Llanos. South of the Guvijara River, rainfall occurs throughout the year.

The rainy and dry season in Llanos Orinoco affects the lowland physiognomy. During the rainy season, the lowland is covered with tall and dense grasses, which are strewn with trees. The dry season is accompanied by high air temperatures, northeast winds, which is followed the burning of grass, the leaves fall, the land becomes salty due to the drought. Although low-land rivers are rich in water, many dry during the dry season.

Climatic features have made this area known for its tall grasses (Llanos). The land on which the savannah developed is red and yellow lateritic.

DEMOGRAPHIC CHARACTERISTICS OF THE ORINOCO LOWLANDS

The territory of the Orinoco Lowlands has been inhabited since ancient times. The first Europeans who came to this area were Germans. Searching for Eldorado land, they found Indian tribes: the Caribbean, Aravaki, and Chichi. The colonial conquest of these lands began in 1498. A considerable part of this population is extinct due to difficult conditions. Adverse climatic conditions cause this lowland to be sparsely populated. Only 10% of Venezuela's residents live in Llanos Venezuela. Colombia's Lianos population is 24,000, mostly Indians living on the reserves. During the rainy season, a large amount of water is drained in these areas. It is needed by the population but also causes disadvantages, e.g. floods. While, on the other hand, the dry season lasts for a long time, it brings many troubles, as well as great devastation in the vegetation.

Another important feature of this area is its great ethnic and racial interplay. There are about 20% of purely white people (Italians, Spaniards, Germans, and others), about 7%of pure Americans, and only about 5% of pure black people. The rest of the population makes racial blends. The largest part is made up of 58%, mulattoes with 14% and zambos with 3%. Whites, Americans and mulattoes are the majority in the higher mountainous regions. While the low Caribbean and Atlantic coasts are inhabited mainly by blacks, mulattos and zambos.

As many as 92% of the population are Roman Catholics, the other 8% are Protestants and Atheists.

ECONOMY

Despite considerable difficulties, Ljanos Orinok's economy is on the rise. Agriculture, mining are dominant, and in recent times followed by oil production and refining, industry and tourism.

Most of the agricultural production is oriented towards meeting the needs of the local market. The major food crops are corn, wheat, potatoes, tobacco, and sugar cane. Part of these products is marketed in foreign markets as well. A more important agrarian export culture is coffee. More recently, the production of ornamental flowers, cocoa, and rice has been expanded.

The traditional branch of agriculture is livestock. Cattle, buffaloes, and rabbits are mostly grown. In recent decades, livestock farming has taken place on large farms. Favorable biogeographical conditions, above all the dominance of the savannahs, led cattle breeding to become a leading agricultural branch in Venezuela's Lianos. Livestock farming is extensive. During the dry season, cattle move from low Llanos to high, and vice versa.

Climatic conditions lead to sudden changes that limit agricultural development. The population grows corn, cassava, rice, cotton, and sugar cane. The soils are acidic, heavy in texture and infertile, so the efforts are being made to channel rivers and a large number of pesticides and fertilizers are used for crops. Almost all production takes place in the Venezuelan states: Portuguesa, Guariko, and Kohedes. Agriculture is affected by fires, which are a common occurrence in Llanos.

Llanos Orinoco's most promising industry is oil production and refining. The largest oil field in Colombian Llanos is in the Kasanare-Arauka Basin. Oil deposits are more widespread in

Venezuela's Llanos. They are known in the Apure Basin, in the states of Monagas and Anzoategvia. The pipeline is used to transport oil to refineries in the Caribbean Sea.

Oil is not the main unexplored natural source of Llanos Orinoco, there are bauxite and iron deposits on the border with the Guyanese Mountains. Petrochemistry, chemical industry, nonferrous and ferrous metallurgy have been developed in this region.

Due to the preserved nature of Llanos Orinoco, tourism, especially ecotourism, has been developed here. Of the total area of the national parks of Venezuela and Colombia (6 647 274 ha), 14.7% is located in Llanos Orinoco.

TRAFFIC

The Orinoco and its tributaries have long served as large navigable waterways for indigenous peoples. During the rainy seasons, when floods occur, boats are then the only means of communication. After World War II, considerable investment was made in road construction. As much as 70% of the total transport is by road.

About 27% of the total freight traffic is transported by rail. The complex physical geography of the relief bases prevents the rapid and inexpensive construction of road communications.

DISCUSSION AND CONCLUSION

Orinoco Llanos is considered the third most significant river system on planet Earth. The main natural features of this region are diverse wetlands, grasslands, and forests with very rich biodiversity.

It covers the territory of two South American countries: Colombia and Venezuela. In recent years it has experienced rapid agrarian development. Livestock, oil, and gas fields are the most important branches of development.

Increased demand for water and other ecosystem services soon will outstrip natural supplies. An appropriate management style is required to protect the nature of this region.

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