

Central African Republic

Total population (July 2000 estimate): 3,513,000

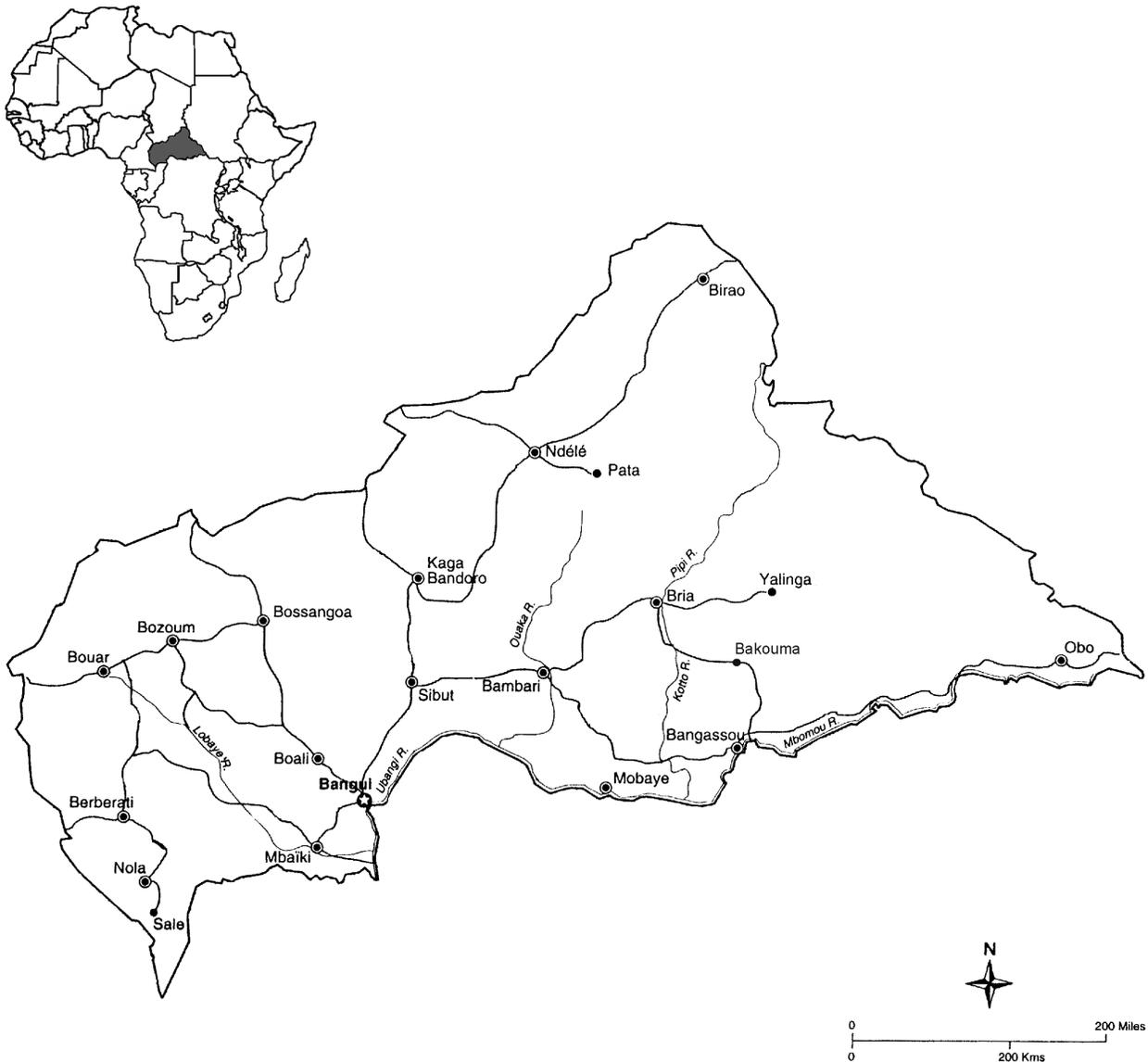
Area: 622,984 km²

Annual population growth rate (2000): 1.77%

Life expectancy at birth (1998): 44.8 years

People not expected to survive to age 40 (1998): 40.4% of the total population

GDP per capita (1998): US \$1,118



The landlocked country of the Central African Republic lies close to the equator, north of the Congo Basin. The countryside consists of a rolling plateau with average altitudes around 600-700 m. Most rivers drain into the Congo Basin. There are three distinct agro-ecological zones: tropical in the south, Sudan-Guinea type vegetation and climate in the centre of the country, and Sahelian in the north.

The economy of the Central African Republic is based on agricultural exports of coffee, cotton and tobacco, and of minerals, especially diamonds. Most of the farmers grow food crops like cassava, yams, bananas, rice and groundnuts on a subsistence basis. In 1999, the agricultural sector contributed about 55% of the GDP. Approximately 80% of the labour force is employed in the agricultural sector.

The mining sector of the Central African Republic contributes 4% of the country's GDP. The main economic mineral deposits are alluvial diamond deposits. Up to 40,000 artisanal miners are involved in riverbed mining of diamonds (Mobbs 1995). The country has considerable potential for development in the gold mineralizations in greenstone belts and alluvial/eluvial deposits.

Geological outline

Precambrian rocks underlie approximately 60% of the country. In the southern Central African Republic occur Precambrian lithologies belonging to the Archean Congo Craton. Palaeoproterozoic greenstone belts (Poidevin 1994) as well as high grade Pan-African granulites (Pin and Poidevin 1987) and other Pan-African rock suites of the North Equatorial Fold Belt underlie the central and northern part of the country. Neoproterozoic sedimentary sequences include the Bakouma Formation with tillites, fluvio-glacial deposits and widespread carbonates (Bigotte and Bonifas 1968).

Flat-lying Cretaceous sandstones overlie parts of western and central areas.

AGROMINERALS

Phosphates

Phosphatic sediments were discovered during a uranium survey in 1959-1961 near Bakouma, 480 km east-northeast of Bangui (OECD/NEA 1980). Phosphatic lenses are intercalated with organic-rich silts and siliceous horizons of the M'Patou Formation, which was deposited in karst depressions (Bigotte and Bonifas 1968). The M'Patou Formation is composed of 0-20 m thick black shales with pyrite and abundant organic matter, overlain by a 20-25 m thick succession with brown, reddish and yellow phosphatic lenses. The phosphates occur in the form of microcrystalline, carbonate-substituted fluorapatites that make up as much as 50% of the rock (OECD/NEA 1980). The general grade of the phosphates ranges from 9-35% P₂O₅. The phosphate lenses are highly weathered and contain secondary Al-phosphates.

The phosphates are characterized by their high uranium content, averaging 0.26% U₃O₈ (OECD/NEA 1980), the highest in sub-Saharan Africa (McClellan and Notholt 1986). The volume of this phosphate resource is not known.

The age of the M'Patou Formation is proposed as late Cretaceous to Eocene (Bigotte and Bonifas 1968).

Miauton (1980) studied the origin of these localized phosphates in karst depressions. He contests the suggestion of Bigotte and Bonifas (1968) that the phosphates might have been deposited in an extensive sea ingression during the upper Cretaceous to Eocene. Miauton (1980) disproves this hypothesis by demonstrating that these newly formed phosphates are of continental origin.

Other agrominerals

Limestones and dolomites of the Neoproterozoic are the main carbonates in the Central African Republic. Fine-grained but very pure limestones at Fatima, 8 km southwest of the capital Bangui are used for the local cement industry. The United Nations Development Programme (UNDP) undertook detailed exploration on the 'Calcaires de Fatima' with a total of 4,168 m drilled to outline blocks of extractable limestone for the cement industry (PNUD/UNDP 1974). Proven reserves are 8 million tonnes (Gwosdz 1996).

Apart from a few Proterozoic limestones and dolomites there are considerable resources of Cretaceous ferruginous limestones near Bakouma (Gwosdz 1996).

Agromineral potential

A thorough assessment of agricultural and soil needs are required before the potential use of the known agromineral resources can be assessed.

The Bakouma phosphates need geological evaluation on grade and volume. The potential of these resources hinges on the local soil and crop requirements for phosphorus. The uranium content of the Bakouma phosphates is very high. Uranium is reported to be partially replacing calcium in the crystal structure of the apatite in the Bakouma phosphates (OECD/NEA 1980), and considering the high concentration of uranium in the apatites, it will be necessary to remove/recover the uranium from the phosphate rock prior to its agricultural application.

Local limestone and dolomite resources should be assessed for their potential as liming materials on acid soils under high rainfall conditions, especially in the south of the country.

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