

Sierra Leone

Total population (July 2000 estimate): 5,233,000

Area: 71,740 km²

Annual population growth rate (2000): 3.67%

Life expectancy at birth (1998): 37.9 years

People not expected to survive to age 40 (1998): 50%

GDP per capita (1998): US \$458



Sierra Leone is a relatively small West African country located between Guinea and Liberia. Almost half of the country consists of coastal lowlands with extensive mangrove swamps. To the east of the coastal plains are rolling wooded hills, leading into mountainous plateau areas. The climate is hot and humid with annual precipitation reaching more than 3,000 mm.

Sierra Leone is one of the poorest nations in sub-Saharan Africa and, since 1992, has been ravaged by a civil war, which has had catastrophic impacts on human lives and on the economy.

Sierra Leone is endowed with a large natural resource base, including minerals, agriculture, and marine fishing. In times of peace, the agricultural sector generated more than 52% of the GDP and employed more than 60% of the working population. The main food crop is rice, followed by cassava, maize and yams. Before the war, the principal export crops were coffee and cocoa.

Prior to 1992, the mineral industry generated between 15 and 18% of the GDP, with rutile, bauxite, diamonds and gold being the main export mineral commodities (Mobbs 1995). During the civil war, the mineral production of diamonds and gold continued by artisanal mining. The International Labour Organization (1999) estimates the number of persons involved in small-scale mining at 30,000-40,000.

Geological outline

Most of Sierra Leone is underlain by Archean rocks of the Man Domain, which is divided into the Liberian granite-greenstone terrain and the metamorphic Kasila Group Mobile Belt (Williams 1978, 1988). Other Precambrian lithologies include the Marampa supracrustal sequence of possible Archean age, which was affected by the Paleoproterozoic Eburnian metamorphism (Morel 1979; Wright *et al.* 1985). The Marampa supracrustal sequence is made up of metavolcanics, pelites and banded ironstones. Another geological unit in Sierra Leone is the 30 km wide and 225 km long Neoproterozoic Rokelide Belt, with basal tilloids underlying mainly clastic sediments with small lava and pyroclastic intercalations. Late Mesozoic gabbros and dolerites are exposed close to the capital of Freetown. A narrow belt of mainly clastic Tertiary and Quaternary coastal sediments flank the Precambrian hinterland of Sierra Leone. Fossil fishes of Eocene age have been described from boreholes (Morel 1979).

AGROMINERALS

To date, no agrominerals have been reported in Sierra Leone and the chances of finding agrominerals in the Archean shield area and in the Neoproterozoic Rokelide belt are very limited. The Eocene coastal sediments require further investigation to assess their potential for phosphate mineralization.

References:

International Labour Organization 1999. Social and labour issues in small-scale mines. TMSSM/1999, 99pp.

Mobbs PM 1995. The mineral industry of Sierra Leone. Minerals Yearbook, Vol. III, US Geol. Surv. 91-92.

Morel SW 1979. The geology and mineral resources of Sierra Leone. Econ. Geol. 74:1563-1576.

Williams HR 1978. The Archean geology of Sierra Leone. Precamb. Res. 6:251-268.

Williams HR 1988. The Archean Kasila Group of western Sierra Leone: Geology and relations with adjacent granite-greenstone terrain. Precamb. Res. 38:201-238.

Wright JB, Hastings DA, Jones WB and HR Williams 1985. Geology and mineral resources of West Africa. Allen and Unwin, London, UK, 187pp.