

# Chapter 1

## An ecological socio-economic and conservation overview of the Atewa Range Forest Reserve, Ghana

As one of the world's 34 Biodiversity Hotspots (Mittermeier et al. 2004), the Guinean Forests of West Africa hotspot encompasses the lowland forests of West Africa, stretching from Guinea and Sierra Leone in the west to the Sanaga River in Cameroon in the East and incorporating areas of Liberia, Côte d'Ivoire, Ghana, Togo, Benin, and Nigeria, as well as four islands in the Gulf of Guinea. Two distinct sub-regions make up the hotspot. The first sub-region, the Upper Guinea Forest, stretches from southern Guinea into eastern Sierra Leone and through Liberia, Côte d'Ivoire and Ghana into western Togo. The second sub-region, Nigeria-Cameroon, extends along the coast from western Nigeria to southwestern Cameroon. The Guinean Forests hotspot represents a range of distinct vegetation zones varying from moist forests along the coast, freshwater swamp forests, and semi-deciduous forests inland with prolonged dry seasons. The hotspot also supports important montane regions, including the Cameroon and Nimba Highlands.

### THE UPPER GUINEA FOREST

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At its greatest extent following the peak of the last glaciation (approximately 18,000 years B.P.), the Upper Guinea Forest is estimated to have covered as much as 420,000 km<sup>2</sup>. Centuries of human activity however have resulted in the loss of at least 70% of the original forest cover (Bakarr et al. 2001). Current biodiversity patterns and high levels of plant and animal endemism in the Upper Guinea Forest are most likely the result of repeated climatic changes during the Pleistocene epoch (10,000-1.9 million years B.P.) when dry conditions in the tropics created isolated forest refugia. Today however, the Upper Guinea Forest is restricted to a number of more or less disconnected forest reserves and a few national parks acting as man-made refuges for the region's biodiversity. Nevertheless, these remaining forests still contain exceptionally diverse ecological communities, distinctive flora and fauna, and several forest types harboring a substantial number of endemic and restricted-range species.

### Ghana

Ghana lies along the Gulf of Guinea in West Africa and covers an area of about 239,000 km<sup>2</sup>. Along with the rest of West Africa, Ghana belongs geologically to the ancient (570 to 4,600 million years) Precambrian Guinean Shield of the former supercontinent Gondwana and can be divided into several broad natural regions: the coastal or *low plains*, comprising a broad belt along the Gulf of Guinea; the *Ashanti highlands* to the northwest; the *Akwapim-Togo Mountains* in the East; and the Volta basin and terraces of the *high plains* in the north of the country. Ghana can also be divided into several biogeographical zones: the Guineo-Congolian, including the wet evergreen and moist semi-deciduous forests of the southwest; the Guineo-Congolian-Sudanese transitional zone in the middle and the south-east; the Sudanese in the north; and the Sub-Saharan in the north-eastern corner (Ministry of Environment and Science 2002). About 35% of southwestern Ghana, corresponding to the Guineo-Congolian zone, is located within the Upper Guinea Forest sub-region.