

# **Botswana (Republic of)**

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## **Location and area**

Botswana is a landlocked country in southern Africa bordered on the north and west by Namibia, on the northeast by Zambia and Zimbabwe, and on the southeast and south by the Republic of South Africa. The total area of Botswana is 581,730 km<sup>2</sup>. (Microsoft Encarta Encyclopedia 2002).

## **Topography**

Most of Botswana is a plateau, lying at an average height of 1,000 m above sea level. The Kalahari covers most of the south and west of the country.

The principal river is the Okavango, which flows southeast from the Angolan highlands into northwestern Botswana and drains into the Okavango Basin, where it forms a vast marshland, the Okavango Swamp. During the rainy season the flow continues eastwards along the Botletle River to Lake Xau and the Makgadigadi Pan. There are no permanent rivers in the southern part of the country. (Microsoft Encarta Encyclopedia 2002).

## **Climate**

Botswana has a semi-arid subtropical climate. The average annual rainfall varies from about 630 mm in the north to less than 230 mm in the Kalahari, and is concentrated in the summer months (December to April). The average summer temperature is 38° C (Microsoft Encarta Encyclopedia 2002).

## **Wetlands**

The most important wetland complex of Botswana is the Okavango delta, which is according to a seasonal swamp over 12,000 km<sup>2</sup> and a permanent swamp over 3,000 km<sup>2</sup> (Thompson (1985). According to Howard-Williams & Thompson (1985) the area covered in the wet season amounts to 16,000 km<sup>2</sup> against 3,120 km<sup>2</sup> under dry conditions. Ross (1987) estimate the waters to cover at least 16,000 km<sup>2</sup> during dry period, whereas with a heavy annual flood, the Okavango's waters can spread 22,000 km<sup>2</sup> of the Kalahari's sands. Deep water occurs in only a few channels, while vast areas of reedbeds are covered by only few centimetres of water (Ross 1987). Markov et al. (1988) ascribe an area of about 40,000 km<sup>2</sup> of swamps to the Okavango inland delta.

## **Peatlands**

Kivinen & Pakarinen (1981) mention the presence of peatland in Botswana but present no estimates for its area.

According to the interpreted World Soil Map (Van Engelen & Huting 2002) no histosols exist in Botswana and 25,667 km<sup>2</sup> of gley soils.

According to Jan Sliva (pers. comm. 2001) between 5,000 and 6,000 km<sup>2</sup> of the Okavango consist of "permanent" swamps and marshes. At least half of that area (probably however

much more) is covered by peat producing vegetation, consisting mainly of *Phragmites* and *Cyperus papyrus*. Peat thickness varies from some decimetres to 4 meter. According to that estimate mires and peatlands in Okavango would cover 2,500 – 3,000 km<sup>2</sup>. Other potential peatland areas in Botswana include the Chobe-Linyanti swamp (200 km<sup>2</sup> of mostly *Phragmites* in Botswana and Namibia), the Ngami shallow lake (797 km<sup>2</sup>), and the Dow shallow lake (> 100 km<sup>2</sup>) (cf. Howard-Williams & Thompson (1985).

### **Mire and peatland losses**

Ellery et al (1989) report on the effects of peat fires in the Okavango Delta.