Lesotho

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Location and area

Lesotho is a land-locked monarchy within South Africa. Lesotho has a total area of 30,355 km^2.

Topography

In the west, rolling lowlands occupy about one third of the country, varying in height from about 1,500 to 1,800 m above sea level. They provide most of the cultivable land in Lesotho, although their soils are poorer than those of the uplands. The land rises eastward to the mountains, which occupy two thirds of the country and reach heights of more than 3,300 m on the eastern border with South Africa. The Drakensberg runs northeast to east; the Mulati Mountains, northeast to southwest. The Orange River has its source in the highlands of Lesotho.

Climate

The climate is mainly temperate, with seasonal and daily extremes of heat and cold. In the lowlands maximum temperatures vary between 32° C in summer to -7° C in winter; average temperatures are 25° C and 15° C respectively. The average and extreme ranges are wider in the highlands. In the winter frosts are common in the lowlands, and snowfalls are frequent in the highlands. Rainfall, which occurs predominantly between October and April, averages about 750 mm a year in the lowlands and 1,900 mm in the highlands. Droughts are common.

Land use

Lesotho has very few natural resources other than water. Only 10 % of the land is cultivable, and all of this area is utilized. Population pressure in the west, where the arable land is concentrated, means that over-cultivation and soil exhaustion are major problems. Livestock grazed on the upland pastures is the traditional source of wealth.

Water is Lesotho's most important natural resource. A series of enormous dams and tunnels, known as the Highlands Water Scheme, has been under construction in the mountains since the late 1980s and is due for completion in 2015. This hydroelectricity system will deliver water to the industrial areas of northeastern South Africa, generating substantial income for Lesotho. The first phase of the scheme has generated considerable concern among environmentalists. (Microsoft Encarta Encyclopedia 2002).

Peatlands

Bord na Mona (1985) and Shrier (1985) state that small deposits of shallow reed peat are found in the lowlands. The mountains and valleys contain numerous peat deposits known as "sponges" which form around springs. A preliminary Bord na Mona survey in January 1976 concluded that the unit areas were too small (0.2 – 2.0 ha) and too shallow (maximum peat thickness 2.0 m) for industrial fuel development and recommended that current utilisation for pastoral agriculture should continue.

According to Markov et al. (1988) some peatlands are found in Lesotho with areas from 1 to some hundreds ha. They can by found up to 3200 meters above sea level. Many of them grow around small lakes.
According to the interpreted World Soil Map (Van Engelen & Huting 2002) no histosols and no gley soils exist in Lesotho.
P.-L. Grundling (pers. comm. 2002) estimates the peatland area in Lesotho on 18 km^2.

Mire and peatland losses

The mires have been severely degraded during the past fifty years due to by trampling and overgrazing by domestic animals (Jacot Guillarmod 1962, 1963, 1967, 1968, 1969, Van Zinderen Bakker 1955, 1965, 1981, Van Zinderen Bakker & Werger 1974, Rapp 1975, Thompson & Hamilton 1983, Backéus 1988, Meakins & Duckett 1993, Backéus. & Grab 1995). Trampling leaves depressions in the bog's surface, aerates it, accelerates the process of matrix water loss, and erodes the edges of the bogs. Once the original surface has been broken, inflow streams cut throught the peat down to the basalt substrata. The exposed peat faces rapidly disappear as a result of oxidation and erosion. The drying-out peat has been invaded by large populations of Sloggett's rat (*Otomys slogetti*) and Sclater's golden mole (*Chlorotalpa sclateri*), that increase aeration by burrowing, thus accelerating oxidation of the peat (Meakins & Duckett 1993). Many of the peatlands have virtually disappeared and the remainder are rapidly being destroyed.
Increased runoff and erosion due to loss of vegetation cover has led to silt deposition on the wetlands (Calles & Kulander 1996) and the formation of erosion gullies and rills.
Analysis through remote sensing and field surveys indicates that approximately 65% of the mires in Lesotho are damaged in one way or another (Schwabe 1995). Also Marneweck & Grundling (2000a,b) report that most Lesotho mires are degraded. Current threaths for the peatlands come from the Lesotho Highlands Water Project, which aims at bringing water from Lesotho to South Africa. The Katse Dam in the Malibamatso drainage basin will lead to the loss of thousands of hectares of cultivated land on the valley bottoms, resulting in an increased dependence on livestock farming and an augmentation of the grazing pressure in the alpine belt. (Marneweck & Grundling 2000a,b).

Still to be checked:
Backéus, I. 1989. Flarks in the Maloti, Lesotho. Geografiska Annaler 71: 105-111.