Uganda

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Location and area

Uganda is a landlocked republic in eastern Africa, bordered on the north by the Republic of Sudan, on the east by Kenya, on the south by Tanzania and Rwanda, and on the west by the Democratic Republic of the Congo. Uganda has an area of 241,038 km^2. (Microsoft Encarta Encyclopedia 2002).

Topography

About 85 % of the land surface is an elevated plateau, draining into the centre to form Lake Kyoga. The main lowlands are located in the Rift Valley, which runs down the western side of Uganda, and contains lakes Edward and Albert. Mountains rise to snowy peaks in the Ruwenzori range on the southwest border with the Democratic Republic of the Congo. Uganda's highest mountain, Mount Stanley, with two peaks - Margherita Peak at 5,109 m and Mount Alexander at 5,105 m - is located there. There are also highlands on the eastern border with Kenya. The remainder of the country, about 5 % of the area, comprises land at between 1,500 m and 2,000 m, inland of Lake Victoria, containing some of the most heavily populated areas. Much of the south is forested, and most of the north is covered with savannah.

Almost 20 % of the area of Uganda is open water. The country includes George and Kyoga lakes, and parts of the lakes Victoria, Edward, and Albert. These lakes and most of Uganda’s rivers form parts of the basin of the upper River Nile, which leaves Lake Victoria and flows to Nimule on the Sudan frontier. (Microsoft Encarta Encyclopedia 2002).

Climate

Despite being a tropical country lying along the equator, Uganda normally has a mild, equable climate, mainly because of its relatively high altitude. The temperature ranges from about 16° to 29° C. There are two distinct rainy seasons: March to May, and September to November. The mean annual rainfall varies from some 760 mm in the northeast to about 1,500 mm near Lake Victoria. (Microsoft Encarta Encyclopedia 2002).

Land use

Crop farming and livestock raising are the primary occupations in Uganda. Woodlands cover about 4 million hectares. (Microsoft Encarta Encyclopedia 2002).

Wetlands

Uganda is characterized by high rainfall and by large lakes, which feed the Nile River. On its way to the Nile, the water supports huge wetlands, which occupy at least 10% of Uganda's land area of 205,333 km^2 (Mafabi & Taylor 1993). Other sources talk about 13% of the country's total area (www.fao.org/DOCREP/003/X6611E/x6611e04c.htm, Tindamanyire 2003). These wetlands range in altitude from 1,134 m at Lake Victoria, to over 4,000 m in the Ruwenzori Mountains (Mafabi & Taylor 1993).

On the basis of vegetation maps, Uganda's wetlands are estimated to cover 29,589 km^2, consisting of 8,832 km^2 of “swamp”, 365 km^2 of “swamp forest”, and 20,392 km^2 being wetland sites with impeded drainage, but many small sites will be missed in this inventory (Mafabi & Taylor 1993). Other sources give a figure of 11,800 km^2 of swamps (6 % of the land surface) (Howard-Wiliams & Thompson 1985), or 7,000 km^2 of large swamp areas (www.africanfront.com/water_sheds/water_sheds2/water_sheds5.php).
Lappalainen & Żurek (1996c) use a figure of 14,200 km^2 for the total wetland area (cf. Kivinen & Pakarinen 1981).

Peatlands

Uganda has substantial mires and peatlands. Hamilton (1972) described and pictured many mires in highland Uganda, e.g. in Kigezi (Ishasha swamp, Kankoko swamp, Muchoya swamp, Mubwende swamp, Kankoko swamp, Butongo swamp), on Mt Elgon, and on Ruwenzori. Callow et al. (1964) present 3 ^{14}C dates from Holocene and Lateglacial peats (from 400-800 cm deep) from Muchoya Fen.
Pfadenhauer (1980), referring to Wasawo (1964), mentions that 7 % of Uganda is covered with “peatlands“ (which would be 14375 km^2). Pfadenhauer (1980) furthermore mentions peatlands on the Ruwenzori with up to 6 m thick peats.
Kivinen & Pakarinen (1981) present a peatland area for Uganda of 14,200 km^2, but do not refer to specific sources. Bord na Mona (1985) and Shrier (1985), referring to Kivinen & Pakarinen (1981), use the figure of 14,200 km^2 for the area of “peatland reserves”, resp. “mire area” and peat resources. These include the *Sphagnum* and *Carex* mires of the mountains and highlands (Ruwenzori Mountains and the Rukiga Highlands of Uganda and on Mount Elegon on the Uganda/Keny border), the large, deep *Papyrus* valley swamps in the Western Rift Valley and in the Kigezi region bordering Zaire, and the extensive lake-edge swamps containing shallow deposits of peat around Kampala. Bord na Mona (1985) mentions 6,500 km^2 (2,500 square miles) of permanent swamp mainly in litoral regions north and west of Lake Victoria. Other important wetlands that may contain peatlands include the Ankole and Koki lakes and floodplain (570 km^2), the shallow Lakes Kyoga (2,700 km^2), Bisinia (160 km^2), George (150 km^2), and Kwania (465 km^2) with associated swamp (1,700 km^2), the Semliki delta and floodplain (shared with Zaire), and the Lake Wamala floodplain grassland **(**Howard-Wiliams & Thompson 1985, www.wcmc.org.uk/wh/reviews/wetlands/t11.htm)

Markov et al. (1988) mention “peatlands” around Lake Kego lake, in the south west shore of Lake Albert, the west shore of Lake Victoria and along the rivers Victoria, Nile and Okok. According to Markov et al. (1988) the large “peatlands” occupy 6 percent of the territory, which would be 12,320 km^2, with peat thicknesses of 30-150 cm, in some cases 2 m and more (up to 6m). Elsewhere they mention a “peatland” area of 2,500 km^2 of permanent swamps and 2,500 km^2 of seasonal swamps, mostly along the rivers. Peatlands grow up to 3000 meters above sea level and some peatlands are protected in National Parks. Markov et al. (1988) estimate the area of „peat resources“ (peat thickness not mentioned) in Uganda as being 5,000 km^2.
Andriesse (1988) uses the figure of 14,200 km^2 for the extent of organic soils, Schneider & Schneider (1990) and Pfadenhauer et al. (1993) for the peatland area.
According to the interpreted World Soil Map (Van Engelen & Huting 2002) 8,294 km^2 of histosols exist in Uganda and 17,055 km^2 of gley soils.

Mire and peatland losses

Their relative accessibility and fertility in a country with a rapidly rising population has placed the wetlands under increasing pressure (Tindamanyire 2003). With funding from external donors, notably the People's Republic of China, large-scale agriculture has led to the loss of significant areas of wetland in eastern Uganda. Small-scale drainage activities in southwest Uganda have adversely impacted most of the valley systems in that region. These valleys contained important papyrus resources but over the past 20 years much of this resource has been cleared for agriculture. In some areas where drainage commenced in the early 1970s, the majority of the papyrus has now been removed and the valleys are being used for grazing dairy cattle. As a result of drainage and oxidation, the peat substrate of many of these systems is eroding. Over much of Uganda papyrus swamps are harvested intensively and some are showing signs of over-harvesting (Mafabi & Taylor 1993). According to Pfadenhauer (1980), referring to Wasawo (1964) the “peatlands“have largely been drained and used for fire cultivation. Substantial peatland areas have been drained and reclaimed in the Kigezi area, mainly for vegetable production (Shrier 1985) and exploitation is increasing (Bord na Mona 1985).
These developments stimulated the Ministry of Environment Protection (now the Ministry of Natural Resources) in 1986 to impose a ban on wetland drainage (Mafabi & Taylor 1993).

Lowland valley and swamp forest wetlands are currently under the strongest pressure, but only a small proportion of the total wetland area has been affected (Mafabi & Taylor 1993).

Pictures of peatlands from Uganda can be found under www.ipcc.ie/wpuganda.html

Still to be checked:

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