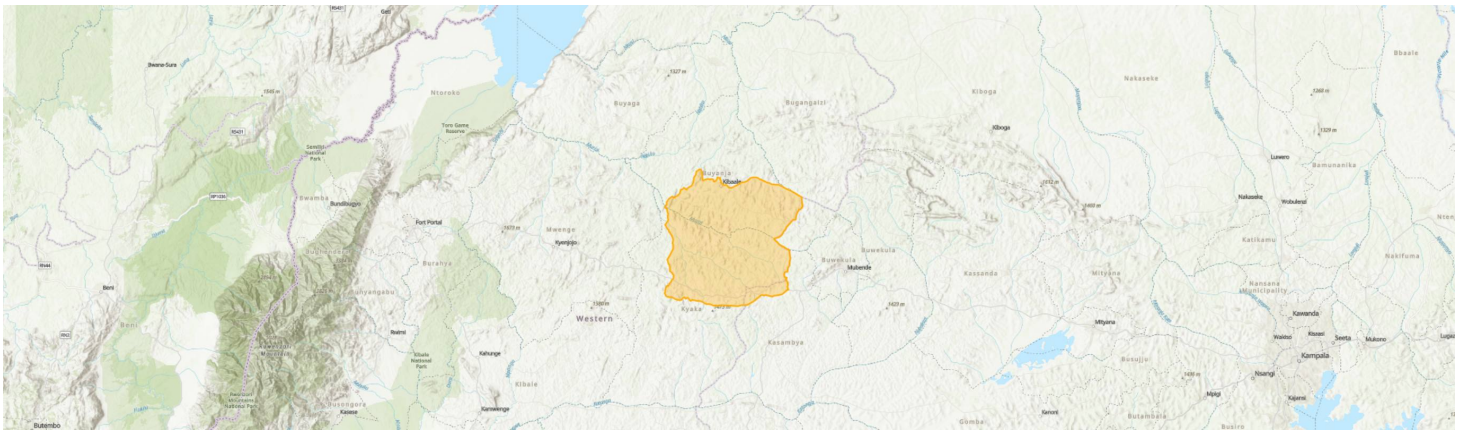
Mubende-Kyegegwa

UGATIPA28



Country: **Uganda**
Administrative region: **Western (Region)**
Central co-ordinates: **0.48667 N, 31.06722 E**
Area: **2.44km²**

Qualifying IPA criteria

A(i)

IPA assessment rationale

Mubende-Kyegegwa qualifies as an IPA under criterion A. Sub-criterion A(i) is triggered by the presence of the Critically Endangered Sansevieria lineata (= Dracaena bugandana) for which this is one of only two sites globally, and the Vulnerable Aloe mubendiensis, a species of very narrow range with the majority of the known population in the Mubende-Kyegegwa area.

Site description

The Mubende-Kyegegwa IPA occurs on hills near Kyegegwa and Kibale, 30 – 45 km West of Mubende along the main Kampala - Fort Portal road. It is located within Kyegegwa district, in Tooro, within the U2 floristic region in the western part of Uganda. It consists of a series of granite rock outcrops in an unprotected area. The rock outcrops rise to 1,453 m, and are surrounded by largely gently undulating terrain. This site is located within the Lake Victoria Mosaic phytochorion (White 1983).

Botanical significance

The rock outcrops on the hills of this IPA are botanically important and of high conservation significance as they host important populations of two globally threatened and range-restricted species. The first is Sansevieria lineata T.G.Forrest (Dracaena bugandana Byng & Christenh.) which was thought until recently to be endemic to Uganda and only known from this IPA until the apparent recent discovery of a disjunct population in Tanga Region of Tanzania (Yinga & Sakawa 2023). It is currently assessed as Critically Endangered owing to ongoing urban expansion of Kyegegwa town and surrounding areas, along with agricultural activity due to the cultivation of its habitat and burning (Rotton et al. 2022). The second is Aloe mubendiensis, a succulent perennial only known from this site plus two other Ugandan sites. Aloe mubendiensis, is globally threatened (Vulnerable – VU D2), with extent of occurrence (EOO) estimated as only 1,451 km2 and this IPA is considered to contain the majority of its global population. It is otherwise known from near Kibaale which is north of Mubende, and a third site on the Kampala-Hoima road.

Limited botanical surveying has been done within this IPA to date and there is a need to conduct more extensive studies at the site and the surrounding areas to fully understand its vegetation and flora. Further species of interest may well be uncovered; for example, Crassocephalum bauchiense (VU) is known from its only Ugandan site on similar rock outcrops near Kakumiro, ca. 35 km to the northeast of the Mubende-Kyegegwa IPA (A.S. Thomas #4320, Oct. 1945), and it may also be found here in future surveys.

Habitat and geology

The principal vegetation covering the area may be described as Combretum-Cymbopogon Wooded Savanna with Undifferentiated Semi-deciduous Moist Thicket (Langdale-Brown et al. 1964). There are grassland and bushed grassland patches with small trees and shrubs on rocky ground. Both Aloe mubendiensis and Sansevieria lineata (Dracaena bugandana) are observed to grow on granite inselbergs in small pockets of soil on rock surfaces (Forrest 2013;

Cole & Forrest 2017).

The bedrock of the area is characterized by the Palaeoproterozoic Rwenzori (or Buganda-Toro) Fold Belt and by the Archaean Uganda craton (also called the Uganda Gneiss Complex). The area is underlain by Granitic rock outcrops (Mäkitie, et al 2014).

The area experiences a double maxima rainfall regime with mean annual rainfall ranging from 800 – 1150 mm. The first rains begin in late March to May and second rains begin in late August to early November, sometimes stretching into December (JBN Consult & Planners 2021).

Conservation issues

The whole of Mubende-Kyegegwa IPA is not under any formal protection. A number of activities are therefore going on unabated. There is periodic burning (Cole and Forrest 2017), but most succulent plants like aloes and sansevierias are adapted to this, unless the fire is very intense and frequent. Habitat destruction from farming is minimal owing to the unsuitability of rocky areas for cultivation, but there is steadily increasing agricultural activity (Kirunda et al. 2020), reducing habitat quality. Quarrying of the rocks for production of construction materials has been reported but it seems to be very limited at present. However, this is considered to be a significant threat to both Aloe mubendiensis and Sansevieria lineata in the future and it is likely to cause total destruction of the rock outcrops where it occurs. The Uganda Investment Authority has identified quarrying as one of the investment opportunities in this area (UIA, undated). NEMA (2019) also reports presence of medium-grained granites which have potential for stone production. The Kampala-Hoima highway is currently being upgraded, hence there might be sourcing of construction material from the rocky and gravely hills on which the aloe grows, reducing habitat quality.

Limited harvesting of materials for various purposes occurs in the IPA. Aloe mubendiensis is known to be extracted for treatment of some ailments, notably hypertension, febrile convulsions, and whooping cough (Anywar et al. 2022). Sansevieria lineata is also reported to be unsustainably used for treatment of skin ailments and poultry diseases owing to destructive methods employed (Kirunda et al. 2020). There is also harvesting of woody plants for fuelwood, and this continues to increase with rise in human population size. This increase in population in surrounding communities poses a more general threat of rising pressure on natural habitats.

Site assessor(s)

Assessed by:

James Kalema, Makerere University Herbarium

Samuel Ojelel, Makerere University Herbarium

Iain Darbyshire, Royal Botanic Gardens, Kew

Date of first assessment:
14th Jan 2025

Reviewed by:
Grace Nangendo, Wildlife Conservation Society, Uganda

IPA criterion A species

SPECIES	QUALIFYING SUB-CRITERION	≥ 1% OF GLOBAL POPULATION	≥ 5% OF NATIONAL POPULATION	1 OF 5 BEST SITES NATIONALLY	ENTIRE GLOBAL POPULATION	SOCIO-ECONOMICALLY IMPORTANT	ABUNDANCE AT SITE
Aloe mubendiensis Christian	A(i)	✓	✓	✓	–	✓	Frequent
Dracaena bugandana Byng & Christenh.	A(i)	✓	✓	✓	✓	–	Occasional

IPA criterion C qualifying habitats

HABITAT	QUALIFYING SUB-CRITERION	≥ 5% OF NATIONAL RESOURCE	≥ 10% OF NATIONAL RESOURCE	1 OF 5 BEST SITES NATIONALLY	AREAL COVERAGE AT SITE

General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Savanna - Dry Savanna	–	Major
Shrubland - Subtropical/Tropical Dry Shrubland	–	Minor
Grassland - Subtropical/Tropical Dry Lowland Grassland	–	Minor
Rocky Areas - Rocky Areas [e.g. inland cliffs, mountain peaks]	–	Major
Artificial - Terrestrial - Rural Gardens	–	Minor
Artificial - Terrestrial - Arable Land	–	Minor

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Agriculture (arable)	–	Minor
Harvesting of wild resources	–	Minor
Extractive industry	–	Minor
Agriculture (pastoral)	–	Unknown
Forestry	–	Minor

Threats

THREAT	SEVERITY	TIMING
Agriculture & aquaculture - Annual & perennial non-timber crops - Small-holder farming	Medium	Ongoing - increasing
Agriculture & aquaculture - Livestock farming & ranching - Small-holder grazing, ranching or farming	Medium	Ongoing - increasing
Energy production & mining - Mining & quarrying	Medium	Ongoing - increasing
Transportation & service corridors - Roads & railroads	Low	Ongoing - stable
Transportation & service corridors - Utility & service lines	Low	Ongoing - stable
Biological resource use - Hunting & collecting terrestrial animals	Low	Ongoing - stable
Biological resource use - Gathering terrestrial plants	Low	Ongoing - stable
Biological resource use - Logging & wood harvesting	Low	Ongoing - increasing
Human intrusions & disturbance - Work & other activities	Low	Ongoing - increasing
Natural system modifications - Fire & fire suppression - Increase in fire frequency/intensity	Medium	Ongoing - stable
Invasive & other problematic species, genes & diseases - Invasive non-native/alien species/diseases	Low	Ongoing - increasing

Conservation designation

DESIGNATION NAME	PROTECTED AREA	RELATIONSHIP WITH IPA	AREAL OVERLAP
Kyenjojo-Mubende inselberg	Key Biodiversity Area	protected/conservation area overlaps with IPA	1

Management type

MANAGEMENT TYPE	DESCRIPTION	YEAR STARTED	YEAR FINISHED
No management plan in place		–	–

Bibliography

White, A.F. 1983. **The vegetation of Africa. A descriptive memoir to accompany the UNESCO/AETFAT/UNSO vegetation map of Africa.**

Cole, T. & Forrest, T. 2017. **Aloes of Uganda. A Field Guide..**

Langdale-Brown, I., Osmaston, H. A., & Wilson, J. G. 1964. **The Vegetation of Uganda and its Bearing on Land-Use.**

Anywar, G., Tugume, P. & Kakudidi, E. K. 2022. **A review of Aloe species used in traditional medicine in East Africa.** South African Journal of Botany, Vol 147, page(s) 1027-1041

Forrest, T. G. 2013. **Sansevieria lineata sp. nova, a striking new species of Sansevieria from Uganda (Asparagaceae).** Sansevieria, Vol 30, page(s) 10-12

JBN Consults & Planners 2021. **Uganda Multi-Sectoral Food Security and Nutrition Project (P-149286)-Additional Finance: Environmental and Social Management Framework. A report submitted to Ministry of Agriculture, Animal Industry and Fisheries.**

Rotton, H., Kalema, J., Ojelel, S. & Richards, S. L. 2022. **Dracaena bugandana. The IUCN Red List of Threatened Species 2022: e.T216247781A216662305.**

Yinger, B. R. & Sikawa, R. A. 2023. **New reports of East African Sansevieria species in Tanzania.** Sansevieria, Vol 51, page(s) 11-16

Uganda Investment Authority - UIA Undated. **Kyegegwa district investment profile.**

Mäkitie, H., Härmä, P., Virransalo, P., de Kock, G., Lugaizi, I. & Tumwine, A. 2014. **The granite batholith of Mubende, Uganda: preliminary results on its petrography, geochemistry and construction rock potential.** Geological Survey of Finland, Special Paper, Vol 56, page(s) 251-272

Kirunda, B., Ddumba, H. & Mwima, P. M. 2020. **Verification of selected KBA site trigger species in Uganda community engagement case study report..**