

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Bureau. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

LAKE OPETA WETLAND SYSTEM RAMSAR INFORMATION SHEET

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2. **Date:** 17 September 2005.

3. **Country:** The Republic of Uganda

4. **Name of the Ramsar site:** Lake Opeta Wetland System

5. Map of the Ramsar site:

Hard copy: attached
Digital (electronic) format: yes

6. **Geographical coordinates:** 34⁰04" - 34⁰24" E and 01⁰33" - 01⁰51" N,.

7. General Location:

Lake Opeta and its surrounding swamps is located in north eastern Uganda, in four districts of **Nakapiripirit** (Namalu sub-county and Lorachat sub-county), **Sironko** (Bunambutye sub-

county), **Katakwi** (Usuku county, Magoro sub-county) and **Kumi** (Kolir sub-county, Malera sub-county and Ongino sub-county). It is located 25 kms from Kumi town and the northern part borders a Wildlife Reserve, Pian-Upe Wildlife Reserve and Teso Community Reserve.

8. **Elevation:** 1,050 m above sea level.

9. **Area:** 68,912 hectares.

10. Overview:

Lake Opeta is one of the remaining intact and probably most important wetland marshes in Uganda. It is the only true wetland in Karamoja area. The area is mainly used by the Karimojong and the Pokot people for grazing their animals in the dry season. Lake Opeta is one of Uganda's Important Bird Areas (IBA's). The IBA covers Lake Opeta and the surrounding marsh from Lake Bisina in the west, borders East Teso Hunting area in the north, Pian-Upe Wildlife Reserve in the east and covers the eastern grasslands. There is a wooded island in the middle of the swamp called the Tisai with very few people. Karamoja area generally experiences one single rain season, in contrast to the bimodal pattern of the south and west of Uganda.

Lake Opeta wetland system is predominantly an extensive swamp of *Vossia cuspidata* to the east and south graduating into dry *Hyparrhenia* grassland savannas. The middle of the swamp has Lake Opeta as a small lake covered by *Nymphaea* spp and surrounded by a thin fringe of *Cyperus papyrus* to the eastern side.

The wetlands around Lake Opeta have been considered to be of great importance for the conservation of birds, and there have been calls to accord this area a higher status of protection and conservation. Fox's weaver, Uganda's only endemic bird species has been recorded in the swamp breeding. Other species of conservation importance include Shoebill, Papyrus Gonolek, White-winged Warbler, Northern brown-throated Weaver and Papyrus Canary. The system is also important as a refuge for fish species that have gone extinct in the main lakes including Lake Victoria and Lake Kyoga.

11. Ramsar Criteria:

Criteria used to justify wetland include: 1, 2, 3, 4, 7 and 8.

12. Justification for the application of each criterion listed in 11 above:

Criteria 1: Lake Opeta Wetland System forms an unusual extensive important wetland marsh in Uganda with a unique macrophyte ecosystem.

The extensive seasonal floodplain wetlands around Lake Opeta are very unusual for Uganda and have sometimes been described as wetlands in dry land. The wetland area is the only true wetland in Karamoja area and one of the few remaining intact, and probably the most important

wetland marshes in Uganda. The open water is full or covered by submerged plants and floating plants like *Nymphaea* and *Potamogeton*. The natural vegetation of the seasonal floodplain in the adjacent areas to Lake Opeta is mainly comprised of wooded savannah (mixed) and wooded savannah associated with *Themeda*, making it a unique wetland.

Criterion 2: Lake Opeta supports vulnerable, endangered, or critically endangered species or threatened ecological communities.

Over 160 species of birds are supported by Lake Opeta wetlands system. The system contains one globally threatened species of bird namely the Shoebill *Balaeniceps rex* (vulnerable). It also contains five lake Victoria Basin biome species including: the Black-lored Blabber *Turdoides sharpie*; White-winged Warbler *Bradypterus carpalis*; Carruthers's Cisticola *Cisticola carruthersi*; Red-chested Sunbird *Nectarinia erythrocerca*; Northern Brown-throated Weaver *Ploceus castanops* and Papyrus Canary *Serinus koliensis*. The species are among the Ugandan species in the East African Regional Red List of birds (Bennun and Njoroge, 1996).

The site also hosts the Sitatunga *Tragelaphus spekii* and Topi *Damaliscus lunatus* (CITES App. III), Leopard *Panthera pardus* (CITES App. I), Lion *Panthera leo* (Vulnerable) and the Cape Clawless otter (*Aonyx capensis*) (CITES App. II).

Criterion 3: Lake Opeta supports populations of plant and animal species important for maintaining the biological diversity of the region.

Lake Opeta is one of the sites recognized by the wetlands inventory team as being among the critical minimum sites important for the conservation of the wetland-dependent plants. The Wetlands Inventory Team recorded over 23 genera with 30 species. The lake is especially important for its submerged macrophytes. Lake Opeta System also supports over 200 butterfly species and several of these are rare species, which breed and perpetuate their population in the wetlands. The rare butterfly species recorded in Lake Opeta include: *Anthene butleri*, *Azonus natalensis* and *Colotis evantee*. Lake Opeta Wetland System supports endemic Cichlid fishes (especially the *Haplochromines*), which along with other species are considered of conservation concern on account of their endemism to the waters of Uganda. One of them is *Paralabidochromis plagiodon*. For the purpose of protecting fish species diversity in Uganda, Lake Opeta including the Kyoga basin minor lakes and associated swamps have been recommended to be coded a higher conservation status.

It also supports over 160 species of birds some of which are of global and regional conservation concern. Some of the birds breed in the wetland system.

Criterion 4: Supports plant and / or animal species at a critical stage in their life cycles.

Lake Opeta wetland system is considered to be of great importance for the conservation of birds. The surveys conducted at the site indicate that Opeta wetland system is unique, highly diverse and a refuge for animals in the critical stage of the dry seasons, thus of high conservation value. Pian-Upe wildlife reserve which lies on the eastern side of Lake Opeta wetland system, holds the last population of Roan Antelope *Hippotragus equinus* in Uganda. During the dry season the wetland provides and is the only refuge for the animals from Pian-Upe wildlife reserve. The

wetland is not only important for wetland species but very critical for species in the catchment during the dry seasons. It is also critical for the survival of the local communities as a source of food and water for people and domestic animals particularly the nomadic Karamojong.

Criterion 7: Lake Bisina supports species of indigenous Cichlid fishes including endemic *Haplochromines* and other swamp fish species.

Lake Opeta Wetland System supports indigenous endemic Cichlid fishes (especially the *Haplochromines*), which along with other species are considered of conservation concern on account of their endemism to the waters of Uganda. Being a shallow lake, the Nile perch *Lates niloticus* could not do well in the lake. This has made it possible for the indigenous fish species especially the *Haplochromines* to survive in the wetland system. Some of the indigenous *haplochromines* include *Paralabidochromis plagiodon* endemic to the region.

Criterion 8: Lake Opeta Wetland System is an important source of food for fishes, spawning ground, nursery and / or migration path on which fish stocks, either within the wetland or else where, depend.

Lake Opeta wetlands are important for the conservation of fish species. The indigenous endemic fishes (e.g. *Paralabidochromis plagiodon*) that are believed to have disappeared in the main lakes (Victoria and Kyoga) are still doing well in Lake Opeta. The indigenous endemic fishes use the wetland system as a spawning ground.

13. Biogeography:

The Climate of Lake Opeta Wetland System is tropical in nature and falls within the Karamoja region climatic zone (State of environment report 2002). The area falls in the Lakes Kivu, Edwards, George and Victoria (and satellite lakes) Freshwater Ecoregion (from WWF's "Freshwater Ecoregions of Africa" classification).

The system is predominantly situated in the Sudanian regional centre of endemism to the north of the lake. The vegetation is predominantly fire – climax secondary grassland and cultivation but the natural vegetation is a wooded savanna (State of environment report 2002).

14. Physical features of the site:

Climate: The Climate of Lake Opeta wetland system is tropical in nature and is influenced by the air currents such as the southeast and northeast monsoons. The system has a rainy and dry season. The area generally experiences a uni-modal low rainfall, in contrast to the bimodal pattern of the south and west of Uganda (state of environment report 1998). Rainfall is erratic, variable and highly localized, ranging from 500 – 1,000 mm with a mean annual figure of between 500 to 700 mm. Mean annual minimum temperatures range from 15 to 17.5°C and mean maximum temperature from 30 - 32.5° C. Higher temperatures are experienced in the westerly

plains. Because of this temperature range, the system's evapotranspiration ranges between 1750 – 1900 mm (State of environment report, 1998).

Hydrology: Lake Opeta is a freshwater lake fed by the following rivers: Ukutat, Muchilmakat, Sipi, Sironko and Kelim most of which originate from Mount Elgon. The rivers enter the lake through a Zone of permanent swamps, which lies east of the lake. Each of these rivers has a seasonal floodplain. The lake drains west through dense swamp for 5 km to Lake Bisina. No information is available on the water quality and water depth fluctuations.

Soil types: Lake Bisina-Opeta wetland system is underlain by a mixture of Pre-Cambrian rocks, which include wholly granitized rocks of watian of west Nile, Banded gneisses of Aruan tectonic age and Cenozoic rocks of Pleistocene to recent (Atlas of Uganda, 1967). The rock types in the watian of west Nile include acid and intermediate granulites and charnockites, quartz diorites, banded, porphyroblastic and quartz – feldspathic types. The rock types comprising the Banded gneisses of Aruan tectonic Age include biolite gneisses, banded, migmatitic and granite gneisses with lesser qualities of hornblende basic pods.

The above rocks have given rise to the vertisols topographic not differentiated soils with patches of eutrophic soils of tropical regions on volcanic ash, and patches of ferruginous tropical soils on crystalline acid soils mainly freely drained complex with black clay. Vertisols predominate the area. The soils have a characteristic high content of swelling and shrinking clay lattice (2:1), which, under dry climatic conditions, become very hard and difficult to work. Similarly they are difficult to work under wet conditions, because they expand and become excessively moist and sticky.

No information is available on soil chemistry, soil pH and sediment characteristics

15. Physical features of the catchment area:

The Catchments of Lake Opeta wetland system comprise of the Up-warped Tanganyika surface in west Nile, Black clays on Karamoja PL and Lake sediments on Tanganyika surface geomorphic units (Aniku, 1996). The geomorphic units make up many of the peculiarities of landscape and soil patterns in the catchment. The geomorphic unit gives rise to the Karamoja hills to the north east leaving an expansive floodplain around Lake Opeta. The features of the catchment's are relatively similar to those of the site (refer to section 14).

16. Hydrological values:

Lake Opeta is part of the Lake Kyoga system and the hydrological values have not yet been assessed. However, the system seems to play an important hydrological role for the waters entering Lake Bisina from the catchments of Mount Elgon. The main hydrological function of the system is water storage, flood control, ground water recharge, sediment retention and water purification. During the dry season, the system maintains a steady discharge of water and supplements the water supply to the surrounding areas.

The system also plays a role in trapping sediments carried from the surrounding catchments during heavy run-off and hence reduces the level of sediments carried to Lake Bisina and finally to Lake Kyoga, thereby helping to maintain the natural clean water conditions important for the survival of many fish species.

17. Wetland Type in order of importance:

Tp (permanent freshwater marshes), **O** (permanent freshwater), and **Ts** (seasonal freshwater wetland).

18. General ecological features:

Lake Opeta is found in the middle of the swamp covered by *Nymphaea* plants and surrounded by extensive fringing marshes of Papyrus around the eastern side. The area is predominantly an extensive swamp of *Miscanthus* species to the east and south graduating into dry *Hyparrhenia* grass savannahs. There is open water in the middle of the marsh surrounded by papyrus vegetation. The open water is full of submerged plants and floating plants like *Nymphaea*, and *Potamogeton*. Mainly wooded savannah (mixed) and wooded savannah associated with *Themeda* is the natural vegetation in the areas adjacent to Lake Opeta. To the western side of the lake however, there is a wooded *Hyparrhenia* grassland and *Butyrospermum* savannah with *Hyparrhenia*.

19. Noteworthy flora:

The lake is well known for its submerged plants. Noteworthy is wetland-submerged plant *Naja* species (an introduced species), which the local communities attribute to have caused the reduction of fishes in the lake.

20. Noteworthy fauna:

The small mammals found in Lake Opeta Wetland System and listed in lower risk categories, in the IUCN red list of threatened animals include: Marsh mongoose, Slender Black tipped mongoose, Ground squirrel (*Xerus erythropus*), Bush squirrel (*Paraxerus palliatus*), Savanna Gerbil (*Tatera valida*), Cane rat (*Thryonomys swinderianus*), Giant pouched rat (*Cricetomys gambianus*), Shrew (*Crocidura sp.*), Water mongoose (*Atilax paludinosus*), Cape Clawless otter (*Aonyx capensis*), *Mustriton* and *Thryonomys gregorianus* (Rat).

Rare butterfly species including: *Anthene butleri*, *Azonus natalensis* and *Colotis evantee*.

Bird species of global conservation concern: The Fox's Weaver *Ploceus spekeoides* (endemic to Uganda); Shoebill *Balaeniceps rex* (vulnerable) and the Papyrus Gonolek *Laniarius mufumbiri* (near-threatened).

Roan Antelope *Hippotragus equinus* last population in Uganda is supported by Pian-Upe Wildlife Reserve but grazes and waters in Opeta wetland system during the dry season. Other species present (Pian-Upe Wildlife Reserve which graze in the Opeta wetland system) include large populations of Topi *Damaliscus lunatus*, Hartebeest *Alcelaphus buselaphus*, Eland *Taurotragus oryx*, Zebra *Equus greyvi*, leopard *Panthera pardus*, Lion *Panthera leo*, Buffalo *Syncerus caffer*, Rothschild's Giraffe *Giraffa camelopardalis*, and Bright's Gazelle *Gazella granti*, most of which survive along the Greek river which drains into Lake Opeta.

21. Social and cultural values:

The Pian and the Pokot people use the lake and the surrounding swamps for grazing and watering their cattle in the dry season. Lake Opeta also serves as a source of fish protein at both subsistence and commercial level for the local communities. Cultivation is also done in the wetland catchment areas. Crops grown include: maize millet and plantain.

22. Land tenure / ownership:

a) Within the Ramsar Site:

According to the 1995 Constitution, the Government holds wetlands in Uganda in trust for the people. The government on behalf of the people therefore owns Lake Opeta and its associated marshes.

b) In the surrounding area:

In the surrounding areas the land tenure is mainly by customary ownership. However, the northern part borders a Wildlife Reserve, Pian-Upe Wildlife Reserve and other community wildlife Reserves such as Teso Community Reserve.

23. Current land (including water) use:

Land uses within the Ramsar Site

Lake Opeta wetland system is used as a source of water for livestock and domestic use. The main activity in the catchment is livestock grazing especially by the Pian and the Pokot people and there are probably large expanses of public land used for grazing. The Wetlands also form grazing and watering areas for the wildlife in Pian-Upe Wildlife Reserve. The Wildlife reserve was established so that the Karimojong could continue grazing their cattle and get water from the swamp, which serves as a grazing area during the dry season. Over 20,000 heads move to the Opeta area during the dry season (October – February) to the south of the reserve. Lake Opeta wetland systems are also used for fishing.

Land uses within the surrounding / catchment areas

In the catchments around the wetland area, there is minimal subsistence agricultural farming. Pian-Upe Wildlife Reserve has potential for big game viewing as well as bird watching but because of the insecurity, tourism development has been minimal and the reserve does not generate any revenue.

24. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

Threats arising from within Ramsar Site

Over the years a proliferation of firearms has exacerbated insecurity and illegal wildlife hunting in the area. This has resulted in big declines in the populations of the wild mammals. There have been also reports of illegal hunting for the endangered Shoebill stork. The local residents in the area have been reported to shoot and eat the endangered bird. Due to the insecurity, the reserve does not generate any revenue, but has potential for big game viewing as well as bird watching.

Threats arising from the surroundings and catchment area

Overstocking of cattle grazing in the wetlands during dry seasons, as well as low environmental awareness may have a long-term impact on the ecology and character of the area.

25. Conservation measures taken:

Lake Opeta is one of Uganda's Important Bird Areas. *Nature*Uganda has thus been promoting conservation of the area as a potential tourism destination, and also promoting it for conservation because of its importance in the survival of the Fox's Weaver (*Ploceus spekeioides*), Uganda's only endemic bird. *Nature*Uganda has also been lobbying the relevant institutions to upgrade the conservation status of the area. Wetland Inspection Division has also been undertaking education and awareness activities in the area.

26. Conservation measures proposed but not yet implemented:

The Wetland Inspection Division is in the process of preparing a community based wetland management plan for Lake Opeta wetland system. The approach is participatory, where the local community is taking a lead and the wetland technical staff provides technical backstopping and guidance. The plan will be ready by January 2007.

27. Current scientific research and facilities:

The Fisheries Resources Research Institute (FIRRI) has carried out a number of studies in the Lake Opeta area. *Nature* Uganda has also been conducting regular bird counts in the area. Detailed inventories of birds, plants and butterflies have been conducted in the swamps surrounding Lake Opeta (Byaruhanga, A. 2002).

28. Current conservation education activities related to communications, education and public awareness (CEPA) related to or benefiting the site:

Nature Uganda has been promoting conservation efforts from district to local levels for the management and conservation of Lake Opeta wetlands. Wetlands Inspection Division has also conducted some wetland conservation education activities in neighboring districts. Also the local governments have environmental awareness programmes for Lake Opeta wetlands. The awareness programme entails production of awareness materials including posters, calendars, guidelines, Radio programmes, school drama / plays, and video shows.

29. Current recreation and tourism:

Because of the insecurity, there is no significant tourism and recreation activity in and around Lake Opeta wetland System. However, the area is a potential recreational site, especially given the proximity to the Kyoga minor lakes and potential for big game viewing as well as bird-watching given the proximity of Pian-Upe Wildlife Reserve and Teso Community area.

30. Jurisdiction:

- a) Territorial - Katakwi, Nakapiripirit, Sironko, and Kumi districts local governments.
- b) Functional – National Environment Management Authority, District Environment Officers, District Fisheries Officers and Wetlands Inspection Division.

31. Management authority:

The 1995 Constitution stipulates that wetlands are held in trust for the people by the government of Uganda. Therefore functionally, wetlands jurisdiction is in the hands of the Central Government. Also, the Local Government Act (1997) devolved wetland management to the District Local Governments.

Therefore, the management authorities are:

1. Nakapiripirit District Local Government
(Namalu and Lorachat Sub-Counties)
P. O Box 1
Nakapiripirit
UGANDA.

2. Sironko District Local Government
(Bunambutye Sub-County)
P. O Box 776,
Mbale
UGANDA.
3. Katakwi District Local Government
(Magoro Sub-County)
P. O Box Private Bag,
Katakwi
UGANDA.
4. Kumi District Local Government
(Kolir, Malera and Ongino Sub-Counties)
P. O Box 44,
Kumi
UGANDA.

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