

Information Sheet on Ramsar Wetlands

1. Date this sheet was completed/updated: 2 November 2001

2. Country: Guinea

3. Name of wetland: Tinkisso

4. Geographical coordinates:

10° 40' and 11° 47' North latitude
10° 00' and 11° 10' West longitude

5. Altitude: 375 metres

6. Area: 896,000 hectares

7. Overview:

This wetland begins near Mont Sincery near Dabola flowing towards the lowland regions of Siguiiri, crossing a good part of the prefectures of Dinguiraye and Kouroussa. Its vegetation is grassy savannah with several areas of *bowé*, especially at Dinguiraye. The *bowé* is a sign of advanced soil degradation. Its climate is Sudanese, but is strongly influenced by the Fouta Djallon mountain region. There are two seasons: the dry season from November to May marked by a dry wind, the harmattan, blowing from east to west and a rainy season from June to October. Precipitation reaches 2000 millimetres during a good rainy year. Temperature ranges between 28° and 32° C. The site is bordered on the east by the prefecture of Kouroussa, on the west by the prefectures of Mamou and Tougué, on the south by the prefecture of Faranah and on the north by the prefecture of Siguiiri.

8. Wetland type: M, N, Tp, 4, 6

Inland wetlands:

M: Permanent rivers/streams/creeks; including waterfalls.

N: Seasonal/intermittent/irregular rivers/streams/creeks.

Tp: Permanent freshwater marshes/pools; ponds (fewer than eight hectares), marshes and swamps on inorganic soils; with emergent vegetation water-logged for at least most of the growing season.

Human-made wetlands:

4: Seasonally flooded farm land

6: Water storage areas; reservoirs/barrages/dams/impoundments (usually more than eight hectares).

9. Ramsar criteria: 1, 2 and 3

Criteria that best characterize the site: Criterion 2 best characterizes the site because of the presence of a large population of very endangered manatees.

10. Map of site included? Please tick yes -or- no

11. Name and address of the compiler of this form:

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12. Justification of the criteria selected under point 9, on previous page:

Criterion 1: This site is part of the upstream basin of the Niger River and is representative of the main types of inland wetlands of West Africa.

Criterion 2: This site is host to manatees that are highly endangered because of capture and killing for their meat and, according to information, for use in medicines. It is only at this site that there are palms (*rôniers*), which are overexploited to the point of being in total danger of extinction if protection measures are not taken. The site is also the habitat for an endemic fish species, *Arius gigas*, threatened with extinction. This species was once heavily fished for its meat and was declared extinct (see item 18). According to the literature, this species exists only in the Niger River basin. It was last fished in the Mafou River, one of the important tributaries of the Niger River by a team of scientists from the onchocerciasis project and the Université de Kankan under an agreement for studying fish in the Parc du Haut Niger. It is also reported to be found in other tributaries of the Niger River.

Criterion 3. This site is the habitat of a wide range of fauna and flora that are important for conservation of biological diversity in West Africa (see items 16, 17 and 18). In addition, the site is visited annually by waterfowl of the following species: spur-winged goose (*Plectropterus gambensis*), white-faced tree-duck (*Dendrocygna viduata*), cattle egret (*Bubulcus ibis*), little egret (*Egretta garzetta*) and jacana (*Actophilornis africana*).

13. General location:

The wetland is located in the prefectures of Dabola, Dinguiraye and Kouroussa (Dabola–Dinguiraye 103 kilometres, Dabola–Faranah 108 kilometres, Dinguiraye–

Faranah 211 kilometres, Dabola–Conakry 430 kilometres and Dinguiraye–Conakry 533 kilometres). The prefectures of Dabola and Dinguiraye are in the gouvernorat of Faranah, and Kouroussa is in the gouvernorat of Kankan. On the level of geographic region, all these prefectures are part of Upper Guinea, an outstanding region of savannah.

14. Physical features:

The site is located on poorly evolved entisols and fersiallitic and hydromorphic soils. The hydrological network is dense. Its main streams in addition to the Tinkisso are Baniè, Bouka and Nono rivers. Water quality is rather good. But the growing of cotton is increasing at the site and can be a source of pollution in light of the increasing use of pesticides. Water depth varies. It is deepest from July to September and lowest from March to April. There is no risk of silting by sand. The watershed is important.

15. Hydrological values:

Because of the importance of the gallery forests, this wetland plays a balancing role for water downstream. Floods are better controlled and filling-in with sand is not noticed. However, deposition of alluvial material on the floodplains is very high, making them very productive. Water quality is good in light of the aquatic diversity. The gallery forests are a strong factor preventing erosion of the banks.

16. Ecological features:

There are varied habitats: minor beds of rivers and streams, floodplains, perennial or temporary ponds formed in the depressions of minor beds of streams, backwaters that are *biefs* linking the minor stream beds to the floodplains, caves, termite mounds (abandoned or active) and holes, ditches, underground passages and caverns.

There are several different types of vegetation: herbaceous plains, herbaceous and wooded savannah and gallery forests.

There are the following communities of dominant plants:

Local ligneous species: *Azelia africana*, *Danielia oliveri*, *Isoberlinia doka*, *Lophira lanciota*, *Parkia biglobosa* and *Vitellaria paradoxa*.

Exotic ligneous species: *Anacardium occidentale*, *Gmelina arborea*, *Gossypium* sp. and *Tectona grandis*.

The aquatic and semi-aquatic plant associations (riparian) are dominated by grasses: *Andropogon*, *Pennisetum*, *Vetiveria* on the shores and *Echinochloa* spp., *Oryza*, *Panicum* on the floodplain and in the ponds where Nympheaceae (*Nuphar lotus* and *N. sp.*), *Hydrocharis* and *Ceratophyllum* dominate. Some places, Cyperaceae (*Typha*) dominate. The vegetation is identical to that of the surrounding areas.

17. Noteworthy flora:

Here, there are relics of stunted palms (*rôniers*) (*Borassus aethiopum*). Their population was once very abundant here. The palm is used to make a very delicious palm wine. As a result, local inhabitants are quite interested in protecting it. Decisions have been taken by the mayor in order to prevent its total disappearance. Regeneration is possible if specific actions for protection are taken in this area.

The most sought after species for furniture making are *Azelia africana*, *Khaya senegalensis* and *Mytragina stipulosa*, all highly endangered.

18. Outstanding fauna

The fauna is rich and varied, including mammals, reptiles, insects, amphibians, birds and fish (see figure 5 in the annex). An endemic species is the fish *Arius gigas*. This fish belongs to the Aridae family, in which are included large Siluriformes in general. It is endemic to the Niger basin. This endemism goes far back because remains of that species, *Chrysiichys furcatus* (*C. maurus*) and *Lates niloticus* dating from the lower Holocene have been identified in the present Central Niger Delta by Daget in 1961. Contrary to many other species in the genus *Arius* living in the sea or brackish water, *A. gigas* is strictly a freshwater fish. Earlier, *A. gigas* was relatively abundant in the Niger. Because of the rapid growth of river fishing and the economic importance of the species, stocks have very quickly dropped to the point that *A. gigas* was threatened with extinction. Its large adult size (about 1400 millimetres long and weighing up to 40 kilos) makes it an especially vulnerable species.

A large population of manatees lives in the wetland

19. Social and cultural values:

Fisheries: According to Dr. H. Matthès, the production of Guinean freshwaters (excluding the brackish estuarine water) is between 8,000 and 10,000 tons per year, of which 6,000 to 8,000 tons for just the Niger basin. Despite the lack of specific data for the site, there is good reason to state that fishing is an important activity in the wetland.

The fête des mares is held every year at the beginning of the winter period in May. The fête always begins with a ceremony. The elders of the families that own and manage the pond along with other dignitaries from the village gather at a specific place on the edge of the pond, usually in a gallery forest protected for the occasion to make an offering at the base of a large *fromager*.

Forestry: Forestry is little developed.

20. Land tenure/ownership of:

The land tenure system is based on tribal customs. Ownership of land is usually gained through having occupied it first or inheriting it from parents, who were the first inhabitants. The land can be loaned, given or given in guarantee, but is seldom sold. The government remains the potential owner of all land. There is no rural land tenure code. The land tenure system is the same as that of the surrounding regions.

21. Current land use:

Agriculture is the most frequent activity followed by livestock raising (see figures 4a, 4b and 4c in the annex).

The protected forests are:

FC de Nono: 09/07/1936 by decree 1629/SEF of 5,600 hectares;
FC Fello Sélouma 25/06/1955 by decree 4464/SEF of 4,000 hectares;
FC Tafsirla 2801/1961 of 1780 hectares;
FC Source Dinguiraye 10/10/1951 by decree 5621;
FC Sincery Oura 14/12/1942 by decree 1350/SEF of 14,000 hectares;
FC Balanyan Souroumba 22/01/1951 by decree 7087/SEF of 25,520 hectares.

There are three forests belonging to three forestry groups for a total of 65 hectares.

Because there is no land use plan, land use is anarchic, which has adverse effects (farming on slopes and deforestation of headwaters).

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

The adverse factors are always linked to human socio-economic activities.

Since early times, extensive agriculture, accompanied by the practice of using fire, sometimes excessively, has led to destruction of the vegetative cover and a decrease in wildlife populations. The same phenomenon is still current at the wetland. The prefecture of Mandiana is recognized as a prefecture at high risk to brush fires. This practice, according to local officials, has begun to decrease following the policy of preventive burning. In some places, soil denudation has caused serious erosion leading to the formation of *bowés*.

As for pollution from farming linked to the use of more demanding crops such as cotton, changes have not yet been registered in the physical and chemical characteristics of the water (pH, temperature, O₂). This constitutes, nonetheless, a potentially adverse factor over time because the growing of cotton is becoming more widespread.

Unregulated and excessive hunting takes place without taking into account existing potential, and its growth is one of the causes of the decrease in wildlife. Also prohibited fishing practices that sometimes lead to widespread killing of fish have affected the fisheries. Panning for gold is an adverse factor for the wetland.

23. Conservation measures taken:

In Guinea, the categories of protected areas recognized by the Wildlife Protection Code and Hunting Regulations are national parks, integrated nature reserves, managed nature reserves, special wildlife reserves or sanctuaries, potential hunting areas and hunting areas. Ramsar sites are included in the category of managed nature reserves. Here, all socio-economic activities are permitted but priority is given

to the conservation objectives of the Ramsar Convention. Activities are permitted taking into account existing codes and regulations. For example: uncontrolled burning, the killing of animals during closure of the hunting season, the clearing of headwaters, growing of crops on a slope, fishing with explosives or any other method leading to indiscriminate killing of fish are prohibited (see Wildlife Protection Code and Hunting Regulations annexed by mail). There is a range of legislation, which in vary degrees participates in reinforcement of protection measures for natural resources, including the Wildlife Protection Code and Hunting Regulations.

24. Conservation measures proposed but not yet implemented:

Under the framework for implementation of the policy for development of the forestry sector, a forestry action plan is planned that should take into account the needs and conditions specific to each prefecture, including description of the status of forest resources, an estimate of required investment and all other indications useful for implementation of the national forestry policy. There are also plans for rehabilitation of the partial wildlife reserve at the site, for which feasibility studies have already been made by GTZ. Many regulations are prepared but not yet approved.

25. Current scientific research and facilities:

The onchocerciasis project has carried out research on the impact on fish and the food chain of selective insecticides used to combat disease vectors. The project uses small airplanes to spray insecticides.

26. Current conservation education:

The only sources of conservation awareness are national radio, local radio and awareness workshops organized by the administration and non-governmental organizations.

27. Current recreation and tourism:

Visits to the wetland for recreation and tourism have not been recorded although there is a potential for recreation and tourism.

28. Jurisdiction:

The governors of Kankan and Faranah, as the authorities responsible for all questions related to the legal territory in the name of the government, have a right to monitor Ramsar sites. They can sign official acts regarding any provision considered necessary for wise management of the sites, taking into account the views of the technicians responsible for management of the wetlands in the gouvernorats, informing the Ministry for Agriculture and Livestock.

National jurisdiction: Ministry for Agriculture and Livestock, which supervises all activities for implementation of management of wetlands.

29. Management authority:

Direction Nationale des Eaux et Forêts
BP 624 Conakry, Guinea

Directions Préfectorales du Développement Rurale et de l'Environnement of
Mandiana and Kankan

Sections Préfectorales des Eaux et Forêts at Mandiana and Kankan

Forestry Service at the site

Each management organ in accordance with its responsibilities and its competence participates actively in the protection and implementation of conservation programmes at the sites.

30. References:

The Wildlife Protection Code and Hunting Regulations

Chapter II: Conservation of wildlife and its habitats

Article 3: Wildlife constitutes a universal heritage. Its economic, alimentary and social interest is thus recognized, as well as its scientific, aesthetic, recreational and educational value.

It is everyone's duty to contribute to its maintenance and development. Preservation of wildlife is ensured by all appropriate means, including the protection of environments and plant species that are necessary for it.

Education of the whole population is also ensured, both through education in schools and by audiovisual means to promote national awareness of the need for that preservation.

Article 4: Wildlife is a renewable resource that must be protected by placing it in favourable environmental and management conditions. Each animal species is an integral part of the national heritage. For this reason, it should be protected. However, animal populations of a given species can be subjected to wise exploitation, especially hunting, whenever their level and productivity permits.

Article 5: The preservation, maintenance or reestablishment of sufficient diversity of environments and habitats indispensable for wildlife is also a national obligation. The environment in which wildlife lives is normally used for agricultural, grazing, forestry and aquatic or marine activities. Special protection measures of the biotopes can be applied to part of the national territory whenever the status of any species of animal justifies it.

Chapter III: Wildlife management

Article 6: Management and wise use of wildlife consist of maintaining animal populations that compose each species at a satisfactory level. The animals thus can be used sustainably for the benefit of the local inhabitants and national well-being. To fulfil this objective, the whole country must participate. It should also participate in efforts made by other countries concerning preservation of migratory species and conservation of endangered species.

Article 7: The means, installation, modes or methods of capture or large-scale or non-selective killing are prohibited because of the danger they represent for the animal populations concerned.

Chapter V: Protection of environments: parks, reserves and hunting areas

Article 10: In order to ensure conservation and management of wildlife, national parks, integrated nature reserves managed nature reserves, special wildlife reserves or sanctuaries, potential hunting areas and hunting areas can be created in Guinea.

Article 41: In the appropriate border areas of national territory, cross-border parks can be created, organized, improved and administered in agreement with governments of interested neighbouring countries. Cross-border parks are intended, based on a conventional basis and through institutional mechanisms of cross-border cooperation, to ensure preservation and exploitation of natural spaces located on both sides of national borders. These contiguous natural spaces should include biotopes or homogenous or complementary ecosystems and have, from the point of view of biology, ecology, culture, aesthetics, science or socio-economic considerations, outstanding characteristics or an exceptional interest that should be protected, both for the benefit of each interested country and for the benefit of the sub-region concerned.

Forestry Code

Article 71: The forest domain should be protected against any form of degradation or destruction caused by overexploitation, overgrazing, fires, abusive clearing of land, diseases, introduction of inappropriate species and destruction.

Article 72: Whenever necessary, the forestry administration can adopt protection measures to take in the forest lands where required in order to prevent erosion on slopes, protect land and installations against water or wind erosion, protect headwaters, combat desertification, protect a rare species or fragile biotope or preserve the natural environment in general.

Water Code

(Law 2/94/005/CTRN of 14 February 1994)

Chapter XIV: International water

Article 55: In its relations with countries with which Guinea shares water resources, Guinea applies principles and regulations generally accepted by the international

community for shared water, especially the provisions of existing conventions to which it has adhered.

Environment Code

The environmental code stipulates the following concerning the land and underground

Article 15: The land, underground and resources that they contain are protected, as limited renewable resources or not, against any form of degradation and managed wisely.

Inland waters

Article 27: Dumping, throwing out, direct or indirect deposits of any kind susceptible of causing or increasing pollution of Guinean inland waters are prohibited under the terms of Article 31.

Fauna and flora

Article 48: The fauna and flora must be protected and renewed through wise management in order to preserve species and their genetic heritage and to ensure the ecological balance.

Article 49: Any activity capable of harming animal and plant species or their natural environments is prohibited or subject to prior authorization of the administration in accord with legislative dispositions and regulations.