

Information Sheet on Ramsar Wetlands

1. Date this sheet was completed/updated: 30 October 2001

2. Country: Guinea

3. Name of wetland: Sankarani-Fié

4. Geographical coordinates:

09° 50' and 11° 00' North latitude
08° 00' and 09° 00' West longitude

5. Altitude: 350 metres

6. Area: 1,015,200 hectares

7. Overview:

The site is bordered on the east by Côte d'Ivoire, on the north by Mali, on the west by the prefecture of Kankan, which it partially covers in the sub-prefecture of Sabadoubaranama, on the north by the prefecture of Siguiri and Mali and on the south by the prefecture of Kankan, at the centre of the partial wildlife reserve. Its vegetation is wooded savannah to dry forest. The climate is dry with a temperature ranging between 22° and 30° C. There are two seasons: the dry season from November to May and the rainy season from June to October. It is a relatively flat region with a dense river network, which is influenced by the reservoir of the Sélingué dam in Mali, causing water to back up over more than 90 kilometres between Balandougouba and Morodou, creating extensive flooding of the plains along the Sankarani. This site is the most important producer of fishing resources in all Upper Guinea. The site is well known because of the exceptionally good taste of fish caught in the Fié, attracting people to the site. Soil quality, water and flora need close study by the Guinea National Ramsar Committee in order to define the specific character of the aquatic wildlife of the Fié.

8. Wetland type:

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 agricultural land (including intensively managed or grazed wet meadow or pasture);

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

7: Excavations; gravel/brick/clay pits; borrow pits, mining pools;

9. Ramsar criteria: 1, 2, 3, 4 and 8.

Criteria that best characterize the site: Criterion 8 best characterizes the site because it is an important source of food for fishes, a spawning ground and a nursery.

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 area of the Niger River and is part of a dense hydrological network supplying important rivers, including the Milo, Niandan and Niger. This river network forms an important link between the upstream and downstream parts of the Niger basin. It is representative of a network of wetlands playing an important hydrological role in West Africa.

Criterion 2. An endemic endangered species of fish, the *Arius gigas*, is found at this site. This fish belongs to the Aridae family of several genera of large Siluriformes. It is endemic to the Niger basin. This endemism dates from long ago because other species, *Chrysichys furcatus* (*C. maurus*) and *Lates niloticus*, dating from the Lower Holocene, were identified in the Central Delta of the Niger by Daget in 1961. Earlier, *A. gigas* was probably relatively abundant in the Niger River. Because of the rapid growth of fishing in the river and the economic importance of this species, stocks very quickly dropped to such a low point that *A. gigas* was threatened with total extinction. Its large size in the adult stage (around 1400 millimetres long and weighing up to 40 kilos) makes it an especially vulnerable species.

Criterion 3. This wildlife reserve, covering an area of 530,000 hectares, was studied by GTZ from 1999 to 2001 under the project Biodiv-Kankan. It was confirmed that the site has very many animal and plant species (see paragraphs 16, 17, 18 and figure 5 in the annex). 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*).

Criterion 4. This wetland is at the beginning of the transition corridor for large mammals in Guinea. It is recognized as the area with the most wildlife in the region. The site is especially well supplied with water, which makes it easy to feed animals, and the existence of dense vegetation ensures a habitat sought after by animals. Even in colonial times, this led to the creation of a wildlife reserve at the site.

Criterion 8. The site is considered to be a special habitat for fish, especially the Fié, which according to local inhabitants provides special feeding conditions. All the local inhabitants are unanimous that the fish caught in the Fié have a better taste. This hypothesis will be tested in a study by the Guinea National Ramsar Committee. Another characteristic is that the Fié is considered to be a breeding area for fish because the current is slow, deep and well protected by gallery forests.

13. General location:

The closest large city is Mandiana, which is an administrative centre for that prefecture and is located within the wetland. Mandiana-Kankan is 80 kilometres away.

Kankan is the headquarters of the regional government (gouvernorat) and is 75 kilometres from the wetland. Kankan to Conakry is 663 kilometres, and Mandiana to Conakry is 743 kilometres.

14. Physical features:

Soils: The site is located on poorly evolved entisols and fersiallitic, hydromorphic and alluvial soils.

Hydrology: The site has a dense hydrographical network, which is influenced by the Sélingué dam in Mali, which regulates water depending on the season. During the rainy season, it feeds downstream areas and stores water upstream. During the dry season, it receives water from downstream by the rise in the reservoir behind the Sélingué dam in Mali and recharges the upstream areas. Water quality is relatively good because of the abundant fish resources. Water depth is naturally deeper in the rainy season except between Balandougouba and Morodou where the depth is greater because of the reservoir of the Sélingué dam during the dry season when the dam's sluices are closed.

This basin is important for the entire region. The site has an influence on the area located downstream because it regulates the amount of water behind the dam. Rainfall is good, and there is annual rainfall of between 1300 and 2000 millimetres.

15. Hydrological values:

This wetland plays an important role for the downstream areas. The banks are well protected by dense gallery woodlands, retaining sediments to the point that there are no signs of silting, especially at Sankarani. However, there is an important deposit of alluvial material on the floodplains, making them highly fertile. The banks are stabilized.

16. Ecological features:

Habitats: Beds of rivers and streams, floodplains, permanent or seasonal pools formed by depressions in minor streambeds, backwaters formed by *biefs* linking streambeds to floodplains, grottos, termite mounds (abandoned or active) and holes, ditches and underground passageways.

Types of vegetation: grasslands, grassy and wooded savannah and gallery forests.

Dominant plant communities:

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

Introduced 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 Nymphaeaceae (*Nuphar lotus* and *N.* sp.), *Hydrocharis* and *Ceratophyllum* dominate. Some places, the Cyperaceae (*Typha*) dominate. The vegetation is identical to that of the surrounding areas.

17. Noteworthy flora:

The most outstanding plant species is the shea tree (*Vitellaria paradoxa*), which remains linked to the biotope. The most sought after species for furniture making is *Azelia africana*, which as a result is endangered.

18. Outstanding fauna

The fauna is rich and varied, including mammals, reptiles, insects, amphibians, birds and fish (see figure 5 in the annex; lists of other groups of animals are not available). Hippopotamus have become very abundant at the site because of the reservoir behind the Sélingué dam. An endemic species is the fish *Arius gigas*. This fish belongs to the Aridae family, in which large Siluriformes in general are included. It is endemic to the Niger basin. This endemism goes far back because remains of that species, *Chrysichys 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. According to the literature, this species exists only in the Niger basin. The last time it was caught was in the Mafou River, one of the major 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 linked to the Parc du Haut Niger. It has also been reported in several other tributaries of the Niger River.

19. Social and cultural values:

Agricultural production (see figures 4a and 4b in the annex)

Grazing: (see figure 4b in the annex)

Fisheries: According to Dr. H. Matthès, the production of Guinean freshwaters (excluding 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 site is considered to be the most productive fishery. Construction of the Sélingué dam has led to an increase in the area of floodplains during a large part of the year, and fishing has prospered. Management of the ponds by families for the benefit of all the community is an effective measure for conservation of natural resources.

20. Land tenure/ownership of:

At the wetland, in the absence of a property code, the land tenure system is based on customary law. Ownership of land is 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. However, the government remains the potential owner of all land. The principle of land tenure is the same in the surrounding areas.

21. Current land use:

Agriculture is the main activity, followed by livestock raising (see figures 4a, 4b and 4c in the annex). Panning of gold is a very important activity at the site. There is a partial wildlife reserve of 530,000 hectares (the wetland occupies 2/5 of this reserve).

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

Adverse factors are always linked to the socio-economic activities of the local inhabitants. 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. This phenomenon still occurs in the wetland. The prefecture of Mandiana is recognized as a prefecture at high risk because of brush fires. According to local officials, this practice has begun to decrease following implementation of a policy of preventive burning. In some places, soil denudation has led to risks of erosion and destabilization of banks.

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 unfavourable factor over time because the growing of cotton is becoming more widespread. Panning for gold is a significant adverse factor. With anarchic occupation of land in order to exploit gold, mineshafts beginning to appear in certain parts of the migration corridor, creating a danger for wildlife.

Unregulated and excessive hunting that occurs without taking into account existing potential, and its growth is one of the causes of the decrease of wildlife. Also prohibited fishing practices, sometimes leading to the widespread killing of fish, have affected fisheries. Construction of a dike on the Sankarani upstream from Mandiana has made it possible to ford the river there, but has created problems for the migration of fish. Also, under the campaign against onchocerciasis, pollution resulting from treatment of rivers with selective insecticides since 1987 has led to a decrease in the abundance of Mormyridae (Diop, personal communication).

The decrease in the relative abundance of Mormyridae could also affect all the food chain by causing a change in the ecological balance (relations between prey and predator), with a resulting decrease in the abundance of *Bargrus*, *Hydrocynus* and *Lates*. But this hypothesis has not been scientifically proven because other environmental factors have occurred during the same period, such as drought or changes in migration patterns (Diop et al., 1995).

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 out of the hunting season, the clearing of headwaters, growing of crops on a slope and fishing with explosives or any other method leading to indiscriminate killing of fish are prohibited (see the Wildlife Protection Code and Hunting Regulations annexed by mail). There is a range of legislation, which in varying degrees, helps to reinforce 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 the prefecture through a description of the status of forest resources, an estimate of investment necessary 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. It uses small airplanes to spray insecticides. Mining companies are also prospecting for gold deposits.

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 governor of Kankan, as the authority responsible in the name of the government for all questions related to the legal territory, has a right to monitor Ramsar sites. He 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 of the regional government (gouvernorat), 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 de
Mandiana et Kankan

Sections Préfectorales des Eaux et Forêts at Mandiana and Kankan

Forestry Service at the site

30. References:

Wildlife Protection Code and Hunting Regulations

Chapter II: Conservation of wildlife and its habitats

Article 3: Wildlife constitutes a universal heritage. Its economic, food and social interest is thus recognized, as well as its scientific, aesthetic, recreational and educational importance. It is everyone's duty to contribute to its maintenance and development. Preservation of wildlife is ensured by all appropriate means, including 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 a 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 from hunting, whenever their level and productivity permits.

Article 5: The preservation, maintenance and 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 are thus submitted to sustainable use for 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, installations or methods of capture for 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 wildlife conservation and management, 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 Guinea, 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 countries and the benefit for 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 or destruction.

Article 72: Whenever necessary, the forestry administration can adopt protection measures to include forest land 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 subsoil.

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

Inland waters

Article 27: Dumping, discharge, throwing out and direct or indirect deposit 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: Fauna and flora must be protected and renewed through wise management in order to preserve species and 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.