

## Information Sheet on Ramsar Wetlands

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

2. Country: Guinea

3. Name of wetland: Niger-Mafou

4. Geographical coordinates:

9° 05' and 10° 40' North latitude  
10° 00' and 11° 15' West longitude

5. Altitude: 350 metres

6. Area: 1,015,450 hectares

7. Overview:

The site begins 10 kilometres below the junction of the Niger and Mafou and is found on both sides of the two rivers covering a large part of the Faranah and Kouroussa prefectures. On the west, it is bordered by the prefecture of Dabola and on the east by the prefecture of Kankan, on the south by the prefecture of Kissidougou and to the north by the Niantan backwater up to the limit of the floodplains. It is a very dense hydrological network with wooded savannah vegetation. There is a primary dry forest; the protected forest of Mafou, which was one of the sites designated for creation of the first Guinean park, the Parc du Haut Niger, created in 1997 by decree D/011/PRG/SGG of 28 January 1997. Its relatively dense wooded area creates a more tolerant temperature, although the average temperature is between 28° and 32° C. There are two seasons: the rainy season from June to October with a rainfall of up to 2000 millimetres and the dry season from November to May, which is influenced by the harmattan, a dry wind blowing from east to west. It has flat relief giving it the aspect of an alluvial plain in the middle of which streams twist among seasonal and permanent ponds.

8. Wetland type:

Inland wetlands:

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

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

M: Permanent rivers/streams/creeks; includes waterfalls;

Human-made wetlands:

3: Irrigated land; includes irrigation channels and rice fields;

4: Seasonally flooded agricultural land (including intensively managed or grazed wet meadow or pasture);

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

Criteria that best characterize the site:

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

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

Bakary Keita  
Direction Nationale des Eaux et Forêts  
BP 624  
Conakry, Guinea

Atigou Balde  
Direction Nationale de la Gestion des Ressources en Eau  
BP 642  
Conakry, Guinea

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

Criterion 1: This site is part of the upriver portion of the Niger River basin and is representative of the main types of continental wetlands in West Africa.

Criterion 2: The site is 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: At the site, there are plant associations and animal and plant communities important for maintenance of biological diversity in West Africa. This criteria best characterizes the site because of the existence of dry primary forests, which do not exist anywhere else in the sub-region except at this site. There have never been changes introduced by man here. There are outstanding bird populations and a varied fish population (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 africanus*).

Criterion 4: The site is located in a migration corridor for large mammals between Guinea and the neighbouring countries (Côte d'Ivoire, Mali and Sierra Leone).

Because of the density of the hydrological network, there is sufficient water for the animals year round, attracting animals to the site during the dry season. Also, despite the severe low water between April and May, fish are always abundant. The most recent studies estimate the number of species at 207 placing the Niger River in second place in Africa ahead of the Nile with 127 species and far behind the Congo River, which has 690 species (see figure 5 in the annex).

The site is visited by migratory birds.

### 13. General location:

The site covers a good part of the prefectures of Kouroussa and Faranah at the following distances: Kouroussa in the gouvernorat of Kankan is 83 kilometres away and 580 kilometres from the capital, Conakry. Faranah is the main administrative centre of the gouvernorat. It is 451 kilometres from Conakry and 327 kilometres from Kankan. Faranah is part of Kankan and Upper Guinea natural regions.

### 14. Physical features:

**Soils:** The site is located on fersiallitic, hydromorphic and alluvial soils. This gives it a very high and diversified farming potential.

**Hydrology:** Its hydrographical network is very dense. It serves as a link between the source of the Niger River and other parts downstream. Water quality is relatively good. No water pollution has been reported so far. But the growing of cotton, which is increasing, can be a source of pollution in the future with the ever-increasing use of pesticides. Water depth is variable in function of the seasons. It is deepest in July, August and September. The period of low water is in April and May. The water basin is important for the two rivers.

### 15. Hydrological values:

This wetland plays the role of hydrological balance downriver depending on the climatic conditions. Capture of sediments and seasonal flooding are important. Capture of sediments results in an accumulation of sand in the riverbeds and deposit of humus on the floodplains renewing their fertility. Water quality is good as measured by the fishing resources.

The Niger Basin Programme has carried out protection measures in the basin, which explains the improvement of the water regime during the two past years. Also, the presence of a gallery forest on the banks is additional protection against erosion.

### 16. Ecological features:

**Habitats:** Minor beds of rivers and streams, floodplains, perennial or temporary ponds formed in the depressions of the lowlands, backwaters that are *biefs* linking the minor stream beds to the floodplains, grottos, sandbanks, sandbanks, abandoned or active termite mounds and underground holes and ditches.

Main types of vegetation: herbaceous plains, grass savannahs, wooded savannahs and gallery forests along the streams.

Species of dominant plants: Local ligneous plants: *Azelia africana*, *Danielia oliveri*, *Kaya senegalensis*, *Pterocarpus erinaceus*, *Sigysium guinensis* and *Uapaca* sp.

Introduced ligneous species: *Acacia* spp., *Casia ciamea*, *Gmelina arborea*, *Gosipium* sp. and *Tectona grandis*.

Aquatic and semi-aquatic (riparian) plant associations are dominated by the Gramineae *Andropogon*, *Pennisetum* and *Vetiveria* on the edges and *Echinochloa* spp., *Oryza* and *Panicum*, in the part subject to flooding and in the ponds where the Nymphaeaceae (*Nuphar. lotus* and *N. sp.*), *Hydrocharis* and *Ceratophyllum* dominate. In some places, Cyperaceae (*Typha*) dominate. The banks are often stripped of forest and covered with Gramineae, shrubs, *Mimosa* sp. (semi-aquatic) and sometimes with reeds (phragmites). Vegetation is almost identical to the neighbouring regions. There is currently no pollution except for the increasing use of pesticides in the growing of cotton, which can become a source of pollution and represents a danger for the fish and the whole trophic chain.

#### 17. Noteworthy flora:

There is a noticeable decrease in the frequency of the shea tree (*Vitellaria paradoxa*) from north to south where it does not exist. This situation is purely a result of ecology, because to the south there are more humid peri-forest areas. Species more frequently used in furniture making, such as *Azelia africana*, are endangered species.

#### 18. Outstanding fauna

At the site, the fauna is abundant and varied. There are mammals, reptiles, insects, birds, fish (see figure 5 in the annex) and amphibians. An endemic species is the fish *Arius gigas*. This fish belongs to the Ariidae 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, *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 River. 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.

#### 19. Social and cultural values:

Agriculture is the main activity at the site: (see figures 4a and 4b in the annex)

Grazing (see figure 4c in the annex)

Fisheries: According to Dr. H. Matthès, the production of Guinean freshwaters (excluding the brackish estuarine water) is 8,000 tons per year 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.

In general, agriculture and grazing are extensive, and fishing takes place without taking into account growth of the reserve, which leads to over exploitation, endangering perpetuation of the resources. However, protection provided ponds by families is a sustainable management factor for resources.

The fête des mares is held every year at the beginning of the winter in May. The fête always begins with a ritual ceremony. The eldest families owners and managers of the pond gather with other dignitaries of the village at a specific place on the edge of the pond generally in a gallery forest protected for the occasion to make an offering at the base of a large *fromager*. Other participants in the ceremony, with branches of *Combretum micrantum* tied around the waist and head, stand around waiting for a call to enter the pond. Some participate in the ceremony to ask for happiness and material well-being (children, health, money or power) while others come to offer gifts promised at previous ceremonies if their wishes were granted. These ceremonies attract tourists from the sub-region.

La Mafou, commonly called Nafoulétou, was spared from abuse by man because of the myth that surrounds it. Anyone entering there to hunt did not come out and was automatically taken away by spirits. This legend protected it from hunters, who considered it to be a refuge surrounded by herbaceous savannah from which animals came out to graze and returned there when they were threatened.

#### 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 by occupying it first and it can be transmitted by inheritance. The land can be loaned, given or given in guarantee, but is seldom sold. The protected forests at the site belong to the government, which is the potential owner of all land.

The initiative of the river basin committees by the Direction Nationale de la Gestion des Ressources en Eau is an attempt to protect the natural management of water resources and promote protection of natural resources: land, soils, vegetation (see annex sent by mail on creation of a committee of the Niger River basin/recommendations workshop of the GHENIS project at Dabola).

Surrounding area: The same types of land use as at the site.

#### 21. Current land use:

The site is currently used for farming activities (see figures 4a and 4b in the annex).

The area of protected forests is:

Mafou 52,400 hectares of 20/04/1945 (one of the sites of the Parc du Haut Niger created in 1997 by decree D/011/PRG/SGG of 28 January 1997).  
Amana 19,800 hectares (A/1836/SE/F of 19/10/1951).

Occupation of several banks and slopes with forest plantations of the programme of the Upper Niger water basins contributes to improve some hydrological conditions at the site and the surrounding area. Also, creation of the Parc du Haut Niger has improved the wildlife not only in the park but also at the site and in the surrounding areas.

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

Since early times, extensive agriculture, accompanied by the practice of abusive clearing and the use of fire, has adversely affected the ecological system at the site. This has led to exposure of the soil to erosion, destabilization of banks and silting-in of streams. This has also reduced the vegetative cover and decreased wildlife populations through reduction of their habitat.

Overfishing and the large-scale killing using explosives and prohibited nets have quickly led to a decrease in fish stocks. Unregulated hunting has been and still is today harmful for sustainable exploitation of wildlife. The use of pesticides in growing cotton is a potential source of pollution.

The spraying of streams with insecticides in order to combat the vector of onchocerciasis has an unfavourable effect on several species of fish. Overgrazing has been identified at several villages.

23. Conservation measures taken:

According to the wildlife protection code and hunting regulations, the categories of protected areas in Guinea are national parks, integrated nature reserves, managed nature reserves, special reserves or wildlife sanctuaries, areas of interest to hunting and hunting areas.

The Ramsar site is in the category of managed nature reserves, where all socio-economic activities are authorized but priority is given to the objectives of the Convention for sustainable management of natural resources. These are permitted subject to existing codes and regulations. For example, the uncontrolled use of burning, the killing of animals during the closed hunting season, the clearing of headwaters and farming on slopes, fishing with explosives or any other method that causes the large-scale killing of fish are prohibited (see Wildlife Protection Code and Hunting Regulations annexed by mail).

There is a national park with an area of 52,400 hectares created in 1997 by D/011/PDG/SGG of 28 January 1997 in the protected forests of Mafou. Collaboration between the Convention and the park for management of wetlands is being planned.

There are other protected forests (see item 21) with a total area of 72,200 hectares. The traditional association of hunters acting as volunteers has participated in the protection of the national park when there was no park ranger. This is a form of cooperation that should be acknowledged and reinforced. There are also codes for management of 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, preparation of a forestry plan for the prefecture is planned. This plan takes into account the conditions specific to the prefectures concerning forests and includes a description of the status of forest resources, an estimate of the needs in forest products, a programme of activities to carry out in order to ensure production and development of the forests, an estimate of the investment required and any other useful indication for implementation of the prefectural forestry policies. Regulations pertaining to certain codes have been prepared but are not yet approved.

The wetlands are considered to be components of forest belong to the government. As a result, any activity related to implementation of the national forestry action plan must take into account the wetlands, providing for their interest and methods for their sustainable use.

25. Current scientific research and facilities:

At the site, the Parc du Haut Niger regarding implementation of its programme carries out research on fauna and flora. Also, the centre for rehabilitation of chimpanzees is carrying out studies on re-adaptation of tame chimpanzees in order to reintroduce them into the wild. This centre began by a project that was financed by the European Union. At the end of the project, the Direction Nationale des Eaux et Forêts had about 23 chimpanzees. For this reason, the support of NGOs was requested. An American NGO proposed participating in the re-adaptation of these chimpanzees.

The onchocerciasis programme carries out research on the vector of that disease and on the impact of the sprayed insecticides on fish resources in the Niger River basin.

The GHENIS project (Hydroelectric management of the Upper Niger) covering Mali and Guinea for monitoring the hydrology of the overall basin. For details on the research of the GHENIS project see mail annexed (creation of the committee of the Niger River Basin/Report of the Dabola workshop).

26. Current conservation education:

The Parc du Haut Niger has a visitors' centre at the site. Under the conservation programme for the Upper Niger basin school texts such as «la grande découverte» were published. Calendars with a theme of environmental awareness have been prepared. Also, the Centre for conservation of chimpanzees produces pamphlets and petitions on the protection of primates.

## 27. Current recreation and tourism:

Visitors come to the wetland at the time of the fête des mares. At the site, the best-known pond is the mare de Wassayah (the crocodile pond). A few tourists also visit the park.

## 28. Jurisdiction:

The wetland is under the jurisdiction of the regional governments of Kankan for the prefecture of Kouroussa and that of Faranah for the prefecture of Faranah.

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 for agriculture and the environment of Kouroussa and Faranah;

Sections préfectorales de Eaux et Forêts of Kouroussa and Faranah;

Cantonnements forestiers of Kouroussa and Faranah located in the wetland.

## 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.

Under the AGIR programme (support for the integrated management of natural resources) the creation of a cross-border protected area Guinea-Mali is being carried out. Participation of the local communities in the management of wetlands through promotion of awareness is also a conservation measure.