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Information Sheet on Ramsar Wetlands

1. Date this sheet was completed/updated: 30 August 2000

2. Country: Niger

3. Name of wetland: Kokorou-Namga Complex

4. Geographical coordinates:

14° 12' 30" North latitude
0° 55' 33" East longitude

5. Altitude: 249 metres above sea level

6. Area: 66,829 hectares

7. Overview:

This complex is located in the bed of a former tributary of the right bank of the Niger River in the four pools of Kokorou and Namga (permanent) and Zoribi (semi-permanent) and Tida. The pools are separated by strings of dunes.

The Kokorou-Namga Complex is in an agro-ecological area surrounded by pastoral enclaves. The diversity of flora and the density of vegetation (herbaceous and ligneous) have made it possible to create a diversity of natural habitats for waterfowl (sedentary and migratory) that gather there in the thousands.

8. Wetland type: Continental Sp, Xf

Types of wetlands by decreasing order of importance:

Xf

9. Ramsar criteria:

2, 3, 5, 6

Criteria that best characterize the site:

5

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:

Criteria 2: This wetland is home to a large number of endangered bird species, such as the black crowned crane (*Balearica pavonina*), the poule d'eau (*Gallinula chloropus*) and the poule sultane (*Porphyrio porphyrio*).

Criteria 3: This wetland plays a major regional role as habitat for aquatic plants and animals, having a real scientific and economic importance and contributing to the maintenance of biological diversity in the Sahel biogeographic region.

Criteria 5: The average of the three most recent surveys (1999, February 2000 and August 2000) is 47,147 specimens representing 56 species of waterfowl. The low number for 1998 is the result of insufficient rainfall, leading to the early drying-up of the pools.

Criteria 6: The species *Dendrocygna viduata*, 37,934 specimens (2000 survey DFPP/DOEA) and 38,551 specimens (2001 survey) for the two pools is far superior to the 1 per cent or 2500 specimens required to fulfil criterion 6. This is also the case for *Dendrocygna bicolor* (1324 specimens in 2000 and 10,551 specimens in 2001) and *Sakidiornis melanotos* 7300 and 500 specimens (see annex 2, 2001).

13. General location:

The site of Kokorou-Namga is located in the extreme western part of Niger, 50 kilometres northeast of Téra, an administrative centre and main town in the arrondissement in the department of Tillabéry (see map) on the Téra-Mehana axis.

14. Physical features:

The Kokorou-Namga Complex is located in the Liptako Gurma, shared between Burkina Faso, Mali and Niger. The main geomorphologic formations in the region are the general Quaternary, the late Continental 3 and recent alluvial deposits.

The Kokorou and Namga pools are remnants of a former river that flowed from Macina in Guinea to the Niger River. They are separated by strings of dunes. To the east, southeast, southwest, south and west, the pools are extended by flood plains or by valleys of several tributaries up to the water basins of the plateaux of that basin. To the

north and northeast, however, shifting sand dunes form the watershed that feeds the two pools. The soils of the Kokorou-Namga Complex are primarily iron-heavy, irrigable tropical soils. The water has a pH between 7 and 7.9 and a conductivity of 130 $\mu\text{s}/\text{cm}$ (Atlas pour la Planification Téra). The Kokorou and Namga pools are shallow, less than six metres, because of alluvial deposits. Kokorou is permanent. Namga becomes semi-permanent during years of low rainfall. The flooding and drought that depend on the volume of annual rainfall are very fluctuating. The climate is relatively dry. The rainy season lasts three to four months from June to September. There is an average of 450 mm of rainfall per year during 40 to 50 days of rain. Insolation can reach 1.96 hours/day (in the capital of Niamey) and 2.39 hours/day (in Tillabéry, the main town in the department) and the hygrometric tension is about 16.17 mb (Tillabéry) and 16.28 mb (Niamey) (Atlas por la Planification Téra). The temperature is very high, between 25 and 40° C. The groundwater is discontinuous and relatively deep (about 30 metres). The depth of wells can reach 25 to 50 metres.

15. Hydrological values:

The Kokorou and Namga pools receive runoff from the surrounding plateaux, from a large number of streams and from the eroded land. The water stored in the pools contributes locally to the recharging of the water table and creates a microclimate favourable to the maintenance of the ecosystems, agricultural development, grazing, hunting and expansion of biological diversity.

16. Ecological features:

The vegetation immediately surrounding the pools is rather dense. The permanent presence of water has created the following conditions:

- A unique microclimate in the area, which buffers the high heat;

- Development of wooded savannahs dominated by temporarily flooded *Acacia nilotica*;

- Development of a submerged and flooded herbaceous aquatic cover;

- Development of activities around the ponds (grazing, farming, fishing) contributing to the ecological transformation of the natural environment;

- Creation of a diversity of natural land and aquatic habitats favourable to the implantation and spread of biological diversity (fauna and flora, especially birds and animals);

- Reduction in high temperatures through maintenance of atmospheric humidity.

17. Noteworthy flora:

Immediately surrounding the lake and in the valleys and neighbouring lowlands, a remarkably dense flora has developed. The Kokorou pool is surrounded by a large population of *Acacia nilotica* with a density of 70 to 80 trees per hectare. *Balanites aegyptiaca* and *Acacia albida* are also remarkable on the glaciis of the plateaux and in the millet fields surrounding the pool. The valleys of the rivers and low ground are marked by the presence of *Acacia seyal* and *Anogeissus leocarpus*. The herbaceous grasses are dense and dominated by *Cassia tora* and many species of annual Graminaea. There is also *Cyperus papyrus* and white lily covering almost all the water area. *Bourgou (Echinochloa stagnina)* is quite prevalent along with species in the genus *Vitivera*.

The same characteristics of vegetation can be observed at the Namga pool. However, the species *Mytragina inermis* is most important here in the pool area while *Acacia nilotica* is relatively more prevalent on the edges. There are other important species.

18. Noteworthy fauna:

The fauna is composed essentially of migratory and sedentary waterfowl. The most important species are the *canard armé*, *canard casqué*, *poule sultane*, cormorant, stork and *aigrette*, which number in the thousands (see annexes 1, 2 and 3). In addition, at the Namga pool, a group of about ten monkeys have been observed since 5 September 2000. The pools form watering areas for other mammals present in the area, such as gazelles. The fish are represented by the species *Clarias niloticus*, *Protopterus annecten* and *Tilapia nilotica*. Other microorganisms are present in the water.

Shannon Sheivel diversity index (SH)

Diversity index

SH: $-\sum p_i \log p_i$			
	Kokorou	Namga	Kokorou + Namga
SH	1,096	1,148	1,312
Number of species	56	38	94

The more the index is small, the greater the diversity (Ola Adams, 1996).

Simpson similarity index (SI)

Similarity index

$$SI = \frac{A}{\text{Min}(a + b), (a + c)} \times 100$$

A = number of species common to the two sites

B = number of species present at the Kokorou site, but absent from Namga

C = number of species present at Namga, but absent at Kokorou

SI = 89 per cent. The similarity between Kokorou and Namga is very large and tends toward a situation of two identical pools from the point of view of diversity. As a result, the two pools can be considered as a single complex.

19. Social and cultural values:

The local population is composed of three large ethnic groups: the Songhai, the Peuhls and the Tuaregs. It is a society stratified in two classes: the noble class and that of lower-caste men. Although mostly Muslims, the population venerates a snake considered to be the protecting spirit of the Kokorou pool and the local inhabitants.

20. Land tenure/ownership of:

a) Property of the local community, free access and use for grazing and other domestic uses;

b) Heritage, loan and gift of agricultural land in the surrounding area;

c) The land code and the land use law govern problems of access and use of natural resources, but customary law is more important. The hereditary chiefs are the real guaranty of good land management. At Kokorou, access to the pond is strictly controlled by the head of the canton, who has clear authority to manage all natural resources.

21. Current land use:

Exploitation of wood in the gallery forests around the pools;

Fields of dry crops and the growing of trees;

Grazing land.

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

Filling in by water and aeolian erosion;

Excessive cutting of trees for building materials and firewood, exacerbated by the proximity of the gold mine at Koma-Bangu;

Overgrazing;

Pollution from the ponds linked to domestic use of the water;

Excessive hunting and use of medicinal plants by the local inhabitants leading to the killing of birds.

23. Conservation measures taken:

The rural code;

The forestry code;

Customary law;

Law 98/07 of 29 April 1998 regulating hunting and the protection of wildlife and its regulations;

Law 98/42 of 7 December 1998 regulating fishing;

Ordinance 93/14 of 2 March 1993 concerning water use, modified by Law 98/41 of 7 December 1998.

In March 1999, the ponds of Namga and Kokoru were proposed to the IUCN regional office as part of the wetlands best situated for an integrated management and a development project for wetlands. In March 2000, these two pools were included in a pilot project for wise management under the African Eurasian Migratory Water Bird Agreement (AEWA) financed by the Global Environment Facility (GEF). As for conservation, SOS-Sahel is carrying out a programme for stabilizing sand dunes that threaten the site.

24. Conservation measures proposed but not yet implemented:

The following activities have been implemented: fixing of sand dunes and promotion of awareness and spread of information through village meetings organized by bird surveys and rural development projects in the area.

The following activities will be carried out: recovery of degraded soils on the glacia; fixing of sand dunes to combat the filling-in of the ponds, promotion of awareness and information for the local inhabitants, frequent surveys of birds, stocking of the pools with fish and preparation of a monitoring plan for the wetland.

In order to obtain a sustainable solution, a management plan for this complex of wetlands should be created, which plays an important role in the social, economic and cultural life of the surrounding inhabitants.

25. Current scientific research and facilities:

Annual survey of birds;

The OMPO Programme for West Africa, which aims to reinforce training in management of wetlands and the surveying of migrating birds. Equipment has been supplied to the Direction de la faune, de la pêche et de la pisciculture.

26. Current conservation education:

Promotion of awareness by projects working in the area

27. Current recreation and tourism:

Undeveloped

28. Jurisdiction:

The government through the Republic of Niger is responsible for the implementation of existing laws and regulations

The Direction de la faune, de la pêche et de la pisciculture (Ministère de l'Environnement et de la lutte contre la désertification) is responsible for:

Preparation of draft legislation and regulations concerning fishing and fish farms;

Definition of policies and strategies for combating invasive plants in aquatic ecosystems;

Conservation and management of aquatic ecosystems and biological diversity;

Conservation and management of wetlands;

Monitoring and implementation of regulations on the use of wildlife.

The prefecture of Tillabéry;

The arrondissement of Téra;

The head of the canton of Kokorou, application of traditional rules and Islamic law.

29. Management authority:

Ministère de l'Environnement et de la Lutte contre la Désertification
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30. References: