

WORLD HERITAGE NOMINATION

IUCN TECHNICAL REVIEW

1. IDENTIFICATION NUMBER AND NAME      153 Parc national du Niokolo-Koba
2. LOCATION: Southeast Senegal, 13°N, 13°W
3. NOMINATED BY: The Government of Senegal
4. DOCUMENTATION:
  - (i) Nomination form
  - (ii) Supplementary documentation (IUCN)
    - a) Lariviere, J. and Dupuy, A.R., 1978. Sénégal: Ses Parcs, Ses Animaux. Editions Fernand Nathan, Paris. 144 pp.
    - b) Dupuy, A.R., 1973. "Guide touristique du Parc National du Niokolo-Koba". Direction Eaux et Forêts, Dakar. 56 pp.
    - c) Le Parc National du Niokolo-Koba. Mémoires de l'Institut Français d'Afrique Noire, No. 48 (1956): 1-266; No. 62 (1961): 1-378; No. 84 (1969): 1-487.
    - d) Dupuy, A.R., 1971. Le Niokolo-Koba: Premier grand Parc National de la République du Sénégal. G.I.A., Dakar. 271 pp.
    - e) Consultation: Maarten Bijleveld, Executive Officer, IUCN Commission on Ecology
    - f) Consultation: Dr. Norman Myers, Environmental Consultant, Nairobi.

5. BACKGROUND AND SUMMARY

Niokolo-Koba National Park covers 913,000 hectares of the Guinea savanna of Senegal, with significant areas of bushland and gallery forest along both banks of the upper Gambia river. The area is rich in wildlife, with over 70 species of mammals, 329 species of birds, 36 reptiles, 20 amphibians, and vast numbers of invertebrates. The lions are a special attraction, reputed to be Africa's largest; Derby's eland, an endangered species, is the world's largest antelope. Other endangered species present include chimpanzees, leopards, and elephants. Basic research covering more than 25 years has provided a great fund of information of the area, which is clearly Senegal's foremost national park. The large and well-trained staff make this one of West Africa's best-managed national parks.

6. INTEGRITY

With nearly a million hectares, Niokolo-Koba certainly has sufficient size to demonstrate the key aspects of the functioning Guinea savanna ecosystem, and to ensure the survival of the endangered species contained therein. The area has about 200 well-equipped guards and receives appropriate budgetary support from the Government. However, recent reports of considerable poaching of elephant suggest that the human element in the ecosystem is threatening to overwhelm at least some of the natural elements. Proposals for barrages on the Gambia and Niokolo-Koba rivers also give cause for concern, as the consequences for the ecological integrity of the park would be disastrous.

## 7. COMPARISON WITH OTHER AREAS

Niokolo-Koba is in the West African Woodland/Savanna biogeographic province, a province which is very well covered by protected areas. IUCN has compared Niokolo-Koba with some 65 protected areas from 10 other West African countries totalling well over 19 million hectares. The best areas of the same general type which might be considered for eventual World Heritage status include Bamingui-Bangoran in Central African Republic and "W" National Park in Benin, Niger, and Upper Volta. Niokolo-Koba is better known and better managed than either of these. One of the consultants has expressed concern that on a world scale, Niokolo-Koba can hardly compare with the great game parks of East and Central Africa.

## 8. EVALUATION

On the basis of available information, Niokolo-Koba is the most important site of its type in West Africa, and the best-managed. It meets the criteria of providing a spectacle of outstanding wildlife and providing a safe habitat for endangered species.

## 9. RECOMMENDATION

Niokolo-Koba should be added to the World Heritage List. The Committee might wish to express its concern about the upstream dam and barrage developments and to seek the assurances of the Senegalese Government that Niokola-Koba will be fully protected in the event of such developments. A management plan for the area should be seen as a high priority.



International Union for Conservation of  
Nature and Natural Resources

July 1981 (rev)

SENEGAL

NAME Parc national du Niokolo-Koba

MANAGEMENT CATEGORY II (National Park)  
IX (Biosphere Reserve)  
X (World Heritage Site - Criteria iii, iv)

BIOGEOGRAPHICAL PROVINCE 3.04.04 (West African Woodland/savanna)

GEOGRAPHICAL LOCATION Lying across the border between the administrative regions of Sénégal-Oriental and La Casamance, on the River Gambia, close to the Guinea border in south-eastern Senegal. The border is defined by the international boundary with Guinea in the south-west, and the River Gambia to the south-east and north-west. 12°30'-13°20'N, 12°20'-13°35'W

DATE ESTABLISHED Created as a Hunting Reserve in 1926, Forest Reserve in 1951 and a Fauna Reserve on 19 April 1953 and enlarged by Decrees of 1962, 1965, 1968 and 1969. Accepted as Biosphere Reserve and inscribed on the Unesco World Heritage List in 1981.

AREA 913,000ha

LAND TENURE Government

ALTITUDE 16-311m (Mont Assirik)

PHYSICAL FEATURES The park is a relatively flat region, with small lines of hills reaching about 200m, separated by wide floodplains which become inundated during the rains. The whole area has superficial formations of laterite and sediments over Cambrian sandstone beds, which outcrop in places, and some metamorphic rock. The park is crossed by the River Gambia and its two tributaries, the Niokolo Koba and the Koulountou.

CLIMATE The climate is of a Sudanian type with a rainy season from June to October and a dry season for the rest of the year. The average annual rainfall is 1000-1100mm.

VEGETATION Vegetation varies from a southern Sudanian type to Guinean with savanna predominant, more luxuriant vegetation along the course of the rivers and a varying cover of trees and bushes. This vegetation changes its character according to topography and soils. In the valleys and plains there are vast areas of Vetiveria and herbaceous savannas dominated by Andropogon gayanus, occasionally associated with Panicum anabaptistum. Seasonally-flooded grassland is typically composed of Paspalum arbulare and Echinochloa. Dry forest is made up of Sudanian species, such as Piliostigma thonningii, Pterocarpus erinaceus, Pericopsis africana, Bombax costatum, Burkea africana, Prosopis africana, Sterculia setigera, Ficus ingens and Anogeissus leiocarpus. There are also areas of bamboo Oxytenanthera abyssinica. In ravines and gallery forests species indicative of a south Guinean climate are present, with lianes very

abundant, and species such as Raphia sudanica, Baissea multiflora, Nauclea latifolia, Dalbergia saxatilis, and Landolphia dulcis. On slopes and hills, rock outcrops, alluvial sands and iron pans, the vegetation is different. On the edges of rivers semi-aquatic species, such as Rotula aquatica, Hygrophila odora, Cyperus baikiei, occur and annuals, which disappear when the water level rises, are found in the periodically-flooded sands. In and around the marshes, most of which are situated in abandoned riverbeds or behind the levées, the vegetation is very variable, depending on the height of the depression, water level, origins, soil structure and sub-soil. Certain ponds are bordered by dry forests, or herbaceous savannas, with species such as Arundinella ecklonii, Eriochrysis brachypogon, Hemarthria altissima, Hyparrhenia amoena, Vetiveria nigritana, and Andropogon gyanus depending on dampness and soil compaction. Occasionally, the centre of a marsh is occupied by thick thorn bushes of Mimosa pigra. Marshes on higher ground have a reduced surface area and scanty soil, very acid and peaty, and vegetation includes Oryza brachyantha (a wild rice), Bryaspis lupulina, Adelostemma senegalense, Berchemia discolor, and Genlisea africana. On high banks Acacia nilotica, Crateva religiosa, Diospyros mespiliformis and Ziziphus mucronata are dominant, and localised species, such as Christiana africana, Cola laurifolia, Croton scarciessii, Cynometra vogelii, Diospyros elliotii, Syzygium guineense, Symmeria paniculata, and Ziziphus amphibia occur on constantly humid low banks. River bank species also include Khaya senegalensis, Erythrophleum guineense, Ceiba pentandra, Detarium senegalense, Syzygium guineense, Azelia africana, and Borassus. Some 1,500 plant species have been recorded and the listing continues.

**FAUNA** There are about 80 species of mammal, 330 species of bird, 36 reptiles, 20 amphibians, and 60 species of fish recorded, as well as numerous invertebrates. Carnivores include leopard Panthera pardus (T), lion P. leo, and hunting dog Lycaon pictus (T). There are also buffalo Syncerus caffer, roan Hippotragus equinus, giant eland Taurotragus derbianus (about 1,000), Guinea baboon Papio papio, green monkey Cercopithecus aethiops sabaeus, patas monkey Erythrocebus patas, bay colobus Colobus badius temmincki, all three African crocodiles: Nile Crocodylus niloticus (V), slender-snouted C. cataphractus (I) and dwarf Osteolaemus tetraspis (I), four tortoise species, and hippopotamus Hippopotamus amphibius, which is present in all three large watercourses in the park. The park is the last refuge in Senegal for giraffe Giraffa camelopardalis and elephant Loxodonta africana (T). About 150 chimpanzee Pan troglodytes (T) live in the gallery forest of the park and on Mont Assirik (the north-western limit of their distribution). Birds include Denham's bustard Neotis cafra denhami, ground hornbill Bucorvus abyssinicus, violet turaco Musophaga violacea, spur-winged goose Plectropterus gambensis, white-faced tree duck Dendrocygna viduata, martial eagle Polemaetus bellicosus and bateleur Terathopius ecaudatus.

**CULTURAL HERITAGE** No information

**LOCAL HUMAN POPULATION** No information

**VISITORS AND VISITOR FACILITIES** There is a luxury hotel at Simenti, which

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is the most visited part of the park. There are also bungalows and an hotel at Niokolo-Koba, lodgings at Badi, and several camping grounds. Animals can be watched from hides or on guided safaris. Animals disperse in the rains, so best viewing times are from the end of October to the end of June, when most tours are organized. There is an airstrip at Simenti.

SCIENTIFIC RESEARCH AND FACILITIES Research is regarded as important with further details within the Memoirs of the IFAN (Institut Français d'Afrique Noire) of Dakar, particularly 1956, 1961, 1969, and 1982. A detailed description of the park is given in Dupuy (1971). An elephant survey was conducted in 1981 under IUCN/WWF Project 1774.

CONSERVATION MANAGEMENT There is a general plan for management and restoration of natural ecosystems. Regional development plans recognize strict protection of the park. Some controlled burning is done to preserve savanna areas. In the early 1980s, WWF Project 1774 supplied a land rover and radios to combat elephant poaching. There is a buffer zone 1km wide and six administrative sectors, each of which contains surveillance posts. In order to provide for the long-term security of the park, an integrated conservation and development project has been devised by the National Parks Service. The extent to which this has been implemented is not known.

MANAGEMENT PROBLEMS The numbers of leopard and elephant in the park have decreased because of poaching over a number of years and there are few, if any, leopards left. The park is threatened by dams planned for the Gambia and Niokola-Koba rivers, the creation of an artificial lake and an increase in accessibility associated with industrial exploration such as mining and quarrying. When the park was established, it was inhabited by people practising agriculture, cattle rearing, and some hunting. Bush fires were used to control the vegetation which resulted in degraded soils, the emergence of savanna vegetation, and the disappearance of large animals in some areas. However, all inhabitants were relocated outside the park area in the early 1970s, although areas outside and within the park are still burnt. There has been a controversial proposal to upgrade a small road through the park to a major international highway from Dakar to Bamako. Following IUCN studies for the European Community, which indicated that this would have serious consequences for the site, an alternative route around the park was devised. It is not yet known which route will be chosen for the development.

STAFF Over 200 personnel directed by a conservator and assistant

BUDGET Personnel 116,570,000 francs CFA, maintenance 31,201,000 francs CFA.

LOCAL ADMINISTRATION Parc Conservateur, PN Niokolo-Koba, Tamba-Counda, BP 37

#### REFERENCES

Dekeyser, P.L. (1955). Les mammifères de l'Afrique noire française. IFAN.  
Dekeyser, P.L. (1956). Le Parc National du Niokolo-Koba III: Mammifères.

Infobase produced by WCMC, January 1992

Memoires IFAN Dakar 48: 35-77.

Dupuy, A.R. (1969). Le Parc National du Niokolo-Koba. XXXII: Mammiferès.  
(deuxième note). Memoires IFAN Dakar 84: 443-460.

Dupuy, A.R. (ed.) (1971). Le Niokolo Koba, premier grand parc national de  
la

République du Sénégal. Grande Imprimerie Africaine, Dakar.

Dupuy, A.R. (1973). Guide touristique du Parc National du Niokolo-Koba.  
Direction Eaux et Forêts, Dakar.

IUCN/WWF Project 1774. Elephant Conservation, Senegal.

Larivière, J. and Dupuy, A.R. (1978), Sénégal - Ses Parcs, Ses Animaux.  
Editions Fernand Nathan, Paris. 144 pp.

Le Tallec, J. (1979). La grande faune du Sénégal.

Verschuren, J. (1976). Les Parcs Nationaux, joyaux du Sénégal. Zoo 41(4):

150-157.

Verschuren, J. (1983). Ecologie du Parc National du Niokolo-Koba  
(Senegal).

Grands mammifères et remarques sur la conservation. Bull Inst. r.  
Sci. nat. Belg. 55.

DATE July 1981, reviewed May and September 1989

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PATRIMOINE MONDIAL: CANDIDATURE

EXAMEN TECHNIQUE PAR L'UICN

1. NUMERO D'IDENTIFICATION ET NOM: 153 Parc national du Niokolo-Koba
2. SITUATION GEOGRAPHIQUE: Sud-est du Sénégal, 13°N, 13°O
3. CANDIDATURE PROPOSEE PAR: Le gouvernement sénégalais
4. DOCUMENTATION:
  - (i) Formulaire de candidature
  - (ii) Documentation complémentaire (UICN)
    - a) Larivière, J. and Dupuy, A.R., 1978. Sénégal: Ses Parcs, ses Animaux. Editions Fernand Nathan, Paris. 144 p.
    - b) Dupuy, A.R., 1973. "Guide touristique du Parc national du Niokolo-Koba": Direction Eaux et Forêts, Dakar. 56 p.
    - c) Le Parc national du Niokolo-Koba. Mémoires de l'Institut français d'Afrique noire, No. 48 (1956): 1-266; No. 62 (1961): 1-378; No. 84 (1969): 1-487.
    - d) Dupuy, A.R., 1971. Le Niokolo-Koba: Premier grand parc national de la République du Sénégal. G.I.A., Dakar. 271 p.
    - e) Consultation: Maarten Bijleveld, secrétaire exécutif de la commission de l'écologie de l'UICN
    - f) Consultation: M. Norman Myers, consultant environnementaliste, Nairobi.

5. PRESENTATION RESUMEE

Le parc national de Niokolo-Koba couvre 913.000 ha de savane guinéenne au Sénégal et comporte d'importantes régions à formations buissonneuses, et des forêts-galeries le long des deux rives du cours supérieur du fleuve Gambie. La région est riche en faune avec plus de 70 espèces de mammifères, 329 espèces d'oiseaux, 36 reptiles, 20 amphibiens et un grand nombre d'invertébrés. Les lions, réputés les plus grands d'Afrique, constituent une attraction particulière; les éléphants de Derby, espèce menacée, sont les plus grandes antilopes qui soient. Parmi les autres espèces menacées, il y a des chimpanzés, des léopards et des éléphants. La recherche fondamentale a fourni en 25 ans une moisson d'informations sur la région, qui est de toute évidence le principal parc national du Sénégal. Un personnel nombreux et bien formé fait de ce parc national l'un des mieux gérés de l'Afrique de l'ouest.

6. INTEGRITE

D'une superficie approchant le million d'hectares, Niokolo-Koba a une taille suffisante pour qu'on y distingue les aspects clés du fonctionnement de l'écosystème de type savane guinéenne, et pour garantir la survie des espèces menacées qui s'y trouvent. Environ 200 gardes bien équipés couvrent la région et reçoivent un soutien budgétaire approprié du gouvernement. Toutefois, des rapports récents indiquant un braconnage considérable des éléphants,

donnent à penser que dans cet écosystème, l'élément humain menace de submerger quelques uns au moins des éléments naturels. Les barrages envisagés sur la Gambie et le Niokolo-Koba, sont également un sujet de préoccupation, car ils auraient des conséquences désastreuses pour l'intégrité écologique du parc.

#### 7. COMPARAISON AVEC D'AUTRES REGIONS

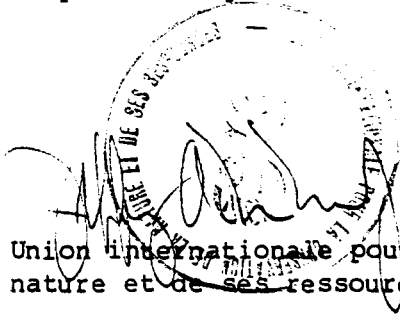
Niokolo-Koba se situe dans la province biogéographique à forêt claire et à savane de l'Afrique de l'ouest. Cette province est très bien couverte en régions protégées. L'UICN a comparé Niokolo-Koba avec 65 régions protégées réparties dans 10 autres pays d'Afrique de l'ouest, et totalisant plus de 10 millions d'hectares. Bamingui-Bangoran, en République centrafricaine, et le parc national de "W" au Bénin, au Niger et en Haute-Volta, sont les meilleures régions du même type général pour lesquelles on pourrait aussi éventuellement envisager le statut de site du patrimoine mondial. Niokolo-Koba est mieux connu et mieux géré que ces régions. L'un des consultants a toutefois fait remarquer qu'au niveau mondial, Niokolo-Koba ne peut guère rivaliser avec les grands parcs d'Afrique centrale et de l'est.

#### 8. EVALUATION

Sur la base des informations disponibles, on peut dire que Niokolo-Koba est le site le plus important de son type en Afrique de l'ouest, et le mieux géré. Il répond aux critères demandant que le site offre un spectacle remarquable par sa faune, et qu'il fournisse un habitat sûr aux espèces menacées.

#### 9. RECOMMANDATION

Niokolo-Koba devrait être ajouté à la liste des sites du patrimoine mondial. Le comité pourrait s'inquiéter de la construction de barrages en amont et chercher à obtenir des garanties du gouvernement sénégalais que Niokolo-Koba serait pleinement protégé au cas où de tels plans seraient décidés. La préparation d'un plan de gestion pour la région devrait être considérée comme prioritaire.



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