

# WETLANDS HABITATS IN WEST AND CENTRAL AFRICA

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## 1 INTRODUCTION

In W Africa, Crowned cranes' concentrations exist in 2 main areas, Senegambia and the Chad basin, with intervening area sparsely populated. According to URBAN *and al*, 1986, numbers in W Africa reduced during 1970s ; total population Senegambia and Mauritania, 2500-3500 ; Mali, Upper Volta, Ivory Coast, Ghana and Niger combined, only a few thousand at most ; NE Nigeria, low hundreds ; now probably extinct in most of former Nigeria range. Status, 1980s in W Africa (*Balearica pavonina pavonina*) threatened in parts of its range or on verge of extinction, e.g. Nigeria.

## 2 CROWNED CRANE'S HABITATS AND FOOD

Crowned cranes inhabit dry and wet open areas including marshes, damp fields and open margins of lakes and rivers ; they are rarely associated with open water. They roost in trees. Feeding grounds may be several km away, although sometimes within walking distance (URBAN *and al*, 1986). These birds feed most often on the cultivation and they are also to be met with frequently on the sandy beds of the rivers or on their banks (BANNERMAN, 1931).

Food : Mainly live prey, according to BOUET, 1955. MACKWORTH-PRAED and GRANT, 1970, note small reptiles and large insects (locusts and grasshoppers). But crane is also fond of plant material, rice and water lilies' seeds (BOUET, 1955) and is often encountered feeding on cultivation (BANNERMAN, 1953). The biggest concentrations I personally saw were always on dry ploughed rice fields.

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Rapport de mission au Nigéria (23/02 - 03/03/1992)

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La conférence internationale sur la grue couronnée et ses habitats humides en Afrique de l'ouest et centrale s'est tenue au Bagauda Lake Hotel de KANO, au nord du Nigéria, du 24 au 27/02/1992. Cette conférence financée par l'ambassade des Pays-Bas au Nigéria a réuni une centaine de personnes parmi lesquelles on peut citer Richard BEILFUSS, des USA, représentant l'*International Crane Foundation*, Phillip HALL, directeur technique de la *Nigerian Conservation Foundation*, Dr Hadi MUSTAPHA, du *Ministry of agriculture and natural resources* Kano State, Nigéria. Le SOUDAN et l'Ethiopie étaient également représentés.

Cette conférence à laquelle j'étais invité (billets d'avion fournis) avait pour but de formuler des recommandations afin de stopper le déclin rapide des populations de grues couronnées. Il s'agissait de discuter des causes du déclin dans pratiquement toute l'aire de répartition, en Afrique sub-saharienne, à cause principalement de la perte d'habitats favorables due aux importants travaux d'aménagement hydro-agricoles, et du braconnage) et de recommander une stratégie d'action.

La grue couronnée est ici considérée comme un symbole représentatif de toutes les populations d'oiseaux d'eau. Etant très sensible aux changements de l'environnement, elle peut servir d'indicateur d'un environnement sain. Dans ce sens, la conférence était tout à fait dans l'axe de mes travaux actuels sur les possibilités d'adaptation des populations d'oiseaux aux modifications des milieux humides côtiers et deltaïque.

La langue utilisée fut uniquement l'anglais. Premier orateur à prendre la parole après le discours d'ouverture par M. Alh. Balarabe Aliyu Soron DINHI, *Honorable Commissioner of Agriculture, Natural Resources*, j'ai présenté une communication sur "*Wetlands habitats in West and Central Africa*" (voir texte ci-joint).

Il est ressorti des différentes communications et discussions que beaucoup restait à faire sur le plan des recensements, de la connaissance de la biologie et de l'écologie de la grue couronnée (donc sur les recherches de base) et sur l'éducation des populations rurales.

Au cours de la deuxième journée, deux sous-comités furent créés pour discuter et formuler des recommandations. Le premier concernait les stratégies pour la conservation des grues couronnées et de leurs habitats dans toute la sous-région. Le deuxième dont on m'a demandé d'assurer la présidence (chairman) concernait l'éducation et la recherche sur les grues et leurs habitats dans toute la sous-région.

Parmi les principales recommandations, on peut retenir :

- la recherche des données numériques de base par deux recensements annuels (août et février) ;
- la création d'un centre de coordination pour rassembler les résultats des recensements dans chaque pays ;
- la recherche des sites importants pour la survie des grues couronnées (par exemple en fin de saison sèche) ;
- la recherche des besoins des populations rurales vivant dans les mêmes zones que les grues ;
- la recherche des zones de reproduction et une étude des modalités de reproduction dans chaque pays ;
- le renforcement des lois de protection ;
- l'éducation du public par tout moyen audiovisuel approprié ;
- des enquêtes sur l'usage des pesticides ;
- une étude d'impact sur l'environnement avant tout aménagement hydro-agricole important...

Le texte des différentes communications et les recommandations seront publiées dans des *Proceedings*.

Les 27 et 28 février, nous avons été rendre une visite de politesse au vice gouverneur de l'état de Kano, puis à Sa Majesté l'Emir de KANO. Puis une visite des zones humides de la région de HADEIJIA-NGURU près de la frontière avec le TCHAD fut couplée avec un relâcher de 2 grues couronnées venant du Parc zoologique, devant une très importante population locale et avec un maximum de publicité.

J'ai eu quelques difficultés pour trouver une place dans un avion pour rentrer au Sénégal où je suis finalement arrivé avec 3 jours de retard.

### **3 RECENT CHANGES IN WEST AND CENTRAL AFRICA'S HABITATS.**

#### **3.1 climatic changes in the Sahelian zone**

A study of the mare d'Oursi, in Burkina Faso, is said to be representative of the conditions that prevail in a great part of the West Africa's sahelian zone. According to this study by CLAUDE *and al*, 1991, the climatic aridity has been emphasized since the early 1970s by a drought exceptional by its length, by its severity, and by its large geographical generalisation. During the past two decades, one has witnessed a reduction of the total quantity of rain and a decrease in the number of rainy days. That, along with a defacement of soil conditions, bring to an even more severe climatic aridity of the sahelian zone.

#### **3.2 Human pressure**

The continuous increase of the human population leads, noticing the impact of the recent drought's years and the practical management of the environnement, to a dilapidation of that one which, in some cases, may be thought to be irreversible. Cultivated areas have extended at the same rythm that demographical increase. Live-stock increases also and pastoral space is becoming saturated (CLAUDE *and al*, 1991). One may think that the space for crowned cranes and the security they need are lessening at the same time. Trees where cranes usually roost have heavily suffered from drought and from human utilisation for fuelwood, charcoal and building. It has been estimated that for one ha of trees planting, 29 ha are destroyed (DOYEN, 1988).

#### **3.3 Non controled hunting / wars**

Legal hunting is not a serious threat for crowned cranes since hunting's legislation in most countries forbids cranes' shooting. But we got examples where poachers have been caught while carrying live or dead crowned cranes (FRY, 1974). Live cranes are sometimes kept in captivity for recreational use. In a number of countries, the Forestry Commission has too small financial funds to actually control the hunters. In some countries, the war bring soldiers in the fields without any possible supervision.

### **3.4 Quantity of available food (antilocusts spraying)**

Aerial spraying have extended during the past decades in order to fight the locusts swarms which were one of the main food sources for crowned cranes. Besides the possible direct poisoning of cranes eating sprayed locusts, the lack of food (large insects) may have a real impact on cranes' population.

The area sprayed in 1988/1989 is greater than the cultivated area because some parts have been sprayed twice or more. By mean, 2 500 000 ha per country have been sprayed in 1988/1989 in Mali, in Niger, in Chad and in Mauritania. In Senegal, only 246 640 ha sprayed. In Burkina Faso and in the Cape Verde Islands, although there have been locusts' swarms, no extensive spraying occurred (A. NDIAYE, personal communication).

### **3.5 More informations about recent changes in some countries**

#### **3.5.1 SENEGAL**

Two dams have recently been built on the Senegal river. Manatali's dam, in Mali, will retain the flood and permit the irrigation of a huge area for agricultural development. Diama's dam will retain salted water from the sea from going upstream. Water, now available the whole year round, permits the development of numerous rice schemes, often where marshes and other wetlands were good cranes habitats. Dikes and embankments of rivers and lakes allow more water to be kept for agricultural or city use, but the increase of water level (e.g. Senegal river or Guiers' lake) is a loss of habitats for numerous species of birds including crowned cranes.

The war with Mauritania has lead to human populations' displacement and the need for about sixty thousand people from Mauritania to find new cultivable land in the north of Senegal. Wetlands are heavily looked upon since most of these refugees intend to grow irrigated rice.

As for the Djoudj national Park, where crowned cranes breed, there is now a need for water management. Water is available in quantity because of the dams on the Senegal river, but changes in the environment have been recorded recently. Particularly ponds and water-levels are overgrown with vegetation : *Pistia stratoides* which is a kind of floatting "salad", *Typhas* and *Phragmites*, *Cyperus articulatus* and algae.

### 3.5.2 MAURITANIA

The creation of the Diawling's National Park seems to be a good thing in view of wetlands' conservation, but it is not yet really in function. The war with Senegal does not allow us to know exactly what is happening there. There are still crowned cranes in the neighbouring Keur Macene, once a hunting center, but army's occupation of that place may lead to a slaughter of some birds... According to STUART *and al*, 1990, The country's wetlands are at risk from droughts and increasing human use, as well as irrigation.

### 3.5.3 MALI

The severe drought in the Sahelian zone has achieved the dry out of the northern lakes and accentuate the human population increase in the remaining wetlands, further south. The remaining lakes which are yet flooded annually are usually cultivated with subsidence millet. The Inner Niger Delta would best be managed through a carefully designed multi-use programme, with reserve at a few well chosen localities, such as Lake Debo, Lake Horo and Seri, where Ramsar Sites have been established (STUART *and al*, 1990).

### **3.5.4 BURKINA FASO**

The only large lake, the Mare d'Oursi, is now rather intensively cultivated and human population has noticeably increased. There are proposals (STUART *and al*, 1990) for new ornithological reserves at Beli and Mare d'Oursi. The effects of irrigation projects on wildlife should be monitored, particularly in the north of the country.

### **3.5.5 NIGER**

According to STUART *and al*, 1990, Niger is one of several sahelian countries that has suffered very severe degradation of its natural resources as a consequence of droughts and overgrazing by livestock... "W" National Park is one of the key areas for conservation of savanna in West Africa. Further to the north along the Niger River are some other important habitats for wildlife... Important wetlands exist in the southeast around Lake Chad, but these are not currently the subject of any conservation initiatives. There are numerous seasonal wetlands or "mares" with ponded water, which are often wooded, across the Sahel zone. These are extremely important for wildlife, particularly birds, and need to be evaluated.

### **3.5.6 NIGERIA**

Nigeria has many important wetlands sites, particularly in the north, e.g. Lake Chad, the Hadejia-Nguru Wetlands and others in many areas, including around Kano. Current problems which need addressing, according to STUART *and al*, 1990, include sustainable use of wetlands resources by local people and the ecological implications of irrigation schemes (in the north of the country).

### **3.5.7 CAMEROON**

Water management schemes in the north have disrupted natural flooding regimes, with a resultant serious deleterious effect on species and habitats. In Waza National Park, there have been decreases of wildlife owing to the reduced flooding of the plains since the creation of a dam on the Logone River (STUART *and al*, 1990).

### 3.5.8 CHAD

Due to the drought, cattle go now further south, where there is still water and pasture to feed on. That leads to an important population increase in some places that were good habitats for crowned cranes. STUART *and al*, 1990, note that several wetlands areas in the country are at risk from pressure to pursue intensive irrigated agriculture, and increasing use of pasture and fisheries resources. Also Chad's critical sites have become seriously compromised as a result of disturbances to the protected area network during the civil war.

### 3.5.9 CENTRAL AFRICAN REPUBLIC

There are floodplains in the north which need conservation assesment and appropriate conservation measures implementing, including anti-poaching measures in the wet season (STUART *and al*, 1990)

## 4 CONCLUSION AND PROSPECTS

Habitat's reduction, decrease of abundance and availability of food may sometimes lead to a concentration of cranes. In the Djoudj National Park, in Senegal, one can see nowadays more cranes than previously, but that may well be a simple effect of the loss of habitats and of the concentration of cranes where there are still favourable places to live.

History does not repeat itself and the recurrence even for a long time of satisfactory climatic conditions will not be enough to resolve these regions problems. The environment's capacities as for the number of living human or animals and production have been seriously reduced... One has to know that every development action which will not meet human population agreement will inevitably lead to a disaster.

The need is great for a common strategy, for a research's coordination, for a census of populations and the diffusion of results in the different countries involved. The monitoring of cranes' populations needs an urgent agricultural - conservation - fishing and hunting coordination.

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