Information Sheet on Ramsar Wetlands (RIS) – 2006-2008 version

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DD MM YY
Designation date | Site Reference Number

2. Date this sheet was completed/updated:
November 2006

3. Country:
Nigeria

4. Name of the Ramsar site:
Baturiya Wetland

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only)**:**
a) Designation of a new Ramsar site☑; or
b) Updated information on an existing Ramsar site ❑

6. For RIS updates only, changes to the site since its designation or earlier update:

7. Map of site:

a) A map of the site, with clearly delineated boundaries, is included as:
i**) a hard copy** (required for inclusion of site in the Ramsar List): ☑;

ii**) an electronic format** (e.g. a JPEG or ArcView image) ☑;

iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** ❑.

b) Describe briefly the type of boundary delineation applied:
The boundary of the site follows on the south-west part the boundary of the existing protected area (IUCN type IV) called "Baturiya Wetlands". The site includes completely this protected area plus two other forest reserves. For the rest of the Ramsar site, the boundary follows the most dense vegetation as seen on the landsat (bands 3,4,2)

8. Geographical coordinates (latitude/longitude, in degrees and minutes):

12°31'N 10°29'E (Latitide 12.53 and Longitude 10.49 in decimal degrees)

9. General location:
The Baturiya wetlands are part of the Hadejia-Nguru Wetlands, located in northeastern Nigeria, northeast of Kano along the main drainage course in the region. The nearest main town is Hadejia, 40 km to the east along the River Hadejia. The site is not part of the Nguru Lake (and Marma Channel) , which are further to the northeast along the principal drainage direction.

10. Elevation: (in metres: average and/or maximum & minimum)
340 and 345 metres a.s.1

11. Area: (in hectares)

101094.7 hectares

12. General overview of the site:
It is a Sudano-Sahelian floodplain wetland, and comprises of ponds and ***fadama*** (Hausa for seasonally flooded lands) that are being replenished each year by annual flooding of the Kafin Hausa River. It supports a wide range of migratory and resident waterfowls and fish species. There is a large rural population within and around the wetlands that pursue livelihood systems involving cultivation of the floodplains, fishing, pastoralism and harvesting of wild resources.

13. Ramsar Criteria:
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1	2	3	4	5	6	7	8	9
☑	❑	❑	❑	☑	❑	❑	❑	❑

14. Justification for the application of each Criterion listed in 13 above:

Criterion 1:
The wetland is a particularly good representative example of a natural wetland, characteristic of the Sudano-Sahel biogeographical region. It embodies all the diverse flora and fauna of both the Sahel and Sudan savanna in a single limited location.

The vegetation includes sparse shrubs and isolated trees mostly of the genus *Acacia, Mitragyna sp*. which thrive within and around most of the fadama due to the favourable soil moisture condition during most part of the year. *Mitragyna inermis*, Doum palm *Hyphaene thebaica, Borassus sp., Anogeissus leiocarpus, Combretum sp.*, and *Diospyros eispilirformis* are also present. The fauna

Waterfowls are the most important fauna in Baturiya wetlands. These include Pelican (*Pelecanus onocrotalus, Pelecanus rufescens*), Yellow billed stork (*Mycteria ibis*), Knob-

billed goose (*Sarkidiornis melanotos*), African Grey Hornbill (*Tockus nasutus*), White faced whistling duck (*Dendrocygna* viduata) and Garganey (*Anas querquedula*).

Criterion 5:
It regularly supports 20,000 or more waterfowls. The table below of past survey results illustrates the point.

January Bird Survey Records of Baturiya Wetlands 1997-2001

Year	1997	1998	1999	2000	2001
No of Waterfowls	67,995	21,450	52,948	32,967	197,535

Source: Hadejia-Nguru Wetlands Conservation Project (2001)

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15. Biogeography
a) biogeographic region:
Sudano-Sahel

b) biogeographic regionalisation scheme (include reference citation):
Keay R.W.J. (1959a). An outline of Nigerian vegetation. Lagos: Government Printer
Keay R.W.J. (1959b) Derived savanna: derived from what? Bulletin de l'Ifan 21: 427-438
Keay R.W.J. (1960) An example of Northern Guinea Zone vegetation in Nigeria. Nigeria Forestry Information Bulletin No 4. Lagos: Government Printer

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16. Physical features of the site:
Permeable sedimentary rocks of the Chad formation underlie this natural wetland, but a film of impervious layer has been formed at the bottom of the water body through successive years of clay deposition. This has significantly impeded percolation. A monotonous low-lying plain that gently slopes northeastwards towards Lake Chad characterizes the relief around the site. River flow is highly seasonal and varies considerably depending on rainfall and run-off. Peak flow occurs between August and September when banks overflow and the area is inundated. The river regime in the area has however been affected by river regulation that peak discharge in the wetland is now in September-October.

The climate of the area has two seasons: the wet and dry. The wet season starts in May and ends in September, during which period, more than 95% of the annual rainfall occurs. November to February is totally rainless though the dry season starts in October and ends in April. In some years, some rain may fall in October and April. Annual rainfall is 600 mm. Dry, dusty, cool North Easterlies (Harmattan winds) are prevalent between November and March. Mean minimum temperature (12°C) is in January while the hottest period is in April during the inter-season period with a mean maximum temperature of 40°C.

The general vegetation is characteristic of the Sudan savanna – sparse shrubs and isolated tall trees mostly *Acacia*. Three broad vegetation types are identified; the scrub savanna, which includes the upland farmland and Acacia woodlands; the vegetation on the 'tudu' (elevated) lands and sandy ridges, which with exception of scattered, ephemeral ponds are never inundated; and the seasonally flooded marshes and fadama in which the tree *Acacia nilotica* and Doum palm *Hyphaene thebaica* and *Oryza spp* are common. The favourable moisture regime due to high ground water table supported *Mitragyna* ground water woodland and seasonally flooded grassland. The Wetland and Game Reserve area used to be annually extensively flooded, but the magnitude and extent of flooding has become severely reduced due to a combination of river regulation and the long-term drought (1970-1990s). The woodland is becoming degraded due to falling water table.

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17. Physical features of the catchment area:

The Baturiya Wetlands lie within the 147840km^2 Komadugu-Yobe catchment, a tributary of the Lake Chad. The headwaters are in the Jos Plateau. The Komadugu-Yobe has three main tributaries; the Jama'are (Katagum), Hadejia and Misau (Komadugu Gana). The three tributaries form confluences in northeastern Nigeria near the border with Niger Republic. The confluence zone lies on sedimentary rocks known as the Chad Formation with very low gradient. Wide floodplains, numerous oxbow lakes and poorly defined channels therefore characterize the region. The zone is a vast and extensive wetland, generally known as the Hadejia-Nguru wetlands, but this nomenclature should really apply only to the western sector of the vast wetlands where the Baturiya Wetland belongs.

The Chad Formation consists mainly of clays with some sand and gravel horizons, but generally overlain by thick (>100m) sandy drift. The soils incorporate accumulations of organic matter and alluvial clays. Such soils are known locally as **'firki'**. The clays promote saturation conditions during the rainy season and the development of the wetlands.
The climate here is characterized by two distinct seasons, the wet and dry seasons. Rainfall is between 500-600mm in many parts of the Hadejia-Nguru Wetlands. Average rainfall in Nguru is about 513mm a year with the rainy season extending over four months (June to September). Temperature is between a mean minimum of 125^{0}C during December and January to a maximum of 45^{0}C in April.

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18. Hydrological values:
Studies conducted in the Hadejia-Nguru wetland indicate that there is substantial annual recharge to shallow ground water within the many of the wetlands including the Baturiya wetlands. Communities within the floodplains depend on shallow ground water for domestic use and irrigation activities. Also, soils in the wetlands are annually enriched through deposition of organic matter and silt during flooding.

Potential evaporation in the area ranges from 2600 mm to 4000 mm annually. The result is that high evaporation and the generally low rainfall preclude the development of

surface streams except in the principal rivers and where flash flows are generated during intense rainfall. The water balance in the driest and northernmost zones (Gashua and Geidam) is such that soil moisture recharge occurs only during August and September. Water losses are due largely to evaporation in poorly drained flood plains and to infiltration into the upper zone aquifer of the Lake Chad basin.

Wind erosion is particularly serious towards the end of the dry season when storms preceding the onset of the rainy season blow off much soil.

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19. Wetland Types

a) presence:
It is an inland wetland that falls under categories N and P in Ramsar Classification of Wetland Types (intermittent fresh water lakes as well as intermittent streams)

Inland: **L • M • N • O • P • Q • R • Sp • Ss • Tp Ts • U •**
Va • Vt • W • Xf • Xp • Y • Zg • Zk(b)

b) dominance:
They can be ranked in the following order of dominance N, P, Tp

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20. General ecological features:

In conformity with other Sudano-Sahelian wetlands, the vegetation is mainly graminoid, with sparse distribution of shrubs consisting of *Guiera senegalensis, Piliostigma sp*. and trees such as the baobab, *Adansonia digitata; Balanites sp.* and Doum palms, *Hyphaene thebaica*.

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21. Noteworthy flora:
The vegetation is characteristic of the Sudan savanna- sparse shrubs and isolated trees mostly of the genus *Acacia*. However, within and around most of the fadama, other plants particularly *Mitragyna sp*. thrive very luxuriantly due to the favourable soil moisture condition during most part of the year. *Mitragyna inermis,* Doum palm *Hyphaene thebaica, Borassus sp., Anogeissus leiocarpus, Combretum sp.,* and *Diospyros eispilirformis* are also present.

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22. Noteworthy fauna:

Waterfowls are the most important fauna in Baturiya wetlands. These include Pelican (*Pelecanus onocrotalus, Pelecanus rufescens*), Yellow billed stork (*Mycteria ibis*), Knob-billed goose (*Sarkidiornis melanotos*), African Grey Hornbill (*Tockus nasutus*), White

faced whistling duck (*Dendrocygna* viduata) and Garganey (*Anas querquedula*). Other fauna such as grass cutter, monkey, monitor lizards, crocodiles and amphibians are also noteworthy.

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23. Social and cultural values:

a) Grazing and collection of wild resources, particularly fuel wood is very common even though the Baturiya Wetlands are under protection as Game Reserve by the Jigawa State Government. The wetland has a potential for development for tourism, and the State Government has plans on this.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box ☑ and describe this importance under one or more of the following categories:

i) It is a site where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples.

The site, through grazing, farming and harvesting of wild resources supports community livelihood and if community activities are not regulated, the ecological character of the wetland may be impaired. In this regard, Adams (1993) observed that though the Baturiya Wetland Games Reserve is theoretically under multiple use management, i.e. the local people could make use of the resources under licensed permit, in practise, grazing, fishing, wood cutting and farming continue unabated and without recourse to licensing. Bodies of water are intensively fished in the early dry season and large scale mechanized cultivation is extensively practised. These are activities that were in existence before Government came in with the idea of regulation, and the people are yet to fully buy-in into the idea.

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24. Land tenure/ownership:

a) within the Ramsar site:
The land tenure in the area was a mixture of customary and institutional holding. All lands belonged to resident communities, under the control of the Emir or the Native Authority (Emirate Council), but each component was under the control of families, with this control depending on historical annexation and approval of the community leader. However, current Federal Laws have vested ownership of all lands in the nation on the Federal Government. In reality, *de jure* ownership is the government's, but until formally expropriated for actual use, it belongs to the local community.

b) in the surrounding area:
Federal Land Use law has provisions that enable government to dispossess families or individuals of land if it is needed for public use, as in theory all land belongs to the

Federal Government. Similar tenure arrangements also apply to fishing rights in water bodies.

25. Current land (including water) use:
a) within the Ramsar site:

The site is fished throughout the year. Other forms of agricultural activities include arable cropping and grazing.

b) in the surroundings/catchment::

There are over 10,000 people living in nearby small villages such as Baturiya, Lafieri, Musari, Adnabo, and Sabon Gari. Most of the rural people are farmers, who double as livestock keepers, and sometimes fish as well. The rural communities use the water for domestic purposes including potable water, while large numbers of livestock are watered at the site, especially during the dry season. The whole of the wetland falls within the Baturiya Game Reserve. A lot of illegal fuel wood harvesting is taking place in the reserve.

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

Grazing and collection of wild resources particularly fuel wood is very common.

b) in the surrounding area:

The status of the wetland is being threatened. The operation of upstream dams determines the annual flooding of this wetland. In the event that a series of dry years were to occur, as it was within the last 30 years, flooding would be controlled in order to maximize benefits of river regulation (which do not necessarily include sustainability of downstream wetlands).

Siltation of channels and ponds, and colonization by invasive grass species are also major challenges affecting the water supply into the wetland.

But these threats to the integrity of the wetland derive from heightened climatic variability manifested through long-term declining rainfall; construction of upstream dams (Tiga and Challawa) and associated extensive irrigation schemes. These have changed the natural flood regime with a resultant massive reduction of flood peak in the wet season and release of damaging flood surges during the dry season.

Other threats are through the frustration of tree regeneration efforts and the compaction of soils by the increased presence of pastoralists and their animals. The increased presence is due to the effects of climatic variability on surrounding pastureland.

27. Conservation measures taken:

a) The reserve has been gazetted since the 1960's as the Baturiya Game Reserve and at the moment the area is supposedly under protection as a Game Reserve by the Jigawa State Government. Recently, the State Government made moves to further develop the reserve by introducing some wild animals. This area is also a proposed National Park under the IUCN Category II.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ❑;Ib ❑; II ❑; III ❑; IV ☑; V ❑; VI ❑

c) Does an officially approved management plan exist; and is it being implemented?

Yes:

The Baturiya Wetland Games Reserve is under 'Multiple Use Management' as implemented by the Jigawa State Government. Under the system, state/local officials grant licences for hunting, fishing, grazing, woodcutting, etc. But serious challenges of policing undermine management. Currently, communities within and near the wetlands contend with drought and reduced flooding (and thus reduced soil nutrient enhancement through silt deposition from flood waters and unfavourable soil moisture regime that inhibits dry season farming), and therefore poverty. These inhibit sustainable and rational use of wetland resources. In spite of efforts of Wildlife officials, resource management is essentially weak.

As noted by Adams (1993), it is very difficult to establish reserves if there are existing rights to resources which have to be extinguished. If such rights can be extinguished '*de jure*', they are hard to extinguish '*de facto*' more so where there is poverty. Only intense policing and severe penalties, difficult propositions under the current realities, could force local people to observe rules preventing them from using available resources.

d) Describe any other current management practices:

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28. Conservation measures proposed but not yet implemented:

The area has been designated as a government reserve - Baturiya Wetland Games Reserve (see above).

This area is also a proposed National Park under the IUCN Category II. The Reserve would be under the Management Practices and Policy of the National Park system as defined by the Act No 46 of 1999. Things would be much more serious than under state management.

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29. Current scientific research and facilities:

The Hadejia-Nguru Wetlands Conservation Project completed a biodiversity survey of the site and other nearby wetlands in 1997. The Baturiya wetland has been an area of

studies and research over years. Many researchers who conduct research in the Hadejia-Nguru Wetlands have selected part of the Baturiya wetland as point of data collection.

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30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

The Hadejia-Nguru Wetlands Conservation Project operates an information centre at Nguru, which is open to students, researchers and tourists in search of information on the site and on the other wetlands in the area. This has made the site to be regularly visited by students for their field studies.

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31. Current recreation and tourism:

The wetland provides an excellent site for recreation e.g. bird watching. At the moment no tourism facility has been put up here, although plans are underway.
There is a potential for tourism development, which the Jigawa State Government is planning to develop.

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32. Jurisdiction:
Jigawa State Government
Kirkasama Local Government
Kafin Hausa Local Government
Ministry of Environment, Mallam Maduri, Jigawa State

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33. Management authority:
Ministry of Environment, Mallam Maduri, Jigawa State

DFID-Joint Wetland Livelihood (JWL), P.O. Box 7098, Dutse, Jigawa.
Tel: +234 64 721217, +234 64 721396

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34. Bibliographical references:

Adams, W.M. (1993). The wetlands and conservation, p211-214. In G.E. Hollis, W.M. Adams and M. Aminu-Kano (eds). The Hadejia-Nguru Wetlands – Environment, Economy and Sustainable Development of a Sahelian Floodplain wetland. IUCN/Cambridge.

Ezealor, A.U (2002). Critical sites for biodiversity conservation in Nigeria

Hollis, G.E., W.M. Adams and M. Aminu-Kano (1993). The Hadejia-Nguru Wetlands: Environment, Economy and Sustainable Development of a Sahelian Floodplain Wetland. He Hadejia-Nguru Wetlands Conservation Project. IUCN. 244p

Jigawa Enhancement of Wetlands Livelihoods Project (2001) Draft Memorandum. May 2001. 99p

Keay, R.W.J. (1959a). An outline of Nigerian vegetation. Lagos: Government Printer

Keay, R.W.J. (1959b). Derived savanna: derived from what? Bulletin de l'Ifan 21: 427-438

Keay, R.W.J. (1960). An example of Northern Guinea Zone vegetation in Nigeria. Nigeria Forestry Information Bulletin No 4. Lagos: Government Printer

Rowley, J. and M. Winter (1998) Participatory case study of sustainable rural livelihoods. Hadejia-Nguru Wetlands Project. DFID.

Wetlands in Jigawa State. An Ecological Survey of the wetlands in Jigawa State Report compiled by **HNWCP f**or Jigawa State Government (2001)

Winter Bird Survey in the Hadejia-Nguru Wetland (2000, 2001), **HNWCP** Reports

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