

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties.

1. Date this sheet was completed/updated:

20 April 2000

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Designation date

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Site Reference Number

2. Country:

Bangladesh

3. Name of wetland:

Tanguar Haor

4. Geographical coordinates: 25°05'-25°12' North/91°01'-91°07' East

5. Elevation: (average and/or max. & min.) 2.5-5.5m asl 6. Area: (in hectares) 9,500 ha

7. Overview: (general summary, in two or three sentences, of the wetland's principal characteristics)

Tanguar Haor lies in the floodplain of the Surma River, one of the main tributaries of the Brahmaputra in Bangladesh, at the base of the Meghalaya Hills (in adjacent India). It is one of the last remaining (semi-) natural floodplain wetlands of Bangladesh, as only a few minor dikes and canals have been constructed. Locally, these floodplain depression wetlands are called *haors*, and the deeper sections that retain water in the dry months are called *beels*.

8. Wetland Type (please circle the applicable codes for wetland types; in the present document, the "Ramsar Classification System for Wetland Type" is found on page 9)

marine-coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

inland: L • M (6) • N (5) • O (3) • P (1) • Q • R • Sp • Ss • Tp (4)
Ts (2) • U • Va • Vt • W (8) • Xf (9) • Xp • Y • Zg • Zk(b)

human-made: 1 • 2 • 3 (7) • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

Please now rank these wetland types by listing them from the most to the least dominant:

P • Ts • O • Tp • N • M • W • Xf

9. Ramsar Criteria: (please circle the applicable Criteria; the *Criteria for Identifying Wetlands of International Importance* are reprinted beginning on page 11 of this document.)

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8

Please specify the most significant criterion applicable to the site: 2

10. Map of site included? Please tick *yes* ☒ -or- *no* ☐ /map will send you by mail.

(Please refer to the *Explanatory Note and Guidelines* document for information regarding desirable map traits).

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

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Please provide additional information on each of the following categories by attaching extra pages (please limit extra pages to no more than 10):

12. Justification of the criteria selected under point 9, on previous page. (Please refer to the *Criteria for Identifying Wetlands of International Importance* appended to this document)

Criteria 1. Tanguar Haor is a particularly good example of a haor wetland ecosystem, typical of north-eastern Bangladesh.

Criteria 2. Tanguar Haor supports a significant number of rare and vulnerable species, including plants, birds and fish; in all 10 IUCN Red Data Book listed species and 22 CITES listed species.

Criteria 3. Tanguar Haor supports the last vestiges of *Barringtonia-Pongamia* swamp forest + associated species in the region.

Criteria 4. Tanguar Haor is of special value as a breeding area for many fish species ("mother fisheries") and for certain threatened species (e.g. Pallas's Fish-eagle).

Criteria 5. Tanguar Haor annually supports 30,000-40,000 waterfowl, and occasionally as many as 60,000+ have been recorded in the area.

Criteria 7/8. Tanguar Haor supports a "mother fishery" and is an important spawning and breeding ground for 135 fish species, which is a very sizeable proportion (50%) of the freshwater fish species found in Bangladesh.

13. General location: (include the nearest large town and its administrative region)

One-third lies in Tahirpur Thana (=administrative unit) and two-thirds in Dharmapasha Thana, both of which are located in Sunamganj District of Sylhet Division, in the north-eastern part of Bangladesh, very close to the border with India.

14. Physical features: (e.g., geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; catchment area; downstream area; climate)

Waters in Tanguar haor consist mainly of water backing up in the Baulai-Surma river system, although some water is received from streams flowing from the Meghalaya hills, in India, to the north. Although rich in nutrients, waters are generally clear, especially in the dry season. The Jadukata River, to the north-east, brings large amounts of silt to this part of the *haor*. The entire area is flooded during the summer monsoon (June-September) and waters may 6-10 metres deep in the beels; in the dry winter months, water depth in the beels ranges from 2-6 metres. Small submersible dikes have recently been constructed to the north-west and north of the haor, to protect rice crops. Villages are constructed on artificial hillocks called kandas, which rise 3-6 metres above the haor plain.

15. Hydrological values: (groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.)

Tanguar Haor buffers floodwaters from the Baulai/Surma system, and from the Meghalaya Hills in India, mitigating peak floods and maintaining water levels in dry months. It also acts as a sediment retention area for vast amounts of silt from the Meghalaya Hills (esp. via the Jadukata River). Deep flooding has always been a season event with which the local community has had to cope. The small submersible dikes constructed to the north-west and north, only serve to prolong the growing period by several weeks, thereby giving a limited amount of crop protection.

16. Ecological features: (main habitats and vegetation types)

The haor is characterised by some of the last remnants of swamp forest in Bangladesh, dominated by *Barringtonia acutangula* (*hijal*) and *Pongamia pinnata* (*koroch*). Reedlands dominated by *Phragmites karka* (*nal*), but accompanied by an abundance of other emergent species (*Aeschynomene*

indica, *Alternanthera philoxeroides*, *Asparagus racemosus*, *Clerodendron indicum*, *Clinogyne dichotoma*, *Coix aquatica*, *Cuscuta australis*, *Echinochloa crus-galli*, *Ficus heterophyllus*, *Fimbristylis dichotoma*, *Leersia hexandra*, *Lippia javanica*, *Ludwigia species*, *Mimosa pudica*, *Monochoria hastata*, *Oryza rufipogon*, *Polygonum barbatum*, *Pseudoraphis spinescens*, *Saccharum spontaneum* and *Typha angustata*) are an important habitat for many waterfowl. The swamp forests and reedlands also include uncommon plant species such as *Clematis cadmia*, *Rosa clinophylla* and *Oxystelma secamone*. Open water areas are characterised by free-floating species such as *Pistia stratiotes* and *Salvinia natans*, anchored, submerged species such as *Vallisneria spiralis*, *Potamogeton crispus* and *Aponogeton echinatus*, suspended species such as *Ceratophyllum demersum* and *Utricularia aurea*, and rooted species with floating leaves, such as *Nymphaea nouchali* and *Trapa maximowiczii*. In all, more than 200 plant species have been recorded, including exotics such as Waterhyacinth, *Eichhornia crassipes*, which fortunately is not common in the area.

17. Noteworthy flora: (indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc.)

Plant species occurring at Tanguar Haor that are threatened, rapidly disappearing or rare in the *Haor* Basin and Bangladesh as a whole are:

- *Barringtonia acutangula* (*hijal*),
- *Clematis cadmia*
- *Crataeva nurvala* (*barun*),
- *Euryale ferox* (*makhna*; Fox Nut),
- *Nelumbo nucifera* (*padma*, Lotus),
- *Ottelia alismoides* (*panikola*)
- *Oxystelma secamone* var. *secamone* (*dudhi lata*)
- *Pongamia pinnata* (*koroch*),
- *Rosa clinophylla* (formerly *R. involucrata*) (*gunji kata*), and
- *Typha* spp. (*egra* or *hogla*, Cattail).

18. Noteworthy fauna: (indicating, e.g., which species are unique, rare, endangered, abundant or biogeographically important; include count data, etc.)

- the area provides a habitat for various globally threatened wildlife species, including 1 amphibian species, 3 turtles, 2 lizards, 4 snakes, 10 birds and 6 mammal species;
- the area also provides a habitat for many species threatened in Bangladesh, including 55 fish, 31 birds and many wetland plant species;
- lastly, it provides a breeding area for many fish and birds, including the globally threatened Pallas's Fish-eagle (*Haliaeetus leucorhypha*; *kura*), of which 10-12 breeding pairs occur at Tanguar Haor.
- A total of 135 fish species have been recorded, including 15 species listed as critically endangered in Bangladesh: *Bagarius bagarius*, *Clupisoma garua*, *Crossocheilus latius*, *Ctenops nobilis*, *Eutropiichthys vacha*, *Labeo boga*, *Mystus seenghala*, *Notopterus chitala*, *Pangasius pangasius*, *Rasbora elanga*, *Rasbora rasbora*, *Rita rita*, *Rohtee cotio*, *Silonia silondia* and *Tor tor*.
- Common fish species include:
 - Chanda baculis*
 - Chanda nama*
 - Chanda ranga*
 - Colisa fasciatus*
 - Colisa lalius*
 - Heteropneustes fossilis*
 - Labeo goniis*
 - Labeo rohita*
 - Macrornathus aculeatus*
 - Macrornathus armatus*

Macrognaathus pancalus
Mystus tengara
Mystus vittatus
Puntius sophore
Salmostoma bacailo
Xenentodon cancila

- Reptile species at Tanguar Haor include 6 turtles, 7 lizards and 21 snake species, some classified as Vulnerable (*Python molurus*) and two as Indeterminate (*Geochlemys hamiltoni*, *Varanus flavescens*). A further three species are listed under CITES App. I or II (*Asperderetes hurum*, *Kachuga tecta*, *Lissemys punctata*).
- annually, Tanguar Haor provides a refuge for 30-40,000 (occasionally 60,000) waterfowl, of more than 92 species (highest in the country), including many migratory species;
- A total of 208 bird species have been recorded at *Tanguar Haor* (=30 % of all species recorded in Bangladesh); 92 are waterbirds, 33 are reed land/grassland/marsh-dwelling passerine birds, 15 are birds of prey and 68 species are birds of village groves and/or foothill forests. 23 anatid species have been recorded. 98 species are migratory (of which 5 vagrant), and 110 are resident species; two are listed as Rare (*Haliaeetus leucorhyphus*, *Prinia burnesii*), two are Indeterminate (*Pellorneum palustre*, *Chaetornis striatus*), and 4 are listed by CITES, App. I (*Haliaeetus leucorhyphus*, *Falco peregrinus*), App. II (*Platalea leucorodia*, *Sarkidiornis melanotos*).
- Common species include:

Fulvous Whistling Duck	<i>Dendrocygna bicolor</i>
Lesser Whistling Duck	<i>Dendrocygna javanica</i>
Cotton Pygmy Goose	<i>Nettapus coromandelianus</i>
Gadwall	<i>Anas strepera</i>
Northern Pintail	<i>Anas acuta</i>
Garganey	<i>Anas querquedula</i>
Ferruginous Pochard	<i>Aythya nyroca</i>
Purple Swamphen	<i>Porphyrio porphyrio</i>
Common Moorhen	<i>Gallinula chloropus</i>
Common Coot	<i>Fulica atra</i>
Black-tailed Godwit	<i>Limosa limosa</i>
Wood Sand-piper	<i>Tringa glareola</i>
Pheasant-tailed Jacana	<i>Hydrophasianus divergens</i>
Black-winged Stilt	<i>Himantopus himantopus</i>
Ringed Plover	<i>Charadrius hiaticula</i>
Lesser Sand-plover	<i>Charadrius mongolus</i>
Grey-headed Lapwing	<i>Hoplopterus cinereus</i>
Whiskered Tern	<i>Chlidonius hybridus</i>
Little Grebe	<i>Tachybaptus ruficollis</i>
Little Cormorant	<i>Phalacrocorax niger</i>
Little Egret	<i>Egretta garzetta</i>
Grey Heron	<i>Ardea cinerea</i>
Great Egret	<i>Casmerodius albus</i>
Cattle Egret	<i>Bubulcus ibis</i>
Indian Pond-heron	<i>Ardeola grayii</i>
Asian Openbill Stork	<i>Anastomus oscitans</i>
- Noteworthy mammals include:

Gangetic Dolphin	<i>Platanista gangeticus</i> (Vulnerable)
Bengal Fox	<i>Vulpes benghalensis</i> (Intermediate)
Smooth-coated Otter	<i>Lutra perspicillata</i> (Intermediate)
Indian Pangolin	<i>Manis crassicauda</i> (CITES App. II)
Common Otter	<i>Lutra lutra</i> (CITES App. II)
Small Indian Civet	<i>Viverra indica</i> (CITES App. II)

Jungle Cat
Fishing Cat

Felis chaus (CITES App. II)
Felis viverrina (CITES App. II)

19. Social and cultural values: (e.g., fisheries production, forestry, religious importance, archaeological site, etc.)

Tanguar Haor is one of Bangladesh's "mother fisheries" (i.e. most important inland fisheries), and has been leased for commercial exploitation at least since the 1930s. Until several decades ago, the local community was employed to exploit the fishery, and had usufruct rights to non-fish resources of the area. The new management plan for the area plans to restore access and use rights in the year 2000. Hunting of turtles, tortoises and waterfowl is widespread, and part of everyday life. The way of life – living in homesteads built on mounds, appearing like islands in an inland sea – is unique in this part of Bangladesh.

20. Land tenure/ownership of: (a) site (b) surrounding area

Tanguar Haor is classified as khas land (= Government land), and is controlled by two local government agencies, the Department of Land Revenue (Ministry of Land), and the District Commissioner's Office (Ministry of Establishment). Control will be handed over to the Ministry of Environment and Forest (MoEF) in April 2000, as part of the enactment of the Environmental Conservation Act (1995) and Rules (1997) concerning Ecologically Critical Areas. Areas adjacent Tanguar Haor are privately owned.

21. Current land use: (a) site (b) surroundings/catchment

Tanguar Haor supports one of Bangladesh's "mother fisheries" (i.e. most important inland fisheries), and has been leased for commercial exploitation at least since the 1930s. Restocking, mainly with major carp species, is carried out on an annual basis by the Department of Fisheries. Fishing is currently carried out by means of fisherfolk recruited from well outside the district, and a temporary fishing camp is annually established for housing 2000+ fishermen and their families. Areas adjacent the haor are cultivated, mainly with rice, and with wheat to the north of the haor. Around homesteads, many vegetables (beans, gourds, yams), fruit (banana, papaya, mango, jujube) and crops such as mustard are grown. As waterlevels drop in the drier months, peripheral areas of the haor are cultivated with rice, and used for grazing of cattle and buffalo. Ricefields are irrigated with water pumped from the beels. Duck are kept in village ponds and in the beels. Reed, grass and swamp forest trees are all used as fuel, which is in short supply in the area. At a few locations, small deposits of young peat are found, and these are excavated for fuel. Wildfowl are hunted for food and for sale at local markets. Turtles and tortoises are hunted for food.

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

- Swamp forests that were once common at the haor, have now become very rare due to clearing, cutting and burning, and the last vestiges remain at Rangchi, in the south-western part of the haor. This consists of about 800 more than 100 year-old, pollarded *Barringtonia acutangula* (*hijal*) and *Pongamia pinnata* (*koroch*) trees.
- Reed beds dominated by *Phragmites karka* have been severely reduced in area because of collecting for fuel and thatch, and the conversion of marginal wetlands for agriculture. Certain species of aquatic plant that used to be common in the area, have now

disappeared or become very rare, probably due to a combination of over-utilisation (of useful species) and changes in water quality (leading to poorer light penetration).

- Due to overfishing and habitat destruction, various indigenous fish species have become rare or have disappeared altogether. Species numbers have dropped from 135 two decades ago, to not more than 112 in 1997. Almost half (49%) of the species recorded in 1997 are not abundant.
- Amphibians, reptiles and mammals have all reportedly decreased significantly in numbers, mainly due to habitat destruction, but also due to collecting and hunting for food (e.g. frogs and turtles), persecution as pests (e.g. wild boar, otters), and perhaps accidental poisoning (e.g. frogs, by use of pesticides).
- Waterbird populations are mainly threatened by hunting, and an estimated 10,000-15,000 is trapped annually at Tanguar Haor, equivalent to 36-58 % of the total waterfowl population. Waterfowl in the haor region (of Sylhet Division) show a decline of almost 2/3's in total numbers over the past decades.
- The current leasing system is seen as one of the major threats to sustainable management of the area, as it encourages maximum exploitation, and marginalises the local community.
- Pesticides and exotic plants have only minor impacts at present levels.

23. Conservation measures taken: (national category and legal status of protected areas - including any boundary changes which have been made; management practices; whether an officially approved management plan exists and whether it has been implemented)

Tanguar Haor was one of the four target areas in Bangladesh of the National Conservation Strategy Implementation Project-1, during phase 1 (1995-97). Baseline studies were carried out, and a first management plan formulated. However, at that time, control of the area was still with Ministry of Land and Ministry of Establishment, and the area was leased to external investors every 2-3 years by public auction. Over the past decades, the local community had been entirely excluded from fishing, and prevented (by force) from utilising other wetland resources of the area. The first management plan therefore aimed primarily at defusing the current conflict, re-involving locals in fishing, and returning most of the lost resources. In addition, it aimed at habitat restoration. However, the first plan was not implemented because of changes in control over the area.

24. Conservation measures proposed but not yet implemented: (e.g., management plan in preparation; officially proposed as a protected area, etc.)

After April 2000, when control over Tanguar Haor is handed over to MoEF, a revised Tanguar Haor Management Plan (1999) will be implemented. The main elements of this proposal include:

- Habitat restoration: replanting and protection of swamp forest (-trees), reed beds, and desirable aquatic plants in village ponds; fish restocking using indigenous fish species.
- Protection of (restored) resources involves taking away threats, and providing viable alternatives to the local community: resource substitution (fuelwood plots, poultry, fishponds); curbing of reclamation and non-viable management practices; income generation (micro-credit, ecotourism, vocational training); monitoring and protection of wildlife (Annual Asian Waterfowl Census); welfare uplifting (flood protection, planting of trees as anti-erosion measure, sanitation, safe drinking water).
- Establishing sustainable community-based management: community based management programme; introducing sustainable management to fisheries; training programme (in sustainable management of non-fishery resources); awareness programmes (value of wildlife, conservation value); education programme targeting local schools.

25. Current scientific research and facilities: (e.g., details of current projects; existence of field station, etc.)

Research has been carried out at Tanguar Haor for NERP (1993), the annual Asian Waterfowl Census, and NCSIP-1; these have covered: flora, fauna, fisheries, and socio-economics. Best covered in terms of studies are birds and flora. Apart from the AWC, which has been carried out in the area since 1986, there are no continuous studies. There are no research facilities present in the area, but construction is planned for 2000-2002.

26. Current conservation education: (e.g., visitors centre, hides, info booklet, facilities for school visits, etc.)

There are no conservation education facilities at Tanguar Haor, nor have programmes been undertaken. The management plan being developed for 2000 and beyond hopes to address part of the need, by initiating an education programme for local schools, and producing a brochure.

27. Current recreation and tourism: (state if wetland is used for recreation/tourism; indicate type and frequency/intensity)

Currently, very few tourists visit the area, and the only outside visitors are occasional birders, people involved in the AWC, and (bird-) hunters invited to the area by the current leaseholder. There is scope for more visitors, especially from the conservation community and expatriate community in Dhaka, and simple facilities are planned under the new management plan.

28. Jurisdiction: (territorial, e.g. state/region, and functional, e.g. Dept of Agriculture/Dept. of Environment, etc.)

Tanguar Haor is currently jointly managed by the Ministry of Land and the Ministry of Establishment; after April 2000, control will be handed over to the Ministry of Environment and Forest.

29. Management authority: (name and address of local body directly responsible for managing the wetland)

Ministry of Environment and Forest
Government of the People's Republic of Bangladesh
Bangladesh Secretariat
Dhaka, Bangladesh

30. Bibliographical references: (scientific/technical only)

Ahmed, S.S. (1997) - Socio-economic aspect analysis, towards sustainable development of *Tanguar Haor*. National Conservation Strategy Implementation Project -1. Ministry of Environment and Forest, Dhaka, First Draft October 1997, 51 pp..

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Giesen, W. & S.M.A. Rashid (1997) - Management Plan for *Tanguar Haor*, Bangladesh. Restoring local community participation in wetland resource management. National Conservation Strategy Implementation Project - 1. Ministry of Environment & Forest, Government of Bangladesh, in co-operation with IUCN, the World Conservation Union, Dhaka, 248 + xvii pp.

Giesen, W., N. Khan, M.A. Shahid & A. Rahman (2000) - Management Plan for Tanguar Haor Bangladesh. Achieving Community-based Sustainable Use of Wetland Resources. National Conservation Strategy Implementation Project - 1. Ministry of Environment & Forest, Government of Bangladesh, in co-operation with IUCN, the World Conservation Union, Dhaka, 260 + xvi pp.

Khan, M. Anisuzzaman (1997) - The Sustainable Management of the Avifauna of *Tanguar Haor*. Draft Final Report. Ministry of Environment and Forest, GOB, National Conservation Strategy Implementation Project 1. Dhaka, September 1997, 76 pp. + appendices.

NERP (1993) - Wetland Resources Specialist Studies. Northeast Regional Water Management Project/FAP6. Canadian International Development Agency, Dhaka, Bangladesh.

Nuruzzaman, A.K.M (1997) - The sustainable management of fisheries resources at *Tanguar Haor*. Draft Final Report. Towards Sustainable Development: The National Conservation Strategy of Bangladesh. NCS Implementation Project - 1. Ministry of Environment and Forest, Dhaka, 78 pp.

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