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SUNDARBANS NATIONAL PARK (452) INDIA



WORLD HERITAGE NOMINATION -- IUCN SUMMARY

452: SUNDARBANS (INDIA)

Summary prepared by IUCN (April 1987) based on the original nomination submitted by India. This original and all documents presented in support of this nomination will be available for consultation at the meetings of the Bureau and the Committee.

1. LOCATION:

Lies south-east of Calcutta and forms part of the Gangetic Delta, which borders on the Bay of Bengal. The area nominated is the Sundarbans National Park which is a 133,000 ha core area within the 258,500 ha Sundarbans Tiger Reserve. 21°31'-21°53'N, 88°37'-89°09'E.

2. JURIDICAL DATA:

History of protection in the area dates back to 1878. The core area was made a Wildlife Sanctuary in 1977 and a National Park in 1984. Both the Indian Forest Act and the Wildlife Protection Act (1972) apply.

3. IDENTIFICATION:

The Sundarbans, covering some 10,000 sq. km of land and water (of which some 5,980 sq. km is in India and the rest in Bangladesh), is part of the world's largest delta (80,000 sq. km) formed from sediments deposited by three great rivers, the Ganges, Brahmaputra and Meghna, which converge on the Bengal Basin. The whole Sundarbans area is intersected by an intricate network of interconnecting waterways, of which the larger channels are often a mile or more in width and run in a north-south direction. Tidal waves are a regular phenomenon and may be up to 75m high. The land is constantly being changed, moulded and shaped by the action of the tides. About half of the tract is under water and the rest of the landscape is characterised by low-lying alluvial islands and mudbanks, with sandy beaches and dunes along the coast. The Sundarbans forest itself can be subdivided into four types: low mangroves, salt water forest, beach forest and sand dune vegetation.

The Sundarbans is the only remaining habitat in the lower Bengal Basin for a great variety of faunal species. The tiger population, estimated at 264 in 1983 is the largest in India. Ungulates are wild boar, main prey species of the tiger, and spotted deer. Aquatic mammals that frequent the tidal waters include the Ganges dolphin, Indo-Pacific hump-backed dolphin, Irrawaddy dolphin and finless porpoise. The Sajnakhali area contains a wealth of water birds, noteworthy residents including openbill stork, black-necked stork, and greater adjutant stork. This area is important for waders, including the Asian dowitcher, a rare winter migrant. The Sundarbans provides important habitat for a variety of reptiles including river terrapin, olive ridley, and estuarine crocodile.

4. STATE OF PRESERVATION/CONSERVATION:

The salinity of the Indian Sundarbans, largely due to the eastward shift of the mouth of the Ganges, is being influenced by upstream diversion of up to 40% of the dry season flow of the Ganges, the repercussions of which are not clearly understood. Oil spills are a potential threat which cause immense

damage, especially to aquatic fauna and seabirds and probably also to the forest itself into which oil could be carried by high tides. An average of 45 people were killed annually by tigers in 1975-1982. This has caused certain conflicts with local people who use the adjacent Tiger Reserve for collection of honey and firewood and for fishing.

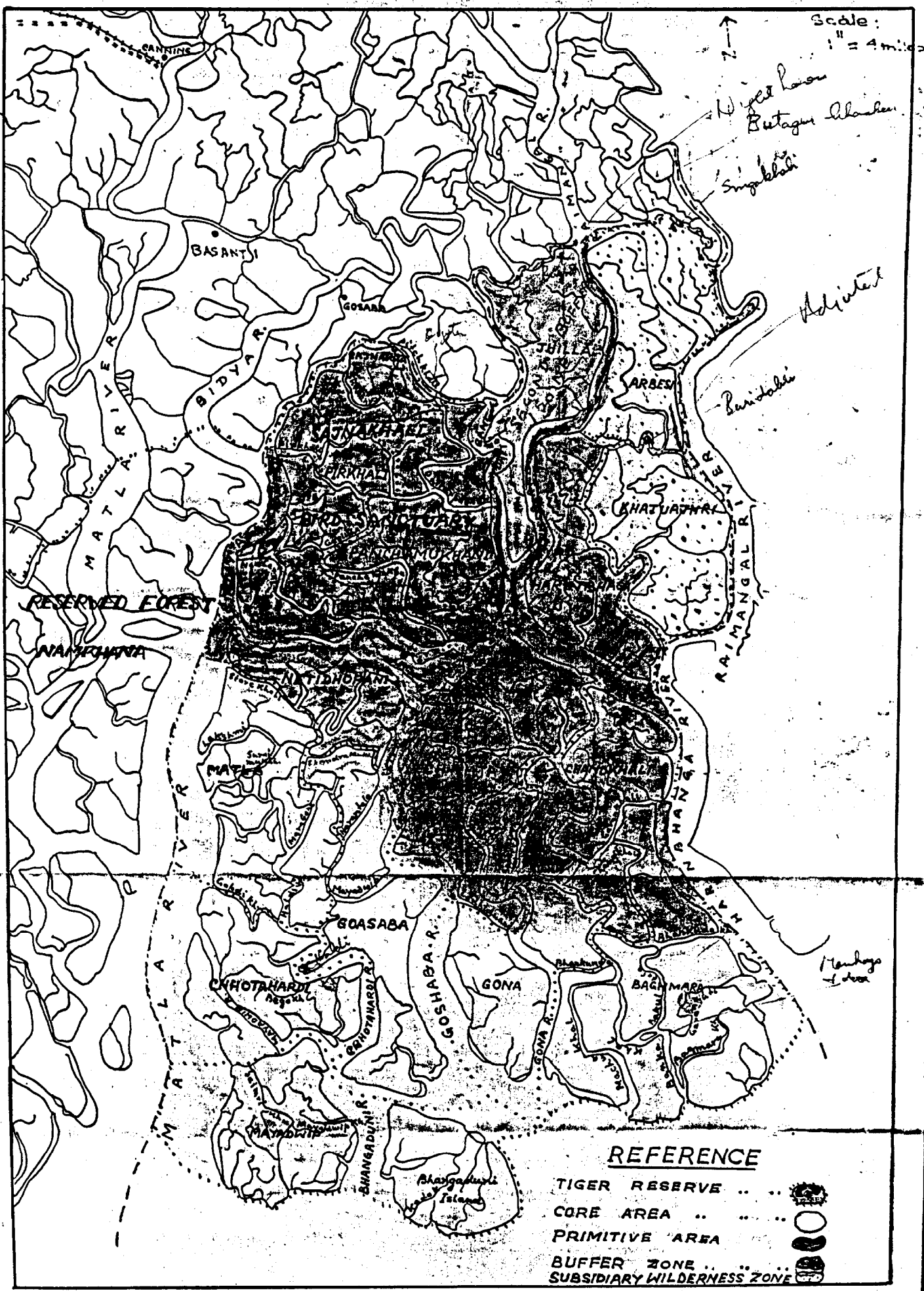
5. JUSTIFICATION FOR INCLUSION ON THE WORLD HERITAGE LIST:

The Sundarbans nomination, as presented by the Government of India provides the following justification for designation as a World Heritage property:

a) Natural property

- (ii) Outstanding example of biological evolution. The Sundarbans is the largest area of mangrove forest in the world and the only one that is inhabited by the tiger. Its role in wetland nursery for marine organisms and as a climatic buffer against cyclones is a unique natural process.
- (iv) Habitat of rare and endangered species. The Sundarbans contains one the world's major habitat areas for tigers and also supports a wealth of faunal species including aquatic mammals, birds, and reptiles.

MAP OF SUNDARBANS TIGER RESERVE



WORLD HERITAGE NOMINATION -- IUCN TECHNICAL EVALUATION

452 SUNDARBANS (India)

1: DOCUMENTATION

- (i) IUCN Data Sheet
- (ii) Consultations: P. Jackson, M. Halle, J. Blower, J. Seidensticker
- (iii) Literature consulted: Global Status of Mangrove Ecosystems, IUCN, 1983; Handbook for Mangrove Area Management, IUCN, 1984.
- (iv) Site visit: scheduled in November 1987.

2. COMPARISON WITH OTHER AREAS

Mangroves are characteristic littoral plant formations found on sheltered coastlines throughout the tropics and subtropics. Countries with the greatest extent of mangrove forests are Brazil, Indonesia, Australia and Nigeria. The Sundarbans mangrove area of India and Bangladesh when taken together forms one of the world's largest single patches: some 770,000 ha. In terms of species richness, the mangroves of the Indomalayan Realm have the greatest diversity.

Some 18 countries have established protected areas in mangrove forests. In most of these countries the individual areas under protection are less than 1,000 ha. However, protection is afforded to a total of over 11,000 ha. in four reserves in Venezuela and 26 reserves totalling more than 80,000 ha. have been established in Australia. The Everglades World Heritage site contains almost 100,000 ha. of mangrove making it the world's second largest mangrove protected area after the Sundarbans. There is also significant amounts of mangrove in Stage II of the Kakadu National Park but this has not yet been included in the World Heritage Site.

Within the Sundarbans there are three other gazetted reserves on the Bangladesh side. These are the wildlife sanctuaries of Sundarbans West (9,069 ha.); Sundarbans South (17,878 ha.) and Sundarbans East (5,439 ha.). None of these are contiguous with the Sundarbans National Park in India but all harbour similar species.

All four reserves in the Sundarbans collectively protect the only remaining habitat in the lower Bengal Basin for a great variety of faunal species including an exceptional number of threatened reptilian species. They are the only mangrove forests in the world inhabited by the tiger.

3. INTEGRITY

The Sundarbans National Park exists within the Sundarbans Tiger Reserve which acts as a buffer zone around the core area. The total area has a management plan (1973) but it is urgently in need of updating. Forest exploitation within the park is not allowed but seasonal permits are granted for collection of honey and palms. Local people may also fish in the tidal waters but require a permit for firewood collection. There has been a remarkable improvement of the biota in the park over the past 12 years which is reflected in the steady size of the tiger population which has risen from 181 in 1976 to 264 in 1983.

Concern has been expressed about recent indications of deterioration in the flora of the Sundarbans including localised die-back of certain species. There is some evidence that these changes may be due to increasing salinity resulting from the upstream diversion of up to 40% of the dry season flow of the Ganges River. Oil spills are another potential threat and could cause immense damage especially to aquatic fauna and seabeds.

4. ADDITIONAL COMMENTS

The Sundarbans mangroves cover some 774,000 ha. of land and water (of which 417,000 ha. are in Bangladesh and 357,000 ha. are in India) and are a part of the world's largest delta. The name of the site as proposed by India is "Sundarbans" which is too general. The ideal name for the property would be "The Sundarbans Mangrove Reserves of India and Bangladesh" but as the Government of Bangladesh has not yet formally nominated the adjoining reserves, the most descriptive name would be the Sundarbans National Park, India.

5. EVALUATION

The Sundarbans is one of the largest remaining areas of mangrove vegetation in the world and is a unique and productive wildlife area. The forest and waterways support a wide range of fauna including a number of species threatened with extinction. The area qualifies for World Heritage listing under criterion IV - Habitats of Rare and Endangered Species. The Sundarbans is especially important for the Bengal Tiger as there is no other protected area with more than 100 individuals (Sundarbans National Park has 264). Together with the surrounding Tiger Reserve the National Park is of sufficient size to maintain viable populations of the key species.

The area also qualifies under criterion II as an outstanding example of significant on-going geological processes in terms of its exceptional portrayal of the natural processes of the effects of monsoonal rains, flooding, delta formation and plant colonisation.

6. RECOMMENDATIONS

Results of the field review of the nominated site are not yet available but the following provisional suggestions were made for consideration by the Bureau:

- the Sundarbans National Park should be inscribed on the World Heritage List. Future inclusion of the reserves on the Bangladesh side to form an international Sundarbans Mangrove Reserve World Heritage Site should be encouraged.
- the management plan for the existing Tiger Reserve was compiled in 1973 and is in urgent need of revision.
- threats to the viability of the Park due to diversion of water from upstream sources should be monitored.

