

# South Asia

## INDIA

### Kaziranga National Park

#### II.1 Introduction

Year of Inscription 1985

#### Organisation Responsible for the Report

- Kaziranga National Park (KNP)  
Bolakhata,  
District Golaghat,  
Assam  
India

#### II.2 Statement of Significance

Inscription Criteria N ii, iv

#### Statement of Significance

- Proposed as follows:  
KNP is "the largest undisturbed and representative area of Brahmaputra Valley floodplain grassland and forest with associated large herbivores, avifauna and wetland values (including turtles and dolphins)". It contains the world's largest population of one-horned Indian Rhinoceros (1552 in 1998).

#### Status of Site Boundaries

- Borders & buffer zone of the property are considered adequate.
- "However, six new additions adjoining the property along the north, west and south of the property boundaries are notified with separate national park status either to provide extended habitat for increasing population of wildlife or as a corridor for safe movement of animals to Karbi Anglong Hills."
- These additions amount to a total of 429.5 km<sup>2</sup> approximately.

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*"The Rhino population has increased from 946 in 1984 to 1552 in 1999. Tiger numbers grew from 29 in 1972 to 86 in 2000."*

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#### II.3 Statement of Authenticity/ Integrity

#### Status of Authenticity/ Integrity

- The WH value is considered to have been maintained.
- The Government's proposal to construct a railway along the southern boundary of the KNP has been cancelled.



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#### II.4 Management

#### Administrative and Management Arrangements

- The legislative status for KNP represents the "maximum protection under Indian conditions" at national, provincial and municipal levels.
- A list of 12 acts and constitutional safeguards ranging from the Assam Forest Regulation of 1891 to the Biodiversity Conservation Act of 2002 are outlined.
- The management plan for KNP (2003-04 to 2012-13) has been prepared. The objectives, problems, zonations and strategies are clearly defined.

#### Present State of Conservation

- Six new buffers and ecological corridors have been proposed to allow animals to migrate during floods.
- The Rhino population has increased from 946 in 1984 to 1552 in 1999. Tiger numbers grew from 29 in 1972 to 86 in 2000.
- Other developments include the integration of KNP into one of four 'inter-state conservation areas' in the state of Assam; the recognition of a new tiger reserve; as well as the identification of an Important Bird Area (IBA) by Birdlife International.

#### Staffing and Training Needs

- Some 452 staff are employed including mahuts, boat men, grass cutters, and 242 forest guards.
- Staffing level is considered inadequate. The creation of 117 new posts is proposed in the management plan.

## State of Conservation of the World Heritage Properties in the Asia-Pacific Region

- Training needs are identified in handling arms; management of ranging patterns of wild animals; participatory rural appraisal; wildlife forensics; and intelligence gathering.

### Financial Situation

- KNP receives funds from the Central Government (infrastructure, elephant scheme, eco-development), and State Government (rhino conservation, poaching control). No figures supplied.
- Funding is considered inadequate. Proposals to attract assistance from national and international NGOs (WWF, Wildlife Institute of India), as well as "ploughing back the revenue generated by tourism", are considered.
- \* International Assistance from WHF as follows: (i) 1997, US\$50,000 Technical Co-operation for Security Reinforcement; (ii) 1998, US\$50,000 Technical Co-operation for Security Reinforcement.

### Access to IT

- 1 PC with internet access. No GIS capacity.

### Visitor Management

- Kaziranga sanctuary was opened to interested visitors in 1937, and has seen a continuous rise in tourists reaching 46,306 in 2001-02.
- At present, a "few watchtowers", 4 government and 3 private tourist lodges exist inside the park. From Nov to May, rangers accompany light vehicles inside KNP to view animals. "Foot safari" is banned.
- There is a need for an education centre; audio-visual materials and signage; new watch towers; and road maintenance.

- A management plan is being developed to limit tourist numbers (and length of stay) inside the park, register vehicles, and promote codes of conduct.

## II.5 Factors Affecting the Property

### Threats and Risks

- Poaching (in decline despite civil unrest),
- Heavy traffic on National Highway no.37,
- Uncontrolled tourism,
- Fluvial erosion by the Brahmaputra river,
- Annual/flash floods (leading to high animal mortality),
- Siltation and weeds in wetlands (increasing),
- Illegal fishing and livestock grazing.

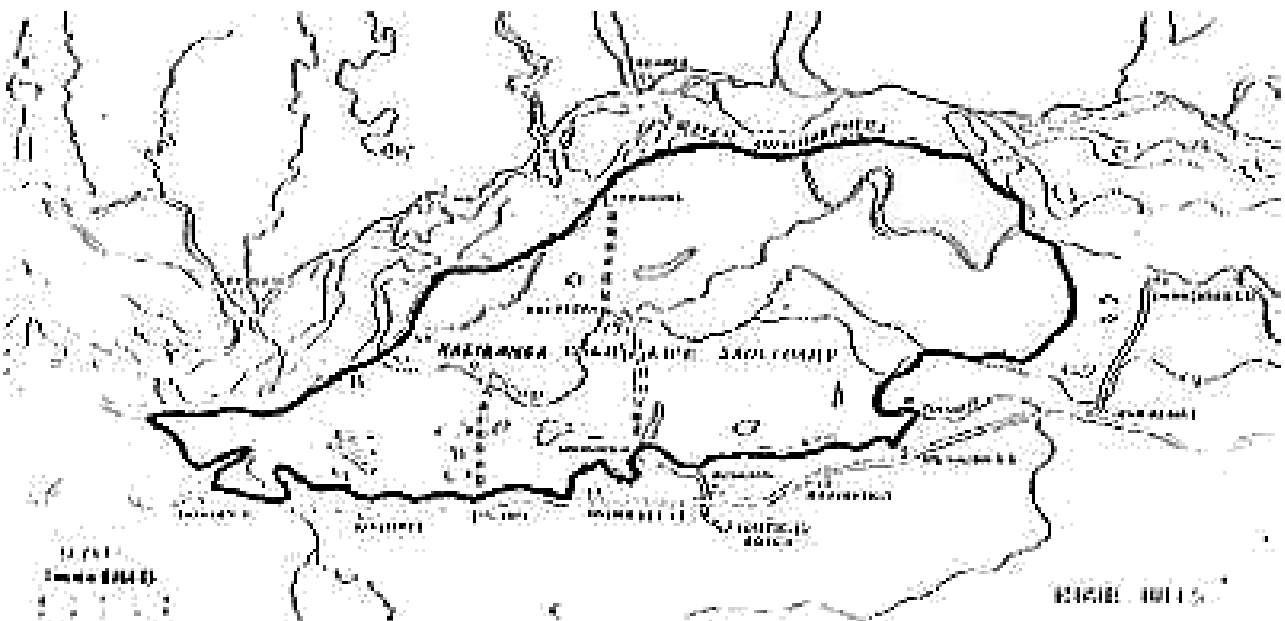
### Counteractive Plans

- Emergency measures are incorporated into 'individual theme plans' for each of the factors affecting the site as part of the 2003-13 strategy.
- Every year, the KNP prepares an Annual Plan of Operation (APO) based on the 10-year draft management plan.

## II.6 Monitoring

### Monitoring Arrangements

- Periodic censuses of all major wild animals (rhino, tigers, elephants and wild buffalo) in the KNP has been carried out since 1966 by the Forest Dept. of Assam, research institutions and NGOs.
- A formal monitoring system for bank line changes in the Brahmaputra is being prepared. Training is also required for Data Base Management systems.



Map showing Kaziranga National Park protected area

## Monitoring Indicators

- The following indicators have been defined: erosion / siltation levels; flood levels; grassland habitat change; animal population dynamics; tourist inflow; attitudinal changes of local people towards conservation.

## II.7 Conclusions and Recommended Actions

### Conclusions and Proposed Actions

- “Because its perimeter is adjacent to human settlements on three sides, protection of Kaziranga from illegal incursions of poachers and herdsmen has been a difficult task.”
- Nonetheless, poaching threats have been largely replaced by management problems such as floods, siltation, weeds and tourism.
- Support from the WHF is requested for a GIS-based management information system.

### \* State of Conservation Reports

Research material: Anecdotal references date back to 1908 when the first published reports were written in the Imperial gazetteer of the state. Several fauna and flora surveys and studies on flood dynamics have been completed. However, scientific projects involving systematic data collection have only been undertaken in recent years. Only one doctoral work (Muley, 2001) and two MSc. dissertations (Bannerjee, 2001 and Srivastava 2002) have been carried out.

1994 Committee CONF.003/6 The Committee took note of the expressed interest by WWF-India to prepare a state of conservation report and systematic monitoring system for Kaziranga WH site.

1997 Bureau WHC-CONF.204/2b A member of the WH Centre joined the Deputy Inspector General for Wildlife in India on a mission to the KNP in January 1997 following a monitoring mission to Manas Wildlife Sanctuary. A status report on KNP provided by the Assam Forest Dept. indicated that the population of one-horned rhinoceros within the Park had grown from some 366 in 1966 to about 1,200 in 1997. Statistics gathered since 1980 suggested that although an average of 26 rhinos were poached every year, twice that number died due to drowning in the annual floods of the Brahmaputra River. Park staff were stationed in 115 camps throughout the WH property. Nevertheless, encounters with poachers had risen continuously since the early 1990s due to escalating international market prices for rhino-horn. The management of KNP planned to add new areas to the Park, double the number of guard camps, build ‘upland refuges’, and launch educational campaigns among villagers. The Bureau commended the dedication of Kaziranga staff in controlling poaching, and urged the management authorities to pursue their plans to enlarge the Park.

1999 Bureau WHC-CONF.204/5 At its 1997 session in Naples, the WH Committee approved US\$ 50,000 for the construction of 10 guard camps, 5 upland wildlife refuges, and for the purchase of audio-visual equipment for a KNP interpretation centre. Record rainfall in mid-1998 resulted, however, in exceptional flooding of the Brahmaputra River and parts of the Park were under 6 metres of water. More than a square kilometre area of the floodplain was washed away and the Park Director informed IUCN that an estimated 652 animals, including 42 rhinoceroses, were lost. During the natural catastrophe, WWF-India provided material assistance and the Indian army constructed ten islands on high ground for wildlife. IUCN also noted that 44 km<sup>2</sup> of new land had been added to the KNP. The Bureau recognised the support provided by WWF-India and the Indian Army, and invited the State Party to provide a detailed report on subsequent wildlife censuses, as well as on measures to mitigate future flood damage.

The Bureau requested the State Party to clarify whether it intended to propose the inclusion of the recent extension of the Park within the WH property.

1999 Committee WHC-CONF.209/14 The WH Centre informed the Bureau that no information had been provided by the State Party concerning the inclusion of the recent extension of KNP within the WH area. The Committee reiterated its invitation to the State Party to provide a report on wildlife censuses and measures to control flooding.

2000 Bureau WHC-CONF.202/5 IUCN informed the WH Centre that the State Party had developed a 5- year Action Plan, including a calendar for its implementation, focusing on anti-poaching activities and habitat management. In a report to the Chief Conservator of Forests, dated February 2000, the Director of the Park noted that the formal proposal for the extension of the WH site was awaiting approval by the State legislature of Assam. The report also suggested that UNESCO might be contacted for funds to study the erosion damage caused by the 1998 floods. The WH Centre also noted that it had been offered a sum of DM 10,000 by a German Tour Operator (Windrose) for use in KNP protection.

2001 Bureau WHC-CONF.205/5 IUCN informed the WH Centre of a severe fund shortage impeding the management of the KNP. It was estimated that more than 200 rhinos had been poached (and 60 poachers killed) in the KNP during the 1990s. Problems persisted for designated funding provided to the Regional Government in actually reaching the Park. Consequently, few of the patrol vehicles and boats were in adequate running condition. It was reported that some of the local people who entered the park during the winter for fishing purposes, also stole rifles from forest guards and damaged boats. The State Party subsequently issued an order to ban fishing from the wetlands inside the National Park. IUCN also received reports of elephants killing at

least 300 people in 3 years, leading to concerns that the wildlife/people conflict would result in resentment towards the National Park.

The Bureau requested the State Party to submit a report on the financing of anti-poaching operations, and measures to minimise conflicts between elephant herds and human habitations.

2001 Committee WHC- CONF.208/10 The Committee reiterated its request that the State Party submit an up-to-date state of conservation report on the major management issues of the Park, and welcomed the possibility of a WH Centre/IUCN mission visiting KNP in 2002.

2002 Committee WHC-CONF.202/17 An IUCN/Government of India mission to Assam, supported by the WH Centre and UNESCO-New Delhi was fielded in February 2002, including a 2-day visit to Kaziranga. The mission noted the following: (a) Complete control of all illegal killing of rhinoceros appeared impossible as poachers entered the Park from many locations along the Brahmaputra River and were frequently assisted by farmers. (b) Extreme poverty and high population densities around the Park made the community-based economic alternatives a challenging task. (c) A draft management plan was nearing completion, but was hindered by a lack of data and adequate consultative mechanisms. (d) The operating budget, infrastructure, staff training and equipment were inadequate. (e) Unpredictable financial & technical resources limited the ability of the Park authorities to run orderly programmes. (f) Community “eco-development” implementation were not effectively linked to enhancing support for nature conservation. (g) A wide range of anti-poaching measures had been implemented. (h) Compensation was allocated to villagers for elephant damage on crops & property, but not for human lives. (i) All of the facilities funded by the US\$50,000 emergency assistance grant had been completed to an acceptable standard.

The Committee invited the National & State Governments to accelerate the finalization of the management plan, ensure the steady flow of technical & financial support, and introduce consultative & transparent management planning processes. The Committee also urged the concerned authorities to explore a community outreach and conservation education strategy; a focused research agenda; tourism-related activities; as well as means to increase direct support from the WHF, and donors such as the UN Foundation.