

## Conclusions

In recent years, concern for the quality of the environment in relation to human existence has become paramount, and the national park has emerged as an important tool in achieving conservation and development goals. In the absence of *a priori* theory, multiple variable study may be used to generate hypotheses and topics for further study through the application of other methods. This study revealed topics whose investigation may produce considerably improved understanding of the process of national park establishment and use as a conservation tool in sub-Saharan Africa.

The interaction of national park existence with the physical environment, population, population density, and urbanization, appears to be particularly important. Most significant of all, however, is the point that the establishment of national parks in sub-Saharan Africa appears to be closely related to historical experience with national park management and the influences of pre-national imperial domination.

An understanding and further investigation of these historical influences may rapidly expand understanding of the use of national parks as a conservation tool in sub-Saharan Africa and elsewhere. Such studies will contribute insights to aid mankind in achieving protection of other species, while offering our own species the fullest opportunity for fruitful existence.

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Alarming Status of the Great Indian Rhinoceros (*Rhinoceros unicornis*)

The Government of India's recent plan to translocate a few Great Indian Rhinoceroses to some other potential habitats, has caused fresh controversy in the already politically strife-torn northeastern Indian State of Assam. This is because of the strong resentment in Assam against Rhinos being taken out of the State's sanctuaries. It is one strange example of how narrow 'State sentimentality' and political wranglings between different groups can stand against the cause of wildlife conservation.

The Great Indian or One-horned Rhinoceros (*Rhinoceros unicornis*), an animal that was once at the point of extinction, is still a major force in tourist attraction for visitors to the marshy and 'difficult' Kaziranga Sanctuary of the State (Krishnan, 1975). Despite the enforcement of a tough anti-poaching protection law in the Indian Wildlife Act of 1972 (Parliament of India, 1972), this splendid animal is still under severe threat, largely on account of its horn. The single horn, when fully developed, may weigh up to 1.5 kg at maturity and have a length of up to 30 cm.

It is believed that, when powdered, rhino horn has high aphrodisiac potential, and so it is much valued by some—particularly mongoloid—groups of Asiatic peoples (Gee, 1964), while North Yemeni tribesmen take pride in carrying daggers with decorative handles made of rhino horn (World Wildlife Fund, 1980). Furthermore, a common belief amongst some mongoloid tribes is that pieces of rhino horn can be used to detect poisons in drink\*: this also increases the poaching pressure placed on the animals.

Returning to the political issue: the Assam protesters argue that the scheme to remove the Rhino is designed

to strip their State gradually of an important tourist attraction. Indeed a section of militant students, in their recent protest note to the Prime Minister, Mrs Indira Gandhi, claimed that the proposed translocation scheme of the Kaziranga Rhino (which they call 'Assam Rhino') to any other reserve outside Assam, is a 'conspiracy to deprive the people of Assam of an object of their hereditary pride'. The agitated student groups are receiving support from local parochial and jingoistic politicians, so-called 'conservationists', and wildlife officials.

The wildlife authorities in New Delhi have expressed their surprise at the controversy and maintained the view that the Rhino translocation programme is based on sound conservation principles. They say that Kaziranga Sanctuary, whose total area is about 425 sq. km (Sinha, 1981), is overstocked with Rhinos, and that many of the animals must be shifted to a new suitable habitat—for their own benefit and the sake of the species' survival.

The recent Great Indian Rhinoceros population estimate shows that there are about 1,650 of the animals in

\* In answer to our query as to 'how pieces of horn are used in this supposed detection', the Author replied (*in litt.* 13 September 1982) 'Skillfully-carved cups of Rhinoceros horn [are] used by Indian and far-eastern tribal chieftains to test beverages for the possibility of containing poison... due to increasing cost or non-availability [a small piece of rhino horn may be borne on] a finger ring, wrist-, or neck-chain of silver, copper, or nickel. The purpose is the same—to test poisonous beverages or country drinks by observing colour changes of the drink offered.—Ed.

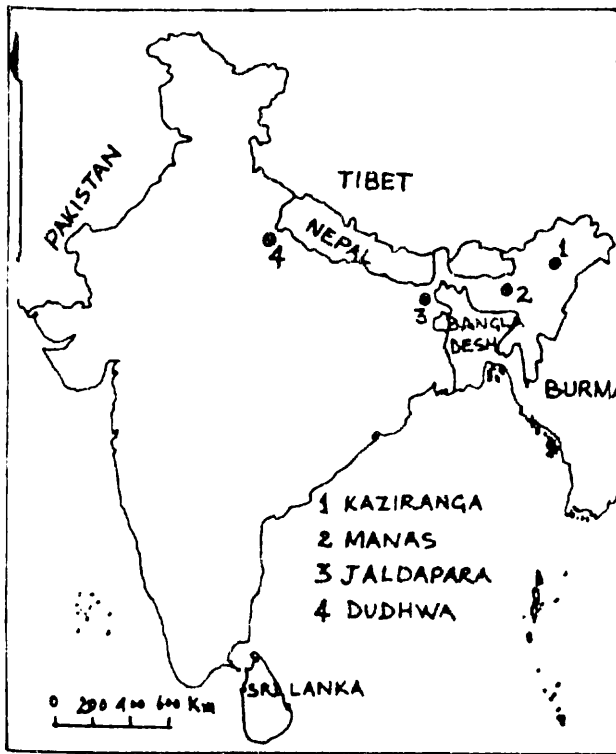


Fig. 1. Sketch-map of India showing (1) Kaziranga and (2) Manas, present homes of the Great Indian Rhinoceros in Assam, and (3) Jaldapara (West Bengal) and (4) Dudhwa (Uttar Pradesh), two proposed homes for some translocated Great Indian Rhinoceroses.



Fig. 2. Great Indian Rhinoceros in its natural abode in Kaziranga Sanctuary, Assam. Photo: K. Sankhala.

India (Tiwari, 1981), and that 960 of them are in Kaziranga alone (Fig. 1). Reflecting back, Kaziranga was established as a Sanctuary in 1908, when there were about a dozen of the animals in the reserve. Poaching, encroachment on the habitats by Man, drying of wetlands—all together contributed to push this magnificent animal into small isolated pockets of the savanna swamps of Kaziranga (Fig. 2) and the foothill forests in West Bengal and Nepal.

Although scientists affirm that there are no aphrodisiac properties in Rhino horn, poaching of Rhinos has not stopped. The officials of Kaziranga Sanctuary admitted that 40 Rhinos had been killed there during 1981. The other Asian rhinoceroses having long been extinct or nearly so, the Indian authorities are seriously considering how best to prevent extinction of their species, and that is why they are in favour of translocation of a few individuals to other suitable situations.

Last year, experts recommended that six Rhinos be lifted out of Kaziranga and introduced into Dudhwa National Park in the northern State of Uttar Pradesh. A few more could be translocated at a later stage into State Reserves in the northern part of West Bengal. But some Assamese wildlife officials think the Rhinos may not be able to survive the threats from poachers who are rampantly dominant in both the Dudhwa and northern Bengal forest areas. Their suggestion is to resettle the Rhinos in about 20 other forest reserves within Assam, which, they say, would provide ideal habitats for the species.

The translocation experiment of Rhinos to Dudhwa was expected to commence by this winter (late 1982), and this could perhaps be the starting point of similar projects involving other endangered Indian species. Here we think of India's most recent and notable conservation success, the 'Project Tiger' programme which was launched in 1973 to save that magnificent big cat (*Panthera tigris tigris*) from extinction (Baidya, 1981). Rigid protective measures have helped to increase the Tiger population both in the wild and in the reserves. The latest estimate of the Indian population of non-captive animals totals 3,015, whereas the initial (1972) count was only 1,844 (Project Tiger, 1981).

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