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RHINOS RE-ESTABLISHED IN UTTAR PRADESH

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Introduction

The recent reintroduction of Great Indian rhinoceros into Dudhwa National Park, Uttar Pradesh (Sale and Singh, 1986) provides an example of translocation of stock from healthy populations in other parts of a species' range. As a result of habitat loss and other factors rhino were eliminated from the major portion of their former range which stretched from the Hindu Kush to Burma and isolated populations only remain in eastern India and Nepal. The IUCN Asian Rhino Specialist Group (Schenkel and Schenkel, 1979) and the Rhino sub-committee of the Indian Board for Wildlife (Sale, 1981) recommended the establishment of additional rhino populations in order to improve the conservation status of the species.

After consideration of several sites Dudhwa was selected for a trial reintroduction on the grounds that it is the centre of the species' former range, formerly had a rhino population and still provides all their essential habitat requirements within a well managed national park. Estimated carrying capacity for the proposed reintroduction area was 90 rhinos and it was recommended that a total of up to 30 individuals should be introduced over a 5-year period. In early 1984 a 27 km^2 area was enclosed by a 2-strand electric fence in preparation for the first batch of translocated animals which it was felt should be encouraged to settle in optimal rhino habitat.

Translocation procedures

During March 1984 five rhinos were translocated from Assam to Dudhwa The group, comprising two males and three females, was captured from a peripheral population living mainly in cultivation in the region of Pobitara Sanctuary. They were immobilised with doses of Immobilon (2.45 mg etorphine and 10 mg acepromazine per ml; Reckitt and Colman, Hull, UK) ranging from 1.0 ml for a sub-adult to 2.0 ml for a large adult. After immobilisation a rhino was either coerced directly into a crate during the initial moments of revival, or if in terrain inaccessible to a truck carrying the crate, transported by sledge (Plate 2) to an accessible location. In such a case the fully immobilised animal was crated by sliding the loaded sledge into the crate and then revived. Revival was achieved using Revivon (3.0 mg diprenorphine per ml; Reckitt and Colman, Hull, UK) intravenously in equal volume to the total amount of Immobilon administered. Loaded crates were placed onto a truck by mobile crane and transported to holding stockades a few kilometers from the capture site. In an individual stockade each newly captured rhino was provided with a wallow (Plate 3), food and health care pending transfer to Dudhwa.

After approximately 2 weeks the rhinos were recrated and flown from

Guwahati to Delhi under mild sedation accomplished with injections of Stresnil (40 mg azaperone per ml; Janssen Pharmaceutica, Belgium) ranging from 10-20 ml, according to body size. They were trucked from Delhi to Dudhwa where they were again kept in individual stockades and all settled down well, with the exception of one elderly female which did not feed properly and eventually died following a stressful abortion. The remaining four animals comprising an adult and sub-adult of each sex, were released 3 to 5 weeks after arrival (Plate 4) and soon established themselves in chosen areas of the Dudhwa habitat.

One of the Assam females was unfortunately the victim of an accident while she was being immobilised for medical care a few weeks after release.

In order to increase the size of the reintroduced group and improve its genetic vigour it was decided to add a further batch of rhinos from a different parent population in 1985. Accordingly, his Majesty's Government of Nepal agreed to the exchange of four young female rhinos for 16 domesticated elephants from India. These rhinos were captured from the area around Chitwan Natienal Park in late March 1985, using an immobilizing mixture of 2 45 mg etorphine and 30 mg acepromazine. They were trucked to Dudhwa immediately after revival in their crates They were released after being stockaded in Dudhwa for only one week and quickly settled alongside the animals translocated one year earlier from Assam.

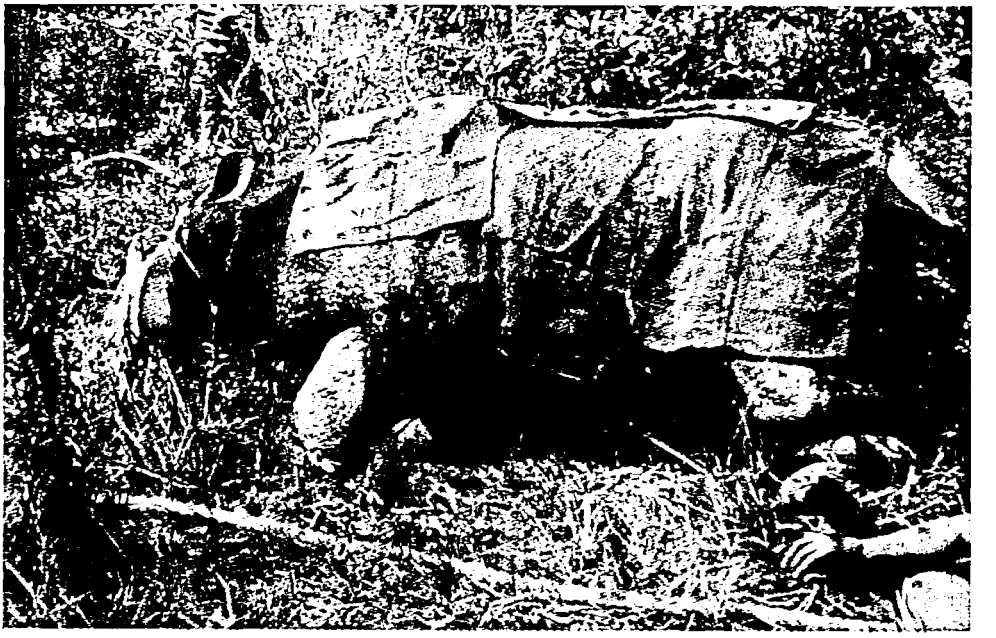
Conclusions

With the exception of the two females from the 1984 batch, the translocated rhinos are doing well in Dudhwa. They are in excellent health and have settled down within the designated part of the national park, not once attempting to break through the electric fence. This provides preliminary confirmation that the area contains their basic habitat requirements, which will only be fully demonstrated when successful breeding takes place in the translocated population. Mating between an Assam male and Nepal female has already been observed. Daily monitoring of the location and activities of the rhinos is carried out by a special unit of the Dudhwa National Park staff from elephant back.

The successful establishment of two males and five females in Dudhwa, after an absence of rhinos from the area of around 100 years, is a cause for considerable satisfaction. Continued vigilance is, however, still essential and a population of at least 30 individuals should be built up as quickly as possible in order to reasonably ensure long-term viability (Singh, 1984). This will entail further reintroductions in the next few years to increase numbers and broaden the genetic base. In this context it should be noted that 50 is the recommended minimum population size of a large mammal to provide an adequate genetic base (Franklin, 1980).

The successful completion of the experimental first phase of the translocation of rhinos into Dudhwa represents a significant step forward in the use of reintroduction in the management of India's endangered wildlife (Singh, op. cit.). Many lessons have been learned regarding the planning and execution of a large mammal reintroduction project which will be useful in the implementation of other reintroduc-

Plate 1



An immobilised rhino being kept cool with wet gunny bags pending crating
Photo J.B. Sale

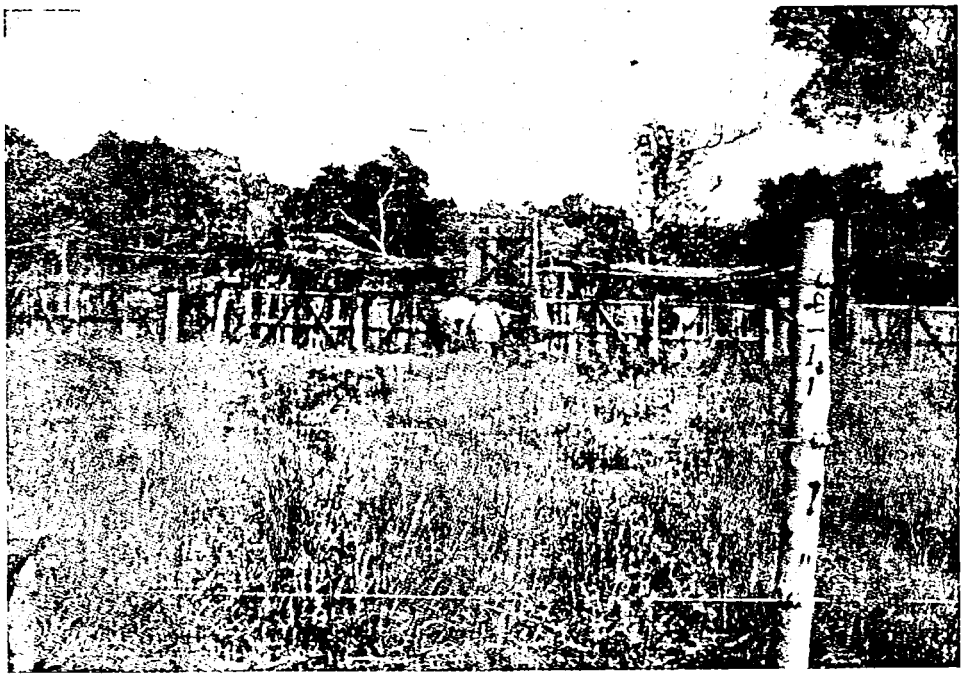
Plate 2

Immobilised rhino about to be loaded onto padded sledge (in foreground) for transport to crate. Photo J.B. Sale

Plate 3

Newly captured male rhino in holding stockade near Assam capture site. Note wallow in foreground. Photo J.B Sale

Plate 4



Release of rhino from stockades into Dudhwa National Park. Note electric fence in foreground. Photo Shanthini Dawson.

tions envisaged in the National Wildlife Action Plan. In Nepal four rhinos have recently been translocated from Chitwan National Park to Bardia in the western *terai*, using some of the techniques worked out during the Dudhwa operations. It is, however, of paramount importance that the Dudhwa experiment is diligently continued and complacency not allowed to destroy the results of the initial success reported here.

Acknowledgements

Profound thanks are due to a great number of people who assisted with the Dudhwa translocation. In particular I wish to acknowledge the contributions of Mr. Samar Singh, former Joint Secretary (Wildlife), Government of India; Professor Dr. R. Schenkel, former Chairman Asian Rhino Specialist Group of IUCN; Mr. B.N. Upreti and Dr. Hemanta Mishra of the Department of National Parks and Wildlife Conservation, Nepal (whose active collaboration made possible the translocation from Chitwan); Messrs V.B. Singh and P.C. Das, Chief Wildlife Wardens of Uttar Pradesh and Assam and their respective staffs; and veterinarians M.M. Barua, R.K. Das, F.W. Franzmann, S P Shrestha, D.H. Soldan and A. Soldan. The staff of Dudhwa National Park have given dedicated service under the successive leadership of Directors Ashok Singh and R L. Singh. In particular, we salute Range Officer R D. Singh who was killed by a tiger while on duty with the newly arrived Chitwan rhinos in April 1985.

SUMMARY

The decision to establish additional populations of Great Indian Rhinoceros was taken by the Rhino Sub-committee of the Indian Board for Wildlife in order to improve the conservation status of the species Dudhwa National Park in the Uttar Pradesh terai was selected for a trial introduction, and a 27 km^2 area of suitable habitat enclosed.

The rhino population in Dudhwa now comprises two males and a female from Assam and four females from Nepal. The animals are perfectly habituated to their new environment, they have not attempted to break the boundary electric fence. Mating has been observed. This trial project has proved successful.

गेंडा उत्तर प्रदेश में पुन: स्थापित

जान वी० सैल

सारांश

भारत में वन्य प्राणी मण्डल की गेंडा उपसमिति ने इस प्राणी जाति की संरक्षण स्थिति सुधारने के लिए महान भारतीय गेंडों की सख्या बढ़ाने का निर्णय किया। उत्तर प्रदेश तराई का दुधवा राष्ट्रीय उपवन इस संपरीक्षात्मक पुनर्प्रवेशन के लिये चुना गया और 27 वर्ग कि०मी० क्षेत्र का उपयुक्त प्राकृतावास घेर दिया गया।

दुधवा में छोड़े गये प्राणियों में असम से लाये दो नर और एक मादा तथा नेपाल से लाई चार मादा हैं। ये प्राणी अपने नये पर्यावरणों में भली-भांति रम गये हैं, उन्होंने विद्युत प्रवाहित सीमा बाड़ को तोड़ने का प्रयत्न नहीं किया। जोड़ा बांधते देखा गया है। यह संपरीक्षात्मक परियोजना सफल हुई है।

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