

BLACK RHINOCEROS (*Diceros Bicornis*) CAPTURE AND TRANSLOCATION TECHNIQUES AND BOMA MANAGEMENT AS USED IN NAMIBIA

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Since the appointment in 1953 of a full time researcher in the Etosha National Park the scientific activities within the park have greatly increased in extent and scope, especially as far as capturing and translocation of game are concerned (Ebedes, 1966; Hofmeyer, 1975; Hofmeyer & De Bruine, 1973; Ebedes, Leibnitz & Joubert, 1977). These developments have also been prompted by the decline in the black rhinoceros (*Diceros bicornis*) (Linnaeus, 1758) population in Namibia, necessitating the development of capture and translocation techniques.

During the 1960s the late Bernabe de la Bat, then Director of the Department of Nature Conservation & Tourism of S.W.A./Namibia, became concerned about the continued survival of black rhinoceros in that country. At that stage the entire population consisted of 90 animals, all of which were in the northwestern part of the country in an area which the department had no jurisdiction, and where poaching was rife. Under de la Bat's direction a capture and relocating programme was initiated. A total of 43 black rhinoceros were caught (Raath and Hall-Martin, 1989) in Kaokoland and released in the Etosha National Park (as defined by the Odendaal Commission). In 1984 there was a viable population of over 300 animals in the park. The launching of this far-sighted, significant and successful undertaking to conserve the black rhinoceros in this part of Africa secured the well-being of the species. In 1984, Polla Swart succeeded de la Bat and his support resulted in extensive jacking up of equipment and keeping of experience in the capture unit.

Had this action not been taken, it is likely that many of these animals would have been shot, and Etosha would not have one of the largest populations in Africa today. This exemplary result could not have been achieved without the development of an effective capture and translocation technique which was undertaken by the Department and implemented and streamlined over the years. 1989 was a crucial year as poaching was very bad. The Director took action to the effect that 75 rhino were captured. The bold decision to dehorn was also made by Swart at this time.

The technique used in Namibia consists of immobilizing the animal from a helicopter, or if the situation lends itself to it, on foot. The immobilizing drugs used are etorphine hydrochloride (M99) and xylazine. The standard dosage used is 4.5mg M99 and 100mg of xylazine. (Morkel, P. v.d. Bijl, Pers Comm). This gives a mean induction time of 4 minutes, when used with a spreading agent of hyalase, enzyme hyaluronidase in freeze dried powder form, 3000 to 4500 i.u. per dart. Once the animal is down a respiratory/cardiovascular stimulant is given intravenously immediately.

A padded steel detachable crate with dimensions: L: 3.7M; W: 1.52M; H: 1.85M, is then offloaded by means of a hydraulic system from a 5 ton all wheel drive truck.

Long, medium and short-working antibiotics are administered intramuscularly on the neck muscle. The temperature and respiration are monitored throughout immobilization and counter-measures are taken, if deemed necessary.

A long-working tranquillizing antipsychotic anti-emetic drug named trilafon is administered intramuscularly (300 - 400mg). Once processing is done the antidote is given intravenously in the auricular vein. Antidote M50-50 (diprenorphine) 2.4 times the M99 used. The animal recovers in 1 minute 20 seconds. A rope, draped over the head with a slip knot, catching the lower jaw and forehead, is used to pull the rhino into the crate. A rope

lead through a shackle, spliced onto the end of the same rope, is tied to one of the hind legs. This serves to reverse the animal if the head misses the crate. Once the animal is crated both ropes are removed. The crate is then loaded onto the truck. This truck serves as recovery from the field and for short-range transportation. During all transportation, rhino faces backwards. This serves to avoid damage of horn and lip.

For transportation durations of longer than three hours, a mass crate is used. This crate can hold six animals. The roof is not partial as in the field crates but solid with adjustable air vents for each separate partition. These partitions are 4.1m long, 1.1m wide and 2.25m high.

The holding facilities are of solid walled construction. Gum poles are used. The size of individual pens is not smaller than 48m² per animal space and preferably square. Shade is provided. Inter connecting doors are fitted. All doors slide. This allows the rotation of animals and facilitates optimum boma hygiene. Water troughs are scrubbed daily and constructed in such a way that cleaning can be done from the outside.

Animals are fed twice daily. First thing in the morning and late afternoon. A minimum of 4 known plant species are fed at a time. This is done to enable the animal to select to a certain extent. Browse quality permitting, not the same species are fed every time. Wilted browse is avoided. The animals are introduced to high quality lucerne and cubes. The cubes consist of 12% Protein, 6% Fibre, 1% Calcium, 0.6% Phosphorus.

If the quality of the browse is undesirable the diet consist of lucerne and cubes. However, we prefer giving some browse at all times. The following species are fed:

Acacia ataxacantha
Acacia hebeclada spp *hebeclada*
Acacia melifra
Acacia nebrownii
Acacia reficiens
Ziziphus mucronata willd
Grewia spp
Catophractes alexandri
Rhigozum brevispinosum
Rhigozum trychotoma
Monegma spp
Baphia masaiensis

Browse is made freely available and old browse removed. Browse is cut just before feeding and not stockpiled.

Rhinos are kept in pens close to the capture site for a minimum of three weeks, preferably a month before translocation. All rhinos have their horns tipped at capture and ears are clipped according to the national system.

Ingenuity and experience of capture unit members over the last ten years, together with the superb equipment, make this outfit one of the best. Accumulative experience of Dr. P. vd Bijl Morkel and the author equals the handling of 50% of the total population of *Diceros bicornis bicornis* in Namibia, with a capture mortality rate of less than 1%. If taken in consideration that Namibia has the third biggest population of black rhino in the world, the results of capture translocation and boma management techniques seem satisfactory. If experience and financial backing could be maintained in this new country so would the efficiency be maintained of the capture unit, and ultimately the future of *Diceros bicornis bicornis*.

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