

8 Air vs. sea transportation

From the foregoing it is plain that travelling by sea is a major operation that involves much work and also a lot of stress and discomfort for the animal. Besides being much quicker, transporting animals by air is less risky and more humane. When going by air, one must ensure that the animals have undergone a thorough boma training right through to a thorough crate training process. An animal that breaks out of its crate in an aeroplane is a lot more dangerous than one on a ship!

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Accommodation of the white rhinoceros *Ceratotherium simum* and black rhinoceros *Diceros bicornis*

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Accommodation of the white rhinoceros is described below. Aspects of accommodation for the black rhinoceros that differ from that of the white rhinoceros are discussed at the end of the paper.

The white rhino...

- Is big, strong, dangerous, and unpredictable.
- Is a gregarious animal and therefore likes to see and be with other animals of the same species.
- Will calm down more quickly in captivity if the walls of the bomas allow it to see animals in the neighboring bomas, and to see and get used to the activity around the bomas.

Precautions

- Accommodation facilities should be of a very sturdy nature: a rhino will search for a weak point and will work at it until it gets out.
- The rhino must be put into a big boma initially to allow it to settle down.
- The boma should be in a quiet area away from roads and other potential stresses in order to minimize problems that may be encountered with adaptation to captivity.
- It is very important not to allow visitors until captive rhinos have settled down. The human element should be restricted to necessary personnel only.

How to accommodate the white rhinoceros

Bomas are used for an adaptation and training period before transportation of the captive animals to another area. Alternatively, the bomas may be used to receive animals and to familiarize them to the local conditions before release. The bomas must be strong as captive rhinos will always attempt to break out of confinement.

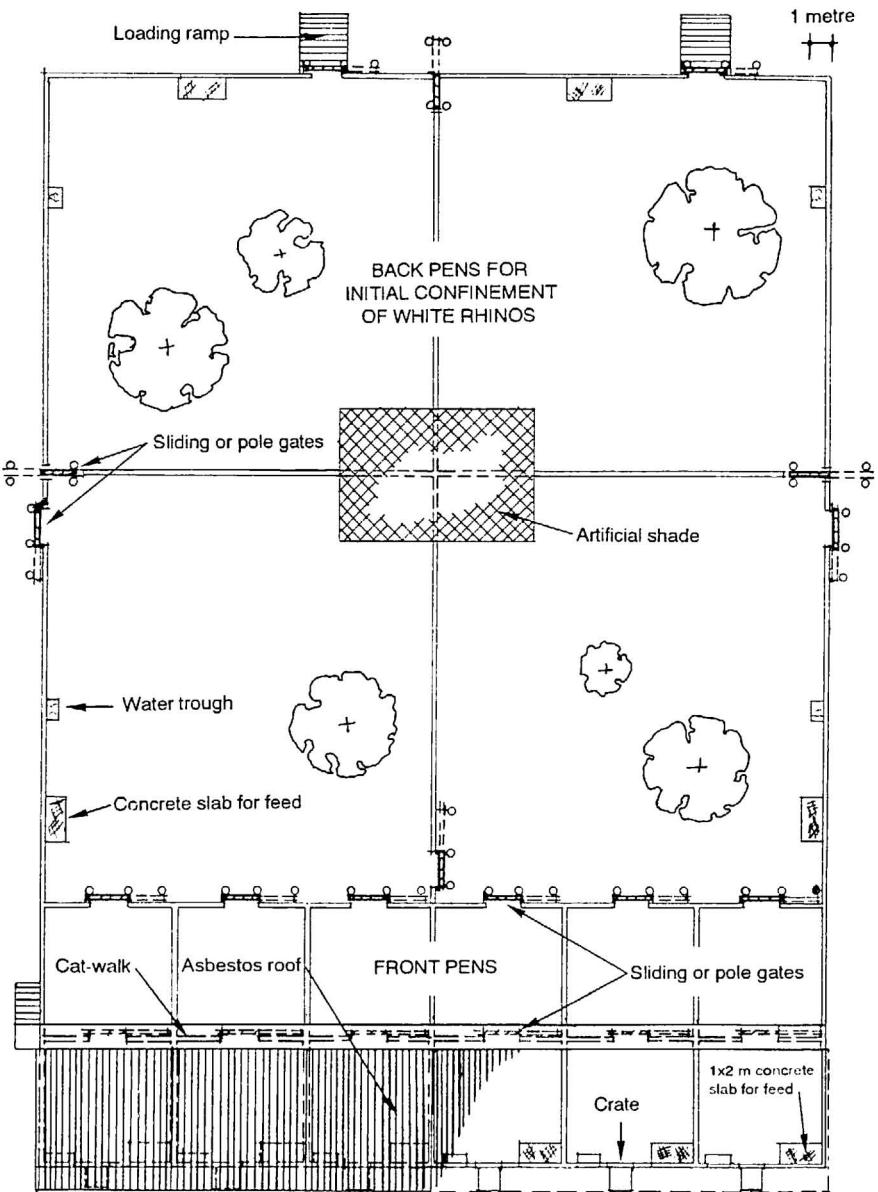


Figure 1. Permanent holding facility/training boma for rhinos.

Siting

The siting of the bomas is very important, both from a drainage as well as from a climatic point of view.

- The boma should preferably be in the centre of the reserve to minimize contact with fences immediately after release.
- The site should be in an area with good quality natural food available in the immediate vicinity. This makes collection of feed during the boma period easier, and provides a suitable habitat when the animals are released.
- The boma must be close to a reliable water source for the provision of water during the boma training period. An adult rhino may drink up to 50 l of water per day.
- The boma must be easily accessible to vehicles that will deliver the rhinos.
- Large trees are necessary for shade – alternatively, artificial shade must be provided.
- The substrate must be solid to prevent animals from pushing over boma poles.
- The boma must be protected from cold winds.
- The boma must be away from busy roads, houses and other human disturbances.
- There must be minimal gravel and loose rock in the boma to prevent the development of foot problems.
- The area must be well protected against veld fires. Surround the boma site with good firebreaks. Although rhinos may not be injured by a fire, they may panic at the sight, sound or smell of a fire and are likely to injure themselves in the process.
- The slope of the land must be taken into account – it is preferable to have a net drainage of water away from the front bomas, i.e., from the front to the back bomas.
- It is also desirable to have the bomas facing north-south, with the front bomas on the northern side. This ensures maximum shade in summer and maximum sun in winter.
- It is important that the bomas be situated where the animal can simply be released if it does not adapt to captivity.

Plan – training bomas

For boma training of white rhinos, a system of large and small pens, as shown in Fig. 1, should be used. The front pens should be 12×6 m in size – this size is perfectly adequate even for two animals. The back pens should be at least 20×20 m (the bigger the better). The back pens are used to accustom the rhinos to captivity, while the front pens are used to accustom them to close confinement. Newly captured animals are off-loaded into the back pens, and are only confined to the front pens once they have settled down. As the back pens are emptied, more animals can be captured and introduced to the pens. The front pens are subdivided into two compartments so that the animal can be closed in one section to facilitate cleaning of the other section, and *vice versa*. There should be gates connecting all the front and back pens to each other. The transportation crates are attached to the front pens for crate training.

Plan – receiving bomas

If rhinos are being received for short-term accommodation prior to release, a system of pens such as shown in Fig. 2 should be used. The plan shown can accommodate five rhinos, with the one spare pen being used to rotate animals for cleaning purposes. This may become necessary

if the animals are kept for a prolonged period. The sizes of the pens should be increased (to at least 20×20 m) if wild-caught animals are introduced directly into these receiving pens. In such cases, it is obviously not necessary for the roof/shelter to extend the full length of the pens. Only one release gate is required if all the animals are boma trained (i.e., eating) beforehand.

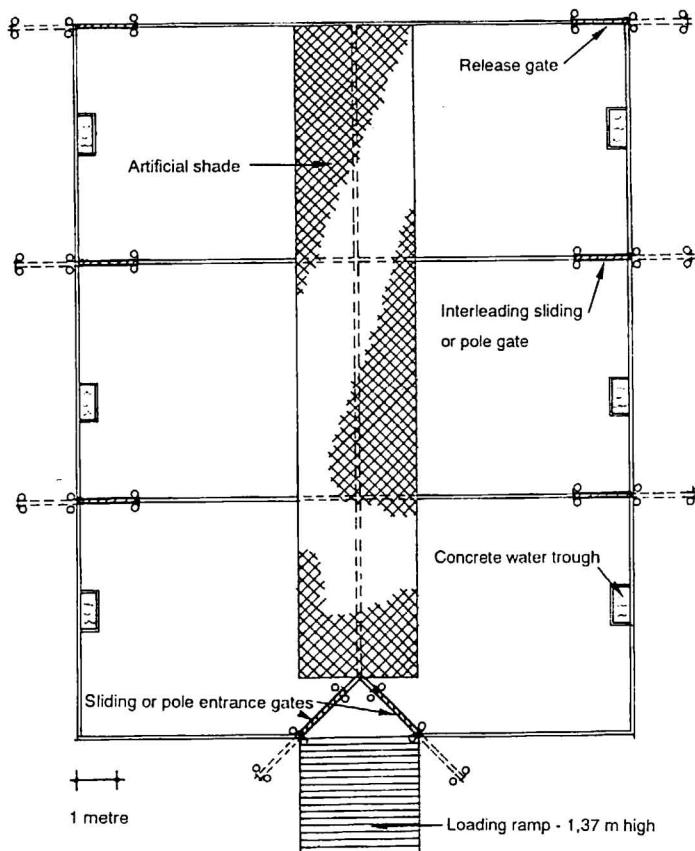


Figure 2. Receiving boma complex for rhinos.

Wall

The wall must be sufficiently strong to contain a rhino at full charge. However, at the same time it is important that the animals should be able to see each other and be able to see outside. Captive rhinos calm down more quickly under these conditions.

Cable bomas are not recommended under any circumstances because:

- The animal may climb the cables and escape from the boma; or
- In attempting to climb the cables the animal may get its head or shoulders stuck in between the cables and may severely injure or even kill itself.

Problems with cable bomas have been witnessed by the author on several occasions. For these reasons bomas made from vertical poles embedded in the soil are recommended. These poles should all be tannalized and not creosote poles, as creosote causes skin irritation and has been reported to cause gastric ulcers (rhinos tend to lick the poles).

Three metre poles of 130–150 mm diameter are embedded 1 m deep into soil or concrete every 1–1.5 m (depending on the soil consistency). Two horizontal poles are affixed to the outside of the vertical ones (see Plate 18). The lower horizontal pole is close to the ground, and the upper one approximately 300 mm from the top of the vertical poles. Three or four 2 m poles of the same diameter are bolted to the horizontal poles in between the upright poles, with a gap of approximately 150 mm between the poles. One can use either 12 mm carriage bolts (the best) or, alternatively, 12 mm reinforcing rod with both ends bent over and knocked into the wood. It is very important to ensure that there are no sharp ends projecting into the boma.

It is important that the vertical poles be bolted on the inside of the horizontal poles. If the animal hits or pushes against the vertical poles, the force is then transferred onto the horizontal poles. If the vertical poles are on the outside, the force is transferred onto the bolts.

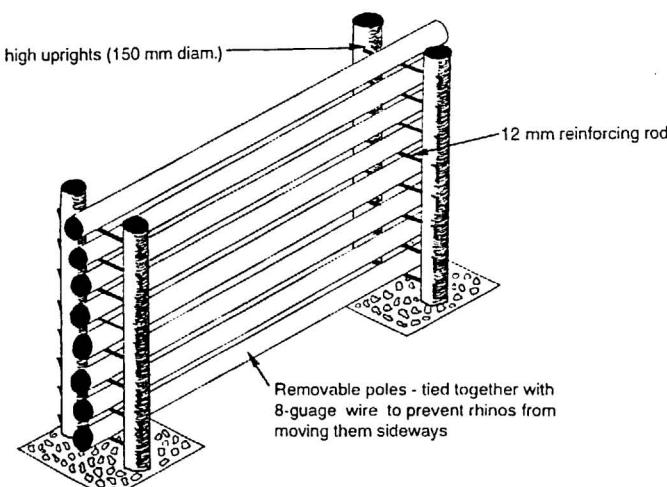


Figure 3. Pole gate for rhino pens.

Gates

Simple gates can be constructed using double vertical posts through which horizontal wooden gum poles are inserted (Fig. 3). These gates are relatively cheap to construct, but are difficult to operate. A rhino often rushes through the gate before all the poles have been removed, and may be tripped or injured by the remaining poles. The rhino may also collide with partially withdrawn poles: this may result in injury to an unwary gate operator. Sliding gates consisting of metal frames and vertical metal poles are strongly recommended. These are easily operated from a catwalk above the pens.

Water troughs

The water trough should be approximately 1 x 0.5 m. The sides should be elevated not more than 300 mm above the ground. The elevated sides are to prevent sand from getting into the drinking water. The trough need only be about 400 mm deep, and must have an outlet pipe to facilitate cleaning and draining. The corners of the trough should be rounded to avoid injuries. The inside surface should be smooth and rounded to facilitate easy cleaning and to minimize the buildup of algae and bacteria. It is preferable to have the whole trough inside the boma. If the trough is half in and half out the boma, the rhino may get its horn stuck underneath the horizontal bar while drinking and either drown, break off its horn, or escape. The author has witnessed an animal escaping in this fashion.

Feeding facilities

The feeding area should also be under a roof. A slightly (30 mm) raised concrete slab, approximately 3 x 1.5 m, should be built under the roofed area on which to put the feed.

Shade and shelter

The front half of the front pens and all the crates should be totally under roof. The back pens should also have an area under roof where the animal can shelter from sun and rain. The animals favour the corners furthest from any movement or action, i.e., the corners where the bomas meet. It is therefore advisable to put the roofs in these corners.

It is difficult to shield the animals totally from wind. Sections of the boma (e.g., corners) can be closed totally with poles. Plastic should not be used: it flaps in the wind and stresses the animals. The animals may not go near the plastic, or it may rip it to pieces: in either case, the purpose of the shelter is defeated.

Off-loading ramp

Depending on the type of vehicle used to transport the animals the loading ramp may have to be dug into the ground. Raised ramps may also be used, but for off-loading of newly caught animals that may be a bit groggy, dug-in ramps leading directly onto the surface of the bomas are preferred. Animals should only be off-loaded into the large back boma, not into the smaller front bomas.

The black rhinoceros

The accommodation facilities described above can be used for the black rhinoceros, with the

following exceptions and modifications.

- Black rhinos are introduced directly into the smaller front pens, so the larger back pens are not required.
- When a newly-caught black rhino is introduced into the front pen it should be isolated in the front section of the pen for a few days until it has settled down. Thereafter it can use both sections except when it is isolated in one section while the other section is cleaned.
- The corners of the pen should be 'rounded off' by passing poles horizontally across the corners. This is because the animals tend to run around the pen after off-loading, and may injure themselves in the corners.
- A concrete feeding slab should not be provided in the pen as black rhinos may injure themselves against the slab when they are first introduced into the pen.
- The receiving pen design must be used for boma-trained as well as wild-caught black rhinos – i.e., the pens should not be enlarged for wild-caught black rhinos.

Care of the white rhinoceros *Ceratotherium simum* in captivity

P.S. Rogers

The white rhino...

- Is big, strong, dangerous, and unpredictable.
- Is a selective grazer, preferring short, palatable grasses.
- Is a gregarious animal and therefore likes to see and be with other animals of the same species.
- Adapts with great difficulty to captivity, from a stress and nutritional point of view. Younger animals adapt better and quicker than adults.
- Tends to adapt more slowly and less readily to captivity if alone – it is usually with these animals that one runs into problems.
- Is unpredictable from a nutritional point of view – some simply will not eat in captivity for no apparent reason.
- Will try to escape until it resigns itself to captivity and settles down. Almost all escape attempts occur at night. Nights 3, 4, and 5 of captivity are most critical in this respect.

Precautions

- It is essential to have a night guard who is in contact with the person in control of the bomas in case of attempted escape by the rhino(s).
- The rhino must be put into a big pen initially to allow it to settle down.
- Antelope cubes should not be fed to rhinos: they may contain cotton seed products. Cotton seed contains gossypol which is potentially toxic to monogastric animals such as the rhino.

- Do not allow visitors until the rhino have settled down. The human element should be restricted to boma personnel only.
- Try, if possible, to capture and accommodate pairs of animals from the same herd: these animals will be more likely to adapt to captivity.

How to care for the captive white rhinoceros

Boma management

When catching animals to place in bomas one would obviously like animals that are going to adapt as soon as possible. This can be very important, bearing in mind the problems one has in getting white rhinos to adapt to captivity. There are three groups of animals that usually adapt fairly readily to captivity:

- A cow with a calf at foot;
- Animals that are running together in the wild; and
- Sub-adult animals, even if they are caught and put on their own.

Most problems are experienced with single, adult animals: the older they are, the more difficult they find it to adapt.

Water is given *ad lib* (bearing in mind that an adult drinks 40–50 litres daily) and the water trough is rinsed out, cleaned, and refilled twice daily. The trough should be disinfected twice weekly with a chlorine compound (e.g., Bacterex K²¹). Until the animal is eating properly, vitamin B-complex syrup is added to the water as an appetite stimulant at a dilution rate of 1:50 ml per 50 litres of water. The vitamin B-complex is always added to the water in the evenings, as it is inactivated by sunlight.

It is very important to monitor defaecation from the first day. Rhinos usually defaecate on the first and second days, then stop for four to five days until they start eating again. If the animal only defaecates on the first two days, but not again, Epsom salts can be put in the water from day nine post-capture. Usually these are the animals that are refusing to eat, and it is found that if and when they defaecate they will start eating. Special care must be taken when administering Epsom salts (see below).

The animal should not be moved to the front pens until it is eating well. A spare back pen (for cleaning purposes) is not normally necessary because the animal can be moved forwards into the smaller front pens after 2–3 weeks. This is done by opening the gate between the front and back pens and letting the animal walk in and out of the front pen at will for a day or two. The animal can then be fed in the front pen for a couple of days before closing it in the front pen. This usually does not present problems as the animal is well used to captivity by this stage. Once the animal has settled down in the front pen (3–4 days), the pen cleaning can be commenced on a daily basis.

Because rhinos are so bulky and heavy they are very prone to pressure sores, especially just above the front feet on the fetlock joints and on the hock joints. For this reason a layer of fine river sand (200 mm deep) is put into the front pens. This sand also serves to absorb urine. All the sand should be removed and replaced on a weekly basis. The animal is kept in the front pen for at least 3–4 weeks before it is ready to be transported to its final destination (a total of at least six weeks of boma training).