

MANUAL OF TRANSPORT CAGES AND NEST BOXES



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India

**A MANUAL
OF
TRANSPORT CAGES AND NEST BOXES**



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A C K N O W L E D G E M E N T

The Project entitled – ‘Manual of Transport Cages and Nest Boxes’ has been taken up with the view to provide the basic information and creating uniformity while making the transport crates and nest boxes.

Dr. J.H. Desai, Ex-Director, National Zoological Park has also given valuable suggestions from time to time. Shri S.D. Singhal, Head Zoo Keeper (retired) with 40 years of working in National Zoological Park, has interacted vigorously. He has contributed in the measurement of the crates and requirement of animals. Dr. Manoj Kumar, Biological Assistant, Incharge of Animal Section and Shri R.K. Sharma, Laboratory Assistant have also given their suggestions. The type of plank, ply and the M.S angles and flats to be used are very important to provide adequate strength to the crate. In this context, Mr. Rajneesh Pandey, a civil engineer by profession and Incharge maintenance at National Zoological Park has provided the required input for crates and nest boxes. Mr. Rajkumar Khanna, LDC has helped us in typing the manuscript while Shri Anand Singh Rawat, Attendant contributed in photocopying. Shri Om Datta Research Associate has also contributed in updating the manuscript. We sincerely thanks to all these officers and officials for their contribution.

Apart from the above Dr Brij Kishore Gupta, Scientific Officer, Central Zoo Authority and Shri B. Mathur of Reuter have provided the photographs of various crates and nest boxes. We are sincerely thankful to them for this.

Central Zoo Authority, New Delhi is also responsible for making this manual a reality as they have provided us the financial support. We thank Central Zoo Authority for the financial support for this Project.

INTRODUCTION

The project transport cages and nest boxes of certain species has been taken up with the aim to standardize the specification of transport cages for the smooth and safe transportation of animals with in or outside the country. The specification has been described keeping in view the size, weight, food requirement and requirement of the animal.

The transport cages should be strong enough to bear the weight and thrust force of the animal. In other words, it should not only be escape proof but comfortable also. There should not be any space left through which it can claw or draw any thing inside. They must have proper ventilation. Provision to provide adequate food and water must be provided during journey. The floor must be leak proof, so that the floor of the crate should not be spoiled. At the same time facilities for cleaning, removal of faecal and left over matter be provided. In some cages, trays are provided below the floor where in the urine passes into it through the holes.

This project has been taken as a small grant fellowship project of Central Zoo Authority, Ministry of Environment & Forests. The ICFRE was also consulted to what type of wooden planks be used in making these cages and nest boxes. Besides this a number of large, small, medium zoos were requested to send the information on the length, breadth and height of the cages and nests boxes for use in different species. Padmja Naidu Himalayan Zoological Park, Darjeeling, Tata Steel Zoological Park, Jamshedpur and Sakkar Baug Zoo, Junagarh are the zoos who have responded to our queries.

The breeding of all species including birds is the main aim of the zoos. For breeding of birds, suitable environment, nesting sites, nest boxes and food are essential. There are a number of structures being used by different zoos to breed the birds, these include pitchers of different sizes, hollow logs, baskets and wooden / ply boxes.

On the basis of experience of working in zoo, visits of a number of other zoos and interaction with zoo officials (past and present) and taking into the consideration of the literature available on transport cages and nest boxes, I have standardized the specification of these essential zoo equipments for their day to day use and breeding of birds.

Guidelines for transportation of Mammals

1. General Requirements:

1. It is advisable that the animals should be carried only in closed crates for general transport purposes, for its safety and security of the persons involved in this process.
2. It is essential that crates should be well constructed keeping in view the species and the individual animal being transported.
3. The appropriate crates requirement for individual species must be decided before hand. Certain species may require either reinforced crates due to their size and weight, while others may need lined or metal containers due to their destructive capabilities.
4. The ventilation and welfare requirements for the species concerned should be strictly followed.
5. The right season to transport animals in our country is winter because of low temperature and humidity. The birds are very sensitive to climate changes e.g. changes in temperature and humidity. The optimal temperature range for them lies in the range of 15_c and 20_c.

2. Air Transportation:

In the case of transportation of animal by air, few limitations exist for freighter aircraft which determines the acceptability of live animal consignments. When live animals are to be carried out by air, several factors must be considered, of which the most important are:

1. The species of animal to be carried, their characteristics, breed, sex, age, individual body weight.
2. Their conditions, e.g. shorn or unshorn, pregnancy, winter or summer coat, weaning, suckling, etc should also be known.
3. The type of aircraft being used depending upon above information.
4. The size of the compartment door.
5. The amount of required space in the cargo compartment. (The pallets may not fit the plane completely and the available space will be less than total area of the aircraft.)
6. Type of packing being used.
7. The suitability of aircraft depending upon fresh air ventilation, control of humidity, availability of Carbon dioxide removal and control of temperature etc.
8. The environment conditions at intermediate stops and the climatic effect on

ground during loading, unloading and ground transport.

9. Handling facility and veterinary care should be available with the carrier at intermediate stops, where aircraft is changed.
10. The best possible loading location within the cargo compartments.
11. The presence of other load affecting the animal.
12. The necessity of in-flight attendance.
13. The availability of ground storage facilities.
14. The documents required, e.g. Shipper's Certification, Welfare and Health Certificate, Import/ export and / or transit permit.
15. In case of all international air transport, the IATA Live Animals Regulations must be consulted for safe, secure and hassle free transport of the animals.
16. The loading of the animal should be preferably done 30 minutes before takeoff and similarly the unloading should be finished within 30 minutes after landing.
17. The use of straw in any form in international transportation of animal should be avoided because of quarantine restrictions in many countries.
18. The animals under transport come under stress due to various factors. It is impossible to predict the reaction of animals under stress. Some animal may attack whereas others may hide or fight. The carnivores have a natural instinct to hide whereas ungulates may look for some sort of shelter or they may attempt to escape from confinement. However, most of the animals search the surroundings to find out some escape route. No animal accepts confinement willingly. Some burrowing animals like pangolins, hedgehogs etc. may initially seem to be having settled down calmly, but will make determined efforts to escape. As a matter of rules all animals become frustrated and they make all out efforts to escape from the confinement. So all precautions have to be taken to avoid these situations.
19. The variation in the environmental factors encountered by the animal during the transportation is a crucial factor. The temperature extremes, hot or cold wind and proper aeration are some of the factors which have to be kept in mind. The animals can withstand reasonable variations in temperature. Similarly, they should not be exposed to direct heat or cold wind during transportation. Animal should not be exposed to direct sun light or hot radiations also. Animals exposed to extreme heats must be cooled down to prevent dehydration or heat prostration.
20. The different climatic factors prevailing throughout the journey area should always be considered while deciding about the route and mode of transport of live animals.

21. In case the animal needs to be sedated or tranquilized during the journey period, the same should be carried out under the direct supervision of a Veterinarian who should be well aware about the full implications of the effects of the drug.
22. The animals which are natural enemies should not be transported together in the same vehicle.
23. The transport vehicle should be sanitized before and after every shipment.
24. Any sickness or injury of the animals during the transportation should be attended to immediately by the Veterinarian. Wherever possible, the sick or dead animals should be immediately removed or separated in consultation with the Veterinarian.
25. The physical contact with the animals during the course of transportation should be strictly avoided. The personnel handling the animals should observe the personal hygiene rules strictly as a precaution against disease. It is advisable to wash hands in germicidal soap after handling animal consignments.
26. In case of any bite or scratch by an animal, the doctor should be consulted immediately providing information on the species and origin of the animal. In case immediate medical attention is not possible, the wound should be thoroughly washed with soap and water and it should be covered with a dry dressing till medical attention is provided.
27. The blood or excreta of animals should be handled with proper care to avoid contaminating skin or clothing.
28. The operation of handling and transport of any kind of animals should be conducted under the supervision of the veterinarian duly registered with the State Veterinary Council or Veterinary Council of India.
29. The veterinarian duly registered with the State Veterinary Council or Veterinary Council of India should only be utilized for health check up, quarantine examination, any form of certification and consultation for humane transport of all kind of animals and related decision thereof.
30. The ethical way of confinement of animals during loading, transportation and unloading of animals are of prime importance to reduce the pain or suffering of the animals during capture, handling and transfer. They must be strictly followed in letter and spirit.
31. The safety of the animals and the human beings are of utmost importance. These factors should be given full care and attention in all aspects of the work of animal transport. Because of this, the work should be carried out with zero tolerance level.

33. The Government of India has enacted the Animal Transportation Rules, 1978 under the Prevention of Cruelty to Animals Act, 1960 which inter alia is applicable for transportation of the domestic animals and non-human primates. The International Air Transport Association follows the Live Animals Regulations for air transportation of the live animals. The provision of Convention on International Trade in Endangered Species of Flora and Fauna (CITES) is also applicable in the International transportation of animals. The various provisions of these treaties, enactments etc. applicable at the time of transportation of the animals should be taken into consideration.

3. Crates / Containers:

a. General:

- i.** Each crate must be suitable for the species being transported. It must in general allow the animal to stand, turn and lie down in a natural manner. In bird cage, there must be sufficient perch space for each individual, and enough height for the bird to perch with its head upright and its tail clear off the floor. Non-perching birds must be able to stand upright.
- ii.** The crates must be clean and, if being reused, it must have been thoroughly disinfected or sterilized. It must be leak-proof, absorbent bedding must be provided and should be suitable for the species.
- iii.** The crates must be constructed of non-toxic materials.
- iv.** They should be made of water proof material.
- v.** The crates must be suitable to keep the animal inside at all times. It must protect the animal from unauthorized access, i.e. the doors must be constructed so that accidental opening does not occur, either from the inside or the outside.
- vi.** It must be able to withstand the buckle and should not bend due to weight.
- vii.** Joints of wooden cage must be made in such a way that they cannot be damaged by the animal gnawing or clawing from the inside. It must be rigid enough to prevent the animal escaping through gaps at the seams or joints.
- viii.** The crates must not cause the animal to damage itself. All inside edges must be smooth or rounded. There should not be any sharp projections (such as nails) upon which the animal could hurt itself.
- ix.** There should not be any confusion about the size of animal and transport cages. The size is given as the basis; this may vary as per the need of the species, individual of the species and their number to be kept/ transported. The dimensions have been stated in the manual in terms of length, width and height. However, they must be modified as

per the actual body size of the individual animal for which the cage / crate is constructed. In some species the tail is quite long and is prehensile to large extent. The range of measurement has been given as basic information as guidelines only. However, the transport cage should be made as per the actual requirement of the particular species and the individual animal to be transported. It should be prepared keeping in view all required factors at the time of transport of the individual animal.

- x. Care should be taken to make the size of the crate such as to prevent injuries at take off, during turbulence and at landing in case of transportation by air and because of jerks etc. during movement of vehicle in case of transportation by land.
- xi. In most of the animals the defecation rate increases during transportation. Moreover, due to stress because of various activities related to confinement and transportation of animals, the faeces of the animal become thin. Therefore, care should be taken to make the floor of the transportation cage splash proof. The floor of the transportation cage should be made in such a manner that the excreta of the carnivores fall through the floor into the bottom tray and in the case of ungulates the faeces should be trampled down into the tray by the animal.
- xii. The breeding boxes should have enough space for the birds to sit and lay the eggs comfortably. The birds should be able to rotate their body and move freely also. The boxes must be predator proof.
- xiii. A special box should be provided in the animal crates for a copy of all documents to be put in it along with the animal.

b. Ventilation Requirements:

- i. The crate must be adequately ventilated on the sides. The container should have adequate air inlet vents /holes, at least on three sides of the container. The ventilation area should be equally distributed over all sides.
- ii. The ventilation hole should be approximately 2.5 cm in diameter. The ventilation apertures must be small enough to prevent the egress of the animal or any part of it.
- iii. All crates on the transport vehicle should be placed at least 1 foot to 2 feet apart from each other to provide sufficient space for air circulation and ventilation.
- iv. During transportation and storage the cages should never be covered with plastic sheets or tarpaulins to avoid stress or suffocation of the animals.

c. Safety of Animals and Handlers:

- i. Adequate handholds or other lifting devices must be provided to enable the containers to be lifted without undue tilting or bringing the handlers into very close proximity of the animals.
- ii. At all airports forklift equipment is used for lifting cargo. Therefore, large animal containers should be built with this in mind to allow forklift access at the base of the container.
- iii. The cranes are used for lifting of the container at the time of loading/ unloading in the vehicle. As such provision should be made in the container to allow the steel rope to be placed round the container for easy lifting. The provision should be made in the container to avoid slippage of steel rope and consequent undue tilting at the time of lifting by cranes.
- iv. The crate must be easy for staff to handle. As such spacer devices must be incorporated into the designs as they will provide handles for moving the cage as well as to prevent the ventilation apertures becoming blocked by other freight. Handles should be attached in addition to spacer bars. It must give the handlers protection from being clawed or bitten by the animal.
- v. The crate should be made of non-skid floors provide safe and easy access to evacuation of the animal. The crate should contain all body parts of the animals secure within the crate. The animal crate should have no nails, holds or any other protrusions which may injure the animals.
- vi. The care should be taken that the animal cannot bore, claw or bite the crate open at the seams or joints. The doors of the containers should be adequately secured to prevent its accidental opening.
- vii. The use of materials which may affect the health of the animals should be avoided.
- viii. The crates should have space sufficient for animals to lie down and get up unaided without risk of injury or crushing. The size and strength of the crate should be such that the animal must be able to stand naturally without being cramped but must not be able to move freely.

d. Feed & Water:

- i. The crate must have provision for food and water troughs. It may be either fixed inside the cage or attached to it. It should be accessible from outside or with bolted access doors so that food and water can be placed in the crate, if necessary.

- ii. A means of access should be provided to refill or clean it, in case of undue delays during the journey.
- iii. These troughs must have rounded edges and should be made of non-toxic material suitable for species.

4. Requirements of Animals:

a. Safety:

- i. Deer and antelopes must have their horns protected, if required to be transported, during transit by tubes of either rubber or plastic which can be removed at the destination.
- ii. For Deer and Antelopes, sufficient paddy straw cushion should be provided on the insides.
- iii. Loading and unloading of animal into or out of crate should be undertaken during daylight.
- iv. Pregnant females and females in estrus should be avoided for the transportation.
- v. If departure is delayed due to some reason, vehicles loaded with animals should be parked in cool area.
- vi. The pigs have limited ability to dissipate heat.
- vii. The mammals with suckling young should be avoided transportation since some females cause harm to their young ones sensing danger.
- viii. The young animals should not be separated from others of the same species because this may increase stress in the animals. However, they should be placed in the adjacent cage to other animals of the group/ herd.

b. Feeding & Water:

- i. The care should be taken not to over feed the animal.
- ii. The drinking water is more important for animals than feeding during transportation. The animal should be invariably provided water for drinking purpose before start of the journey and also upon arrival.
- iii. The animal should be provided water at least two hours before transportation. This fact should be kept in mind particularly for the male of the bovine or equine species.
- iv. In the case of non-rodent species, offer or ensure that the water is provided at a minimum interval of 12 hours. The next water should be provided beginning 12 hours after the last offered water. The animal should be allowed 30 minutes of rest after water to allow water to be absorbed before travel is resumed.

- v. The food should be provided to the animals at a minimum interval of 24 hours for adults and every 12 hours throughout the trip for young animal.
- vi. The most favourite feed of the animal should be kept in readiness during the transportation. In some species of the animal small bites of their favourite food reduces the stress level in the animal.
- vii. The adequate food and water for the species should be carried along with the animals, keeping in view the anticipated length of the trip and also some unavoidable delays in the transportation.
- viii. If the journey is of 24 hours duration, the feeding is not of primary importance if the animal has been immediately fed before the start of journey. It is advisable that in the case of carnivores, their feed can be reduced initially so that the animal can be fed before start of the journey. In the case of ruminants this is very important to avoid injury to the animals during journey.
- ix. The animal should be offered food and water within four hours of their delivery to the carrier.
- x. A feed and water record should be firmly attached to the container with the following information:
 - Animal identification number
 - The name, address and signature of the shipper
 - The date and time when the certificate was signed
 - Specific instructions for daily feeding and watering
 - The date and time when feed and water was last offered
 - The date and time when next food or water needs to be offered

c. Travel:

- i. It should be ensured that the people do not disturb animals by looking at it unnecessarily for the sake of curiosity.
- ii. The duration of time that animals are left sitting in the transport cages before or after shipment should be minimized.
- iii. The transportation of animal should be carried out through the most direct route not only to reduce journey time but also to reduce the stress period of the animal.
- iv. The wild animals, other than most of the birds, prefer to travel in darkness or semi-darkness as this encourages them to rest.

- v. The recommended direction of the animal during the movement of the vehicle, to minimize stress to the animal, is its face should be in the direction of the movement of the vehicle.

5. Special Guidelines for Reptiles:

All crocodilians are giants of reptile world. The reptiles have mostly following ways of getting away – swimming, walking, running and crawling. The crocodilians and snakes are carnivores, whereas turtles and lizards are omnivores or herbivores. Snakes have fleshy body while the crocodiles are covered with scales. Snakes are slippery and a few species are poisonous. So their handling during transportation requires utmost care and preparation. The important points to be remember while making transport crates for these animals are as under:

- The crate must be leak proof. The inner sides should not have any outgrowth.
- The floor should have sufficient cushion of paddy straws or cloth for snakes, whereas normal wooden floor can be provided for the crocodilians, lizards and turtles etc.
- Moisture should be avoided in respect of snakes and lizards.
- Proper ventilation and adequate food should be provided.
- Crate space should be enough for the animal to lie down comfortably without stress.
- Python, Cobra and small snakes can be collected in gunny bag with small holes and transported in the cage to the destination.
- For reptiles, the season from August to October and from mid February to mid April are the right season for transportation, in order to avoid extreme hot or cold conditions.

6. Carriers Responsibilities:

If the container has been used earlier for transportation of any animal, the container, and feeding and watering troughs should be adequately cleaned and sterilized before confining the animal to the container.

- i. The antecedents of Transporter Company should be thoroughly checked to avoid any future complication.
- ii. The vehicle designated for transport should be ensured to be an approved transport vehicle or use an approved commercial carrier only for this work.
- iii. Before transporting the animals, the coordination with the carrier and the recipient personnel should be carried out to ensure that appropriate housing, equipment, feed and personnel are available at all levels of transport and at the transport destination.

- iv. Similarly all paper works should be completed well in advance including arrangements of the transportation vehicle etc. to avoid last minute problems in which the animals are put into unnecessary stress.
- v. The documents like animal history sheet, feeding schedule, welfare and health certificate, transit permits, import/export permits and other legal papers should be prepared well in advance before confining the animals.
- vi. In the case of aircraft, all paper works for take off and landing at the originating station and destination should be completed well in advance. Similarly for transportation by road, the vehicle and the driver should have all papers including license and permits in readiness which should be thoroughly checked.
- vii. Each transportation cage should be provided with label or tags mentioning about “Live Animals” and “This Way Up” to indicate the upright position of the container. It may possibly be provided on all four sides of the cage to indicate the upright position of the container.
- viii. In the case of poisonous animals which can inflict bites or stinks, the container should be boldly marked “Poisonous”.
- ix. The minimum dimensions of labels should be 10 x 15 cm. The recommended colour is red or black on contrasting background.
- x. The animal should be observed for any signs of distress at least a minimum or every four hours.
- xi. It should be ensured that the provision of prompt veterinary care is available to animal in distress throughout its journey period/on the way.
- xii. The health certificate should mention clearly that the animal is free of any infectious disease or physical abnormality that would endanger the animal, other animals or the public.

7. Travel Documents:

1. Animals feeding schedule, breeding history, medical history and quarantine health certificate shall be prepared in triplicate, a copy to be sent in advance to the consignee, another copy to shipping authority and third copy for office record.
2. A duplicate / Xerox copy of all travel documents and special instructions and information about the animal should be attached in the special box in the animal crate provided for this purpose. .
3. The dispatcher of the animal should legibly and durably mark the consignees name and full address on all travel documents as well as on each of the transportation cage.

4. Transporter's instructions for feeding and watering must be given in writing at the time of acceptance.
5. The animal carriers (driver/handler) should be provided with the name, address and telephone number of the both recipient and the dispatcher and also the emergency contact name and telephone number which shall be accessible throughout the journey period till the animal reaches safely to its final destination.

Species	-	Tiger / Lion
Length	-	140-250 cm (Tail length 30 to 100 cm.)
Height	-	60 cm.
Weight	-	90-200 kg.
Features	-	Attacker, meat eater, furious, runner and good jumper.

Size of the transport Cage / Crate:

Length	-	195 cm 6 ½ ft. (For lion the length can be 6 ft. (180 cm), rest of the dimension remains the same).
Width	-	75 cm. 2 ½ ft.
Height	-	105 cm 3 ½ ft.

These are the inner dimensions.

Description of the cage:

Both the sides should be with sliding doors. The height of the cage must allow the animal to stand erect with its head extended. The length must permit it to lie in the prone position.

Frame - MS angle 40 X 40 X 6 mm.

Sides - 12 mm thick plywood supported by the M.S. flat 35 mm, 4 mm thick at the distance of 600 mm C/C from the outside and inside cover with iron sheet of thickness of 3 mm

Roof - With 12 mm water proof ply covered inside with 3 mm thick iron sheet.

Doors - 12 mm dia. M.S. plain bar @ 50 mm c/c should be welded with frame and covered with 5 mm thick plywood. Bolt and chain system for closing and opening the doors.

Ventilation - Holes on both sides.

Floor- 19 mm thick water proof ply on M.S. flat of 35 X 4 mm @ 350 mm c/c. Floor and two sides also covered from inside with iron sheet of 2 mm therein. Holes on floor 20 mm in dia. Whole cage should rest on 50 X 50 mm iron long pegs. Two 25 mm deep removable trays to be kept below the floor to receive urine and excreta. It should be draw-able from each door side in opposite direction. In the middle a wooden partition to be given to keep two trays separate.

Food & Container - Small door of the size of 100 X 100 mm, on one side be made for inserting food and pouring water.

Side Handles - Four steel rings of dia 150 mm of 12 mm dia M.S. bars (two on each side) be fixed at all four vertical members, slightly above the mid point. These rings will serve dual purpose i.e. for lifting by crane and to tie with another cell / cage with chain during the shifting.

Species	-	Bear
Length	-	140-170 cm (Tail length 5 to 10 cm.)
Height	-	65 cm.
Weight	-	90-110 kg.
Features	-	Attacker, omnivorous, furious, climber and runner.

Size of the transport Cage / Crate:

Length	-	180 cm	6ft.
Width	-	75 cm.	2 ½ ft.
Height	-	100 cm	3 ¼ ft.

These are inner dimensions.

Description of the cage:

Both the sides should be with sliding doors. The height of the cage must allow the animal to stand erect with its head extended. The length must permit it to lie in the prone position.

Frame - MS angle 40 X 40 X 6 mm.

Sides - 12 mm thick plywood supported by the M.S. flat 35 mm, 4 mm thick at the distance of 600 mm C/C from the outside and inside cover with iron sheet of thickness of 3 mm

Roof - With 12 mm water proof ply covered inside with 3 mm thick iron sheet.

Doors - 12 mm dia. M.S. plain bar @ 50 mm c/c should be welded with frame and covered with 5 mm thick plywood. Bolt and chain system for closing and opening the doors.

Ventilation - Holes on both sides.

Floor - 19 mm thick water proof ply on M.S. flat of 35 X 4 mm @ 350 mm c/c. Floor and two sides also covered from inside with iron sheet of 2 mm therein. Holes on floor 20 mm in dia. Whole cage should rest on 50 X 50 mm iron long pegs. Two 25 mm deep removable trays to be kept below the floor to receive urine and excreta. It should be draw-able from each door side in opposite direction. In the middle a wooden partition to be given to keep two trays separate.

Food & Container - Small door of the size of 100 X 100 mm, on one side be made for inserting food and pouring water.

Side Handles - Four steel rings of dia 150 mm of 12 mm dia M.S. bars (two on each side) be fixed at all four vertical members, slightly above the mid point. These rings will serve dual purpose i.e. for lifting by crane and to tie with another cell / cage with chain during the shifting.

Species	-	Leopard / Jaguar
Length	-	115-215 cm (Tail in leopard & jaguar upto 100 cm.)
Height	-	55-70 cm.
Weight	-	35-70 kg.
Features	-	Attacker, meat eater, furious, climber and jumper.

Size of the transport Cage / Crate:

Length	-	120 cm	4 ft.
Width	-	60 cm.	2 ft.
Height	-	90 cm	3 ft.

These are inner dimensions.

Description of the cage:

Both the sides should be with sliding doors. The height of the cage must allow the animal to stand erect with its head extended. The length must permit it to lie in the prone position.

Frame - MS angle 40 X 40 X 6 mm.

Sides - 12 mm thick plywood supported by the M.S. flat 35 mm, 4 mm thick at the distance of 600 mm C/C from the outside and inside cover with iron sheet of thickness of 3 mm

Roof - With 12 mm water proof ply covered inside with 3 mm thick iron sheet.

Doors - 12 mm dia. M.S. plain bar @ 50 mm c/c should be welded with frame and covered with 5 mm thick plywood. Bolt and chain system for closing and opening the doors.

Ventilation - Holes on both sides.

Floor - 19 mm thick water proof ply on M.S. flat of 35 X 4 mm @ 350 mm c/c. Floor and two sides also covered from inside with iron sheet of 2 mm therein. Holes on floor 20 mm in dia. Whole cage should rest on 50 X 50 mm iron long pegs. Two 25 mm deep removable trays to be kept below the floor to receive urine and excreta. It should be draw-able from each door side in opposite direction. In the middle a wooden partition to be given to keep two trays separate.

Food & Container - Small door of the size of 100 X 100 mm, on one side be made for inserting food and pouring water.

Side Handles - Four steel rings of dia 150 mm of 12 mm dia M.S. bars (two on each side) be fixed at all four vertical members, slightly above the mid point. These rings will serve dual purpose i.e. for lifting by crane and to tie with another cell / cage with chain during the shifting.

Species	-	Nilgai / Sambar
Length	-	170-200 cm
Height	-	130-145 cm.
Weight	-	150-200 kg.
Features	-	Volatile, Runner and Jumper, Herbivorous. (Deer with antlers should be avoided for transportation)

Size of the transport Cage / Crate:

Length	-	180 cm	6 ft.
Width	-	68 cm.	2 ¼ ft.
Height	-	150 cm	5 ft.

These are inner dimensions.

Description of the cage:

The height and width of the cage must allow the animal to stand erect with its head extended. The size must restrict movement so that animals cannot turn around and in so doing traps or injures itself nor have space to kick and damage the crate.

Frame - All around solid wooden batten of size 75 X 50 mm or 40 X 40 X 4 mm
M.S. angle.

Sides - Plywood water proof 12 mm thick

Floor - 19 mm thick water proof ply (put wood or saw dust on the floor.)

Roof - Water proof plywood 12 mm thick

Doors - Water proof ply 12 mm thick, sliding doors on both sides with bolts and chain.

Ventilation - holes on side (20 mm in dia, minimum 10 holes on each side)

Food & container - Stalk of grasses and water container

Side bars-Two wooden side handle of 35 X 50 mm size, one on each side for lifting. In case, if the frame of the cage is of steel then we should used four steel rings of dia. 150 mm made of 12 mm dia on M.S. bars, one on each corner.

Species	-	Swamp Deer
Length	-	175-200 cm
Height	-	135-140 cm.
Weight	-	160-180 kg.
Features	-	Volatile, Runner and Jumper, Herbivorous.

Size of the transport Cage / Crate:

Length	-	165 cm	5 ½ ft.
Width	-	60 cm.	2 ft.
Height	-	150 cm	5 ft.

These are inner dimensions. The length may be increased by 15 cm in cage of males

Description of the cage:

The height and width of the cage must allow the animal to stand erect with its head extended. The size must restrict movement so that animals cannot turn around and in so doing traps or injures itself nor have space to kick and damage the crate.

Frame - All around solid wooden batten of size 75 X 50 mm or 40 X 40 X 4 mm M.S. angle.

Sides - Plywood water proof 12 mm thick

Floor - 19 mm thick water proof ply (put wood or saw dust on the floor.)

Roof - Water proof plywood 12 mm thick

Doors - Water proof ply 12 mm thick, sliding doors on both sides with bolts and chain.

Ventilation - holes on side (20 mm in dia, minimum 10 holes on each side)

Food & container - Stalk of grasses and water container

Side bars - Two wooden side handle of 35 X 50 mm size, one on each side for lifting. In case if the frame of the cage is of steel then we should used four steel rings of dia. 150 mm made of 12 mm dia on M.S. bars, one on each corner.

Species	-	Spotted Deer
Length	-	100-150 cm
Height	-	50-90 cm.
Weight	-	25-80 kg.
Features	-	Volatile, Runner and Jumper, Herbivorous (Deer with antlers should be avoided for transportation)

Size of the transport Cage / Crate:

Length	-	150 cm	5 ft.
Width	-	55 cm.	1.10 ft.
Height	-	120 cm	4 ft.

These are inner dimensions.

Description of the cage:

The height and width of the cage must allow the animal to stand erect with its head extended. The size must restrict movement so that animals cannot turn around and in so doing traps or injures itself nor have space to kick and damage the crate.

Frame - All around solid wooden batten of size 75 X 50 mm or 40 X 40 X 4 mm M.S. angle.

Sides - Plywood water proof 12 mm thick

Floor - 19 mm thick water proof ply (put wood or saw dust on the floor.)

Roof - Water proof plywood 12 mm thick

Doors - Water proof ply 12 mm thick, sliding doors on both sides with bolts and chain.

Ventilation - holes on side (20 mm in dia, minimum 10 holes on each side)

Food & container - Stalk of grasses and water container

Side bars - Two wooden side handle of 35 X 50 mm size, one on each side for lifting. In case if the frame of the cage is of steel then we should used four steel rings of dia. 150 mm made of 12 mm dia on M.S. bars, one on each corner.

Species	-	Hog / Barking Deer
Length	-	130-150 cm (Tail 30-50 cm)
Height	-	50-60 cm.
Weight	-	9-12 kg.
Features	-	Volatile, Runner and Jumper, Herbivorous (Deers with antlers should be avoided for transportation)

Size of the transport Cage / Crate:

Length	-	90 cm	3 ft.
Width	-	45 cm.	1 ½ ft.
Height	-	75 cm	2 ½ ft.

These are inner dimensions.

Description of the cage:

The height and width of the cage must allow the animal to stand erect with its head extended. The size must restrict movement so that animals cannot turn around and in so doing traps or injures itself nor have space to kick and damage the crate.

Frame - All around solid wooden batten of size 75 X 50 mm or 40 X 40 X 4 mm M.S. angle.

Sides - Plywood water proof 12 mm thick

Floor - 19 mm thick water proof ply (put wood or saw dust on the floor.)

Roof - Water proof plywood 12 mm thick

Doors - Water proof ply 12 mm thick, sliding doors on both sides with bolts and chain.

Ventilation - holes on side (20 mm in dia, minimum 10 holes on each side)

Food & container - Stalk of grasses and water container

Side bars - Two wooden side handle of 35 X 50 mm size, one on each side for lifting. In case if the frame of the cage is of steel then we should used four steel rings of dia. 150 mm made of 12 mm dia on M.S. bars, one on each corner.

Species	-	Macaque (Lion-tailed, Assamese, Rhesus, Pig tail)
Length	-	50-60 cm (LTM) Excluding tail (Tail 25-35 cm)
Height	-	30-40 cm.
Weight	-	3-8 kg. (LTM)
Features	-	Attacker, biter, climber, jumper and omnivorous

Size of the transport Cage / Crate :

Length	-	90 cm	3 ft.
Width	-	68 cm.	2 ¼ ft.
Height	-	75 cm	2 ½ ft.

These are inner dimensions.

Description of the cage:

There should be enough space for the animal to turn around.

Frame - Solid wooden batten 35 X 35 mm all around.

Sides - Water proof plywood 12 mm thick

Floor - Water proof plywood 12 mm thick. Put saw dust on the floor.

Roof - Water proof plywood 12 mm

Doors- Only one side with up slide facility made up of 12 mm thick Water proof plywood.

Ventilation - Holes on two sides of 20 mm diameter. Welded mesh of the size 12 X 12 mm at rear top side. The width of welded mesh may be 100 mm.

Food & container - Bowl for food and water.

Side bars- Two handles (one on each side) of good quality be provided.

Species - Small cats (Leopard Cat, Civets, Fishing Cat etc.)

Length - 70-80 cm excluding tail (Tail 25-30 cm)

Height - 35-40 cm.

Weight - 3-15 kg.

Features - Carnivorous (meat eater), runner, jumper, can claw.

Size of the transport Cage / Crate:

Length - 80 cm 2 $\frac{3}{4}$ ft.

Width - 45 cm. 1 $\frac{1}{2}$ ft.

Height - 45 cm 1 $\frac{1}{2}$ ft.

These are inner dimensions.

Description of the cage:

There should have enough space for the animal to turn around. For Civets, all the inner sides be covered with aluminum sheet because of wood cutting habit.

Frame - Solid wooden batten of size of 35 X 35 mm

Sides - Water proof ply of 9 mm thickness.

Floor - Water proof ply of 12 mm thickness, put saw dust on the floor.

Roof - Water proof ply of 9 mm thickness.

Doors - Only on one side with up slide facility made up of water proof ply of 9 mm thickness.

Ventilation - Holes of 20 mm dia on two sides, with welded mesh at rear top of the width of 100 mm

Food & container - Bowl for water

Species	-	Rhinoceros
Length	-	300-400 cm
Height	-	160-180 cm
Weight	-	1600-2080 kg.
Features	-	Attacker, furious, herbivorous, runner.

Size of the transport Cage / Crate:

Length	-	300 cm	10 ft.
Width	-	135 cm.	4 ½ ft.
Height	-	180 cm	6 ft.

These are inner dimensions.

Description of the cage:

The size and strength of the cage must be sufficient to restrict the movement as well as restrain the animal. The animal should be able to stand naturally and should not be able to move freely.

Frame - Main member made up of M S angle iron of the size of 65 X 65 X 8 mm, support member of the size of 40 X 40 X 6 mm M.S angle.

Sides - Water proof ply of 19 mm thickness fixed on steel frame.

Floor - Wooden planks of 50 mm thickness fitted on steel frame.

Roof - same as floor.

Doors - Made up of 16 mm dia M.S bar and up slide type. Three horizontal pipes of dia 50 mm would be installed on both side (exit & entry) just before the up-slides gates at equal vertical distance. Each pipe will have a hole of dia 15 mm on both ends for locking purpose.

Ventilation - Narrow slits in plywood on each side.

Food & container - Container for water, stalk of grasses.

Species	-	Elephant
Length	-	550-640 cm
Height	-	275 cm
Weight	-	Up to 5000 Kg
Features	-	Heavy animal, herbivorous, prehensile trunk.

Size of the transport Cage / Crate:

Length	-	240 cm	8 ft.
Width	-	120 cm.	4 ft.
Height	-	180 cm	6 ft.

These are inner dimensions.

Description of the cage:

The calf of the age of 3-4 years should be preferred for transportation.

The size and strength of the cage must be sufficient to restrict the movement as well as restrain the animal. The animal should be able to stand naturally and should not be able to move freely.

Frame - Main member made up of M S angle iron of the size of 65 X 65 X 8 mm, support member of the size of 40 X 40 X 6 mm M.S angle.

Sides - Water proof ply of 19 mm thickness fixed on steel frame.

Floor - Wooden planks of 50 mm thickness fitted on steel frame.

Roof - same as floor.

Doors - Made up of 16 mm dia M.S bar and up slide type. Three horizontal pipes of dia 50 mm would be installed on both side (exit & entry) just before the up-slides gates at equal vertical distance. Each pipe will have a hole of dia 15 mm on both ends for locking purpose.

Ventilation - Narrow slits in plywood on each side.

Food & container - Container for water, stalk of grasses.

Species	-	Chimpanzee and Orangutan
Length	-	125-150 cm
Height	-	70-90 cm
Weight	-	40-75 kg
Features	-	Aggressive, attacker, climber, Runner, Omnivorous

Size of the transport Cage / Crate:

Length	-	150 cm	5 ft.
Width	-	80 cm.	2.7½ ft.
Height	-	110 cm	3.7½ ft.

These are inner dimensions

Description of the cage:

There should be enough space for the animal to turn around.

Frame - Made of 40 X 40 X 6 mm M.S angle. The whole cage should rest on 50 mm long iron pegs. Two kundas, one on each side on the frame be fixed to tie it with cell while taking or releasing the animal.

Sides - Vertical 12 mm dia M.S. Bar @ 50 mm C/C having one horizontal member of size of 40 X 40 X 6 M S flat be fixed at the centre.

Floor - Water proof ply of 19 mm thickness. Floor with holes. Two trays of 25 mm in depth, one on each side and drawn able in opposite direction be fixed below the floor for the collection of urine and excreta.

Roof - Water proof ply of 12 mm thickness covered inside with 2 mm iron sheet supported by 40 X 4 mm M.S flats.

Doors - Sliding on one side, other side fixed of M.S bars and covered with ply.

Ventilation - Holes on sides.

Food & container - Bowl for food and water.

Side supports- Steel rings of dia 150 mm made up of 12 mm dia on M S bars, two on both sides.

Species	-	Giraffe
Length	-	4 meter
Height	-	2.5 to 3.7 meter
Weight	-	550 to 1800 Kg (Measurement for adult male)
Features	-	Runner, Long neck and delicate, long legs and herbivore

Size of the transport Cage / Crate:

Length	-	240 cm	8 ft
Width	-	120 cm.	4 ft
Height	-	275 cm	9 ¼ ft

These are inner dimensions. This size is for 8-9 months old giraffe calf. The size of crate depends on the size of animal.

Description of the cage:

Frame - Made up of 2 X 2 inch (50 mm X 50 mm) hard wood. Six frames of rectangle shape of hard wood fitted on waterproof plywood (12 mm thick) from outside at C/C 18".

Sides - Made up of 12 mm thick waterproof plywood with wire mesh or jute cloth on two sides.

Floor - 19 mm thick waterproof plywood having support of 2 x 2 inch (50 x 50 mm) wooden batten (part of frame).

Roof - 12 mm thick waterproof plywood fixed in the six frames.

Door & feeding provisions - Made up of 12 mm thick waterproof plywood and wooden batons of 50 x 50 mm size, both sides openable (up slides type) having openable window at the top on one of the doors to supply the food and to inspect the animal. The window should be 450 x 600 mm having rubber moldings on edges.

This window should be installed on hinges which can be leveled at 90 degree from door, when required to keep the ration and water pot. For inspection and ventilation opening of 6 inch wide having steel mash (15 mm X 15 mm) may be fixed on both sides adjoining to the top.

Species	-	Ostrich
Height	-	200 cm
Weight	-	140 kg
Features	-	Runner, attacker, Omnivorous

Size of the transport Cage / Crate:

Length	-	150 cm	5 ft.
Width	-	90 cm.	3 ft.
Height	-	200 cm	6 $\frac{3}{4}$ ft.

These are inner dimensions.

Description of the cage:

The crate should have enough space for the animal to turn around, to lie down and to stand fully erect at the same time. Too much space can allow the bird to injure itself.

Frame - Solid batten of 75 X 50 mm in size

Sides - Water proof ply of 12 mm in thickness

Floor - Water proof ply of 19 mm in thickness. Put saw dust in it.

Roof - Water proof ply of 19 mm in thickness

Doors - Sliding door on one side. Made up of water proof ply of 19 mm thickness with nut bolt and chain facilities..

Ventilation - Holes on both sides.

Food & container - Bowl for food and water.

Side Handles - 2 side wooden bars (handles), one on each side of the size of 50 X 35 mm for lifting.

Addition Features - It is advised to provide a 300 mm wide jute cloth curtain or iron bars on all around at the top of the cage except at the door.

Species	-	Emu and Cassowary
Height	-	150-200 cm
Weight	-	35-45 kg
Features	-	Runner, jumper, attacker (cassowary) and omnivorous.

Size of the transport Cage / Crate:

Length	-	75 cm	2 ½ ft.
Width	-	60 cm.	2 ft.
Height	-	150 cm	5 ft.

These are inner dimensions.

Description of the cage:

The crate should have enough space for the animal to turn around, to lie down and to stand fully erect at the same time. Too much space can allow the bird to injure itself.

Frame - Solid batten of 75 X 50 mm in size

Sides - Water proof ply of 12 mm in thickness. Iron bars of 25 cm in length be fixed at equal distance.

Floor - Water proof ply of 19 mm in thickness. Put saw dust in it.

Roof - Water proof ply of 19 mm in thickness

Doors - Sliding door on one side. Made up of water proof ply of 19 mm thickness with nut bolt and chain facilities.

Ventilation - Holes on both sides.

Food & container - Bowl for food and water.

Side Handles - 2 side wooden bars (handles), one on each side of the size of 50 X 35 mm for lifting.

Species	-	Small Parrots
Length	-	25-30 cm
Height	-	10 cm
Weight	-	200-300 gm.
Features	-	Bites, perches, flyer, gregarious.

Size of the transport Cage / Crate:

Length	-	75 cm	2 ½ ft.
Width	-	75 cm.	2 ½ ft.
Height	-	25 cm	0.10 ft.

These are inner dimensions.

Description of the cage:

Sufficient for 15 parrots. Cage should have enough space for birds to move around. Perch of 10 mm in dia inside at 50 mm above.

Frame - Solid wooden batten of 35 X 25 mm in thickness.

Sides - Water proof ply of 9 mm in thickness.

Floor - Water proof ply of 12 mm in thickness. Put saw dust in it.

Roof - Water proof ply of 9 mm thickness.

Doors - On one side of 9 mm thick plywood. Back side closed.

Ventilation - Wire mesh on roof at rear at portion of the size of 150 X 750 mm.

Food & container - Bowl for grain / fruit and water.

Species	-	Pheasants
Height	-	50-85 cm (20-35 inches)
Weight	-	1-1 ½ kg.
Features	-	Runner, can fly under stress, grain and leaf eater.

Size of the transport Cage / Crate:

Length	-	60 cm	2 ft
Width	-	45 cm.	1.½ ft.
Height	-	60 cm	2 ft

These are inner dimensions

Description of the cage:

Suitable for one pheasant. If the tail is long, the length may be increased accordingly.

Frame - Solid wooden batten of the size of 35 X 25 mm sides.

Sides - Water proof plywood of 9 mm in thickness on all four sides.

Floor - Water proof plywood of 12 mm in thickness. Put saw dust in it.

Roof - Water proof plywood of 9 mm in thickness. The inner side be provided with jute cushion.

Doors - Sliding door of water proof ply of 9 mm in thickness be provided on one side. Or open able door of water proof ply of 9 mm in thickness be provided at the top.

Ventilation -Wire mesh at the rear end and at the top, of the size of 100 X 600 mm.

Food & container - Bowls for grain and water.

Species	-	Munia / Budgerigar
Height	-	15-18 cm
Weight	-	15-50 gm.
Features	-	Swift gregarious, good flier, grain eater.

Size of the transport Cage / Crate:

Length	-	75 cm	2.½ ft.
Width	-	75 cm.	2 ½ ft.
Height	-	22 ½ cm	9 inches

These are inner dimensions

Description of the cage:

Sufficient for 20-25 munias should have enough space for birds to move around. Perch at 50 mm above.

Sides - Water proof ply of 9 mm in thickness.

Floor - Water proof ply of 12 mm in thickness. Put saw dust.

Roof- Water proof ply of 9 mm in thickness.

Doors - Sliding on one side. Back side closed. Door made up of 9 mm thick plywood.

Ventilation - Wire mesh at rear end at top of the size of 150 X 600 mm.

Food & container - Bowls for grain / fruit and water.

Species	-	Kite / Shikra
Length	-	30-45 cm
Height	-	15-20 cm
Weight	-	500 gm. – 1 kg.
Features	-	Flier, omnivorous, attacker and biter.

Size of the transport Cage / Crate:

Length	-	75 cm	2 ½ ft.
Width	-	45 cm.	1 ½ ft.
Height	-	45 cm	1 ½ ft.

These are inner dimensions

Description of the cage:

For one bird, perch at 50 mm, should have enough space to turn around.

Sides - Water proof plywood of 9 mm in thickness.

Floor - Water proof ply of 12 mm thickness. Put saw dust in it.

Roof - Water proof plywood of 9 mm in thickness.

Doors- One side with sliding back closed. Door made up of 9 mm thick water proof ply.

Ventilation -Wire mesh at the rear end at the top of the size of 150 X 300 mm.

Food & container - Bowls for food and water.

Species	-	Crocodile / Alligator / Gharial
Length	-	8-10 feet
Height	-	12-15 inches
Weight	-	40-60 kg.
Features	-	Bites, gregarious, fish / meat eater.

Size of the transport Cage / Crate:

Length	-	195 cm	6 ½ ft.
Width	-	60 cm.	2 ft.
Height	-	40 cm	1 ¼ ft.

These are inner dimensions

Description of the cage:

Small size young reptiles are preferred. Metal inside should be avoided.

The space should be enough to allow the animal to lie in a natural position.

Frame - Solid wooden batten of the size of 35 X 35 mm

Sides - Water proof ply of 12 mm in thickness with 35 X 35 mm solid wooden batten as support (4 nos.)

Floor - Water proof ply of 12 mm in thickness. Put saw dust in it.

Roof - Water proof ply of 12 mm in thickness. Having two small windows of wire mesh of the size of 250 X 250 mm on the top.

Doors - Sliding on both sides with 12 mm thick water proof ply.

Ventilation - Holes on sides and top as required.

Food & container - Bowls for food and water.

Species	-	Python
Length*	-	14 feet
Thickness*	-	6 - 9"
Weight*	-	40 – 60 Kg.

* Variable

Features - Biter, flashy and can make himself in a coil.

Size of the transport Cage / Crate:

Length	-	75 cm	2 ½ ft.
Width	-	90 cm.	3 ft.
Height	-	45 cm	1 ½ ft.

These are inner dimensions

Description of the cage:

These dimensions may be changed as per the size of the python species. Wooden box with dry padding on floor and holes on the sides and top should be provided. There should be enough space to allow animals to lie down comfortably.

Frame - M S angle of 25 X 25 X 4 mm and with additional support of M S flat of 25 X 4 mm as required.

Sides - Water proof ply of 19 mm in thickness and wire mesh on two sides.

Floor - Water proof ply of 19 mm in thickness. Put dry paddy.

Roof - Water proof ply of 19 mm in thickness with hinges and locking arrangements. The top will act as a door.

Ventilation - Holes on sides as per requirement.

For lifting – Two side handles one on each side to lift

Food & container - As per the requirement.

Species - **Cobra / Snakes**

Length - 3 – 6 ‘ *

Thickness - 4 – 6” *

Weight - 2 – 4 kg.*

* Variable

Features - Biter, poisonous, fleshy, runner, can coil its body.

Size of the transport Cage / Crate:

Length - 60 cm 2 ft

Width - 75 cm. 2 ½ ft

Height - 30 cm 1 ft

Description of the cage:

Frame - Solid wooden batten of 25 X 25 mm size

Sides - Water proof ply of 9 mm in thickness with wire mesh on two sides.

Floor - Water proof ply of 12 mm in thickness.

Roof - Water proof ply of 12 mm in thickness with hinges and kundas to make them openable from the top to act as a door.

For lifting - Two side handles, on each side to lift.

Food & container - As per the requirement.

Nest Boxes

Species - Macaws

Nest -The macaws make their nests in hollow of a large tree. The height of hollow from ground varies. It may be 10 to 25 meters above the ground.

Size of Nest Box:

Height - 45 cm 1 ½ ft.

Width - 45 cm 1 ½ ft.

Depth - 90 cm 3 ft.

These are the inner dimensions.

Description:

Sides - Water proof ply of 12 mm in thickness.

Roof - Triangle shape or plain. It should be open able on hinges to clean and inspect the eggs and young.

Hole - 115 mm dia on front.

Floor - Water proof ply of 12 mm in thickness. Put saw dust in it

Back - Closed with ply of 12 mm in thickness. The ply used should be water proof.

Species - **Cockatoos**

Nest - Nest is a hollow limb or hole in tree, generally high in a tree near water. Nests are found in holes in cliffs and on top of a haystack.

Size of Nest Box:

Height - 45 cm - 1½ ft.

Width - 45 cm - 1½ ft.

Depth - 60 cm – 2 ft.

These are the inner dimensions.

Description :

Sides - Plywood of 9 mm in thickness.

Roof - Triangle shapes or plain It should be open able on hinges to clean and inspect the eggs and young.

Hole - 100 mm dia on front.

Floor - Water proof ply of 12 mm in thickness. Put saw dust in it.

Back - Closed with ply of 12 mm thickness. The ply used should be water proof.

Species - **Parrots and Cockatiels**

Nest - A natural hollow in tree. Holes in the rock scrap and walls of buildings.

Size of Nest Box:

Height - 20 cm 8 inches

Width - 20 cm 8 inches

Depth - 30 cm 12 inches

These are the inner dimensions.

Description:

Sides - Plywood of 9 mm in thickness.

Roof - Triangle shapes or plain. It should be open able on hinges to clean inspect the eggs and young.

Hole - 75 mm in dia.

Floor - Plywood of 12 mm in thickness. Put saw dust in it. Or original nest material to be provided

Back - Close with ply of 12 mm in thickness. The ply used should be waterproof.

Note: - For smaller birds a log can also be used by scooping out the central portion to appropriate dimension.

Species -Budgerigar

Nest -Breeds in colonies. The nest is a hollow in a tree or log lying on the ground.

Size of Nest Box:

Height - 15 cm 6 inches

Width - 15 cm 6 inches

Depth - 22 ½ cm 9 inches

These are the inner dimensions.

Description :

Sides - Plywood of 9 mm in thickness.

Roof - Triangle or plain. It should be open able on hinges to clean and inspect the eggs and young.

Hole - 50 mm in dia.

Floor - Plywood of 9mm in thickness.

Back - Closed with ply of 9 mm in thickness. The ply used should be water proof.

Species - Great Indian Horn Bill

Nest - A natural tree hollow, walled with birds droppings leaving only a narrow slit through which male feeds her.

Size of Nest Box:

Height - 45 cm 18 inches
 Width - 60 cm 24 inches
 Depth - 90 cm 36 inches
 Hole - 15 cm 6 inches in dia

For Grey Hornbill or similar sized 'species', the dimensions are as under:

Height - 45 cm 18 inches
 Width - 30 cm 12 inches
 Depth - 60 cm 24 inches
 Hole - 12 ½ cm 5 inches in dia

These are the internal dimensions.

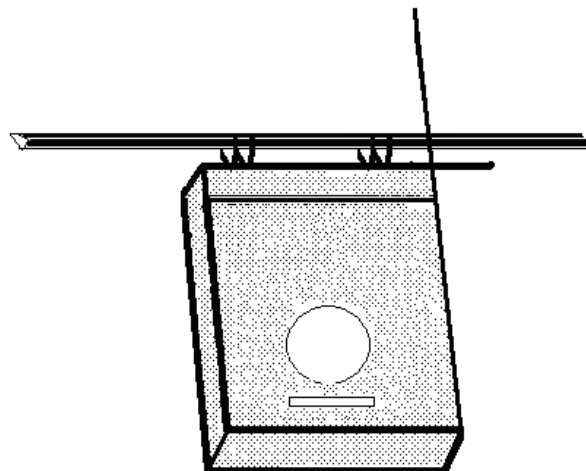
Description:

Sides - Water proof plywood of 12 mm in thickness.

Roof- Triangle or plain. It should be open able on hinges to clean and inspect the eggs and young.

Floor - Plywood of 19 mm in thickness.

Back - Closed with ply of 19 mm in thickness. The ply used should be water proof.

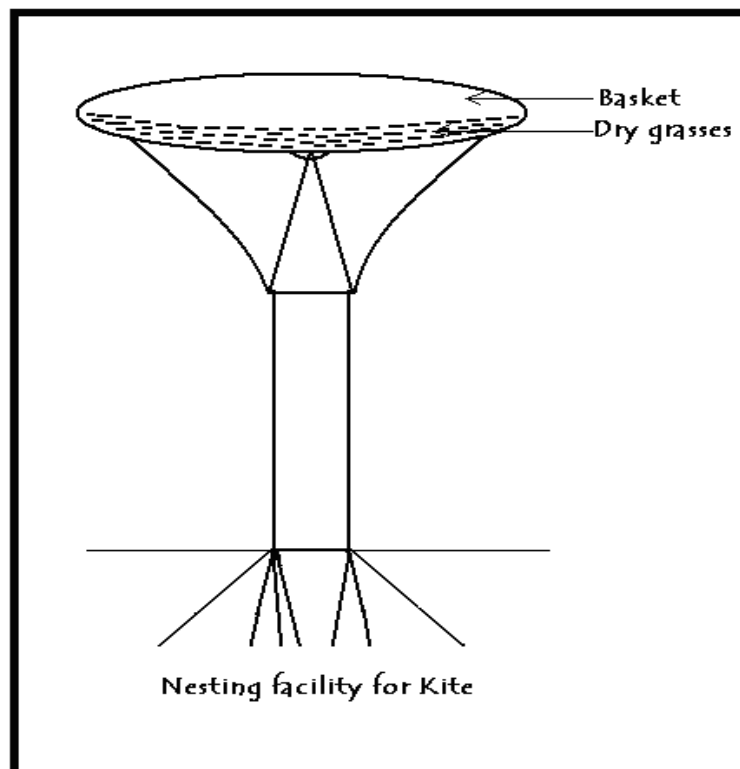


Nest box of Great Indian Hornbill

Species - Kite

Nest - An untidy platform of twigs, rags, cotton, in the tree top. It is an open net.

The kites make their nest in the forking of tree and nest is an open, shallow, made up of dry twigs, rags, soil and feathers etc. In captive condition nest of near natural condition should be provided. For that a basket of 60 cm (24") dia meter fitted strongly in the forked of tree or solid wood be provided. The basket may be filled 1/3rd with dry grasses, soil, feathers etc. The nesting material may be kept in the enclosure, so that the bird may use it.

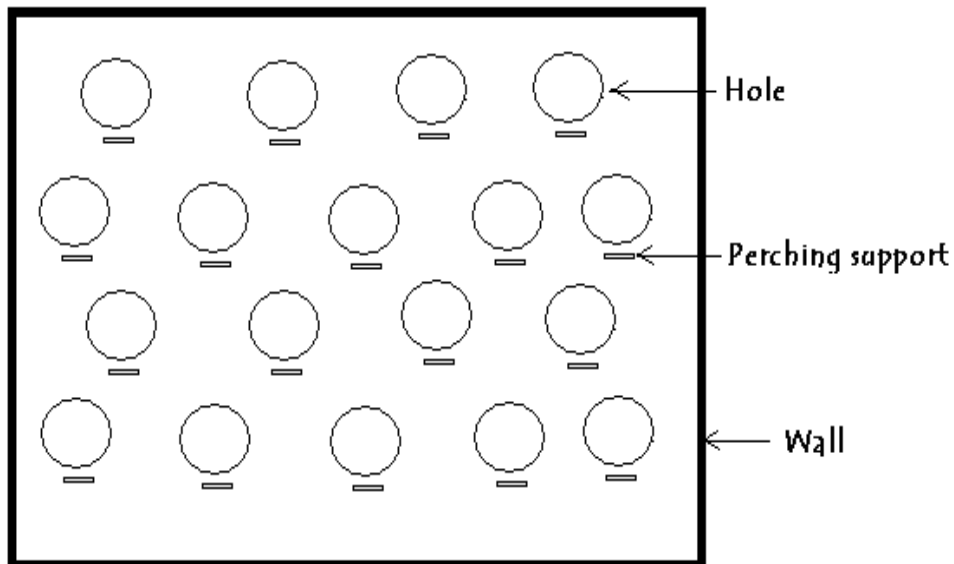


Species - Munia / Myna

Pitchers as Nests:

The Zoological Park, Kankaria, Ahemdabad (Gujarat) has used this technique for macaws, parrots, cocktail and budgerigar and is successful in breeding. Such facility has been initiated in the National Zoological Park also for parrots, mynas and other small species.

A wall of the width of enclosure be built at about 120 cm (4') high from the ground level. On the back of wall small size pitchers with diameter of 8-10 cm (3"- 4") be fixed. At the entrance of the pitcher, a brick tile protruding about 8-10 cm (4") be provided as a perch. The pitchers should be filled 1/3rd with dry grasses. 3-4 holes may also be provided at the bottom of pitcher for drainage. The system is useful for parrots, cocktails, myna, budgerigars and munia etc.



Nesting holes - for small birds species

Check list of documents for Import/Export of Animals from Zoo to Zoo.

I. Documents for Import of Animals from Zoo to Zoo

- a. Clearance from Central /State Government as the case may be.
- b. Central Zoo Authority's approval.
- c. Import CITES permit from the Dy. Director Wildlife Preservation.
- d. Import permit from D.G.F.T. (Director General Foreign Trade).
- e. Quarantine certificate from exporter.
- f. Invoice for custom exemption (only for Government consignment).

II. Documents for Export of Animals from Zoo to Zoo

- a. Clearance from Central /State Government as the case may be.
- b. Central Zoo Authority's approval.
- c. Export CITES permit from the Dy. Director Wildlife Preservation.
- d. Export permit from D.G.F.T. (Director General Foreign Trade)
- e. Quarantine certificate from importer
- f. Invoice for custom exemption (only for Government consignment)

**Pictures of transport cages and nesting facilities being used by various
zoos and rescue centers**



Cage for Vulture
(Photo by Dr. B.K. Gupta)



Top view of Vulture cage
(Photo by Dr.B.K. Gupta)



Cage for Crocodile
(Photo by B. Mathur)



Cage for Thamin deer / Spotted deer
(Photo by Dr. B.K. Gupta)



Cage for Pigmy hog / Wild boar
(Photo by Dr. B.K. Gupta)



Side view of Pigmy hog / Wild boar cage
(Photo by Dr. B.K. Gupta)



Cage for Nilgai / Sambar deer
(Photo by B. Mathur)



Cage for Spotted deer / Hog deer
(Photo by B. Mathur)



Cage for Macaque
(Photo by B. Mathur)



Cage for Chimpanzee / Orangutan
(Photo by B. Mathur)



Cage for Tiger & Lion
(Photo by B. Mathur)



Cage for Bear / Leopard
(Photo by B. Mathur)



Side view of cage of Giraffe
(Photo by Dr. A. K. Malhotra)



Front view of cage of Giraffe
(Photo by Dr. A. K. Malhotra)



Nesting holes for Myna, Parakeet & Small Birds
(Photo by B. Mathur)



Nesting box of Great Indian Hornbill
(Photo by Dr. B.K. Gupta)



Nesting pitchers for Cockatiel
(Photo by Dr. B.K. Gupta)



Nesting pitcher of Owl
(Photo by B. Mathur)



Nesting pitcher of Parakeet
(Photo by B. Mathur)



Nest box of Parakeet
(Photo by Dr. B.K. Gupta)

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