

220

MASTER PLAN

Mini Zoo Cum Deer Safari

Bir Talab, Bathinda, Punjab (INDIA)

(2011-12 to 2031-32)



Department of Forest & Wildlife Preservation
Punjab

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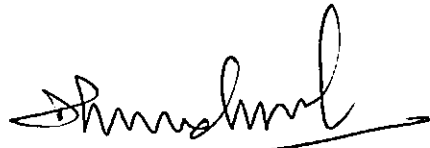
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Certificate

This is to certify that the Master Plan of the Mini Zoo, Bir Talab, Bathinda, Punjab has been prepared (as per the format/check list provided by the CZA, MoEF) by K. Kannan, IFS, Divisional Forest Officer, Bathinda

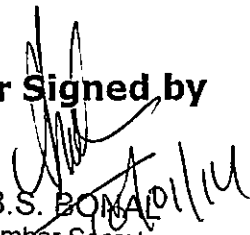


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PREFACE

Mini Zoo Bir Talab Bathinda was established in 1978 with in Bir Talab Block Forest. This is the only zoo situated at this Malwa region of Punjab. To educate the people creating awareness ex-situ conservation of the wildlife is almost importance during the present day conditions.

This master plan is devoted to ways and means of meeting the basic goal and realizing the strategic vision. This document is a blue print for 20 years w.e.f 2009-10 to 2029-30 (Review after 10 years i.e. 2019-20) of zoo development perspective and provides a broad frame work for future programme. The document embodies vision in all dimensions of zoo development focusing on wildlife collection, resource inventory capacity building education research extension and human resource development. It is hoped that the document will serve the purpose to achieve its goals and objectives.

Mohali

**Dhirendra Singh, IFS
Chief Wildlife Warden
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FOREWARD

As per the National Zoo Policy 1988 to give priority to Conservation, education and research over entertainment, this master plan has been prepared. Mini Zoo Bir Talab, Bathinda situated at Malwa Region of Punjab in the Block Forest. The Mini Zoo along with Deer Safari will represent the region which will be kept in near natural environment suiting their biological and social needs and displaying them for educational and interpretive purposes to generate public support and to promote eco-tourism with an equal emphasis on in-situ conservation and making the zoo self sufficient in achieving its goals and objectives.

Mohali:

M.P Rai, IFS

Principal Chief Conservator of Forests
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PART I

CHAPTER 1

Introduction

1.1 History:

Mini Zoo Bir Talab Bathinda was established in 1978 within Bir Talab Block Forest. Total Area of Bir Talab Forest is 161 Acre. Started in a modest way by Red Cross Society, Bathinda but later on it was adopted by Punjab Forest & Wildlife Preservation Department in the year 1982. Situated about 6 KM away from Bathinda town on Bathinda Multania Road and spread over approximately 10.40 hect. area, it houses 84 animals and 195 Birds (**Detailed in Annexure-1-B**) to its collection which belong to 16 different species. The Mini Zoo is situated in the Block Protected Forest.

1.2 Objectives:

Some of the objectives of Mini Zoo Bir Talab Bathinda are:-

1. To educate the people regarding wildlife, their habitat, food habits and status etc.
2. Ex-situ maintenance and conservation of endangered species in captivity.
3. To enhance knowledge of animal behavior by conducting research and study on management of wildlife in captivity.

1.3 Topography and Edaphic conditions:

The area is part of the larger landscape of semi-arid plains of Punjab. The ground is mostly flat with alluvial to sandy soil. Area is more or less dry in nature. Though it has been reclaimed by planting different tree species. Now this Mini Zoo can boast of having more than fifty two trees species besides number of shrubs and herbs. The regeneration is poor and thus the habitat improvement works to be taken within enclosures and outside, need extra efforts.

1.4 Vegetation:

Main vegetation of the area includes elements of dry deciduous forests dominated by Mulberry (*Morus alba*), Neem (*Azadirachta indica*), Arjun (*Terminalia arjuna*), Shisham (*Dalbergia sissoo*) and other species. Neem (*Azadirachta indica*), Burma Drek (*Melia composita*) plantation has also been taken up. There are some research plots of casurina , Eucalyptus, teak, Maleyna , Khair etc. species. In all there are more than fifty two different species of trees standing in the Bir Talab block forest.

The fauna found free ranging within the Block Forest are Blackbuck (*Antelope cervicapra*), bluebull (*Boselaphus tragocamelus*), snakes, rhesus macaques, Longeared Hedgehog (*Jhaha*), Mongoose etc. The list of flora and fauna is attached as annexure 1-A and 1-B.

1.5 Climate and rainfall:

The climate is extremely hot in summers and cold in winters. Maximum Temperature recorded is 43.8°C whereas Minimum Temperature recorded is 0.9°C. The area normally experiences a dry climate. Average annual rainfall in Bathinda during last 10 years is about 234.5 mm.

1.6 Approach & Demography of surrounding area:

The Mini Zoo is located in the vicinity of the main town of Bathinda just 6 km. away from Bathinda City. It is approachable by road which goes towards village Multania.

Block Forest, in which the Mini Zoo is located, is surrounded by various "Bastis", their agricultural land and swamps. With expanding township of Bathinda, construction activities are extending to these villages also. The area lies along Bathinda Branch Canal (BBC). Conversion of agricultural land into other land use(s) is rapidly affecting the local ecological conditions. A regulation in this regard is to be pursued for environmental security and safety aspects of the park.

1.7 Legal Status of land:

As the Mini Zoo is located within the Bir Talab Block Forest and is recognized by CZA, the legal status of this block forest is PA (protected area).

1.8 Sources of pollution if any:

Although there is no direct source of pollution, only human wastage from adjoining 'bastis' is only cause of worry.

1.9 Miscellaneous(present ground situation, layout & description of facilities):

The Mini Zoo extends over an area of 10.40 ha within the 64.40 hect. area of Bir Talab Block Forest. Present layout of the Mini Zoo includes-

- Lawns and Gardens- 30000 sq. mt
- Enclosures and Cages- 50000 sq. mt
- Office building and stores- 2000 sq. mt

➤ Paths/Road and Others - 22000 Sq.mt.

The layout plan of the Mini Zoo is attached as **Annexure 1C to 1J**

Need for the Master Plan:

A Master Plan acts as a guide for planned development of a Zoo. This is the first Master Plan (as no master plan was prepared earlier) prepared for 161 acre Bir Talab block forest which includes Mini Zoo Bir Talab also. As per the requirement of The National Zoo Policy, 1998 which envisages that *"Zoos shall prepare a long-term master plan for development to ensure optimum utilization of the land, water, energy and finance"*. For development of zoo the Recognition of Zoo Rules 1992, also prescribes *"Each zoo shall prepare a long-term master plan for its development. A team from Central Zoo Authority (CZA) New Delhi visited and evaluated the Zoo in the year 2006-07 there main findings are attached as **Annexure-3-A**.*

CZA team approved prescriptions for Mini Zoo Bir Talab in its conceptual plan attached as **Annexure-3-B**

CHAPTER 2

Appraisal of present arrangement and constraints

2.1 Animal section and other sections

2.1.1 Animal Section:

The plan of the Zoo is not scientific and there is a great scope of improvement in the existing layout, especially of the animal sections. Although, the enclosures are arranged in order to keep carnivores, herbivores, birds and reptiles in separate clusters, still there is some mixing which affects the management. Sometimes deviations have been taken place as whenever an enclosure meant for certain species has fallen vacant; this has been allotted to some other species.

The details are however as under:

- a) Some of the enclosures, cages and animal houses which have been built in the past do not serve the purpose of modern zoo management and some of them have either become very old, dilapidated or have been damaged due to climatic conditions down the years.
- b) The enclosure for the monkeys, deer family and some other species do not adequately meet the biological needs of the concerned animals as well their security. There is a need to reconstruct them or to go for completely new enclosures. Some of them do not provide adequate protection against varying weather conditions.
- c) At present there is no provision of individual night shelter for herbivores. There is also a need to elevate their platforms to prevent dampness. Provision of fixed type squeeze cage is also suggested.
- d) The present bird enclosures where birds have been housed are in bad conditions. They need immediate reconstruction in form of modern walk-in aviary.
- e) Floorings and netting of many enclosures need immediate attention as they are in a damaged state.
- f) Not much articles, logs, other such items have been provided in many enclosures and those provided are not adequate.
- g) Macaque enclosure covered with chain link mesh does not match with the requirement and pattern of display. This enclosure needs to be redesigned to make a moated enclosure.

h) In the Zoo only a few animals and Birds are unpaired namely Hog Deer, Porcupine and Dove. We must find the mate for the single animals without loss of time.

2.1.2 Veterinary Section:

There is no permanent veterinarian in this zoo. Only part time veterinary officer of adjoining veterinary hospital of village Teona (about 5 KM away) looks after the animals of this park. He is called from the veterinary hospital whenever his services are required for upkeep of zoo animals. He is also responsible for taking care of the well being of the animals present in various enclosures. At present there is one small make shift treatment cum dressing room in Mini Zoo Bir Talab. There is a need of separate well equipped dispensary building with modern facilities. The existing abandoned old buildings meant for Forest Guard and Forester can be modified and upgraded to suit requirements of treatment room for the park. A postmortem room also needs to be constructed along with the treatment cum dressing room in the dispensary.

2.1.3: Store:

The store is maintained in the building behind the office. Stock of dry foodstuff is kept here. The room is small and insufficient for the purpose. There is no feed distribution platform, weighing machine etc. which are urgently required. More over there is no provision for storing Fruit and Vegetables meant for Bird and monkeys. A separate well ventilated room is required of this purpose.

2.1.4: Sanitation section:

This section includes general cleanliness of the park, path, lawns and gardens, office, interpretation center etc. There is only part time sweeper and generally daily workers are employed for this purpose. Hygiene within the enclosure is maintained as a part of animal section related activity. However shortage of fund and staff is felt for maintaining cleanliness other than enclosure.

2.1.5: Maintenance Section:

Day to day maintenance is done by daily wage laborers. Annual and specific maintenance is almost negligible, rest depends upon the availability of funds either by the state government or central government.

2.1.6: Security section:

Since the Mini Zoo is a part of Bir Talab Block Forest, the entry check post is manned by Chowkidar (daily wagers). Still staff has to put in a lot of effort to keep it safe. Though no untoward incident has been reported from the Mini Zoo in the past, there are incidences of theft, illegal tree cutting etc from Bir Talab Forest area.

2.1.7 Water supply section:

A large quantity of water is required to meet the daily requirements of animal house cleaning, watering the garden, drinking purposes and toilets. Water supply is met with help of 1 submersible pump through which water is supplied through pipes to each animal section, garden and visitor facilities. Though one water channel outlet from adjoining Bathinda Branch Canal is passing through the park but it is seasonal. There is a need for up gradation of water supply particularly one tubewell on the higher far end of the park for providing sufficient good quality water to the inmates of the park.

2.1.8: Disposal of solid waste & liquid waste-sewerage:

The wastes are disposed off in disposal pits at a distance from the Mini Zoo. Fodder wastage during winter season poses some problems as it takes time to dry up. So generally it is left open in the sky to dry up. Liquid wastage is not a problem as the area is dry.

2.1.9: Visitors amenities:

The details of visitor amenities are as under:

- a) There is one visitor shed near black buck enclosure and around 5-6 concrete benches at different places provided for the visitors.
- b) There is no provision for refreshment within the park as there is no canteen but just outside the entrance of the Mini Zoo a few shops are catering the needs of visitors. There is urgent need of a canteen out-side the Mini Zoo.
- c) There is a ticket chamber for the visitors to enter the Mini Zoo, which is operated by a daily wager and sometimes by an attendant of the Mini Zoo.
- d) The parking facility of vehicles for the visitors is outside the main gate of the Mini Zoo and adjacent to the ticket booking counter. No parking fee is charged from the visitors but it is proposed to charge the nominal rates for the parking of the vehicles for their security and maintenance of the area.
- e) The entrance and exit to the Mini Zoo is from revolving gate just adjoining the main gate which generally kept closed. The rules and timings to enter the Mini Zoo are displayed outside the park area. More sign boards/ Display boards are required for awareness and education of people.
- f) The transport facility from Bathinda city to Mini Zoo is by Private buses plying between Bathinda-Multania- Bir Behman after half an hour interval. Other facilities are private vehicles, rickshaws and autos etc. A dedicated bus may be run by the Govt. or a private operator which can take people from bus stand and railway station to Mini Zoo.

g) Toilet facility for the visitors is available in side the Mini Zoo which needs renovation and expansion.

h) Approximately one lac, thirteen thousand, seven hundred and fifty (1,13,750) persons visited Mini Zoo Bir Talab in the last ten years (1998-99 to 31st March, 2009).

2.1.10: Lawns and gardens- landscape section:

There are sprawling lawns for the use of visitors. Some effort has been undertaken for landscaping. Still more manpower and adequate fund is required for developing these lawns. There is lot of scope to design and develop these gardens for aesthetic and appeal.

2.1.11: Log hut and Machan

There is single bed retiring room it is wooden panned both from inside and outside. At present one concrete machan is existing in the lawn of Mini Zoo. But both log hut and machan require repair and renovation.

2.2 Collection plan:

At present, there are five large open enclosures, three fenced enclosures, nine small enclosures. All the enclosures are being used. There is one partly constructed langur enclosure, which is now abandoned. Presently animals are housed in all seventeen enclosures. The detail of animals as on 31.3.2009 is as follows:

Mammal	-	6 species	84 no
Birds	-	<u>10 species</u>	<u>195 no</u>
Total:		<u>16 species</u>	<u>279 no</u>

Annexure attached as I-B.

2.3: Research:

Though structured research activity is not done at present by the zoo staff, researchers from various scientific institutions/Universities do take interest in conducting research on captive animals.

2.4: Conservation breeding:

The Mini Zoo largely has deer species in its collection. There is thus a need to focus on conservation breeding of some of the endangered deer species like Hog deer and barking deer etc.

2.5: Education and awareness:

There is no arrangement for educating the visitors about awareness of wild life. For this establishing an interpretation centre is need of the hour to educate and make the public aware about the importance of wildlife. This center should have gallery of wildlife posters and photographs, library on wildlife. Provision for Wildlife film shows. Conducted tours of students are organized on different occasions particularly during wildlife week. Various competitions, quiz and talks are also organized. Researchers and students from local Rajindra College and Regional centre of PAU Ludhiana also make use of its facilities.

PART II
CHAPTER 3

3.1: Future objectives including mission statement/theme:

3.1.1: Future Objectives:

In the National Zoo Policy 1988, it is made clear that Zoos need to give priority to conservation, education and research over entertainment.

Keeping this in view it is proposed that whole of the block forest area of Bir Talab be taken up for wild life conservation and management. The major objectives have been conceptualized as follows:-

- 1) Conservation breeding of different species particularly those endangered species belonging to this region for preservation of biodiversity, exchange with other zoological parks and rehabilitation of suitable endangered species in the wild with strict adherence to the guidelines framed for the purpose.
- 2) Research and scientific study on animal behavior, disease and their control, feed and nutrition and reproductive biology. The knowledge so gained can be made use of in management of wildlife in the wild.
- 3) To promote *eco tourism*, nature education and interpretation for communicating this to the visiting public in general and younger generation in particular for appreciating the need of wildlife conservation.
- 4) To develop the Mini Zoo as a training centre for management of wild animals and their upkeep besides training on zoo planning and management to the staff, veterinarians and others taking advantage of the knowledge and experienced in the captive management of wildlife here.
- 5) To provide deer family its natural habitat it is proposed to convert existing zoo into *Deer safari* which will be spread over 100 acres area. There will be another 15 acre area which will act as buffer zone having a width of 10 meter all along safari area as per CZA guidelines. In the safari area appropriate number of water holes, fodder points & rescue shelters shall be provided at strategic points. There shall be separate park spread over 30 acre area to provide all natural and recreational facilities to the visiting people.
- 6) Providing healthy wholesome recreation through wildlife education to the visitors utilizing the ambience of the setting of the park, keeping in view the safety and upkeep of the zoo animals. Recreation shall only be incidental and shall not be the main objective at any time.

3.1.2: The Mission statement is as follows:

"The Mini Zoo Bir Talab along with Deer Safari will have healthy animals representing the region which will be kept in near natural environment suiting their biological and social needs and displaying them for educational and interpretive purposes to generate public support and to promote eco tourism with an equal emphasis on in-situ conservation and making the zoo self sufficient in achieving its goals and objectives."

This master plan is devoted to ways and means of meeting the goal and realizing the strategic vision for 2025. This document is a blue print for 20 years of zoo development perspective and provides a broad framework for future programme. The document embodies vision in all dimensions of zoo development focusing on wildlife collection, resource inventory, captive management and development, institutional strengthening and capacity building, education, research, extension and human resource development.

The master plan has defined the purpose of Bir Talab Mini Zoo and Deer Safari in clear and concise terms with intended concepts and has set out the basic guidelines which are to be adopted. It has also looked into layout including existing components like animal enclosures, visitor amenities, and veterinary facilities, other facilities like entrance, parking, educational facilities, research facilities, landscape and gardening as well as in-situ conservation areas as per plan for its development.

3.1.3: Achieving the stated objectives:

The above objectives are proposed to be achieved by housing and display of broad representative of diverse and endangered animals and birds, with main emphasis on Indian fauna belonging to the region considering the climatic condition suited to them.

- (i) Display of animals in a pleasant, aesthetic, natural setting in conformity with their near natural habitat, behavior and biological needs vis-à-vis to promote eco tourism to generate awareness about wild life among the masses.
- (ii) Provide larger space for each species of social group of animals by maintaining fewer species of large social and breeding groups.
- (iii) Ensure high standard of animals' health and hygiene and expert veterinary care.
- (iv) Take up captive breeding programme in collaboration with the zoos and other scientific organizations for benefit of the conservation of wild animal species in captivity and in the wild.

3.1.4: Conservation breeding programme

Conservation breeding programme should be taken up exclusively with captive bred animals of the zoo or received in exchange, where the species is highly endangered. Promoting wildlife education and awareness is to be also taken up through proper display of animals in their near natural habitat, through properly designed exhibits, signage's, interpretation centre, conducted tours, film and slide shows etc. Using the wild animals and the facilities available in the Mini Zoo to conduct of research on different aspects of animal behavior, breeding biology, disease and their control, physiology and anatomy etc. shall be encouraged with the objective of better management of the zoo and in-situ management of wildlife.

3.1.5: Recreation which should be the incidental to the visiting public of the Mini Zoo and shall not be priority over other activities related to management of wild animals in the zoo.

CHAPTER 4

Proposed future action plan

4.1. Future action plan:

The future action plan is aimed to provide direction for development of the zoo in coming 20 years i.e.2009-10 to 2029-30 with the provision of revision after 10 years. The proposal is based on the topography of the site, water availability, vegetation, climate, visitors profile, conservation, education and research needs and convenience of management. For convenience, the proposal has been prepared section wise. The recommendations of the Central Zoo Authority during the evaluation of the zoos from time to time and conditions laid down vide their letter no. 19-73/92-CZA(220)(M) dated 14-05-10 vide which recognition to the Deer Park Bir Talab as a Mini Category Zoo under Section 38H of the Wild Life (Protection) Act upto 30 April 2013 was given have also been kept in view in formulating the proposal for new structures or modification of existing structures. This existing Mini Zoo as mentioned earlier is spared over appx. 26 Acre area. Now there is a proposal to develop whole of the Bir Talab protected forest area and convert into Deer Safari and Park. The area is proposed to be divided into two parts. One part of appx. 115 acre shall be developed as **Deer Safari**. Other part of appx. 30 area shall be developed into **environmental cum recreational park**. Layout map and plan enclosed. This shall be done in accordance with CZA team observations and guidelines.

CZA team approved following prescriptions for Mini Zoo Bir Talab while giving it recognition:-

- 1 Maintenance of Record and submission of inventory (Rule 11(1))
- 2 Development and Planning, Regarding preparation of Master Plan (Rule 3(1))
- 3 Animal Housing, Display of animals and animals enclosures (Rule 4 (2,6,10))
- 4 Upkeep and healthcare of animals (Rule 5(2,10))
- 5 Veterinary facilities (Rule 6(1))
- 6 Visitor facilities (Rule 8(2, 3)) regarding Anti venom serum availability, special provision like ramps, properly laid pathways etc., toilets facility.
- 7 Visitors facilities (Rule 12(1))
- 8 Other Proposals of the Visiting CZA Team are :-
 - i) Existing area of the zoo should be increased

ii) There should be separate sections of sufficient space for Black Bucks, spotted Deer, Sambar and Additional Male and Female Black Bucks keeping in mind biological needs of deer family.

iii) Enclosure of birds species should be made at convenient place.

4.2 Deer Safari

As the existing population in the enclosures of various deer family is beyond their carrying capacity as per minimum space norms fixed by CZA. With a view to provide deer family near natural environment suiting biological and social needs and displaying them of educational and interpretive purposes to generate public support with an equal emphasis on in-situ conservation and making the zoo self sufficient in achieving its goals and objectives, it is proposed that existing 115 acre protected Bir Talab forest area be developed as Deer Safari as per the guidelines of the CZA. The objective of creating a deer safari is to liberate the Black bucks from the present enclosure in a bigger free area of the safari. The wildlife department would like to translocate Black bucks from Bir Talab, Bathinda to near by sanctuaries to give them ample free space for growth and development rather curbing their freedom in a small enclosure. It is worthwhile to mention here that the Black bucks are very happy in the company of other deer families. The present enclosures of cheetal, sambar, blackbuck, hog deer shall be dismantled to make way for Deer Safari. This 115 acre safari area shall be divided into five segments each having appx. area of 23 acre. (*Detailed layout plan, design and item wise estimates of proposal is enclosed as Annexure-2A*) Every segment shall be separated from other by way of 5 meter wide road called safari management road. Boundary of the safari shall be fenced with 3.5 meter high chain link. Watch towers shall be constructed on all the corners of the safari area. In rest of the 30 acre area there will be 10 meter wide buffer area along the chain linked fenced area as per the guidelines of CZA. The proposed Deer Safari shall have following facilities in it :-

- a) Boundary wall
- b) Chain link fencing
- c) Water Holes for animal drinking.
- d) Fodder Points
- e) Ponds
- f) Animal Shelter
- g) Double Entry Gate with Cattle Grid
- h) Covered Feeding Kraal
- i) Watch Tower
- j) Rescue Shelter

- k) Safari Management Road
- l) Waste Disposal Unit
- m) Emergency Escape Zone
- n) Veterinary hospital & Feed Store
- o) Kitchen & Keeper's Cabin
- p) Sign Boards and educative information Board
- q) Postmortem Room & Carcass Disposal Unit etc.

a) **Boundary wall :-**

As Bir talab Forest Area and exiting Deer Park is surrounded by numbers of basties of village Bir Talab. To check any biotic interference from out side 4 KM long boundary wall of 2.5 meter height is proposed to be constructed all along the periphery of exiting forest. Over the top of wall three strands of barbed wire shall be provided with the support of Y-shape Angle Iron of apprx. 1 Mtr. height. After the buffer zone which will be 10 mtr. wide chain link fencing will be provided in the inner side of the Safari Area.

b) **Chain link fencing :-**

As a foolproof safety and security measure for the deer in the proposed deer safari, area shall be fenced with 3.5 mtr high which include foundation, toe wall, chain link fencing & barbed wire. This Chain Link Fencing shall be provided along the periphery near the boundary wall after the buffer zone which is apprx. 10 mtr. wide in the inner side of the Safari Area. This is in accordance with the CZA guidelines.

c - f) **Water Holes/ Fodder Points/ Ponds/ Animal Shelter :-**

To meet the food and water requirements in all the seasons for wild animals in the safari sufficient number of water holes/Fodder Points/Ponds/Animal Shelter shall be provided at the strategic points. For adequate supply of drinking water for deer family one Submersible Tube-well will be provided. These drinking water points with running supply of potable water for animals shall be naturalistic and merge with the overall environment of the proposed safari.

g) **Double Entry Gate with Cattle Grid:-**

Proposed Deer Safari shall have double entry gates with Cattle Grid at strategic points so that their is no misunderstanding or mistake. These gates shall be guarded by gatekeeper and watchman round the clock.

h) **Covered Feeding Kraal:-**

A covered feeding kraal with double gate will be provided for facilitating capture and removal of sick or excess population. This will also help reduce menace of feral animals and birds that also consumed animal feed and are carriers of diseases.

i) **Watch Tower:-**

To keep a strict vigil on the entire happening in and around proposed deer safari in Bir Talab Forest watch towers of 30 ft. height at the corners of the safari area will be constructed.

j) **Rescue Shelter:-**

As a safe guard to the adverse weather conditions for the wild animals rain shelter and thatch roofs huts shall be provided in the proposed safari at convenient places. Though the occurrence of such natural and man made emergency certain, they are infrequent and the zoo has to cop with them. As in the past drought and heat, unusual spell of cold, flood has been experienced, so such preparedness is must. There shall be separate room for injured and stray deer captured from within and out side the proposed safari.

k) **Safari Management Road**

A main road shall be laid to cover most of the safari area, but leaving out certain withdrawal areas for the animals. The roads shall be laid in such a manner that whole of the safari areas can be accessible. width of these road shall be 15 mtr. to allow two vehicles to cross each other.

l) **Waste Disposal Unit**

To maintain cleanliness and to ensure disease free atmosphere in the safari, disposal of left out fodder and other dropouts shall be collected and dumped in waste disposal unit specially made for this purpose.

m) **Emergency Escape Zone**

As discussed in (j) above as a safe guard to unforeseen natural or man made calamities such as flood and forest fire, a mounted emergency escape zone spread over an area of 5 acre. is proposed. This escape zone shall be connected with preplanned emergency routes. This zone also have water hole and food point in it.

n) **Treatment centre/Veterinary hospital / Postmortem Room etc.**

There is no veterinary facility within the park at the moment. A Doctor from veterinary hospital generally visits once a week. For medical treatment as well as for postmortem animal has to be taken to government polyclinic Bathinda which is at a distance 10 KM from the Mini Zoo. There is only one make shift treatment centre but that sans basic facilities. Apart from these basic requirements some additional

amenities like well equipped dispensary room, a laboratory-X-ray unit, operation theatre, isolation ward and quarantine need to be provided to make the management responsive to all the immediate needs of animal health care.

To provide veterinary facilities to injured or sick deer family a veterinary hospital with all modern facilities is proposed to be constructed within the zoo area and for on the spot postmortem of dead animal one postmortem room away from the veterinary hospital is proposed to be constructed. This will facilitates routine veterinary care on day to day bases in accordance with the "Recognition of zoo Rules" and CZA guidelines

(i) **Quarantine Ward**: This needs to house all types of animals wherever there is need for housing them in the quarantine ward. There should also be suitable restraining facilities for examination and treatment of animals.

(ii) **Disposal of dead bodies**: At present the dead bodies are disposed off by burning with fire wood. This does not appear to be the proper arrangement and there is need for a proper carcass disposal unit which will be provided in a corner away from the veterinary hospital and animal enclosures.

(iii) **Disease investigation**: At present there is no facility of diagnostic laboratory with in Mini Zoo to take up examination of fecal samples, blood smears, urine etc. There is necessity of some diagnostic laboratory for taking care of the tests which are possible to be carried out. Those which are not possible to be done in the Mini Zoo, assistance of government polyclinic Bathinda has to be taken. It is also proposed to arrange for the facilities for diagnosis of all parasitic diseases. Necessary assistance from the Central Zoo Authority is required.

(iv) **Assistance from Specialists**: Animal Husbandry department visits the Mini Zoo in the event of need to advice the veterinarians to treat the animals properly. This practice need be formalized with a Government order in consultation with the concerned department and it should be continued. A Technical Committee of expert veterinarians and zoo officials of Chhatbir Zoo to oversee and advise on technical and other matters needs to be formed.

(v) **Qualified veterinary and Paraveterinary staffs**: As there is no permanent veterinary attendant, veterinary staff should be provided to look fter the whole affairs.

(vi) **Feed Store**:- For storage of dry ration and fodder for animals and its preparation in changing season and for storage of equipment for restrain of animals including along with accessories, drugs etc. a store will be provided to the close proximity of the veterinary hospital. Feeds are being distributed from the store room itself. This has to be improved and made fly proof. This needs to be shifted to a

properly designed separate building in years to come. Though is an immediate need for a refrigerator or deep freezer. A feed distribution vehicle is also to be provided for.

(o) **Store, equipment room, Kitchen & Keeper's Cabin:**

For storage of equipment like spades pick axes, saw, ropes and hook for maintenance as well as use in emergencies. Equipment room, kitchen and keeper's cabin with all basic facilities proposed to be constructed in the proposed safari.

(p) **Sign Boards, educative information Board and fire fighting equipment**

The Signboards and information boards are to be erected on the rout of visitor to give awareness about biodiversity, importance of forest and wildlife , DO'S and DONOT'S etc. To combat the menace of fire during fire season fire fighting equipment and fire alarm system shall be installed at vulnerable places. These equipment shall be updated from time to time.

4.2.1 Stores:-

There is one room store building for housing all stores. Besides the present store building, there is a need for kitchen, additional rooms and feed distribution platforms. The abandoned old quarters just adjoining main entrance can be used to dispose off the unserviceable stores and articles which are unnecessarily occupying scarce space within the park.

4.2.2 Sanitation Section:

Sanitation is one of the most important sections in a zoo as lot of solid and liquid wastes are generated every day from the animal enclosures as well as from elsewhere in the park. Unless, suitable arrangement is made for their day to day disposal, it will be difficult to keep the park clean and pleasant. Hence, necessary infrastructures need to be developed. It is essential to provide a complete sewerage disposal system, series of dustbins, cleaning and disposal of garbage by transporting them out side the park and sweeping on daily basis. The public toilets and facilities need proper and regular cleaning. To achieve this, besides the man power, proper equipment should also be made available from time to time. For cleaning of the premises excluding animal enclosures, a contractual arrangement is to be explored for minimizing establishment and search for such staff. Other equipment like wheel barrows, racking shovels, spades, billhook, axes and other equipment should be provided for keeping the park clean. If required specific area should be earmarked for the visitors for eating food brought with them.

4.3 Environmental cum Awareness Park to promote Eco-tourism:

To attract more and more visitors and to have a feel of nature and natural environment, awareness of wild life, research and scientific study on animal behavior, to promote nature education, eco tourism and interpretation for communicating to the visiting public in general and younger generation in particular there is a proposal to develop **Environment cum Awareness Park**. This park shall replace the existing mini zoo and shall be developed in appx. 30 acre area. A Boundary wall shall be constructed along the periphery of the park. All the existing infrastructure namely animals enclosures, bird cages, log hut, entrance main gate and other old buildings and stores shall be totally dismantled to make way for new and modern technique built structure like inspection bungalow, Rain Shelter, Bird Cages, Animals Models, Watch towers, Viewing Deck, Bird attracting points, Wooden Bridges, Benches etc. (Detail estimate enclosed as **annexure-2-B**)There is a proposal to have walking trail running across the length and breadth of the proposed park. In between grassy lawn, flowering park, Children Park, Swings, Sea-saw, Landscaping shall be developed. Model of different animal species depicting evolution of animals and human beings shall be constructed along side walking trail. Beside this the park shall have :-

- a) Cafeteria
- b) Public amenities
- c) Rain Shelter
- d) Educative Board
- e) Machan
- f) Benches
- g) Battery Operated vehicle
- h) Interpretation centre etc.

4.3.1 Proposed Animal collection plan:

It is proposed to adopt broad taxonomic display management, research and education. As far as possible, standard classification will be followed except where specialized enclosures to be maintained in order to provide adequate care to some species of animals.

- i) The maximum number of any species to be displayed depending on their social behavior has to be taken into account to provide adequate space for the individual or social group. The enclosure should be designed to take care of the biological need of the species, its safety and ease of viewing by the visiting public.
- ii) While attempts shall be made to provide open air enclosures for most of the species with dry wet moat barrier, other types of barriers like chain link mesh fence, glass or wall shall be used wherever felt necessary.
- iii) All enclosures shall be provided with adequate protection to the animals against climatic variation, commensurate with the individual need of the species such as boulder, caves, trees, platform, shrubs, logs etc which will meet their biological needs.
- iv) Adequate attention has to be paid for provision of isolation arrangement for protection of expectant mothers, injured animals and young ones. Such separation will help in elimination of any problem of infighting, cannibalism or rejection.
- v) Wherever possible in-built squeeze cages should be attached to animals' houses or sets of animals' house for restraining the animal for providing treatment when necessary without putting the animal to undue stress for capture or transport to the zoo hospital.
- vi) Each animal house should be provided with adequate drainage facilities so that liquid wastes are drained out of the enclosures and disposed off without contaminating the surrounding enclosures. There should also be arrangement for cleaning the solid wastes and their disposal, without any risk to the animals or staff.
- vii) Potable water supply should be ensured to all animal enclosures and feeding cubicles preferably from deep tube well.

The broad classification of the proposed animal collection plan will be as follows:

Sr. No	Species	Present Stock				Proposed Collection (future stock)				Animals to be acquired or removed				Rem.
		M	F	U.S	Total	M	F	U.S	Total	M	F	U.S	Total	
1	Black Buck(<i>Antelope cervicapra</i>)	25	20	0	45	25	20	0	45	0	0	0	0	-
2	Monkey (<i>Macaca mulatta</i>)	5	4	0	9	0	0	0	0	5	4	0	9	To be removed
3	Peafowl (<i>Pavo cristatus</i>)	2	2	0	4	2	2	0	4	0	0	0	0	-
4	Spotted deer (<i>Axis axis</i>)	6	9	0	15	6	9	0	15	0	0	0	0	-
5	Hog Deer (<i>Axis porcinus</i>)	3	0	0	3	3	8	11	3	0	8	0	8	To be acquired
6	Sambar(<i>Cervus unicolor</i>)	6	5	0	11	6	5	0	11	0	0	0	0	-
7	Dove (<i>Columbidae</i>)	3	3	0	6	3	3	0	6	0	0	0	0	-
8	Budgerigar	51	49	0	100	51	49	0	100	0	0	0	0	-
9	Partridge Black (<i>Francolinus francolinus asiae</i>)	2	4	0	6	2	4	0	6	0	0	0	0	-
10	Partridge Brown	1	6	0	7	1	6	0	7	0	0	0	0	-
11	Duck Common (<i>Anatidae</i>)	9	13	0	22	9	13	0	22	0	0	0	0	-
12	Red Munia (<i>Estrilda amandava amandava</i>)	9	9	0	18	9	9	0	18	0	0	0	0	-
13	Parrots(<i>Psittacidae</i>)	15	10	0	25	15	10	0	25	0	0	0	0	-
14	White Sparrow	0	3	0	3	0	3	0	3	0	0	0	0	-
15	Finches	2	2	0	4	2	2	0	4	0	0	0	0	-
16	Porcupine(<i>Hystrix sp</i>)	0	1	0	1	1	1	0	2	1	0	0	1	To be acquired
	Total	139	140	0	279	7	14	0	21	4	8	0	12	

There was no plan for the collection of animals which could act as a guiding source for the zoo incharge over the years. Because of that, sex ratio of some of the animals is not balanced. To be in line with the objectives of the National Zoo Policy, changed mandate towards conservation and to tackle the above issues, a detailed Animal Collection Plan has been formulated which will guide the zoo managers for acquisition and transfer of animals in future. Mini zoo will continue to display its existing fauna and the efforts would be made to pair single animals. Mini zoo has three male hog deers. So it is proposed to collect eight female hog deers after getting sanction from the competent authority. Similarly one male porcupine is required to pair with the available female. Similarly the monkeys will be removed from future stock by releasing in to wild after taking proper sanction from competent authority.

The animals in the plan will be acquired by way of exchange deals or purchase after taking proper sanction from competent authority.

4.3.2. Choice of animals:

This Mini Zoo is located in the semi arid region and ideally suited to breed and exhibit Indian fauna of this region. Recognizing the importance of small zoos in addition to large ones, in providing nature education at local level, as well as their role in area specific scientific research on different aspects of wild animals, emphasis has to be given to display Indian fauna of local importance, with special reference to those belonging to the region. Some little known smaller animal species like Indian pangolin, common otter, spotted owlet, Indian rock python, different species of snakes etc. need also be exhibited. This will play significant role in education as these animals being more secretive endangered species are rarely seen in the wild. The zoo at present does not have many exotics. However, exotic species like large apes, flightless birds, psittacoses like macaw, cockatoo etc. may be exhibited for their peculiar morphological character. They are quite popular among the visitors and are easier to handle. All the domestic species earlier housed in the Mini Zoo have been phased out. The present lists of animals available in the Mini Zoo are given in Appendix-I-B. The list is not exclusive and can be reviewed by the Conservator of Forests (wildlife) Parks & PAs periodically.

However, top priority has to be given to pair the single animals or animals of the one sex available in the zoo either by arranging mates for them or by transferring to other zoos on breeding loan or transfer in the interest of conservation of the species. This is very urgent in the case of endangered species of Indian sub continent.

For long term commitment to conservation and captive breeding, the park shall identify a few core or mission species/race of animals. Such core species suggested are hog deer, barking deer, chinkara, and peacock amongst birds from endangered species.

Sambar, chital, partridges, shall form the limited breeding species. Species like blackbuck shall not be bred by attempting vasectomy and separation of sexes.

4.3.3 Modification or re-arrangement of existing enclosures:

At present some of enclosures in the zoo are very old and do not conform to the modern concept of zoo design or they do not meet the biological need of the

species housed in them. Some of them shall be completely demolished or few others shall be modified to meet the minimum size for feeding or retiring cubicles recommended in the Recognition of Zoo Rules, 1992. These rules and their future modified forms shall be scrupulously followed while designing new enclosures or modifying the existing enclosures. The changes proposed are as follows:

i) Monkey house:

The closed type monkey house neither meets the biological requirements of the species nor is aesthetically appealing. This structure is proposed to be demolished and monkeys shall be set free in the forest it self.

ii) Bird Aviary

The walk through water bird aviary is non-existing and many birds like parakeet, partridge etc. have been housed in old dilapidated enclosures. This needs priority attention for re-construction. This should be on pattern of the modern aviary and should have sufficient flying space for the birds. Its location and size is shown in the Layout Plan Attached.

- i) The bird enclosures which are now housing small terrestrial birds need be demolished and these birds to be displayed in new aviary in the proposed park.
- ii) The exhibits now housing peafowl and ducks shall be suitably modified retaining the large trees for much better appeal.
- iii) Cage enclosures which have been partly constructed needs completion adjacent to the present partridge enclosure so that in future, these can be used as aviary.
- iv) Sufficient number of night shelters and in-built squeeze cages proposed to be provided in all mammalian enclosures for providing individual feeding cells to each animal.
- v) There are enclosures for small birds and pheasants etc. which are rather small. Action is needed to modify them and provide larger enclosures.
- vi) The other small exhibits and buildings here and there need demolition and the area needs proper landscaping.

The Location of each enclosure and buildings is shown in the Layout Plan Attached.

4.4. Phasing out of surplus animals:

- i) There are no domestic animals in the zoo at present. All of them have already been phased out.

- ii) The principle of housing or shifting of surplus animals shall be reviewed by the Conservator of Forests (wildlife), Parks & Protected Areas circle, and decided from time to time. For animals of solitary living habits, separate retiring/ feeding cubicle availability for each one should be the criteria. For the species which live in groups, their usual group size should be taken into considerations for providing suitable housing.
- iii) At present the number of animals and birds in the Zoo are well with in the limit. After deciding a suitable population size as per the CZA guidelines, the excess should be phased out by transferring to other zoos or wherever possible releasing into the wild in order to make more space available to the remaining animals and reduce maintenance cost.
- iv) Moreover to check over population of animals, there is proposal of segregation of prolific male members to separate enclosures or even transfer to other wild life sanctuaries . Even then if need be vasectomy of animals shall be done to control the population and restrict its number as per space available and CZA guidelines issued in this regard from time to time will be followed.
- v) For the species like Black buck which breed prolifically the ultimate population shall be kept 100 -120 in the safari. When the population exceeds the limit the following measures shall be followed after taking proper sanction from competent authority.
 - Sex segregation
 - Release into wild
 - Vasectomy/ Tubectomy

4.5 Water Supply Section:

As the park has grown in phases, there are several water supply systems which are operating in the park with improvements from time to time. It is necessary to survey the entire area for proper ground water sources and sink deep tube well and make adequate storage arrangements for supply of potable water into all the enclosures, drinking water points, office, dressing room, public toilets etc. Besides, separate water supply arrangements for lawns, gardens and other cleaning aspect of the Mini Zoo should be also made. There should be a proper pumping system. As water is vital to running of a zoo, there should be back up system to meet emergencies.

4.6 Power Supply Section:

Most of the animal enclosure areas do not have power supply. But it is now felt that the power should be made available throughout the park for any emergent

situation or lighting of any area when required. Hence, the dedicated line, of twenty four hour power supply, should be laid along the roads of the park through under ground cable to avoid contact with the trees and also to prevent their damages by monkeys etc. It is proposed to install a generator set to ensure round the clock power supply.

Modern lighting arrangement conducive to a zoo environment should be made in consultation with experts in the field. Power points to each of the retiring cubicles should be made to provide lighting for emergent handlings including relief measures against heat or cold stress. More submersible pumps are required to provide adequate water supply for drinking and sanitation purpose. At present only two submersible pumps are working for the whole area which are not sufficient to fulfill the purpose.

4.7 Security Section:

It is very important to keep the zoo animals, visitors, zoo staff and zoo property both movable and immovable safe and secure to make the zoo function properly. The measure needs to be taken in years to come are:

- (i) Completion of the compound wall of Mini Zoo and fencing with chain link to be taken up. There will be double entry gate at the entrance to rule out any misunderstanding.
- (ii) The present security system of employing daily wage laborers may continue as long as alternate arrangement of engaging ex-army personnel, security agencies in-combination with the present arrangement can be examined and necessary changes may be effected.
- iii) Wireless sets should be added and be made available to the security personnel to muster additional man power in the event of any necessity / emergency.
- iv) Weapons, arms and 'laths' should be provided to the security staff on duty along with search lights and torches for night patrolling.
- v) Watch towers with spot lights should be erected at vulnerable points along the boundary and meadows in order to eliminate possibility of any entry through the walls. Possibility of providing cattle proof trench (CPT) around the park may be explored as wild herbivores can enter inside the park.
- vi) One out post may be located outside the zoo premises preferably at the parking place.
- vii) A jeep able track should be cleared along the boundary line wherever feasible to provide easy access to any point for the security purposes.

- viii) All entry and exit after zoo hours should be recorded for keeping watch of any movement through the entry points.
- viii) All daily wages staff should have proper uniform for both day and night duties with winter clothing and rain coats etc. for different seasons.

4.8 Landscaping and Gardening:

Mini Zoo Bir Talab is located inside forest block of Bir Talab and still lot of natural vegetation exists within the premise which lends greenery to the park. The vegetation has been kept intact at many places. This has reduced the requirement of more of artificial gardens or lawns. But, still some formal or informal gardens do have their aesthetic appeal to visitors and zoo inmates also. Proper landscaping by experts is proposed in the park area. Planting of permanent of hedge plants, ornamental plants and making of rockery hills is proposed

- i) **Informal Garden:** Number of trees had been planted or protected along the road sides and many other points. Carefully selected indigenous deciduous trees and shrubs should be planted up fast to provide shade and greenery to the park.
- ii) **Nursery:** One nursery for garden plants (seasonal and perennial) and another for trees or shrubs (for informal gardening) should be maintained in the park. This can be done in the existing nursery in the Block Forest. Large nursery is the absolute need for a modern zoo, for maintaining its greenery and aesthetic appeal.
- iii) **Children Park :** A children park is proposed in the Mini Zoo which will have spacious lawn. It will also have Sea-saw, Swings, Merry-go-round for children. The park shall have one big fountain in the centre and four small fountain near the corners.
- iv) **Educative, Information and Sign Boards:** To educate the visitors and create awareness about wildlife. Educative and information boards shall be erected along side walking trail in the park area and as well safari area. Sign boards shall be placed at appropriate points for the information of the visitors for available facilities in the zoo area.
- v) **Pond :** Existing Abandoned Escape Minor shall be converted in to pond. Tile terracing will be done all around this pond this will serve as not only drinking point for animals and birds but also helps in water recharging and water harvesting during dry season.

4.8.1 Visitors amenities:

A number of visitors' amenities are needed to be developed and maintained to make the zoo visit pleasant and less tiring. Amenities need to be developed are:-

- i) **Parking Place:** Though a site just outside the Mini Zoo entry has been allocated for the parking, this has not been developed. This need to be developed by erecting proper sheds. The parking area has been shown clearly in the proposed plan. This should be walled, landscaped and all amenities developed here for a properly designed parking place for all categories of vehicles, complete with ticket counter, eating places, curio shops, toilet complex, visitors sheds, check post, telephone booths etc.
 - i) A well designed gate may be erected near the main road with a well landscaped pool on the depression existing at the right hand side of the entrance gate. There should be a separate exit with proper gardening on either side.
 - ii) There are temporary resting places at many places. They should be improved and permanent structures be made to merge with the surrounding for protection against sun and rain.
 - iii) More drinking water points should be provided at suitable places with provision of bacteria free drinking water to the visitors.
 - iv) Stone benches may be provided at suitable intervals along visitors paths for use by the visitors for resting when tired.

4.8.2 Education and Awareness:

This is a very important component of zoo management. The visitors, after their visit should go back with empathy for wild animals in captivity and also in the wild, besides getting educated about different aspects of biology and ecology of the wild animals. Hence, the following steps need be taken in the years to come in a phased manner.

- i) There is an urgent need to setup interpretation centre (nature interpretation centre) on modern lines with the advice and involvement of experts in the field. This should be interactive with light and sound effects. This should not only educate visitors on the zoo animals, but provide information on different protected areas of the state and ecology.
- ii) A gift shop for selling curios of the park, photos, slides, guide books, stickers and other nature related artifacts like mugs, paper weights, caps, ties and vests etc. should be established in the zoo. This will not only help people take back certain durable wild animal related materials back home for long time to remember but also help the park to get some revenue.

- iii) For facilitating research, a small building/or few rooms should be set a part as a Research centre with necessary furniture, equipment, glassware, microscope, incubator, refrigerator, reference books, computer etc.

4.9 Nature Interpretation Center

Interpretation is defined as an Educational Activity, which aims to reveal meanings and relationship, not simply by factual information, but through the use of original objects by first-hand experience and by illustrative media. Interpretation provides a first-hand opportunity to enrich the experience of nature and thus is a very important communication tool in protected areas. Interpretation has the potential to educate visitors about natural resources, the relationship between humans and natural resources and the need for conservation and park management policies. In turn, increased understanding of natural resources may generate visitor support for the conservation of the park's resources.

Nature interpretation is one of the many methods used to disseminate quality information to the visitors in a way that it supports the better management of the protected areas and encourages real appreciation for the protected area. Nature's interpretation serves two main functions: education and recreation. Through interpretation one hopes to raise awareness of environmental issues, to sensitize, to create understanding and appreciation of the site and to make the whole experience more meaningful. It is the most effective and exciting media for interpreting the Nature to the large number of visitors.

Keeping above in mind, there is a proposal to develop one Nature Interpretation Centre in the park area of the Mini Zoo, Bir Talab. The main aim of this centre is to play a supportive role and encourage better interaction with the visitors to Mini Zoo, Bir Talab. Who are genuinely interested in interacting with nature, learning from it and bringing about a systematic change in the environment for their own sustenance. A modern building having two resting rooms, a community hall (fully A.C) all high-tech facilities like multimedia projector, telescopes, GPS, furniture, Table mikes, Generator etc. shall be provided to house the interpretation centre. So that building itself may fill visitors with a sense of joy and thrill. The proposed nature interpretation centre shall have viewing galleries each depicting different theme. Starting from state's profile on forests and wildlife wealth, the galleries shall unfold many facts on biodiversity, floral richness of Punjab State including a brief on Neem and Shisham, rich cultural heritage, threats to biodiversity, people's participation for economic welfare, etc. Rich historical conservation ethos of the State will also be well reflected through a 'panel' depicting names of places in Punjab based on names of

useful tree species. There will be a special corner for Children's consists of a few interactive items, such as recognizing the calls of birds, comparing weight and height with few important animal species, sharing fun with legendary Moguli family, etc. The parting theme may apprise the visitors of the future roles of the forest department in fulfilling her Vision, Mission, and Objectives.

The Center shall be so designed that most of the 'Panels' may be replaced with new 'Panels' in future depicting the new concepts and latest achievements for updated information of the visitors. New interactive 'panels' may also be added in children's corner to disseminate education and awareness on key aspects of Nature's conservation. All the galleries in the Center shall be beautifully laced with colourful terracotta art work merging well with the overall ambience of the Center. Visitors may scribe their valuable suggestions on white boards provided for this purpose. These valuable suggestions and comments would be collated and printed for display in the Center subsequently. The centre will also have sufficient written material like Brochures, Books and Posters on floral and faunal wealth of North India. It will also disseminate information on cultural heritage of this region.

4.9.1 Administrative Building:

There is no suitable accommodation available for the zoo office. It is essential to construct a proper administrative office building within the park at the entrance so that visitors, who are to visit the office, need not have to go in to the park. This building should be constructed on modern lines for the DFO (WL), warden, Park In-charge, reference library, ministerial establishment, mini-conference room etc.

4.9.2 Staff Quarters:

Residential accommodation for Wildlife Guard, Chowkidar, Range Officer, Wildlife Inspector, Forester quarters should be constructed early. Their accommodation and availability at the park itself is important and crucial.

4.9.3 Inspection Bungalow:-

The present inspection hut is in dilapidated state. There is a proposal to dismantle the existing log hut to construct well furnished modern inspection bungalow having all the facilities in it.

4.9.4 Internal roads:

There is one main path which divides the park into two parts on eastern and western sides. This is joined by other paths on either side and there are a few subsidiary paths. It will be better to black top the main entry road leading to Mini Zoo to avoid dust and surface all the walk ways along animal enclosures with proper stone, state or chequered slabs for the convenience of the visiting public and for aesthetic appeal. This can be taken up in a phased manner. A proper layout may be worked out to

prevent repetition of a particular path, and for unidirectional visitor flow. There is proposal to lay 12 feet wide cement concrete road.

4.10 Personnel Policy for Mini Zoo Bir Talab Bathinda:

As the zoo has been developing from Deer Park to mini zoo, from small area to large area, from small number of animal species and population to more than 15 species and over 295 population size, the number of staff and officers for the zoo as well as grade of zoo in charge needs to be improved upon. At present, the over all control of the zoo is with officer in the rank of Divisional Forests Officer, In addition to only one forest guard there are seven labourers engaged for assisting and maintaining multifarious activities of park.

As per current regulations of the Central Zoo authority, the Deer Park Bir Talab is placed in Mini zoo category of zoo(s) in India.

4.11 Miscellaneous:

Since the zoo shall almost undergo a complete modernization within the period of this master plan, it is necessary to give special attention to the following aspects of execution:

- 1 As far as possible, emphasis shall be given to providing large space to each exhibit, provide dry, wet or concealed moats as per the need of the species.
- 2 Excessive exposure of concrete structures should be avoided and effort should be made to give special effects to barriers and night shelters and cubicles for merging them with the surrounding or to give a look of the animal's habitat. Concealment of barriers by arranging creepers or vegetation can also give good effects.
- 3 Wherever possible, natural vegetation should be protected and nurtured.
- 4 Use of laterite blocks or sand etc should be preferred to concrete.
- 5 The enclosure should not be designed in isolation. All aspects of the surroundings area including other enclosures, topography and vegetation should be taken into consideration for design and lay out of the new enclosure. For this purpose it will be better to use the services of the landscape architect.
- 6 All structures should be painted with a selected color which should merge with nature instead of using very bright or garish color.
- 7 No tall structure, above the tree height, should be erected within the park as that will spoil the landscape of the park.
- 8 Build up area should in no case, be more than 10% of the area use for the zoo.
- 9 Special attention has to be given for planting indigenous evergreen of semi-evergreen vegetation as the park has lost many of its trees due to the super

cyclone of 1999. Special emphasis should be laid to planting along the roads and in the enclosures with due planting.

- 10 All latest international development in zoo architecture, design, landscaping and education should be kept in mind while modernizing the park.
- 11 All guidelines and rules and directions of Central Zoo Authority of India and other statutory bodies should also be kept in view while planning new developments so that they are not violated.
- 12 Education and interpretation should be given top priority in any future development of the zoo.
- 13 Within the detailed prescriptions made herein and taking into account the problems which are naturally faced from time to time a 4-5 year management plan may be prepared to ensure timely supply of feed and water, to take care of animal health, security as well as personnel policy.
- 14 The life of this Master Plan is 20 years. As number of development are taking place very fast in zoo designing, husbandry and display, the plan need to be reviewed every 5 years to bring in modifications needed if any, for the succeeding 5 years.

CHAPTER - 5

Personal Planning

This park is now in the jurisdiction of Divisional Forest Officer Bathinda. Who is looking after wild life as well as territorial works falling in Bathinda Revenue District Office of erstwhile Wildlife inspector Mini Zoo Bir Talab is situated within the park. Now there is One Range Forest Officer is looking after the works of Mini Zoo Bir Talab also. At present there is no accommodation inside Mini Zoo for any staff. The night chowkidar and security staff uses the entry check post. There is a need to arrange for staff accommodation for wildlife guards. One proper chowkidar room also needs to be constructed. One abandoned Forester and Forest Guard accommodation just outside the park can be used for the purpose after renovation.

The present position of administration / staff of the Mini Zoo is as under:-

Forest Range Officer	1
Wild life Guard	1
Ticket Clerk (Daily wager)	1
Chowkidar (Daily Wager)	1
Part Time Sweeper (Daily wages)	1
Labour (Daily wages)	5
Total	<u>10</u>

The staff needs regular training and orientation regarding wildlife.

5.1 For proper administration of Mini Zoo the following staff pattern is proposed:-

Name of the Post	Post Sanctioned	Post filled	Post Proposed
Veterinary Doctor	--	--	1
Veterinary Pharma	--	--	2
Forest Ranger	--	1	1
Wild Life Inspector/Dy. Ranger	1	1	--
Forester	--	--	2
Wild Life Guard	1	1	4
Forest Guard	1	1	4
Senior Asstt.	--	--	1
Junior Asstt.	--	--	2
Store Keeper	--	--	1

Name of the Post Proposed	Post Sanctioned	Post filled	Post
Ticket Clerk	--	--	1
Computer Operator	--	--	1
Tractor Driver/Jeep Driver	--	--	3
Zoo Keeper	--	--	4
Gate Keeper	--	--	2
Chowkidar	--	--	4
Sweeper	--	--	2
Class-IV/Peon	--	--	4
Mali	--	--	4
Labour			As per requirement

CHAPTER 6

Disaster Management

Disaster in context of a zoo is referred to the following:

- (i) When any animal life, vegetation or human life is endangered
- (ii) When zoo property is susceptible to damage

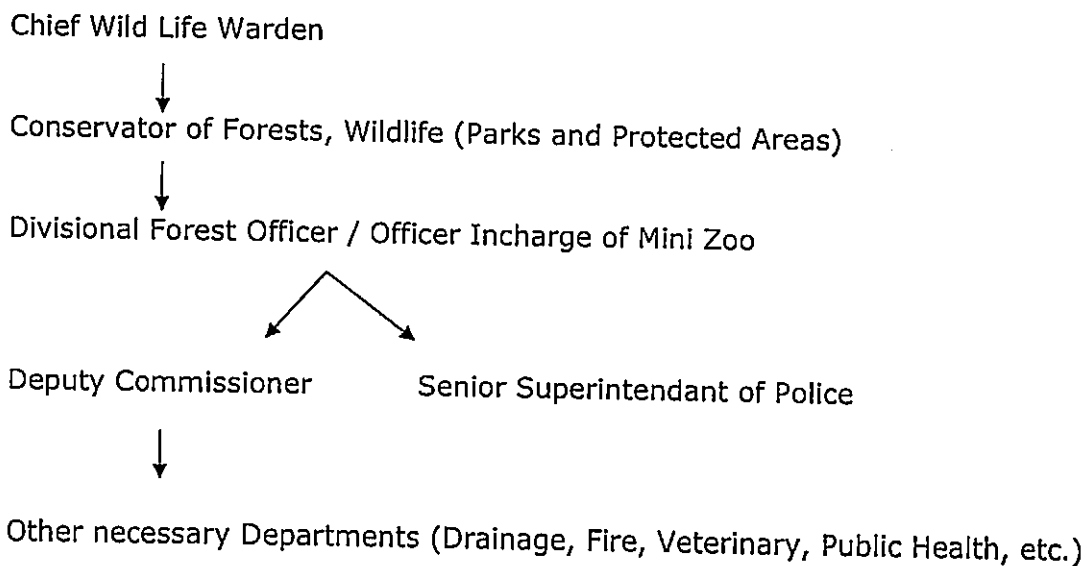
Majority of these may not qualify as disasters but these may require certain amount of preparedness.

6.1 Disaster preparedness and mitigation

A team will be constituted to train and enable its members for disaster preparedness and mitigation. Team members will be sent to the training at NIDM (National Institute of Disaster Management) Delhi. A well defined line of command will be followed in the disaster management at the level of chief wild life warden and Divisional Forest Officer, Bathinda and it is proposed as under.

6.1.1 Line of command

i) Coordination at the State Level

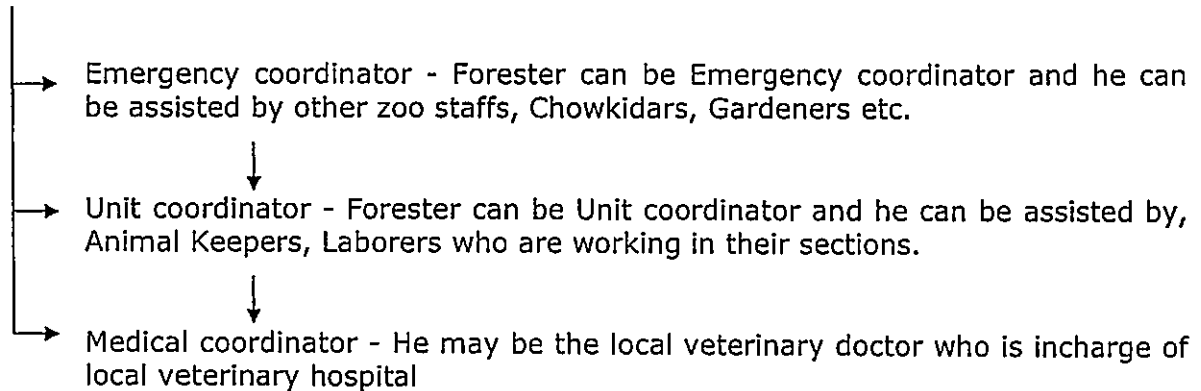


ii) Coordination of members at the zoo level

Officer in-charge of the mini zoo – Divisional Forest Officer



Security coordinator /Warning /information coordinator - Forest Range officer, who can understand the priorities of the zoo; he can be assisted by Stenographer, Head Clerk, and orderly etc.



6.1.2 Facilities

The zoo will have the basis facilities like control room, media centre and evacuation areas or effectively dealing with the emergency situations in the zoo. For effectively dealing with the exigencies the zoo must have a mechanism for good internal and external communication links. Good internal communication links help in ensuring that the orders are passed on to the emergency teams working with in the zoo and getting feed backs from them; where as good external communication links help in getting necessary help from the police, fire, medical, home guards etc. For it the zoo must have a control room with adequate space, supplies, communication equipment like phone, fax, computer, walkie-talkies etc. The in-charge of the zoo coordinates from this location.

6.1.3 Specialty Services

Address, Telephone Numbers of following to be contacted

Officer in-charge

Office Fax Cell

Closest Police Station

Closest Fire Station

Closest Government hospital

Volunteers

First aid

6.1.4 Equipments and vehicles

The zoo in- charge has to prepare the basic equipment needed by the zoo for dealing with different kinds of emergencies.

i) To handle captive animals

Animals	Equipments
Hoofed stock (Deers and antelopes species)	Projectile guns and darts, blow dart equipment, crates and Custom designed squeeze cages
Small mammals (e.g. primates)	Nets, gloves, pole syringe, snares, plastic tubes, blow dart equipment, crates and squeeze cage
Birds	Nets, gloves, towels and pole syringe

ii) To handle emergencies

Rescue cum transport vehicle with facilities for first aid, Alarm systems, Public address system, Radio communication will be in position. In addition to this the necessary equipments like chain saw, diesel pump, axes, shovel, pick axe etc. portable animal cages, siren, diesel gen-set, emergency flood lights, a small boat, protective garments etc. will be kept in the zoo stock along with the stock of consumables required to run these equipments .

These items shall be checked periodically by the Zoo staffs(Incharge of the store).

The staffs shall be given training periodically to handle the equipments and the emergency situation.

Regular mock drilling exercise will be conducted to improve the response skills of the staffs to handle the emergency situation. For this the help of District administration and other departments like police, fire etc., will be taken

6.2. Disasters

Mini zoo Birtalab is prone to the following disasters

- Natural or Manmade Fire.

- Animal disease emergencies and epidemics.
- Flood from near by Bathinda branch of Sirhind Canal and other natural disasters like cyclone, heavy raining, hail storm, earthquakes.

6.3. Fire Management Plan:-

The threat of fire and explosion exists at every wooded place. Fire and explosion can be accidental (such as short circuit or by the accidental fire caused by a thrown cigarette by the Zoo visitor) and at times can be intentional (by the Zoo visitor/ anti-social elements).

6.3.1. General Response Regarding People

- The Zoo incharge will fully activate the control center.
- Zoo personnel should evacuate visitors, especially women and children, from the fire area to the evacuation assembly area upon hearing the alarm.
- Small or isolated fires should be immediately extinguished.
- Unit Coordinator will check their work areas to ensure that all persons have taken the appropriate action.
- Unit Coordinator will account for their personnel at the evacuation assembly area and report this information to the Emergency Coordinator.
- The Emergency Coordinator will authorize reentry into the site or facility after consulting the fire personnel.

6.3.2. Regarding Zoo animals

- Fire lines should be cut near the animal enclosures
- Adequate supply of water for sprinkling on the animals and for dousing the fire should be made available
- Measures should be taken that the crowns of the trees of the animal enclosures do not catch fire. It is very necessary in the zoos where there is a great deal of vegetation. As a precautionary measure lopping of trees should be done at regular intervals
- Unit Coordinators will check their work areas to ensure that all animal keepers have taken appropriate action.

6.3.3. Following measures will be taken in the Zoo

- The first person who spots a fire should activate the alarm system and contact the authorities.
- Zoo personnel should evacuate visitors.

- Fire lines should be prepared near the animal enclosures.
- As a precautionary measure lopping of trees will be done at regular intervals.
- Adequate supply of water for sprinkling on the animals and for dousing the fire should be made available.
- Ensure that the Fire Department has been informed.
- Notify persons of the need to evacuate, activate alarm system, etc.
- Shut down electricity lines or systems as necessary.
- Ensure that emergency medical care is provided to injured persons.
- Coordinate offsite medical assistance, ambulance calling/pick up etc.
- Notify key officials as necessary.

6.3.4. Equipments required for dealing with fire

Fire Tender

Multi-purpose water sprinkling vehicle

Rubber boots

First aid kit

Protective gloves

Helmet

Cages

Fire proof dress

6.4. Animal Disease emergencies Management Plan:-

The captive animals of the zoos are vulnerable to a number of diseases of viral, bacterial and mycoplasmic origin. Some of these diseases are dreadful and their occurrence amongst the captive populations of the zoo may have disastrous consequences, like:-

- Serious losses to the zoo by the way of loss of valuable genetic materials
- Increased concerns of animal diseases transmitting to human beings (i.e. zoonotic diseases)

6.4.1. Following measures will be taken in the zoo

- Disease surveillance both active and passive should be an integral component of the zoo
- Occurrence of particular disease and its potential consequences will be identified and evaluated.
- Assess the seriousness of the threat of each disease.
- Determining the life threatening diseases for which there is a greatest need and urgency.

- Removing potentially contaminated materials by disinfection, destruction and/or safe disposal.
- Care must be routinely exercised to ensure all food (living or dead) brought to the zoo.
- An effective pest-management program should be implemented and maintained.
- Appropriate and speedy disposal of biological wastes, carcasses, material, etc. will help in preventing the diffusion of infection within the zoo.

6.4. Flood Management Plan:-

Birtalab mini zoo is prone to flood as Bathinda branch of Sirhind Canal is flowing adjacent to the zoo boundary wall and forest area. So the zoo administrator should have knowledge about historical information on the flood situation of the area.

Following measures will be taken to handle such emergency situation in the zoo.

- Information on drainage, geography and the quantum of rainfall received by the area that might lead to flood situation should be publically displayed. During floods the zoo should access drinking water only from reliable and clean sources.
- The zoos should have water quality field testing kits, which should be capable of testing residual chlorine and bacteriological quality of the water. Personal cleanliness of food handlers is very important.
- The water should be evacuated as early as possible in order to eliminate risk of waterborne infection and poisoning.
- Contaminated and decaying food material should't be given to the animals.
- Develop some highland areas in those enclosures which have a history of Inundation.
- Zoo should have a rapid response team equipped with required equipments.

6.4.1. Equipment required for dealing with flood

Flashlight/ Torch lights and spare batteries

Residual chlorine/chlorine tablets and PH testing equipment

Rubber boots

First aid kit

Protective gloves

Helmet

Water quality field testing kits

Sand bags

Construction and repair material like Cement, Iron rods, sand etc

6.4.2. Water Supply

1. Total interruption of the normal system- Establish alternative water source
2. Poor Water Quality at source- Initiate chlorination
3. Poor drinking water quality- Recommend chlorination/boiling

6.4.3. Sewage Disposal

Total interruption of the normal System/interruption - Provide alternative methods of sewage disposal

6.4.4. Solid Waste Disposal

Inadequate collection /removal and Dumping site- Obtain equipment for

- a) debris removal
- b) reconditioning of dump&
- c) garbage collection

6.4.5. Food Hygiene

Frequent inspections Provide additional personnel for food hygiene inspections.

6.4.6. Mosquitoes and pests

Increase in vector population - Initiate Spraying and larval breeding sites control
Increase in number of poisonous snakes- Stock the snake venom serum

Chapter 7

Contingency Plan

7.1. Animals Rescued from Wild

Mini zoo Birtalab being the only captive facility in the Southern region of Punjab is an obvious choice for housing the rescued animals not only from Bathinda district but also the neighbouring districts. Rescued animals include herbivores like deers, antelopes, primates and birds. But presently there is no facility for keeping such animals in this mini zoo. Till the time a full fledged facility is created, following things should be kept in mind while dealing with the rescued wild animals and birds:

- Identify suitable enclosure where rescued animal is to be kept under quarantine for a minimum period of 21 days.
- Rescued animal needs to be thoroughly examined by the veterinarian for any injuries or wound and the treatment should be given accordingly.
- Avoid undue stress to the rescued animal by limiting the access to only minimum requisite staff.
- Proper feeding and drinking water arrangements need to be done as are done for a normal zoo animal if there are no special feed prescribed by the local veterinarian.
- Health status should be monitored regularly.
- Rescued wild animal after being declared fit by the veterinarian should be released in the wild after getting permission from the competent authority.

7.2. Escape of Animals from Enclosures

The mini zoo cum deer safari is a well protected area, enclosed by a by perimeter wall with a coiled wire fence above except the main entry gate. Apart from that, separate chain link fencing has been provided for each safari area. The main entry gate and safari gates are guarded by gatemen and are cattle proof. Even though the possibility of Escape of animals from enclosures or Safari area is less, some of the important points that need to be considered are the following:

- Get all the zoo gates and other openings sealed and put some experienced staff to control the visitors.
- Identify and prepare a team of alert and active staff members who can properly handle the escaped animal. Those who have handled such exigencies in the past should be given preference.

- Identify the likely places around the enclosure of the escaped animal where it may be expected to hide before launching the search operations.
- Do not excessively chase the animal if it is not escaping out of the zoo and allow it to calm down. Unnecessary chasing of animal may result in injury either to the animal or to a human being.
- Encircle the animal from all sides and try to drive the animal towards its enclosure slowly.
- Escaped animal may not find the feed/fodder of its choice or the one it is habituated to eat, so putting such feed/fodder in its enclosure and waiting for it to arrive may also be a good strategy sometimes.
- Separate teams should be constituted for the use of tranquilizing gun or a net in case the need be.

7.3. Animal Disease emergencies Management Plan:-

The captive animals of the zoos are vulnerable to a number of diseases of viral, bacterial and mycoplasmic origin. Some of these diseases are dreadful and their occurrence amongst the captive populations of the zoo may have disastrous consequences, like:-

- Serious losses to the zoo by the way of loss of valuable genetic materials
- Increased concerns of animal diseases transmitting to human beings (i.e. zoonotic diseases)

7.3.1 Following measures will be taken in the zoo

- Disease surveillance both active and passive should be an integral component of the zoo
- Occurrence of particular disease and its potential consequences will be identified and evaluated.
- Assess the seriousness of the threat of each disease.
- Determining the life threatening diseases for which there is a greatest need and urgency.
- Removing potentially contaminated materials by disinfection, destruction and/or safe disposal.
- Care must be routinely exercised to ensure all food (living or dead) brought to the zoo.
- An effective pest-management program should be implemented and maintained.
- Appropriate and speedy disposal of biological wastes, carcasses, material, etc. will help in preventing the diffusion of infection within the zoo.

7.4. Entry of Pests

a) Rodents

Rat control consists primarily of gassing rodent burrows with hydrogen phosphate pellets and baiting perimeters of buildings and enclosures. Mice are a bit more difficult to control in a zoological setting. Traps can be used for mouse control in areas where baiting is unacceptable, especially in bird houses. Watering rat holes can be another effective method for controlling Rats and Mice in the Zoo.

b) Free - Flying Birds

For controlling 'birds of prey' populations at a zoo very little can be done. Elimination of nesting and roosting sites and trapping may help to some extent. Attention to sanitation and proper storage and removal of refuse and solid waste are important first steps when tackling pest control. The visitation of birds of prey will notably decrease with proper sanitation of the zoo enclosures. To a great extent, the problem can be addressed by providing food to the zoos animals within their feeding cells.

c) Monkeys

Monkeys in Zoological Parks pose a great threat not only to the visitors but also to the animal collection of the zoo. These monkeys may carry life-threatening diseases such as T.B. Availability of abundant food in the zoological park attracts monkeys. Monkeys in Zoos may get their food from fruiting trees and some times from food given to the animal collections, as well as visitors.

For controlling monkey menace the following actions can be taken:

- Don't allow visitors to feed the monkeys.
- Take measures for feeding the animals (esp. herbivores) strictly in the feeding cells.
- If their populations go beyond management catch them and relocate them to a site where they can be contained without causing damage either to themselves, other animals or the forest areas.

d) Dogs

Even though a boundary wall and separate chain link fencing guard the safari area, at times dogs can enter where they can cause havoc and death among the free-ranging animals of the Zoo and safari area. Dogs can enter the Zoo from the

breaches in boundary wall, some times from the main gate, if it is not guarded well even for a short time. Unscrupulous elements may release dogs into the Zoo. The best way to avoid dog menace is the proper disposal of left over feed items and animal kitchen wastage. In no case such things should be allowed to be thrown around the zoo area, incineration is the best way to get rid of such materials. For controlling the dog menace within the zoo the following measures can be undertaken

- Check the boundary wall periodically.
- Chowkidars should be asked to report and assist in controlling stray dogs. The main gate should always be guarded by gate man.
- A regular vigil on the dogs and liaison with the nearest municipality for catching dogs may also help.
- Dogs that enter the Zoo should be tranquilized, relocated and rehabilitated in the similar habitations at once.

7.5. Shortage of Food in Case of Strike

Mini zoo keeps adequate stock of dry ration in its feed store (sufficient for one month) Presently there is no proper storage facility for storing green fodder. Arrangements will be made to have stock of green fodder for atleast three days. Local purchase of green fodder from nearby village areas can be done temporarily. Birtalab mini zoo is strategically located close to the states of Haryana, and Rajasthan. Therefore, in case of strike in one state, local purchase can be done from the other state.

7.6. Snake Bite

The zoo forest is reported to have venomous snakes like cobra and viper and some nonvenomous but dangerous snakes like rat snake. Therefore, there is a need for preparedness against this threat. Following points need to be kept in mind in case of a snake bite:

- Keep emergency kits along with anti-venom ready near such vulnerable points.
- Staffs and workers will be given protective shoes to guard against snake bite.
- In case of snake bite, immediately apply a tight tourniquet around the bitten area so that blood supply from that side is curtailed. Wash the bite wound in fresh running water for 3-5 minutes; thereafter wash the wound in the carbolic soap and fresh water. Do not create panic around the patient. Make the

patient lie down on a soft bed. Do not move the patient excessively. An anti-venom injection should be given under medical supervision.

7.7. Injury to Visitors

- In case of a visitor accidentally fallen in an enclosure where animal is released, the first effort should be to restrain the animal
- The visitor after being rescued should be given First-Aid, the wounds if any should be washed with tincture/ suitable spray and bandaged before being referred to a doctor.
- In case of bleeding or swelling ice packs should be applied to stop bleeding and provide relief from pain.
- In case of fall on iron grill etc. anti-tetanus injection is a must but it may be given after the visitor has been referred to the hospital.
- After giving First-Aid, the visitor should be referred to the nearest Hospital for a proper treatment.

CHAPTER – 8

Capacity Building

8.1. Training of zoo staff, foresters, veterinarians and others involved in wildlife management shall be encouraged for creating trained man power for better management of wild animals in captivity and in the wild.

Time to time training will be provided to the staff by sending the staff at Chhatbir Zoo, Chandigarh & Wildlife Institute of India at Dehradun and from other Regional Institutes. The training charter of Training - Institutes in North India will be adopted & requisite staff will be get trained for better management of Wild Animals in the Zoo as well in Safari Area. In addition to this the staffs shall be given training periodically to handle the emergency equipments and the emergency situation.

Regular mock drilling exercise and training will be conducted periodically to improve their response skills to handle the emergency situation. For this the help of District administration and other departments like police, fire etc., will be taken.

CHAPTER – 9

E- Governance

9.1: Computerization and Information System:

A comprehensive information system for database management covering all aspects of Zoological Park, online reporting and suitable training of zoo staff needs to be developed. The ZOO MIS (Management Information System) and computerization with appropriate hardware and software for all the sections and administration of zoo is felt necessary. This will be done in phased manner with the help of Department of Forest & Wildlife Preservation Punjab, C.Z.A New Delhi & Ministry of Environment & Forestry, New Delhi.

CHAPTER - 10

Broad Budget

10.1 Broad Budget Analysis for Implementing the Plan

Annexure - 2A

&

Annexure- 2 B attached

10.2: Construction & Development

10.2.1 The proposed Deer Safari Shall having following facilities in it:-

- a) Boundary wall
- b) Chain link fencing
- c) Water Holes for animal drinking.
- d) Fodder Points
- e) Ponds
- f) Animal Shelter
- g) Double Entry Gate with Cattle Grid
- h) Covered Feeding Kraal
- i) Watch Tower
- j) Rescue Shelter
- k) Safari Management Road
- l) Waste Disposal Unit
- m) Emergency Escape Zone
- n) Veterinary hospital & Feed Store
- o) Kitchen & Keeper's Cabin
- p) Sign Boards and educative information Board
- q) Postmortem Room & Carcass Disposal Unit etc.
- r) Motorable Roads appx. 6 Km.
- s) Tubewell cum pump house

10.2.2 Following Amenities will be developed in park Area:-

- a) Cafeteria (Outside Zoo Premises)
- b) Inspection Bungalow (Outside Zoo Premises)
- c) Parking Area (Outside Zoo Premises)
- d) Public amenities (Toilet & Drinking Water)
- e) Rain Shelter
- f) Educative Board
- g) Machan
- h) Benches
- i) Battery Operated vehicle
- j) Interpretation centre etc.

10.2.3 Day to Day Maintenance:

Day to day maintenance is done by daily wage laborers. Annual and specific maintenance is almost negligible; rest depends upon the availability of funds either by the state government or central government.

PART-3
CHAPTER - 11
Management Plan

11.1 Management Plant (Budget):

The Management Plan for Mini Zoo cum Deer Safari at Bir Talab, Bathinda is prepared for the period of twenty years from 2009-10 to 2029-30. The detailed budget for implementation of the management plan has been provided. The various activities to be taken up in the consecutive years is listed below in tabular form.

11.2: Funding Source:

The source of funding for the implementation of the project will be State Government and Compensatory Afforestation Management and Planning Authority (CAMPA).

11.3: Implementing Agency:

The various developmental works will be done by the Punjab Forest and Wildlife, Department. The operations of the Mini Zoo cum Deer Safari will be done through the Zoo Operator/Incharge i.e; Divisional Forest Officer, Bathinda.

11.3 Revenue Collection:

Revenue collection will be made through the entry ticket from the public.

Annexure-I-A

List of trees, shrubs and grasses (both indigenous and exotic)
Mini Zoo, Bir Bir Talab Bathinda

Trees

Sr. No.	Scientific name	Common Name	Family
1	<i>Acacia catechu</i>	Khair	Leguminosae
2	<i>Acacia leucopaloea</i>	Reru	Leguminosae
3	<i>Acacia nilotica</i>	Kikar	Leguminosae
4	<i>Acacia tortilis</i>	Tortilis/Wailaity Kikar	Leguminosae
5	<i>Aegle mermelos</i>	Bel	Rutaceae
6	<i>Ailanthus excelsa</i>	Ailanthus	Leguminosae
7	<i>Albizia lebbek</i>	Kala Siris	Leguminosae
8	<i>Albizia procera</i>	Chitta Siris	Leguminosae
9	<i>Azadirachta indica</i>	Neem	Meliaceae
10	<i>Bauhinia variegata</i>	Kachnar	Leguminosae
11	<i>Butea monosperma</i>	Dhak	Leguminosae
12	<i>Bomax ceiba</i>	Simbal	Bombacaceae
13	<i>Callistemon lanceolatus</i>	Bottle brush	Myrtaceae
14	<i>Cassia fistula</i>	Amaltas	Leguminosae
15	<i>Cassia siamea</i>	Cassia	Leguminosae
16	<i>Capparis aphylla</i>	Karir	Capparidaceae
17	<i>Casuarina equisetifolia</i>	Weef Wood	Casuarinaceae
18	<i>Cedrela toona</i>	Tun	Meliaceae
19	<i>Cordia dichotona</i>	Lasura	Boraginaceae
20	<i>Dalbergia sissoo</i>	Shisham	Leguminosae
21	<i>Delonix regia</i>	Gulmohar	Leguminosae
22	<i>Eucalyptus spp</i>	Safeda	Myrtaceae
23	<i>Ficus bengalensis</i>	Bohar	Urticaceae
24	<i>Ficus religiosa</i>	Pipal	Urticaceae
25	<i>Kigelia pinnate</i>	Kijalia	
26	<i>Leucaena leucocephala</i>	Subabul	Leguminosae
27	<i>Mangifera indica</i>	Amb	Anacardiaceae
28	<i>Melia azadirach</i>	Drek, Bakain	Meliaceae
29	<i>Melia composita</i>	Burma Drek	Meliaceae
30	<i>Morus alba</i>	Toot	Urticaceae
31	<i>Phoenix sylvestris</i>	Khajoor	Palmae
32	<i>Pongamia pinnata</i>	Sukhchain	
33	<i>Populus deltoides</i>	Poplar	Salicaceae
34	<i>Prosopis cineraria</i>	Jand, Khejri	Leguminosae
35	<i>Prosopis juliflora</i>	Mesquite	Leguminosae
36	<i>Salix alba</i>	Willow	Salicaceae
37	<i>Syzygium cumini</i>	Jamun	Myrtaceae
38	<i>Salmalia malabarica</i>	Simal	Malvaceae

39	<i>Salvadora oleides</i>	Van	Salvadoraceae
40	<i>Tectona grandis</i>	Sagwan/Teak	Verbenaceae
41	<i>Terminalia arjuna</i>	Arjun	Combretaceae
42	<i>Terminalia bellerica</i>	Behera	Combretaceae
43	<i>Toona ciliata</i>	Toon	Meliaceae
44	<i>Tamarix articulata</i>	Jhau	Tamaricaceae
45	<i>Zizyphus mauritiana</i>	Ber	Rhamnaceae
46	<i>Santalum album</i>	Chanden	
47	<i>Dalbergia latifolia</i>	Bombay Shisham	Leguminosae
48	<i>Cassurina equisetifolia</i>	Cassurina	Leguminosae
49	<i>Adina codifolia</i>	Haldu	Meliaceae
50	<i>Polyalthia longifolia</i>	Asoka	
51	<i>Pterospermum acerifolia</i>	Kanak Champa	Verbenaceae
52	<i>Phyllanthus emblicia</i>	Amla	Leguminosae
53	<i>Ficus recemosa</i>	Gullar	Leguminosae

Shrubs

Sr. No.	Scientific name	Common Name	Family
1	<i>Achyranthus aspera</i>	Puthkanda	Amaranthaceae
2	<i>Adhatoda vasica</i>	Basuti	Acanthaceae
3	<i>Calotropis procera</i>	Ak	Asclepiadiaceae
4	<i>Cannabis sativa</i>	Bhang	Urticaceae
5	<i>Capparis sepiaria</i>	Hins	Capparidaceae
6	<i>Carissa caranda</i>	Karaunda	Apocynaceae
7	<i>Chenopodium album</i>	Bathu	Chenopodiaceae
8	<i>Clerodendrium nultiflorum</i>	Clerodendron	Verbenaceae
9	<i>Diospyros fordiflora</i>	Tondu	Verbenaceae
10	<i>Flocourtia indica</i>	Kangu	Bixaceae
11	<i>Ipomoea fistulosa</i>	Ipomoea	Convolvulaceae
12	<i>Lantana camara</i>	Panchphuli, Lantana	Verbenaceae
13	<i>Murraya koengii</i>	Gandhela	Rutaceae
14	<i>Nerium odorum</i>	Kaner	Apocynaceae
15	<i>Parkinsonia aculeata</i>	Parkinsonia	Leguminosae
16	<i>Tamaria dioca</i>	Lai Jhau, Farash	Tamaricaceae
17	<i>Tinospora malabarica</i>	Giloe	Menispermaceae
18	<i>Xanthium strumarium</i>	Jindoo	Compositae
19	<i>Zizyphus numularia</i>	Mallah	Rhamnaceae

Herbs

Sr. No.	Scientific name	Common Name	Family
1	<i>Ageratum conyzoides</i>	Goat weed	Compositae
2	<i>Amaranthus viridis</i>	Wild weed	Amaranthaceae
3	<i>Arundinaria falcata</i>	Nara	Poaceae
4	<i>Cenchrus ciliaris</i>	Anjan	Poaceae

5	<i>Convolvulus arvensis</i>	Morning glory	<i>Convolvulaceae</i>
6	<i>Cynodon dactylon</i>	Khabbal	<i>Poaceae</i>
7	<i>Cyperus rotundus</i>	Nut grass	<i>Cyperaceae</i>
8	<i>Dendrocalamus strictus</i>	Bamboo	<i>Poaceae</i>
9	<i>Desmastachya bipinnata</i>	Dib	<i>Poaceae</i>
10	<i>Dichanthium annulatum</i>	Palwan	<i>Poaceae</i>
11	<i>Erianthus munja</i>	Munji	<i>Poaceae</i>
12	<i>Eulaliopsis pinata</i>	Bhabbar	<i>Poaceae</i>
13	<i>Heteropogon contortus</i>	Sariala	<i>Poaceae</i>
14	<i>Parthenium hysterophorus</i>	Congress grass	<i>Compositae</i>
15	<i>Phragmites maxima</i>	Nari	<i>Poaceae</i>
16	<i>Saccharum spontaneum</i>	Kahi	<i>Poaceae</i>
17	<i>Themeda ananthera</i>	Lunji	<i>Poaceae</i>
18	<i>Typha elephantiana</i>	Bater	<i>Poaceae</i>
19	<i>Vetiveria zizanioides</i>	Vetivera	<i>Poaceae</i>

Animals

Sr. No.	Scientific name	Common Name
1	<i>Antilope cervicapra</i>	Blackbuck
2	<i>Axis porcinus</i>	Hog deer
3	<i>Boselaphus tragocamelus</i>	Nilgai
4	<i>Canis aureus</i>	Jackal
5	<i>Canis lupus</i>	Indian wolf
6	<i>Felis chaus</i>	Jungle cat
7	<i>Felis libyca</i>	Desert Cat
8	<i>Funambulus pennanti</i>	Stripped squirrel
9	<i>Herpestes edwerimi</i>	Common Mongoose
10	<i>Hystrix indica</i>	Indian Porcupine
11	<i>Lepus nigricollis</i>	Common hare
12	<i>Lutra lutra</i>	Otter
13	<i>Macaca mulatta</i>	Monkey
14	<i>Manis crassicaudata</i>	Pangolin
15	<i>Mus booduga</i>	Indian Field Mouse
16	<i>Presbytis entellus</i>	Common langur (Hunuman Monkey)
17	<i>Rattus rattus</i>	Common house rat

Birds

Sr. No.	Common Name	Zoological Name	Family
1	Adutant Stork	<i>Leptoptilos dubius</i>	CICONIIDAE:Storks
2	Ashycrowned Finch Lark	<i>Eremoptenx grisea</i>	ALAUDIDIAE :Larks
3	Asian Paradise Flycatcher	<i>Terpsiphone paradisi</i>	MUSCICAPIDAE: Flycatchers
4	Bank Myna	<i>Acridotheres ginginianus</i>	STURNIDAE : Mynas
5	Barheaded Goose	<i>Anser indicus</i>	ANATIDAE : Ducks, Geese
6	Black Bittern	<i>Dupetop flavicollis</i>	ARDEIDAE: Bitten

7	Black Crowned Finch-Lark	<i>Eremoptenx nigriceps affinis</i>	ALAUDIDIAE :Larks
8	Black Headed Munia	<i>Lonchura malacca</i>	PLOCEIDAE: Sparrows and Weaverbirds
9	Black Headed or Brahminy Myna	<i>Sturnus pagodarum</i>	STURNIDAE : Mynas
10	Black Necked Grebe	<i>Podiceps nigricollis</i>	PODICIPEDIDAE: Grebes
11	Black Necked Stork	<i>Ephippiorhynchus asiaticus</i>	CICONIIDAE:Storks
12	Black or King Vulture	<i>Sarcogyps calvus</i>	ACCIPITRIDAE: Vultures
13	Black Tailed Godwit	<i>Limosa limosa</i>	CHARADRIIDAE: Plover, Sandpipers, Snipe
14	Blackbacked Yellowheaded Wagtail	<i>Motacilla citreola calcarata</i>	MOTACILLIDAE: Wagtails
15	Blackeared or Large Indian Kite	<i>Milvus migrans lineatus</i>	ACCIPITRIDAE: Vultures
16	Blackheaded Gull	<i>Larus ridibundus ridibundus</i>	LARIDAE: Gulls, Terns
17	Blackthroated Weaver Bird	<i>Ploceus benghalensis</i>	PLOCEIDAE: Weaverbirds
18	Blackwinged Kite	<i>Elanus caeruleus vociferus</i>	ACCIPITRIDAE: Vultures
19	Blue Cheeked Bee-eater	<i>Merops persicus</i>	MEROPIDE : Bee-eaters
20	Blue Throated Barbet	<i>Megalaima asiatica asiatica</i>	CAPITONIDAE: Barbets
21	Blue Winged Teal or Garganey	<i>Anas querquedula</i>	ANATIDAE : Ducks, Geese
22	Blueheaded Yellow Wagtail	<i>Motacilla flava beema</i>	MOTACILLIDAE: Wagtails
23	Bluetailed Bee-eater	<i>Merops philippinus philippinus</i>	MEROPIDE : Bee-eaters
24	Booted Eagle	<i>Hieraaetus pennatus</i>	ACCIPITRIDAE: Hawks, Vultures
25	Bristled Grassbird	<i>Chaetornis striatus</i>	MUSCICAPIDAE: Flycatchers
26	Broad Billed Sandpiper	<i>Limicola falcinellus</i>	CHARADRIIDAE: Plover, Sandpipers, Snipe
27	Cattle Egret	<i>Bulbulcus ibis coromandus</i>	ARDEIDAE: Egrets
28	Common Babbler	<i>Turdoides caudatus caudatus</i>	MUSCICAPIDAE: Babblers
29	Common Crow Pheasant or Coucal	<i>Centropus sinensis sinensis</i>	CUCULIDAE: Cuckoos
30	Common Hawk Cuckoo	<i>Cuculus various various</i>	CUCULIDAE: Cuckoos
31	Common Pochard	<i>Aythya ferina</i>	ANATIDAE : Ducks, Geese
32	Common Sandpiper	<i>Tringa hypoleucos</i>	CHARADRIIDAE: Plover, Sandpipers, Snipe
33	Common Shelduck	<i>Todorna tadorna</i>	ANATIDAE : Ducks, Geese
34	Crested Honey Buzzard	<i>Pernis ptilorhynchus ruficollis</i>	ACCIPITRIDAE: Hawks, Vultures
35	Desert Warbler	<i>Sylvia nana</i>	MUSCICAPIDAE: Flycatchers
36	Desert Wheat Eater	<i>Oenanthe deserti</i>	MUSCICAPIDAE: Flycatchers
37	Dusky Horned Owl	<i>Bubo coromandus coromandus</i>	STRIGIDAE: Owls
38	Eastern Grey Heron	<i>Ardea cineria rectirostris</i>	ARDEIDAE: Herons
39	Eastern Greylag Goose	<i>Anser anser rubrirostris</i>	ANATIDAE : Ducks, Geese
40	Eastern Large Egret	<i>Ardea alba modesta</i>	ARDEIDAE: Egrets
41	Eurasian Eagle Owl	<i>Bubo bubo</i>	STRIGIDAE: Owls
42	Forest Owlet	<i>Athene blewitti</i>	STRIGIDAE: Owls
43	Grey Headed Canary Flycatcher	<i>Culicicapa ceylonensis</i>	MUSCICAPIDAE: Flycatchers
44	Grey Hornbill	<i>Tockus birostris</i>	BUCEROTIDAE: Hornbills

45	Grey Quail	<i>Coturnix coturnix coturnix</i>	PHASIANIDAE: Quails
46	Grey Wagtail	<i>Motacilla caspica caspica</i>	MOTACILLIDAE: Wagtails
47	Indian Baya or Weaver Bird	<i>Ploceus philipinus philipinus</i>	PLOCEIDAE: Weaverbirds
48	Indian Black Ibis	<i>Pseudibis papillosa papillosa</i>	THRESKIORNITHIDAE: Ibises
49	Indian Black Partridges	<i>Francolinus francolinus asiae</i>	PHASIANIDAE: Partridges
50	Indian Blue Rock Pigeon	<i>Columba livia intermedia</i>	COLUMBIDAE: Pigeons
51	Indian Cormorant	<i>Phalacrocorax fuscicollis</i>	PHALACROCORACIDAE: Cormorants
52	Indian House Crow	<i>Corvus splendens splendens</i>	CORVIDAE: Crows
53	Indian House Sparrow	<i>Passer domesticus indicus</i>	PLOCEIDAE: Sparrows
54	Indian House Swift	<i>Apus affinis affinis</i>	APODIDAE: Swifts
55	Indian Jungle Crow	<i>Corvus macrorhynchos culminatus</i>	CORVIDAE: Crows
56	Indian Koel	<i>Eudynamys scolopacea</i>	CUCULIDAE: Cuckoos
57	Indian Lette Brown Dove or Senegal Dove	<i>Streptopelia senegalensis</i>	COLUMBIDAE: Doves
58	Indian Lette Rigned Plover	<i>Charadrius dubius jerdoni</i>	CHARADRIIDAE: Plover, Sandpipers, Snipe
59	Indian Myna or Common Myna	<i>Acridotheres tristis tristis</i>	STURNIDAE : Mynas
60	Indian Paddy Field Pipit	<i>Anthus novaeseelandiae rufulus</i>	MOTACILLIDAE: Pipits
61	Indian Pea Fowl	<i>Pavo cristatus</i>	PHASIANIDAE: Pheasants, Partridges, Quail
62	Indian Pied Kingfisher	<i>Ceryle rudis leucomelanura</i>	ALCEDINIDAE: Kingfisher
63	Indian Pied Myna	<i>Sturnus contra contra</i>	STURNIDAE : Mynas
64	Indian Pond Heron or Paddy Bird	<i>Ardeola graii graii</i>	ARDEIDAE: Herons
65	Indian Purple Moorhen	<i>Porphyrio porphyrio poliocephalus</i>	RALLIDAE: Rails, Coots
66	Indian purple Sunbird	<i>Nectarinia asiatica asiatica</i>	NECTARINIIDAE: Sunbirds
67	Indian Ring Dove	<i>Streptopelia decaocto decaocto</i>	COLUMBIDAE: Doves
68	Indian Shikra	<i>Accipiter badius dussumieri</i>	ACCIPITRIDAE: Hawks, Vultures
69	Indian Small Blue Kingfisher	<i>Alcedo atthis bengalensis</i>	ALCEDINIDAE: Kingfisher
70	Indian Small Green Bee-eater	<i>Merops orientalis orientalis</i>	MEROPIDE : Bee-eaters
71	Indian Spotted Munia	<i>Lonchura punctulata punctulata</i>	PLOCEIDAE: Sparrows and Weaverbirds
72	Indian Striated of Redrumped Swallow	<i>Hirundo daurica eruthropygia</i>	HIRUNDINIDAE: Martins
73	Indian Tailor Bird	<i>Orthotomus sutorius guzuratus</i>	MUSCICAPIDAE: Flycatchers
74	Indian White Breasted Water Hen	<i>Amaurornis phoenicurus phoenicurus</i>	RALLIDAE: Rails, Coots
75	Nakta or Comb Duck	<i>Sarkidiornis melanotos melanotos</i>	ANATIDAE : Ducks, Geese
76	North Indian Grey Partridges	<i>Francolinus pondicerianus interpositus</i>	PHASIANIDAE: Partridges
77	Northern Goldern Backed Wood Peacker	<i>Dinopium benghalense benghalense</i>	PICIDAE: Woodpeckers
78	Northern Jungle Myna	<i>Acridotheres fuscus fuscus</i>	STURNIDAE : Mynas
79	Northern Mottled Wood Owl	<i>Strix ocellata grisescens</i>	STRIGIDAE: Owls
80	Northern Roller or Blue Jay	<i>Caracias benghalensis bengalensis</i>	CORACIIDAE: Roller

81	Punjab Collared Scops Owls	<i>Otus bakkamoena plumipes</i>	STRIGIDAE: Owls
82	Punjab Jungle Bush Quail	<i>Perdica asiatica punjaubi</i>	PHASIANIDAE: Quails
83	Punjab Redvented Bulbul	<i>Pycnonotus cafer intermedius</i>	PYCNONOTIDAE: Bulbuls
84	Rajasthan Redwhiskered Bulbul	<i>Pycnonotus jocosus abuensis</i>	PYCNONOTIDAE: Bulbuls
85	Red Breasted Flycatcher	<i>Ficedula parva</i>	MUSCICAPIDAE: Flycatchers
86	Red Munia or Avadavat	<i>Estrilda amandava amandava</i>	PLOCEIDAE: Sparrows and Weaverbirds
87	Redwattled Lapwing	<i>Vanellus indicus indicus</i>	CHARADRIIDAE: Plover, Sandpipers, Snipe
88	Tufted Duck	<i>Aythya fuligula</i>	ANATIDAE : Ducks, Geese
89	Wall Creeper	<i>Tichodroma muraria nepalensis</i>	SITTIDAE: Creeper
90	Yellow Eye Pigeon	<i>Columba eversmanni</i>	COLUMBIDAE: Pigeons

Amphoebians

Sr. No.	Common Name
1	Frogs and Toads

Reptiles

Sr. No.	Common Name
1	Tortoise
2	Garden lizard
3	Cobra
4	Rat sanke
5	Blind snake
6	Monitor lizard (Goh)

Annexure-I-B

List of Animals & Birds in Mini Zoo Bir Talab Bathinda

S. No	Species	Scientific name	Schedule	No of Animals
	MAMMALS			
1	Black Buck	Antilope cervicapra	Schedule- I	45
2	Rhesus Macaque	Macaca mulatta	Schedule- II	9
3	Hog Deer	Axis porcinus	Schedule- III	3
4	Samber	Cervus unicolor	Schedule- III	11
5	Spotted Deer	Axix axis	Schedule- III	15
6	Porcupine	Hystrix SP	Schedule-III	1
			TOTAL MAMMALS	84
	BIRDS			
1	Pea Fowl	Pavo cristatus	Schedule- I	4
2	Black Partridge	Francolinus francolinus asiae	Schedule- IV	6
3	Brown Partridge	Francolinus francolinus asiae	Schedule- IV	7
4	Parakeets	Psittacidae	Schedule- IV	25
5	Budgerigar		Schedule- IV	100
6	Ducks	Anatidae	Schedule- IV	22
7	Cockatiel		Schedule- IV	7
8	Red Munia	Estrilda amandava amandava	Schedule- IV	18
9	White Sparrow		Schedule- IV	3
10	Finches	Rhasianidae	Schedule- IV	4
11	Dove	Columbidae	Schedule- IV	6
			TOTAL BIRDS	195
			Grand Total	279

Bathinda Forest Division, Bathinda
Estimate of Proposed Safari Park at Bir Talab

Annx-2A
 Area 130 Acre

Sr. No.	Particulars	Unit	Rate	Qty.	Amount (Rs. in Lakhs)
a)	Animal Facilities				
	i) Feeding Platforms	Nos.	50000	12	600000.00
	ii) Pacca Water Holes	Nos.	50000	10	500000.00
	iii) Rain Shelters	Nos.	100000	12	1200000.00
b)	Tubewell including Pump House	Nos.	250000	1	250000.00
c)	Chain Linking Fencing	Km	2500000	4	10000000.00
d)	Boundary Wall Including Barbed wire at top	Km	5500000	4	22000000.00
e)	Watch Towers including Binaclour	Nos.	300000	4	1200000.00
f)	Gates, Kiosk for gate Operato & Wooden Brigde etc.	Nos.	L/S	L/S	2000000.00
g)	Battery operated Vehicles	Nos.	700000	3	2100000.00
h)	Roads 12' wide	Km	1800000	5	9000000.00
i)	Veterinary Care including treatment cum-rescue centre & Postmortem room etc.	Nos.	L/S	L/S	3000000.00
j)	Fire Fighting equipment	Nos.	L/S	L/S	300000.00
h)	Covered feeding Kraal	Nos.	L/S	L/S	450000.00
i)	Feed Store	Nos.	L/S	L/S	200000.00
	Total				52800000.00
	Contigencies 5%				2640000.00
	O/H Charges 2%				1056000.00
	G.Total				56496000.00

Or Say (Rs. Five Crores Sixty Five Lacs only)

Note: Above mentioned are tentative Actual costand detailed estimate will be prepared after engaging and consulting professionals.


 Divisional Forest Officer
 Bathinda

Bathinda Forest Division, Bathinda
Estimate of Proposed Environmental -Cum Awareness Park at Mini Zoo Bir Talab

					Area 30 Acre
Sr. No.	Particulars	Unit	Rate	Qty.	Amount (In Rs.)
1	Entrance Gate Including Ticket Window	Nos	500000	1	500000
2	Dismantling of Old Enclosure of Birds and Animals	Nos.	L/S	15	150000
3	Construction of New Enclosure of birds	Nos.	150000	10	1500000
4	Construction of New Enclosure of Animals	Nos.	500000	3	1500000
5	Making of Lawns	Ha	120000	5	600000
6	Maintenance of Lawns	ha	70000	5	350000
7	Planting Permanent Hedge Plants	Mtr	60	4000	240000
8	Maintenance of Hedge Plants	Mtr	50	4000	200000
9	Renovation of Existing Lawns	Ha	65000	2	130000
10	Planting Permanent Shrubs	Nos.	100	1000	100000
11	Maintenance of Shrubs for one Year	Nos.	200	1000	200000
12	Renovation of Existing Log Hut including alteration	Nos.	500000	1	500000
13	Construction of New Inspection Bangalow	Nos.	L/S	1	20000000
14	Construction of Interpretation Centre including Library & Equipments	Nos.	L/S	1	30000000
15	Construction of Machans	Nos.	400000	2	800000
16	Construction of Rain Shelter	Nos.	100000	6	600000
17	Construction of Natural Trail (3 Meter Wide)	KM	300000	2	600000
18	Installation of Banches	Nos.	5000	40	200000
19	Installation of Information & Sign Boards	Nos.	2000	135	270000
20	Dustbins	Nos.	2000	50	100000
21	Animal Models	Nos.	20000	20	400000
22	Feed distribution vehicle	Nos.	400000	1	400000
23	Construction of Toilets	Nos.	1050000	1	1050000
24	Providing Drinking Water facilities		L/S	L/S	450000
25	Construction of Cafteria		L/S	L/S	1100000
26	Installation of swings in Childern Park	Nos.	20000	10	200000
27	Total				62140000
28	Contigencies 5%				3107000
29	O/H Charges 2%				1242800
30	G.Total				66489800

Or Say: (Rs. Six Crores Sixty Five Lac only)

Note: Above mentioned are tentative Actual costand detailed estimate will be prepared after engaging and consulting professionals.

Divisional Forest Officer
Bathinda

Annexure- 3-A

Recognition and Evaluation Report of CZA

- 1 The Zoo shall prepare a theme based long-term (for a minimum period of 10 years) master plan for its development including a management plan for next six years giving details of the proposals and activities of development during the period. The copies of the said plan shall be sent to the Central Zoo Authority.
- 2 Create/ Modify/ improve animal housing (for the targeted species identified under the master plan), veterinary facilities, boundary wall as well as fulfill other conditions prescribed under Rule 10 of Recognition of Zoo Rules, 1992.
- 3 Necessary budgetary provisions should be made by the State Government for meeting the expenses towards upkeep and maintenance of animals in the Mini Zoo.
- 4 A full time officer-in charge at the Mini Zoo should be deputed. The deputed officer-in-charge shall be adequate administrative and financial powers to purchase feed and medicine and carryout emergency repair of animal enclosure, as may be necessary for proper upkeep and care of the zoo animals.
- 5 The Zoo Operator should construct an appropriate treatment room in the premises of the Mini Zoo, where routine examination and treatment of sick animals can be undertaken.
- 6 The number of Black buck, Spotted Deer & Rhesus macaques displayed at the Mini Zoo shall be kept within the carrying capacity of the enclosure and at any point of time the number should not go beyond its carrying capacity. Necessary control measures should be taken for the prolifically breeding species particularly for Black buck and Spotted deer.

- 7 Appropriate screening should be provided between the enclosure displaying wild animals and exotic animals to avoid transmission of diseases (if any).
- 8 The single Peacock housed at the Mini Zoo should be released in appropriate habitat.
- 9 The Zoo Operator should ensure timely supply of wholesome and unadulterated food in sufficient quantity to each animal. The feed should be stored in a appropriate rodent free feed room.
- 10 The Zoo Operators shall submit the annual inventory report giving details of births, deaths, acquisition and disposal to the Central Zoo Authority within 30th April for each financial year.
- 11 The Zoo Operator shall provide a sign board displaying scientific information regarding the animals housed therein.
- 12 A quarterly report regarding progress made in implementation of the aforesaid directive be submitted to Central Zoo Authority.

Annexure- 3-B.

Conceptual Plan

- 1 Area of the Zoo :- Existing 10 hect. to be extended to 15 hect.
- 2 One (4 hect) enclosure with four sections for Black Bucks, 2 Sections for display of upto 10 animals each and other 2 sections for segregated males & females Blackbucks.
One (2 hect) enclosure with two sections for Spotted Deer.
One 1 hect. enclosure for Sambar and
Appropriate aviaries for Birds & Butterfly Park.
- 3 **Animal Collection Plan :-**
Blackbucks (upto 30 No. only),
Spotted Deer (upto 16 No. Only),
Sambar (Upto 10 No. only),]
Peafowl and other birds,
Butterflies.



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वहाँ है खुशहाली।।



GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
Central Zoo Authority



THROUGH REGISTERED POST

F. No. 19-73/92-CZA(220)(M) | 1876

DATE: 31.10.2012

11/11/12

To

The Chief Wildlife Warden
Government of Punjab,
Forest Complex, Sector 68,
Tower No. 2, 2nd Floor,
Amritsar (Punjab)

Sub:- Master (layout) Plan of the Deer Park, Bir Talab, Bhatinda.

Ref:- (i) This office letter No. 19-73/92-CZA(220)(M)/1337 dated 30.07.2012.
(ii) Letter No. 6888 dated 10.10.2012 from Divisional Forest Officer, Bhatinda.

Sir,

Reference is invited to above cited correspondence.

A copy of the approved Master (layout) Plan of the Deer Park, Bir Talab, Bhatinda duly authenticated by the Member Secretary on behalf of the Central Zoo Authority is enclosed herewith for your records.

You are requested to submit detail Master Plan as per the approved Master (layout) Plan and ensure that all the developmental activities in the Deer Park, Bir Talab, Bhatinda must be in conformity with the approved Master (layout) Plan.

Yours faithfully,

(B. S. Bonal)
Member Secretary

Encl: as above

Copy to the Divisional Forest Officer, Bhatinda Division, Bhatinda for favour of information and necessary action. **Enclosure: Master (layout) Plan of Deer Park, Bir Talab, Bhatinda.**

(B. S. Bonal)
Member Secretary

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GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
Central Zoo Authority



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यहाँ है खुशहाली।।

THROUGH REGISTERED POST

F. No. 19-73/92-CZA(220)(M)

DATE: 24.06.2011

To
The Chief Wildlife Warden
Government of Punjab,
Chandigarh (Punjab).

Sub:- Master Plan of the Mini Zoo, Bir Talab, Bhatinda, Punjab.

Sir,

Reference is invited to your letter No 1322 dated 30.05.2011.

The revised Master Plan of the Mini Zoo, Bir Talab, Bhatinda was scrutinized by Expert Group on Zoo Designing held on 28th & 29th April, 2011 and the same was placed before 58th Meeting of the Technical Committee held on 8th June, 2011 for its approval. The Technical Committee of the Central Zoo Authority had approved the Master Plan of the Mini Zoo, Bir Talab, Bhatinda subject to the condition that:

- (a) the responsibility of mobilizing the financial resources for implementation of the Master Plan will be the sole responsibility of the State Government or respective Zoo Operator, and
- (b) the State Government or respective Zoo Operator should quantify the resources available for the implementation of Master Plan.

In order to send you a copy of the duly signed and approved Master Plan of the Mini Zoo, Bir Talab, Bhatinda, you are requested to submit the soft copy of the digitized and amended Master Plan in any of the format i. e. AUTOCAD; COREL DRAW/JPEG/TIFF/PDF files on a CD/DVD to this office at the earliest incorporating copy of this letter too

Yours faithfully,

(B. S. Bonal)
Member Secretary

Copy for favour of information & necessary action to:

- 1 The Conservator of Forests (WL), Parks and Protected Area Circle, Punjab, Chandigarh.
- 2 The Divisional Forest Officer, Bhatinda Division, Bhatinda

CENTRAL ZOO AUTHORITY
(Ministry of Environment & Forests)

CHECK LIST FOR MASTER PLAN SUBMISSION

S. No.		Yes	No
1	Cover Page Indicating the Name of the Zoo, Operator of the Zoo, Duration of the Master Plan, Year of Submission etc.	✓	
2	The duration of the master plan should be 20/10 years with the provision of revision after 10 years.	✓	
3	Certificate stating the Master Plan has been prepared by the following (name of the person, designation) and should contain their signature. Space should be left for the Member Secretary, Central Zoo Authority for counter signature.	✓	
4	List of Contents (with page no.)	✓	
5	Acknowledgement	✓	
6	Preface by an competent authority	✓	
7	Foreword by an competent authority etc.	✓	
8	<p>PART-I</p> <p>Chapter – I</p> <p>Introduction</p> <ul style="list-style-type: none"> a. History of the Zoo b. Vision of the Zoo c. Mission of the Zoo d. Strategy of the Zoo e. Objectives f. Physical features like the topography of the area g. Geology h. Rock & Soil i. Flora and fauna in Zoo premises j. Climate k. Rainfall l. Season m. Approach n. Demography of the surrounding area o. Legal Status of the Land p. Sources of Pollution, if any <p>(for an existing zoo, the introduction section may also include, the present ground situation, layout, description of different facilities, difficulties faced in the management in the past and achievements)</p>	✓	
9	<p>Chapter – 2</p> <p>Appraisal of the present arrangement and constraints</p> <ul style="list-style-type: none"> a. Animal section, veterinary section, store and feed supply section, sanitation section, maintenance section, security section, water supply section, disposal of solid waste & liquid waste-sewerage, visitors amenities, lawns and gardens-landscape section and any other section peculiar to the zoo b. Animal Collection plan (existing) c. General Zoo administration section d. Research e. Conservation breeding f. Education and awareness g. Any other activity peculiar/ unique to the zoo 	✓	

iii) Proposal to address the inadequacies and shortcoming identified in the appraisal report (as appraised in Part-I, 2 a). New activities if any, intended to be taken up.

iv) Depending on the local condition of the zoo, other items may also be added - peculiar problems of the zoo-like off display conservation breeding centre and rescue centre.

Items not relevant can be deleted.

12	<p>Chapter-V Personnel planning:- (Proposed cadre strength to manage different works considering the activities indicated in the plan including phasing of their deployment, outsourcing etc.) Comparative statement with existing staff, sanctioned and proposed staff. (as per Recognition of Zoo Rules, 2009)</p> <table border="1" data-bbox="300 745 1093 925"> <thead> <tr> <th data-bbox="300 745 497 853">Name of Post</th> <th data-bbox="497 745 699 853">Post Sanctioned</th> <th data-bbox="699 745 898 853">Post filled up</th> <th data-bbox="898 745 1093 853">Proposed</th> </tr> <tr> <th data-bbox="300 853 497 925">(1)</th> <th data-bbox="497 853 699 925">(2)</th> <th data-bbox="699 853 898 925">(3)</th> <th data-bbox="898 853 1093 925">(4)</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Name of Post	Post Sanctioned	Post filled up	Proposed	(1)	(2)	(3)	(4)						
Name of Post	Post Sanctioned	Post filled up	Proposed												
(1)	(2)	(3)	(4)												
13	<p>Chapter - VI Disaster management Plan to address problems faced during the natural calamities (Fire control, flood, cyclone situations, law and order break down, feed supply etc.)</p>														
14	<p>Chapter - VII Contingency plan.</p> <ol style="list-style-type: none"> (1) Animal rescued from wild. (2) Escape of animals from enclosures. (3) Monkey and dog menace. (4) Arrangement of food in case of strike (non supply by contractor) (5) Snake bite. (6) Visitors getting injured/ visitors falling inside enclosure. (7) Fighting among animals (8) Epidemics (9) Breakdown of power supply etc. (10) Free ranging animals/ Feral animal menace. 														
15	<p>Chapter- VIII Capacity building Plan to upgrade skills of zoo staff, interaction with other zoos; regional cooperation with Institution</p>														
16	<p>Chapter- IX E-governance</p>														
17	<p>Chapter-X a. Broad budget analysis for implementing the plan b. Construction and development c. Day to day maintenance</p>														

2. Mobilizing financial resources for the implementation of master plan shall be the responsibility of the respective zoo operator.
3. Detailed design of proposed animal enclosures may not be submitted with Master Plan document. The Same to Be Submitted Once Master (layout) Plan is approved and on case to case basis at the time of execution.
4. The final Master Plan for the long-term development of the zoo should be submitted to the Central Zoo Authority through and obtaining the concurrence of the Chief Wildlife Warden of the State/ Municipal Commissioner/ Zoo Controller along with the counter signature of the Chief Wildlife Warden/ Municipal Commissioner/ Zoo Controller and the Zoo Director.
5. The digitized layout plan preferably be prepared using the software's AUTOCAD.
6. Soft copy of the layout plan should also be submitted to CZA in PDF or JPEG format. The soft copy of the text portion of the master plan in MS-Word format should also be submitted.

ਪੰਜਾਬ ਸਰਕਾਰ ਪ੍ਰਿੰਟ, ਐਮ ਏ ਐਮ. ਨੰਬਰ/6604/4-2009

ਸਾਹਿਬਜ਼ਾਦਾ ਗੁਰਮੁਖ ਸਿੰਘ (1887-1857) ਸਿੱਖ ਲਿਖਤਾਂ ਦੀ ਸੂਚੀ

ਸਮਝਦਾਰੀ ਸਾਲ 2009-2010 ਖਿੰਡ 3 ਫਰਵਰੀ 2009 ਤਹਿਸੀਲ ਵ: (188) ਜ਼ਿਲ੍ਹਾ ਜ਼ਿਲ੍ਹਾ

ਪਟਵਾਰੀ ਨੰ: 10

1	2	3	4	5	6	7	8	9	10	11	12
ਖੇਤ ਨੰ	ਖੇਤ ਨੰ	ਪੱਤੀ ਅਤੇ ਪਾਸ ਦਾ ਨਾਂ ਅਤੇ ਨੰਬਰ ਦਾ ਨਾਂ ਤੋਂ ਮਾਲਕ ਦੀ ਠਹੱਕ	ਮਾਲਕ ਦਾ ਨਾਂ ਅਤੇ ਵੇਰਵਾ	ਕਾਸਤਕਾਰ ਦਾ ਨਾਂ ਅਤੇ ਵੇਰਵਾ	ਖੂਹ ਜਾਂ ਹੋਰ ਸਿੰਚਾਈ ਸਾਧਨਾਂ ਦੇ ਨਾਂ	ਖੇਤਾਂ ਜਾਂ ਮੁਰੱਬਾ ਨੰਬਰ ਅਤੇ ਕਿੱਲਾ ਨੰਬਰ	ਰੇਕਾਰਡ ਦਾ ਵੇਰਵਾ ਅਤੇ ਮੁਲਾਂਕਣ ਖਾਸਾ ਤੋਂ ਦੀ ਕਿਸਮ ਸਹਿਤ	ਲਗਾਨ ਜਾਂ ਮੁਜਾਰਾ ਅਤੇ ਵੇਰਵਾ ਜਾਂ, ਵਰ ਅਤੇ ਵਕਮ ਦੇ ਵੇਰਵੇ ਸਹਿਤ	ਹਿੱਸੇ ਜਾਂ ਹਫੀਅਤ ਦਾ ਪੈਮਾਨਾ ਅਤੇ ਥਾਣੇ ਵੱਲ	ਮੁਕਾਬਲਾ, ਮੁਕਾਬਲੇ ਅਤੇ ਸ਼ਰਾਇ ਦੀ ਵਿਆਖਿਆ ਵਿੱਚ ਹੋਏ	ਦੀਮਕਰਸ
18	24		ਮੁਜ਼ਾਫ ਖੇਤ	ਮੁਜ਼ਾਫ ਖੇਤ - ਮੁਜ਼ਾਫ ਮੁਜ਼ਾਫ	16		7-11 ਮੁਜ਼ਾਫ				
					17		1-17 ਮੁਜ਼ਾਫ				
					22		1-4 ਮੁਜ਼ਾਫ				
					23		5-0 ਮੁਜ਼ਾਫ				
					24		8-0 ਮੁਜ਼ਾਫ				
					25		8-0 ਮੁਜ਼ਾਫ				
					20		2-18 ਮੁਜ਼ਾਫ				
					21		6-0 ਮੁਜ਼ਾਫ				
					22		6-0 ਮੁਜ਼ਾਫ				
					23		4-16 ਮੁਜ਼ਾਫ				

Forest Ranger Officer Mini Zoo, Bir Talab

ਗੁਰਮਤਿ ਗ੍ਰੰਥ ਸਾਹਿਬ ਸ੍ਰੀ ਮੁਕਤੀ ਸਿੰਘ ਸੇਖੜੀ ਕਲਾਂ ਪੰਜਾਬ ਪੰ:੬੧

ਪਟਕਾਨੀ ਫਾਟਕ ਨੰ: 10

ਪੰਜਾਬ ਸਰਕਾਰ ਫਿਸ਼, ਆਰਟੀ ਸੀ. ਫਾਮ/6504/A-2009


ਸ਼੍ਰੀ ਜਸਬੰਦੀ ਸਾਲ 2009-10 ਪਿੰਡ 397A ਜੀ ਪਿਲ੍ਹਾ (੬੯) ਤਹਿਸੀਲ ਦਾਹਿਸ਼ੀ ਜ਼ਿਲ੍ਹਾ ਲੁਧਿਆਣਾ

1	2	3	4	5	6	7	8	9	10	11	12
ਫੇਰਟ ਨੰਬਰ	ਖੇਤੀ ਨੰਬਰ	ਪੁਰੀ ਅਤੇ ਪੁਰੀ ਵਾਲੀ ਜ਼ਮੀਨ ਵਾਲੀ ਥਾਂ ਦੀ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਗੁਰਮਤਿ ਸਿੰਘ ਸਾਹਿਬ ਵਾਲੀ ਜ਼ਮੀਨ	ਖੇਤ ਵਾਲੀ ਜ਼ਮੀਨ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਜ਼ਮੀਨ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਜ਼ਮੀਨ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਜ਼ਮੀਨ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਜ਼ਮੀਨ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਜ਼ਮੀਨ ਅਤੇ ਵੇਰਵੇ
18	24		ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		15	5-6 ਥਾਂ				
ਮਸ਼ਹੂਰ	ਮਸ਼ਹੂਰ		ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		3	8-0 ਥਾਂ				
			ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		4	8-0 ਥਾਂ				
			ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		5	8-0 ਥਾਂ				
			ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		6	8-0 ਥਾਂ				
			ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		7	8-0 ਥਾਂ				
			ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		8	6-9 "				
			ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		14	8-8 "				
			ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		15	8-0 "				
			ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		16/1	2-18 ਥਾਂ				
			ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		17	3-5 ਥਾਂ				
			ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		18	8-0 ਥਾਂ				
			ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		19	8-0 ਥਾਂ				
			ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		20	8-0 ਥਾਂ				
			ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ	ਖੇਤ ਵਾਲੀ ਅਤੇ ਵੇਰਵੇ		21	8-0 ਥਾਂ				

Spk Forest Range Officer Mau Zoo, Bir Jal

10x6

1	8-0	8-0
2	7-19	8-0
3	8-0	8-0
4	8-0	8-0
5	8-0	8-0
6	8-0	8-0
7	8-0	8-0
8	8-0	8-0
9	8-0	8-0
10	8-0	8-0
11	8-0	8-0
12	8-0	8-0
13	8-0	8-0
14	8-0	8-0
15	8-0	8-0
16	8-0	8-0
17	8-0	8-0
18	8-0	8-0


 Forest Range Officer
 Mini Zoo, Bir Talab

ਪੰਜਾਬ ਸਰਕਾਰ ਦੇਸ਼, ਐਸ. ਡੀ. ਐਸ. ਨੰਬਰ/6604/4-2009

ਪੁਸ਼ਟਕਾਰੀ ਵਾਰਮ ਨੰ : 10

ਸਮਾਂਬੰਦੀ ਸਾਲ 2009-2010

ਪਿੰਡ

ਤਹਿਸੀਲ

ਜ਼ਿਲ੍ਹਾ

1	2	3	4	5	6	7	8	9	10	11	12
ਖੇਤਰ ਨੰਬਰ	ਖੇਤਰੀ ਨੰਬਰ	ਪੱਤੀ ਅਤੇ ਪਾਸੇ ਦਾ ਨਾਂ ਸਟੇ ਨੰਬਰਦਾਰ ਦੇ ਨਾਂ ਤੇ ਮਾਮਲੇ ਦੀ ਰਕਮ	ਮਾਲਕ ਦਾ ਨਾਂ ਅਤੇ ਵੇਰਵਾ	ਕਾਮਰਕਾਰ ਦਾ ਨਾਂ ਅਤੇ ਵੇਰਵਾ	ਖੂਹ ਜਾਂ ਹੋਰ ਸਿੰਚਾਈ ਸਾਧਨਾਂ ਦੇ ਨਾਂ	ਖਾਸਾ ਜਾਂ ਮੁਕੱਬਾ ਨੰਬਰ ਅਤੇ ਕਿੱਲਾ ਨੰਬਰ	ਹੇਕ ਖੇਤ ਦਾ ਰਕਬਾ ਤੇ ਜੋੜ ਖਾਸਾ ਡੂੰ ਦੀ ਕਿਸਮ ਸਹਿਤ	ਲਗਾਨ ਜਾਂ ਮੁਜਾਰਾ ਅਦਾ ਕਰਦਾ ਹੈ, ਦਰ ਅਤੇ ਰਕਮ ਦੇ ਵੇਰਵੇ ਸਹਿਤ	ਚਿੱਠੀ ਜਾਂ ਹਕੀਮਤ ਦਾ ਪੈਮਾਨਾ ਅਤੇ ਬਾਫ ਖੇਤ	ਮੁਤਾਲਫਾ, ਮਾਮਲਾ ਅਤੇ ਸਵਾਲੀ ਦੀ ਵਿਆਖਿਆ ਦਿੱਤੇ ਹੋਏ	ਗੈਮਰਕਸ
18	24		ਮੁਜੱਬਿਹ ਮੁਜੱਬਿਹ	ਮੁਜੱਬਿਹ ਮੁਜੱਬਿਹ		17/5	8-0				
						6	8-0				
						7	8-0				
						8	8-0				
						9	8-0				
						10	8-0				
						11	8-0				
						12	8-0				
						13	8-0				
						14	8-0				
						15	8-0				
						16/2	5-3				
						17	8-0				
						18	8-0				
						19	8-0				

Forest Ranger Officer
Mini Zoo, Bir Talab

26	13-18 P. T. O.
27	7-16 "
28	5-8 "
10	8-0 P. T. O.
1	8-0 "
2	8-0 "
3	2-16 "
4	8-0 "
7	8-0 "
8	8-0 "
9	8-0 "
10	8-0 "
11	8-0 "
12	8-0 "
13	8-0 "
14	8-0 "

Forest Ranger Officer
Mini Zoo, Bir Talab


P. T. O.

ਪਟਵਾਰੀ ਦਾਕਮਾਨ : 10

ਪੰਜਾਬ ਸਰਕਾਰ ਪ੍ਰਿੰਟ, ਐਸ ਟੇ. ਐਸ. ਨੰਬਰ/6604/4-2009

324 ਜਮਾਬੰਦੀ ਸਾਲ 2011-2012 ਪਿੰਡ ਤਾਹਲਾ ਜਲਾ ਤਹਿਸੀਲ ਏ (68) ਜ਼ਿਲ੍ਹਾ ਫਿਰੋਜ਼ਪੁਰ

1	2	3	4	5	6	7	8	9	10	11	12
ਕੋਟ ਨੰਬਰ	ਖੇਤੀ ਨੰਬਰ	ਪਹਿਲੇ ਪਾਸੇ ਦੀ ਨੰਬਰਦਾਰ ਦੇ ਨਾਂ ਤੇ ਮਾਲੀ ਦੀ ਨਾਂ	ਮਾਲਕ ਦਾ ਨਾਂ ਅਤੇ ਵੇਰਵਾ	ਬਾਸਤਕਾਰ ਦਾ ਨਾਂ ਅਤੇ ਵੇਰਵਾ	ਖੂਹ ਜਾਂ ਹੋਰ ਸਿੰਚਾਈ ਸਾਮਾਨ ਦੇ ਨਾਂ	ਖਾਰਾ ਜਾਂ ਮੁਹੱਬਾ ਨੰਬਰ ਅਤੇ ਕਿੰਨਾ ਨੰਬਰ	ਹਰਿਕ ਪੈਦਾ ਦਾ ਕਰਬਾ ਤੇ ਜੰਗ ਖਾਤਾ ਦੇ ਦੀ ਕਿਸਮ ਜਹਿਰ	ਲਗਾਨ ਜੇ ਮੁਜਾਰਾ ਅਦਾ ਕਰਦਾ ਹੈ, ਦਰ ਅਤੇ ਕਰਮ ਦੇ ਵੇਰਵੇ ਜਹਿਰ	ਹਿੱਸੇ ਜਾਂ ਹੁਕੀਅਤ ਦਾ ਪ੍ਰੋਮਾਨਾ ਅਤੇ ਬਾਣ ਵੰਗ	ਮੁਹੱਬਾ, ਮੁਜਾਰਾ ਅਤੇ ਸਾਕੀ ਦੀ ਵਿਲਾਖਿਅਤ ਵਿੱਚੋਂ ਹੋਏ	ਕੈਮਰਕਾ
18 ਮਲਕੋਰ	24 ਮਲਕੋਰ		ਯਸ਼ਵੰਤ ਸਰਗੋਹਰ ਮਲਕੋਰ	ਗੁਲਿੰਗ ਸੋਹਾਇ ਮਲਕੋਰ		34 9	8-0 ਗਾਮ				
						10	8-6 "				
						12	7-16 "				
						13	8-0 "				
						14	6-16 "				
						17	5-6 "				
						18	9-4 "				
						19/1	4-2 "				
						35 4/2	6-5 "				
						5	8-0 "				
						6	10-5 "				
						85	9-5 ਗਾਮ/ਮਲਕੋਰ				
						93	8-6 "				
						123 169	1233-4 ਗਾਮ/ਮਲਕੋਰ				
							12-15-13				17-11


 Forest Ranger Officer
 Mini Zoo, Bir Talab

अधिकारी
P.W.D

अधिकारी 24/25

अधिकारी
रस्ता

Forest Ranger Officer
Mini Zoo, Bir Talab

10
15
16 1/2
25
पाठ 3

पाठ 172
1234-4

64
23
84
98/2
98/3
115
433

पाठ 36
166-19

0-8
0-8
0-4

1-0

1234-4

2-8
130-0
2-0
2-5

26-17
3-9

166-19

Handwritten notes and stamps, including a date stamp '17/11/74' and a signature 'A. T. Talab'.

The objections conveyed by the central zoo authority vide their letter no. 19-73/92-CZA(220 M) dated 9.2.2010 and its reply is as under:

SI	Objections of CZA	Reply of the department	Reference in the management plan	Remarks
1	Visitor/Keepers sheds have been provided in each enclosure. This is not correct. Instead there may be shelter for animal away from visitor in each enclosure.	In the modified Master Plan it has been deleted and not provide near the animal enclosures. Because in the revised Master Plan the deer safari has been proposed and the animals shall be set free in the bigger area of 1.30 acres and the existing animal enclosures shall be dismantled and further, the area obtained after dismantling of the enclosures shall be put to use for the development of the children park	Proposed map	
2	There should be 2.5 m high wall on the populated side of the zoo instead of wire mesh fence to ensure the safety of the park animals, and visitors	In the revised Master Plan of the zoo, a 4.0km long masonry boundary wall of 2.5m high has been proposed around the populated as well as other side also and it will be re-enforced with the iron fence post and barbed wire on the outer side to stop any invasion of human inside the zoo area. On the inner side, a 5.5 running km with 3.5 m high chain-linked fence has been proposed to protect the wild animals from any outside threat.	Para no. 4.2 (a) and (b) along with proposed map.	
3	As the zoo is in developing phase, visitors should not be allowed to go around the enclosures in order to ensure more privacy to the animals. As such, visitor circulation path may be prepared accordingly	In the revised Master Plan, the enclosure shall be dismantled and the animals shall be set free in the bigger safari area. All the roads on the safari have been made curvilinear to ensure more privacy to the animals. Visitors can only visit the safari in the enclosed vehicle, thus maintaining the distance between man and animal. The safari management shall be carried out as per the CZA guidelines.	Para 4.2 (k) and proposed map	

The objections raised by the central zoo authority vide their letter no. 19-73/92-CZA(220 M) dated 7.1.2011 and its reply is as under:

Sl	Objections of CZA	Reply of the department	Reference in the management plan	Remarks
1	The Master Plan does not follow CZA guidelines for the preparation of Master Plan	The revised master plan has been prepared as per the CZA guidelines. Although no specific observation has been raised, where deviation has been done, yet, every care has been taken to incorporate guidelines of CZA <i>in toto</i> . The present modified zoo plan has been prepared strictly following the old and revised CZA guidelines.		
2	The existing structures and proposed modifications and new constructions should be shown in appropriate colours. Instead of making the roads in geometric shapes with sharp corners in straight lines, this should be curvilinear for giving a forest like ambience and smoother vehicular movement.	The compliance of CZA guidelines have been made and are clearly visible on the maps enclosed. Every effort has been made to make the roads curvilinear keeping in view the existing density of trees standing in the deer safari.	proposed map.	
3	Though it is intended to transfer the animals to a safari area still the problem of over population will continue as they will multiply with time. Hence the arrangement for control of prolific breeding animals should be clearly spelled out.	The population control methods have been incorporated and mentioned in the proposed master plan at para no. 4.4 (iv). The due care shall be taken to control the population s per CZA guidelines.	Para 4.4. (iv)	
4	It appears that the existing deer park areas are proposed to be utilized for different facilities other than deer park. As this is forest land they may have to obtain specific forest clearance for the purpose.	As per the old and CZA guidelines, no deviation has been proposed and the present master plan has been prepared strictly according to the CZA guidelines. No area has been put to different use other than the zoo purpose. Whatever that has not been provided in the guidelines has not been incorporated in the master plan.	As per the old and new CZA guidelines.	
5	After taking a view whether they shall be permitted to operate as safari, the zoo management may be requested to revise the master plan according to guidelines	The master plan has been revised as per CZA guidelines to take care the deer safari at Bir Talab		