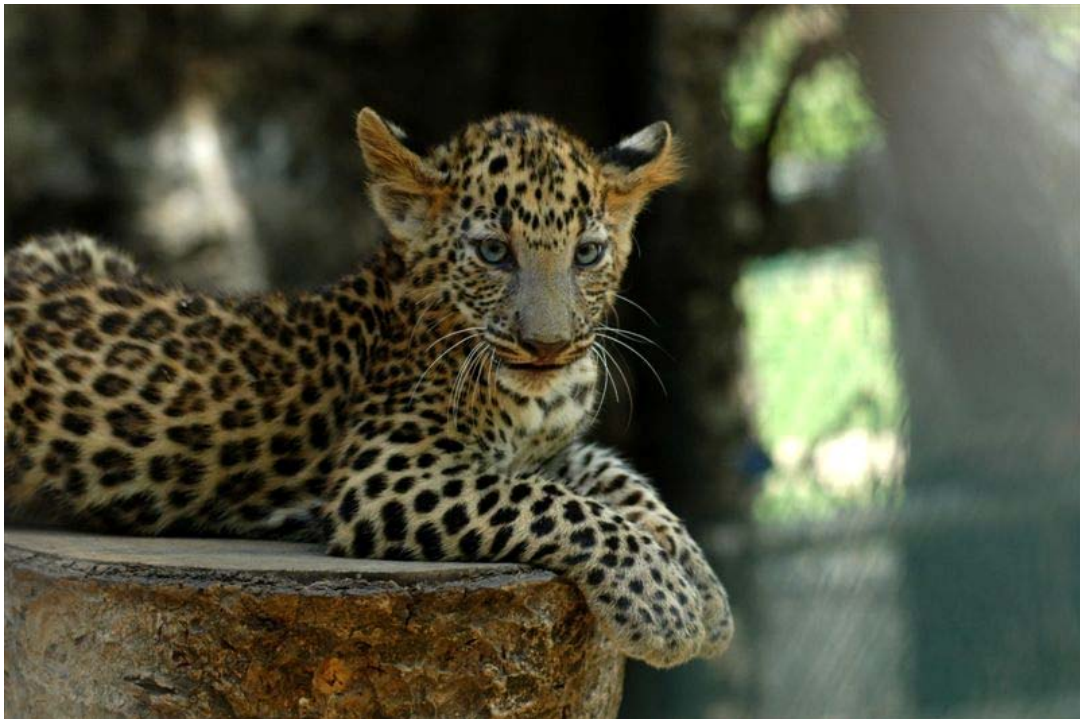




# **TATA STEEL ZOOLOGICAL PARK**



## **MASTER PLAN**

(A concept plan for future development)



जहाँ है हरियाली।  
वहाँ है खुशहाली।।



GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT & FORESTS  
**Central Zoo Authority**



THROUGH FAX

F. No. ~~19~~ 47/92-CZA(52)(Vol. IV)(M)

DATE: 10.11.2010

To

The Director  
Tata Steel Zoological Park,  
Jubilee Park,  
Jamshedpur – 831 001 (Jharkhand).

**Sub:- Master Plan of the Tata Steel Zoological Park, Jamshedpur – Regarding.**

Sir,

Please refer to your letter No. TSZS/088/040/2010-11 dated 24<sup>th</sup> April, 2010.

Submitted Master Plan of the Tata Steel Zoological Park, Jamshedpur was scrutinized by the Central Zoo Authority and approved.

In order to send you a copy of the duly signed and approved Master Plan of the Tata Steel Zoological Park, Jamshedpur, 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.

Yours faithfully,  
sd/-

(B. S. Bonal)  
Member Secretary

Copy to the Chief Wildlife Warden, Government of Jharkhand, Ranchi for favour of information & necessary action.



(Dr. Brij Kishor Gupta)  
Evaluation & Monitoring Officer

seen.  
pl. diary &  
return with  
CZA file  
18/11/10  
B. S. Bonal



Bikaner House, Annexe VI, Shahjahan Road, New Delhi-110011  
Phone : 011-23381585, 23073072, 23070375 (EPABX), Fax : +91-11-23386012  
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वहाँ है खुशहाली।।



GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT & FORESTS  
**Central Zoo Authority**



THROUGH FAX

F. No. 19-47/92-CZA(52)(Vol. III)(M)

DATE: 22.06.2010

✓ To

The Director  
Tata Steel Zoological Park,  
Jubilee Park,  
Jamshedpur – 831 001 (Jharkhand).

**Sub:- Master (layout) Plan of the Tata Steel Zoological Park,  
Jamshedpur – Regarding.**

Sir,

Submitted Master (layout) Plan of the Tata Steel Zoological Park,  
Jamshedpur was scrutinized by the Central Zoo Authority and approved.

A copy of the duly signed and approve Master (layout) Plan of the Tata  
Steel Zoological Park, Jamshedpur is being sent to you shortly.

Yours faithfully,

(B. S. Bonal)

Member Secretary

Copy to the Chief Wildlife Warden, Government of Jharkhand, Ranchi for  
favour of information.

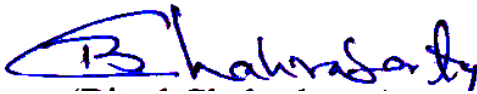
## PREFACE

A visit to Tata Steel Zoological Park has become an essential part of both old and young citizens of Jamshedpur and for residents of nearby towns and villages. It is an important landscape for the tourists coming from adjoining districts both within the state as well from neighbouring state of Orissa and West Bengal.

The zoo's main role over the years has been community education. In deviation to this role the present master plan has been drawn up in a manner that the zoo can play an active role in research, breeding of threatened animals and their conservation.

We are hopeful that the citizens of Jamshedpur will continue to be proud of Tata Steel Zoological Park and the contribution it is going to make to the community, in conservation of endangered species of wild fauna and more broadly in making its visitors aware of the natural world.

I am confident that this long term conceptual plan shall assist the Tata Steel Zoological Park into future.

A handwritten signature in blue ink, which appears to read 'B. Chakrabarty', is positioned above the printed name.

(Bipul Chakrabarty)

Director

Tata Steel Zoological Park

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## MISSION

*We shall strive to provide Natural Habitats to various animals suitable for their conservation and propagation and act as a facilitator to spread the message of Nature Conservation by Awareness and Educational Programmes.*



## VISION

*We envision an earth in which human values, protect and preserve the fauna and flora of the world.*

## 1. TATA ZOO AND ITS EYE CATCHERS



1. Bat island
2. Boating
3. Butterfly park
4. Nature Education Centre
5. Nature trail
6. Safari Park

## 2. Tata Steel Zoological Society

Tata Steel formerly known as the Tata Iron and Steel Company laid the foundation for creation of Tata Steel Zoological Park on 16<sup>th</sup> January, 1990. Thereafter, the Tata Steel Zoological Society was established in 1991. Tata Steel gave the responsibility to the society

to create a zoo within the northern part of the Jubilee Park where wild animals will be exhibited to visitors in their near natural conditions and would provide an outlet to the steel makers of the city a place to relax and enjoy nature with their families.

The society took up the challenge and hired services of best available zoo architects and managers available in the country during that period for establishing the zoo. The work of designing and planning of the Tata zoo was assigned to Mr. N. D. Bachkhedi, IFS, Retired Inspector General of Forests, Govt of India, who was one among the pioneers in establishing the modern open zoos in the country.

The main office of the society is located in Jubilee Park, Jamshedpur. The administration of the zoo is controlled by a Managing Committee of the Society. The term of the committee is for three years and the members of the committee are nominated by Tata Steel. The Managing committee constitutes of eight members including following office bearers:

1. President
2. Honorary Secretary
3. Honorary Assistant Secretary
4. Honorary Treasurer

The society approves yearly budget of the zoo for its day to day operation and new projects to be taken up during that year. The execution of work and projects are carried out by the officers of the zoo and hired professionals.



## **Aims and objectives of the Society**

**Aim:** The principal aim of the society is to manage, run, and maintain the Zoological Park called Tata Steel Zoological Park, which would be a place for education & recreation of the inhabitants of Jamshedpur and surrounding areas; research; conservation and captive breeding of birds, animals, reptiles, aquatic creatures etc. In order to run and maintain such creatures it will be necessary to have a Veterinary Hospital to look after them and it will also be necessary to have staff to administer and maintain the Zoological Park. The Tata Steel Zoological Park would also provide a natural environment for the birds, animals and other creatures where they can live in simulated natural conditions and without any fear of loss of their lives.

### **Objectives:**

- A: To maintain a proper environment for the breeding and bringing up of birds and animals.
- B: To conserve and enrich the flora and fauna in this region and provide proper living conditions for the birds to come to breed and flourish, multiply and cross multiply.
- C: To maintain a veterinary hospital with all facilities for surgical operations, physical rehabilitation etc.
- D: To provide for education, especially in the Zoological Field and research work thereof, with a view to ascertain to most congenial atmosphere, climate and living conditions for the welfare and growth of birds, animals , reptiles, aquatic creatures in general.
- E: To retain, train or get trained and / or employ skilled professional or technical advisors, staff and workers in connection with the objectives of the society and pay such honorarium, fees and/ or remuneration.
- F: To prepare, print, Publish, and propagate papers, literature, or periodicals, conduct seminars, conferences

and experiments in furtherance of the objectives of the society.

- G: To solicit obtain or accept subscriptions, donations, grant –in- aid, gifts in the form of money and/or animals and birds for furtherance and upkeep of the Park.
- H: To do all other things that are incidental or conducive to the achievement or furtherance of the aims and objectives of the society.
- I: To establish promote or cooperate with or become a member of any association or other bodies or individuals having similar objectives,
- J: To make rules and regulations in connection with the management and control of the Park.
- K: The income and profits of the said society whatsoever derived or obtained shall be solely applied towards the promotion of the objectives of the society and no portion thereof shall be paid to or distributed amongst the members of the society,
- L: The society shall ensure and protect the rights of its members and safe guard their interests by all lawful means.
- M: The society shall ensure that its own funds and those received from other donations and /or any other source are properly utilized in the furtherance of any one or more of the afore mentioned purposes.
- N: For the purpose of proper control and management of the affairs of the society, it shall form a managing committee which shall be competent to engage any person/persons in any capacity, and on such terms and conditions as it may consider necessary for the purpose of its proper and effective functioning.
- O: To undertake, promote and assist in programmes of conservation, development and utilization of biological resources with a view to maintain ecological stability and variety with the application of science and technology and its resources.
- P: To solicit , obtain and accept subscriptions, donations, grant-in-aid, gifts and endowments bequests and trusts of movable and immovable property and birds, animals etc. of any kind from companies, government, municipalities, Notified area committees, birds and animals found in nature, other local and public bodies,

- cooperative societies or other person or persons on such terms and conditions as considered fit and proper by the managing committee and otherwise to receive them.
- Q: To purchase or take by way of lease, sub-lease, gifts, exchange, hire or otherwise acquire any movable or immovable property and in particular birds, animals etc or any land, building, workshop laboratory, hospital, machinery, equipment, furniture, scientific record, experimental data, library, plant, apparatus, appliance and any right or privilege necessary or convenient for the purpose of the society, and to construct, erect, develop, alter, improve, any building or land.
- R: To borrow or raise money for the purpose of the society on terms and conditions as may be considered fit by its managing committee.
- S: To sell charge, hire, lease, demise, let, mortgage, dispose off or otherwise deal with and manage the assets and properties movable or immovable of the society.
- T: To sell, dispose off, distribute market or donate the produces, products and constituent birds and animals procured or generated in carrying out any of the activities of the society.
- U: To establish, maintain, control, or manage branches of the society in India and elsewhere.
- V: To establish support or and in the establishment and support of associations, institutions, funds, trusts and conveniences calculated to benefit employees or ex-employees of the society, or the dependants of such persons, and to grant pension and allowances to make payments towards insurance of such persons.
- W: To pay out the funds belonging to the society or out of any other particular part of such funds, all expenses of or incidental to the formation of the society and for management and administration of any of the objectives of the society including all rents, license, fees, rates, taxes, out going salaries, honorarium and other benefits of the employees.
- X: To draw, make, accept, and endorse, discount the cheques, notes or other negotiable instruments.
- Y: For the purpose of the society, to sign deeds, documents and assurances as may be necessary.

### 3. TATA STEEL ZOOLOGICAL PARK (TATA ZOO) - A REVIEW



The door of Tata Zoo was open to visitors on 3<sup>rd</sup> March, 1994, the foundation day of Tata Steel. The zoo is spread over an area of 43.25 hectares interspersed with wooded area and manicured lawns, gardens and lakes. The main objective for creating a zoo in Jamshedpur was:

1. To provide a place for recreation, education, research, conservation and captive breeding of birds, animals, reptiles, aquatic animals etc.
2. To create a natural environment for birds, animals and other creatures where they can live in simulated natural conditions and without any fear or loss of their lives.

#### 3.1 CURRENT MANAGEMENT PRACTICES

The entire zoo area is divided into 4 Beats, each under one Keeper. There are 4 keepers and 11 assistant Keepers to look after the animals. They attend to cleaning, feeding, disinfections and safety of animals. Their work includes daily reporting to field supervisor and Veterinary doctor.

### **a) Health care and veterinary intervention**



There is a veterinary hospital in the zoo to look after the health & treatment of sick and injured animals. The hospital has a full time Veterinary doctor, laboratory, treatment room and a quarantine room. The veterinary doctor is assisted by trained Para veterinary staff. The hospital is equipped with necessary equipment like tranquilizing equipment, sterilizing equipment, microscope, Squeeze cage, Refrigerator, spray pumps, scientific balance and other necessary equipment required for the purpose.

In case of emergency facility of Tata Steel Veterinary Hospital is obtained for surgical interventions. A post -mortem room is also there in the zoo to carry out examination of animals that die in the zoo.



### **c) Food Stores, Kitchen and supply of food to animals**

There is a separate Kitchen cum store building near to the Vet. Hospital. This building has 2 store rooms, a kitchen, meat inspection room, and a store keeper's room. The distribution of the rations takes place twice during the day.



Carnivores are fed once daily during 6 days in a week. Every Monday is kept as day of fasting for felids. Herbivores are fed with dry rations in the morning and leaf or green fodder during afternoons. Grain/ fruit eating birds are provided food in the mornings. Feeding of animals is regulated through a feed schedule and is supervised by the veterinary doctor.

### **d) Hygiene**

The sanitation section is maintained in two different ways:-

1. Sanitation in and around animal enclosure.

## 2. General cleanliness of the park including office buildings, toilets, roads and paths etc.

The first part of the sanitation work is exclusively looked after by the keepers and assistant keepers as part of their day to day work. In addition a sanitation schedule has been introduced which is followed in the park. The implementation of the schedule is supervised by the Curator and the Veterinary Officer.

As for the second part i.e. the general sanitation work, this is being out-sourced to a private contractor on annual contract basis. Total Cleaning work of roads, paths, drains, toilets, office and all other building hospital, picnic area etc is cleaned by the contractor's labour every day. This work is supervised by one field assistant.

### **e) Maintenance of enclosures and other infrastructure**

Maintenance work of enclosures, roads, paths and other facilities in the park is required regularly, especially works relating to civil construction, plumbing, electrical, carpentry, welding and painting etc.

This requirement is met through hiring of a civil contractor who undertakes most of the maintenance jobs. Specialized jobs like mechanical or electrical jobs are got done on casual basis by engaging technicians. These jobs are supervised by a field assistant.

#### **f) Security of animals and zoo property**

The security job in the zoo is a specialized job as it has to look after the security of animals, safety of visitors and also protecting property from theft and damage. The Security Guards are posted at all vulnerable points like Lion & Tiger house, enclosures for Leopard, Bear, crocodiles, primates, at Boating bay, Exit and Entry gates. This job has been assigned to a specialist private security agency. They provide round the clock security service for protection of animals as well as zoo property.

#### **g) Disposal of Solid Wastes and liquid Wastes**

There is a sewerage line which passes close to the Zoological Park. There is a running duct also which takes the surface water disposal from the Zoo. These lines are connected to the animal enclosures. Further the solid wastes from animal enclosures are disposed off in an Incinerator located towards the end of the Zoological Park.

Other waste materials from garden like waste papers, plastic & dust bin collections etc. is collected in the waste material collection cradle kept by Jamshedpur Utilities & Services Company (JUSCO). This is removed and cleaned every day.

### 3.2 VISITOR AMENITIES



Amenities for visitors are provided at several places in the Park. Care has been taken to provide all the necessary facilities to the visitors. viz:- Nature education centre and library, Drinking water coolers, Shelters, Kiosks and restaurants, Benches, Toilets, Van and Toy train for zoo visit, Boating, Children play areas, Picnic area, T.V. Sets, and Souvenir corner. First Aid boxes are available at the zoo gate and hospital.

### 3.3 ZOO ADMINISTRATION

The total staff strength of the Zoo is 28 as per details below:

S. No	Particulars	Sanctioned Posts
1.	Director	1
2.	Deputy Director	1
3.	Curator	1
4.	Field Supervisor	1
5.	Office supervisor	1

S. No	Particulars	Sanctioned Posts
6.	Animal Keepers	15
7.	Field assistants	2
8.	Sr. Office Assistant	1
9.	Office assistant	2
10.	Sr. Attendants	2
11.	Sr. Driver	1

Overall administrative control of the Park lies with the Director of the Zoo. Key areas directly being controlled by the Director are general administration, planning and security.

The division of work between other staff is as under:-

The Deputy Director (Vet) looks after the Veterinary Hospital, Kitchen & store section, Animal section, cleaning of the Park, Hygiene and Horticultural activities.

The Curator looks after Zoo maintenance work, Nature Awareness Programmes, Research projects, feeding of animals and sanitation work in the enclosures. He also assists the Deputy Director in maintaining cleanliness of the park and animal enclosures.

From time to time volunteers are also engaged to assist in carrying out education activities, visitor surveys and animal keeping.

### **3.4 CAPACITY BUILDING OF ZOO PERSONNEL**

The Central Zoo Authority and Wildlife Institute of India conduct training for zoo personnel. Regular staff of the zoo is deputed for such training programmes. All the zoo staff have undergone training under the annual “Keeper’s training”/ “Zoo management training” programme conducted by the Central Zoo Authority and Wildlife





Institute of India. Asst. Keepers and Keepers are also deputed to other zoos in India for specialized hands on training in upkeep and management of wild animals.

To infuse scientific culture in day to day management of zoo animals, Post graduate students from local colleges are encouraged to undertake studies on various aspects of animal life and their behavior. Some of the research activities so far undertaken by the students inside the zoo campus are:

- a) Breeding behaviour of EMUs.
- b) Breeding behaviour of Weaver Birds
- c) Pollution of Jayanti Sarovar
- d) Feeding behavior of herbivorous animals.
- e) Interactive behaviour of herbivorous animals in Safari Area.
- f) Breeding of local species of Butterflies.
- g) Seasonal Migration of ducks in Jayanti Sarovar.

### **3.5 EDUCATION AND AWARENESS**



This programme receives our utmost attention. Several programmes with students and adults are taken up in the Park. To achieve these objective facilities like library, a small museum, five sets of television located at various places in the Park, Informative Wall paintings, Signage boards indicating habits and habitats of animals, have been provided in the Zoo.

### **3.6 AWARENESS PROGRAMMES UNDERTAKEN**

A residential Nature Camp for girl students of three days duration is being organized for the last 2 years. During this camp the participants are exposed to Bird watching, wild animals –their habits and habitats, plant nursery techniques, Vermi-composting & Personality development.





2. Quiz, Debates, Seminars, Painting competitions, Essay writing competitions are organized during wildlife week celebrations



3. Commending teachers for their role in generating awareness on environment and wildlife through instituting awards like 'Best Eco-club teacher' & 'Best School Eco- Club'.

4. Tree Planting programmes with the help of Public, students, and local social clubs during *Van Mahotsav*. Fruit Tree seedlings are distributed to the villagers during the planting season.

5. Organizing School group's visits to the Park and Screening of Wildlife films.

6. Pets to Pals Programmes: Under this programme Pet Animals like



Rabbits, Guinea pigs, pigeons, Ducks, Turkey etc are taken to schools. To generate empathy towards animals, small children are allowed to touch these animals.

7. Kids for Tigers Programme: This programme was initiated by Sanctuary Magazine three years ago. Under this programme slide



shows on tiger are given in schools with the latest status of Tiger conservation in the Country.

8. Touch and Learn Programme: The students coming in organized groups are made aware of the anatomy of various animal and are allowed to touch trophies of animals like antler, horn, egg etc. which they would have never seen before.

9. Motivating women folk from villages and children from naxalite affected areas to come to the zoo and learn about animals.

10. Organising bird watching sessions during early ours of the day inside the zoo campus.





### **3.7 OUR VALUES**

#### **Commitment to visitors –**

We create an enriching and welcoming atmosphere for all visitors to the zoo. We provide courteous and helpful attention to ensure they have a wonderful experience each time they visit.

#### **Collaboration –**

We maintain an environment of trust, openness, respect and transparency to maximize the creativity and productivity of our institution.

#### **Integrity –**

We are honest, reliable, sincere and trustworthy.

#### **Stewardship –**

We take complete responsibility for the animals in our care as well as all resources we use.



### **3.8 STRENGTHS**

Equipped veterinary hospital  
Trained staff  
Equipped library  
Natural setting

### **3.9 MILESTONES**

#### **Conservation Initiatives**

- Conservation of indigenous plants
- Planned breeding of blackbuck
- Planned breeding of Indian peafowl

- Creating a sacred grove for protection and Conservation of fruit bats

### **Specialized enclosures**

Created an enclosure for rearing and display of common butterflies of Jamshedpur



### **Nature education & Awareness**

- Residential nature camps for girl students
- Motivated 5300 tribal women folk from 19 villages on nature conservation and sustainable utilization of natural resources
- Motivated 1000 students from naxalite affected areas on nature & wildlife conservation.
- Motivated more that 100 children from Tatanagar railway platform towards inculcating love and empathy for animals.
- Distributed fruit plants among tribal villages
- Organised guided zoo tour for schools
- Instituted best eco teacher award for school teachers in Jamshedpur
- For creating greater awareness and empathy about animals among small children, organized Pets to Pal programme



*Tata Zoo may represent a very important part of ex-situ conservation programme, but its potential value is yet to be fully explored.....*

## 4.0 TATA ZOO FUTURE ACTION PLAN

### 4.1 INTRODUCTION



It is now well recognized that the main objective of the Zoos is to provide visitors a window to nature so that they can learn to live in harmony with nature and contribute significantly in the global and national conservation efforts. The earlier general perception that Zoos are like jails where animals are incarcerated for life or picnic spots where people can go with their families for recreation, is no more valid.

The role of modern zoo has changed from entertainment and amusement to conservation of endangered animal species, and in educating the public on conservation and environmental issues. They



are involved in captive breeding programmes, research and reintroduction programmes and contribute greatly to scientific knowledge, public awareness and species conservation. Improvements have also been made in animal management techniques with larger more naturalistic enclosures and the development of animal enrichment methods to combat boredom and stereotypic behaviours. Zoos are important in biological research. Research undertaken in zoos includes studies on the behaviour, medicine, nutrition, reproduction, physiology and psychology of wild animal species. The knowledge obtained is not only benefiting captive animals but is also providing a better understanding of certain aspects of wild populations, in particular to their management.

Overpopulation and increased human activity have caused high levels of habitat destruction in most biomes across the world. Habitat loss is the main cause of species depavation along with pollution and misuse of biological resources. As a result several species have already disappeared while many more are facing extinction in the wild. Today zoos have the opportunity to play a vital role in the survival and maintenance of these endangered species. Through captive breeding programmes involving zoos all around the world, rare animals, using the correct husbandry and management techniques can be brought back from the edge of extinction.



Zoos are also playing a crucial role in the education of the public, not only about animals in general but also in environmental and conservation issues. The public visits zoos by their own free will and in doing so leave themselves open to receiving information. In addition the power and attraction of seeing live wild animals help to increase the importance and urgency of the messages put forward. In general zoos worldwide are making education fun, people who visit a



zoo can leave having enjoyed themselves, but also hopefully taking away a little more knowledge of animal behaviour, species diversity or the threats existing to biodiversity.

#### **4.2 How will Tata Zoo sustain a special place as a tourist and cultural landmark into future?**

A preliminary survey among the visitors has shown that Tata Zoo holds an important role in the community and demonstrates how

people can have an effect on wildlife. To maintain this level of peoples support, Tata Zoo is faced with substantial challenges. There is increasing competition to zoos from other venues, a high demand for new and exciting exhibitory, an imperative to develop scientific research on endangered species, a necessity to extend education programs, a requirement to ensure compliance of the statutory rules and a need to develop commercially.

### **4.3 STRATEGY 2030**



Strategic growth plans, Animal collection plans, Operational plans, Sustainability plans and Environmental management plans- A master

plan must therefore reflect our corporate intent and integrate our internal and external planning to ensure that we manage the Tata Zoo into the future.

The Following areas are being considered as key in the development of Tata Zoo Master Plan:

1. **Animal Collection-** Tata Zoo will operate on an animal collection plan developed as per the guidelines enshrined in National Zoo Policy of the country as well as in conjunction with regional animal collection planning of major zoos in the State of Jharkhand and neighbouring states.
2. **Statutory provisions:** Legal standards and requirements for keeping of animals in Indian zoos shall be followed and highest standard of animal welfare maintained.
3. **Conservation education-** Community education about conservation and environmental sustainability is a core zoo function. Strengthening of the facilities and services that enhance this responsibility shall be an important factor.
4. **Research-** To keep abreast with the latest in zoo design and animal welfare, consolidation, growth and broadening of the zoo research activities shall be priority for Tata Zoo.
5. **Human resource development-** Capacity building of existing staff of Tata Zoo and to hire experienced professionals would be the motto of the zoo, so that we are able to set bench marks in all concerned faculties of zoo management. An institutional approach shall be undertaken to develop expert faculties in each and every concerned field of zoo science.

6. **Visitor Services-** Tata Zoo is very popular venue for visitors in Jamshedpur. Therefore a high quality of visitor services is required including adequate facilities for the aged, differently abled and people with young children. Education activities and volunteer services in our zoo will therefore be vital to the success of our organisation.
7. **Off- exhibit areas-** The zoo receives lot of orphaned and rescued animals through out the year. Similarly, births of young ones also take place. Off-exhibit multipurpose animal enclosures are therefore required to be constructed to enable breeding, research and provide off exhibit times for more comprehensively based animal management. There will also be facilities proposed like that of specialized conservation breeding centers that reflect the opportunities of partnerships with other zoos, research and teaching institutions.
8. **Business & revenue generation-** Tata Zoo being managed by a charitable trust maintains a strong business partnership approach with corporate sponsors and business organizations. The zoo operates in a commercial environment. The success of the Zoos commercial arm in events and contract management to optimize self generated commercial return will continue in the life of this plan.

This plan attempts to be useful and realistic tool recognizing Tata Zoo economic and development constraints. The plan is indicative only and details of exhibit design and integration with existing facilities and exhibits will require further detail and shall be taken up in phased manner during the implementation of the plan.



#### **4.4 THE PLAN**

Aside from an analysis of each area of the zoo, which follows, the following priority planning issues have been identified:

- a) The location and convenience of the existing site is a strong reason for success of the zoo. Though the site is sufficient at 43.25 hectares to maintain a small zoo collection and fulfill its mission. Given expected animal management requirements, projected population growth and creation of new exhibits for bonnet macaque, Giraffe / Zebra, conservation breeding centre and modern aquarium an additional area of about 20 hectares would be required to be carved out from the existing land occupied by the Public health & Horticulture dept. of Jamshedpur Utilities and Services Company Limited (JUSCO), these being the adjacent area lying to the west of the herbivore safari and one plot of land lying adjacent to the existing zoo picnic grounds on the eastern side.
- b) Public areas of the zoo are becoming run down. New toilet facilities which accommodate facilities for aged, differently able people and young families are required. Seating and rest areas are also required. Eating facilities/ cafes all require replacements.
- c) Tata Zoo already has shortage of suitable enclosures to hold animals off exhibit, to allow transactions, quarantine and appropriate health management. The existing hospital therefore requires remodeling.
- d) Improvements are greatly needed in interactive interpretative signage, to remain competitive and meet visitor demands.



- Immersion, the use of a recreated environment, such as rain forest or wetland is a successful approach that will be taken into the planning process. High level of information technology shall also be incorporated to make zoo visits more informative to our visitors.
- e) High impact Zoo exhibitory will be necessary to maintain competitiveness and visitor impact. It is planned that major avian and mammal fauna shall be displayed in state of the art enclosures and present the animals in the best immersion experience for visitors.
  - f) Strengthening of the zoo security will have to be made by raising the existing boundary wall on the marine drive road side to 2mtr. height. The boundary wall on the zoo picnic ground side would also require additional strengthening. Existing gaps in the boundary wall will also require to be plugged. Keeping in view of the fact that the marine drive road is going to be one of the busiest roads in town, an additional chainlink security fence is also proposed to be erected adjacent to the boundary wall, so that in event of collapse of the boundary wall the security of the zoo and its animals is not immediately jeopardised.

## **5.0 PROPOSED ZOO UPGRADE AND DEVELOPMENT**

The Zoo is currently divided into four managemental beats. The developments being proposed to be taken up in each beat has now been planned and are produced in the revised master layout plan of the zoo as annexed with this document. Description of the new activities to be taken up as per the new plan in each beat is provided below.

**5.1 Beat 'One'** comprises of following animal enclosures and facilities:

1. Zoo main entrance gate and ticket counter.
2. Zoo office and civil material stores
3. Rhesus macaque enclosure
4. Small mammal enclosure
5. Bird aviary
6. Nature education centre & library
7. Hippo enclosure
8. Peasantry
9. Kiosks
10. Duck pond
11. Visitor toilet & shelter
12. Boating bay

**New Alignments in the beat:**

Keeping in view of the fact that bonnet macaques are currently housed in caged enclosures and need to be provided more spacious and near natural enclosure, which can meet the welfare needs of the animal is proposed. Accordingly the area of Beat-One is proposed to be increased substantially by taking over the existing office area, zoo parking and some part of the area lying inside the parks and garden territory. Following new facilities are proposed in beat 'One':

1. An entrance plaza consisting of parking bay, ticket counter, souvenir shop, café, visitor sheds and toilets.
2. A double storey modern office for Society and Zoo with members area, information centre, library and rooms for holding meetings.
3. The existing nature education centre and library will be converted into a Natural History museum.

4. The area of the hippo enclosure will be increased to accommodate a pair of hippo for exhibition.
5. The depth of the existing pheasantry will be increased to provide more opportunities for the species to breed and proliferate.
6. A giraffe enclosure.

**5.2 Beat 'Two'** comprises of following animal enclosures and facilities:

1. Chital enclosure
2. Hog deer enclosure
3. Nilgai enclosure
4. Barking deer enclosure
5. Blackbuck enclosure
6. Aviary
7. Sambar enclosure
8. Drive in free ranging herbivore enclosure
9. Sloth bear enclosure
10. Visitor sheds, drinking water points & toilets

**New Alignments in the beat:**

Keeping in view of the fact that the enclosures of most of the herbivores do not meet the basic welfare needs of the animals, these will be enlarged proportionately. The animal enclosures that are proposed to be enlarged are of spotted deer, hog deer and barking deer. The drive in herbivore enclosure is also proposed to be enlarged to about 22 acres, so that viable population of black buck, Nilgai and sambar could be maintained. The aviary housing peacocks

is also proposed to be enlarged for showcasing our National bird in more naturalistic and immersed exhibit.

**5.3 Beat 'Three'** comprises of following animal enclosures and facilities

1. Hanuman langur enclosure.
2. Lion enclosure
3. Tiger enclosure
4. Leopard enclosure
5. Capuchin monkey
6. Aquarium
7. Nature trail
8. Old gharial and mugger enclosure
9. Visitor sheds, drinking water points and toilets

**New Alignments in the beat:**

The zoo currently has five leopards (2:3), but accommodation of only four leopards is available. The existing enclosure is also flood prone during the monsoon. It is therefore proposed to construct a modern enclosure for leopards at the existing site after suitable modifications in the ground level. The old gharial and mugger enclosure will be converted into a large aviary for housing cranes and storks.

A modern eco friendly restaurant for visitors is also proposed in this beat along the 'Subarnarekha' feeder channel.

**5.4 Beat 'Four'** comprises of following animal enclosures and facilities:

1. Ostrich and Emu enclosure
2. Hyena enclosure
3. Butterfly enclosure
4. Elephant shed / White peacock enclosure
5. Pets park
6. Mugger & Gharial enclosure
7. Veterinary Hospital
8. Food store & kitchen
9. Postmortem room
10. Incinerator
11. Visitor shed, drinking water and toilets
12. Restaurant

**New Alignments in the beat:**

According to the Recognition of Zoo Rules, 2009, pet animals are required to be shifted out of the main zoo campus. Therefore the pets' park will be shifted out of the zoo campus. Once the pets' park is shifted, the existing area shall be converted into an aviary for housing and display of various species of birds.

Though the newly constructed enclosures for Gharial and mugger were constructed as per the approved design of the Central Zoo Authority, they are in no way meeting the biological needs of the animals. Therefore these will be remodeled to provide near natural habitat to the species.



## **Veterinary Hospital Complex**

The hospital and food store will be remodeled to meet the new emerging challenges in the field of veterinary medicine and wild animal nutrition. As a result the area of the campus would also be increased. This will be carried out by dismantling of the existing restaurant and the white peacock enclosure.

To make the zoo sustainable in its operation additional exhibits like a modern aquarium is proposed to be constructed adjacent to the existing laser fountain facility. Since it will be located outside the main zoo exhibit area, this facility could be kept opened for longer duration thus giving in opportunity for more visitor flow and revenue generation.

## **5.5 PROPOSED PHASE WISE IMPLEMENTATION OF THE PLAN:**

The masterplan is proposed to be implemented in a phased manner and the major activities to be undertaken during different phases are provided below. The revised layout plan drawn on scale 1:1000 is annexed to this document. Though the works have been spread out for their implementation in different phases, they shall be reviewed from time to time and carried out according to availability of financial resources and requirement.

### **Phase-1 (2010 to 2015)**

Following works are proposed to be carried out:

1. Strengthening of the existing zoo boundary wall and its extension.

2. Entrance gate, realignment of the parking area and construction of parking plaza having ticketing booth, cloak rooms and rest rooms for visitors. Zoo office and pathways.
3. Dismantling of the existing zoo office and creation of a bonnet macaque enclosure

### **Phase-2 (2016 to 2021)**

Following works are proposed to be undertaken:

1. Dismantling of the existing leopard enclosure and constructing a new one.
2. Remodeling of the hippo enclosure
3. Remodeling of pheasant enclosure including creating a new peacock enclosure
4. Giraffe enclosure

### **Phase-3 (2022-2027)**

In addition to remodeling / redoing of few existing enclosures, following major works are proposed to be undertaken during this period:

1. Extension of the zoo boundary towards eastern side till lake view picnic spot / laser show).
2. Enclosure for crane / stork and ibis.
3. Remodeling of existing enclosure of hog deer, barking deer and spotted deer.

### **Phase-4 (2022-2030)**

1. Extension of the open free ranging herbivore enclosure
2. Aquatic bird aviary

3. Remodeling of existing gharial and mugger enclosure
4. A new food court & Aquarium

## 5.6 Details of enclosures / facilities to be modified and enlarged

S.No.	Name of the enclosure / facility	Existing area (in sq.mtrs.)	Extended area as per new plan (in sq.mtrs.)
1.	Bonnet macaque	19.06	2096
2.	Small mammals	218	400
3.	Aviary (world of parrots)	268	279
4.	Pheasantry	515	1000
5.	Hippo	1876	3669
6.	Chital	1782	2500
7.	Hog deer	403	2000
8.	Barking deer	470	2000
9.	Free ranging herbivore enclosure	34715	89000
10.	Leopard	559	1000
11.	Aquarium	45	9360
12.	Zoo Office	180	1506

## 6.0 COLLECTION PLAN OF ANIMALS

In keeping with the vision of zoo, future collection plan of animals to be displayed and bred in captivity has been drawn up. Regular exchange of animals shall be undertaken to infuse new blood line in the existing population. Efforts shall also be made for sustained release of captive bred animals into protected area as per Central Zoo Authority approved conservation breeding plans of endangered species.

The list of species to be displayed in the zoo and their carrying capacity has been provided below:

Sl.No	Animal		Existing				Future plan of collection		
Mammals		Scientific name	Male	Female	Unsexed	Total	Male	Female	Total
1	Hippo	<i>Hippopotamus amphibius</i>	1	0	0	1	1	1	2
2	Hanuman Langur	<i>Presbytis entellus</i>	3	1	2	6	2	5	7
3	Bonnet Macaque	<i>Macaca radiata</i>	1	4	0	5	2	5	7
4	Rhesus macaque	<i>Macaca mulata</i>	6	3	1	10	2	4	6
5	Spotted deer	<i>Axis axis</i>	11	6	3	20	4	10	14
6	Nilgai	<i>Boselaphus trago camelus</i>	2	5	2	9	2	5	7
7	Blackbuck	<i>Antelope cervicapra</i>	6	4	2	12	2	5	7
8	Hog deer	<i>Axis porcinus</i>	3	3	1	7	3	6	9
9	Barking deer	<i>Muntiacus muntjack</i>	2	5	1	8	3	6	9
10	Sambar	<i>Cervus unicolor</i>	1	1	1	3	3	5	8
11	Sloth bear	<i>Melursus ursinus</i>	2	2	0	4	2	2	4
12	Lion	<i>Panthera leo</i>	1	1	0	2	2	2	4
13	Tiger	<i>Panthera tigris tigris</i>	1	2	0	3	2	2	4
14	Leopard	<i>Panthera pardus</i>	3	3	0	6	2	2	4
15	Capuchin macaque	<i>Cibus capocinus</i>	2	1	0	3	3	5	8
16	Striped Hyena	<i>Hyaena hyaena</i>	0	2	0	2	2	2	4
17	Porcupine	<i>Hystrix indica</i>	0	2	0	2	2	2	4
			45	45	13	103	39	69	108
Birds									
1	Grey Partridge	<i>Perdix perdix</i>	0	0	5	5	4	6	10
2	Japanese quail	<i>Coturnix japonica</i>	0	0	8	8	4	6	10
3	Rose ringed parakeet	<i>Psittacula krameri</i>	0	0	4	4	4	6	10
4	Blossom headed parakeet	<i>Psittacula roseata</i>	0	0	6	6	4	6	10
5	Large Indian Parakeet	<i>Psittacula eupatria nipalensis</i>	0	0	3	3	4	6	10
6	Red rumped parakeet		0	0	1	1	4	6	10
7	Java sparrow	<i>Padda oryzivora</i>	0	0	8	8	5	10	15
8	Green Pheasant	<i>Phasianus versicolor</i>	1	2	0	3	4	6	10
9	Golden pheasant	<i>Chrysolophus pictus</i>	4	4	0	8	4	6	10
10	Reeves pheasant	<i>Syrmaticus reevesii</i>	1	1	0	2	4	6	10
11	Kali Pheasant (Nepal)	<i>Lophura leucomelanos</i>	1	2	0	3	4	6	10
12	Kalij Pheasant (Himalayan)	<i>Lophura leucomelanos</i>	1	2	0	3	4	6	10
13	Silver pheasant	<i>Lophura nycthemera</i>	2	1	0	3	4	6	10



Sl.No	Animal		Existing				Future plan of collection		
Birds		Scientific name	Male	Female	Unsexed	Total	Male	Female	Total
14	Edward pheasant	<i>Lophura edwardsi</i>	1	1	0	2	4	6	10
15	Ring necked pheasant	<i>Phasianus colchicus</i>	1	2	0	3	4	6	10
16	Lady Amherst pheasant	<i>Chrysolophus amherstiae</i>	1	2	0	3	4	6	10
17	Red jungle fowl	<i>Gallus gallus</i>	4	4	0	8	15	20	35
18	Mandarin duck	<i>Aix galericulata</i>	1	1	0	2	2	2	4
19	Muscovy duck	<i>Cairina moschata</i>	0	0	7	0	2	2	4
20	Grey lag goose	<i>Anser anser</i>	0	0	19	19	2	2	4
21	White goose	<i>Anser anser</i>	0	0	46	46	2	2	4
22	Common duck		0	0	12	12	2	2	4
23	Budgerigar	<i>Melopsittacus undulatus</i>	0	0	4	4	10	15	25
24	African grey parrot	<i>Psittacus erithacus</i>	0	0	2	2	4	6	10
25	Sulphur crested cockatoo	<i>Cacatua sulphurea</i>	0	0	3	3	4	6	10
26	Red breasted parakeet		0	0	3	3	4	6	10
27	Cockatiel	<i>(Nymphicus hollandicus)</i>	0	0	41	41	10	15	25
28	Emerald dove	<i>Chalcophaps indica</i>	0	0	6	6	6	10	16
29	Indian Peacock	<i>Pavo cristatus</i>	5	9	0	14	4	6	10
30	Love birds		0	0	16	16	10	20	30
31	Lorikeet		1	1	2	4	6	9	15
32	Hill Myna	<i>Gracula religiosa</i>	1	1	0	2	10	20	30
33	Jandia Connure		1	1	0	2	10	20	30
34	Ostrich	<i>Struthio camelus</i>	1	1	0	2	2	5	7
35	Emu	<i>Dromaius novaehollandiae</i>	0	0	9	9	2	5	7
36	White peacock	<i>Pavo cristatus</i>	0	2	0	2	2	5	7
37	White ibis	<i>Eudocimus albus</i>	0	0	3	3	2	6	8
			27	37	208	265	176	284	460
<b>Reptiles</b>									
1	Gharial	<i>Gavialis gangeticus</i>	1	3	0	4	2	5	7
2	Mugger	<i>Crocodylus palustris</i>	0	1	0	1	2	3	5
			1	4	0	5	4	8	12
<b>Safari</b>									
1	Black buck	<i>Antelope cervicapra</i>	6	3	0	9	3	6	9
2	Spotted deer	<i>Axis axis</i>	10	20	2	32	5	15	20
3	Nilgai	<i>Boselaphus trago camelus</i>	2	4	0	6	2	5	7
4	White black buck	<i>Antelope cervicapra</i>	5	7	0	12	4	8	12

Sl.No	Animal	Scientific name	Existing				Future plan of collection		
			Male	Female	Unsexed	Total	Male	Female	Total
5	Sambar	<i>Cervus unicolor</i>	1	0	0	1	2	3	5
			24	34	2	60	16	37	53
<b>Other animals proposed to be housed in the Tata Steel Zoological Park</b>									
Sl.No	Animal		Male	Female	Unsexed	Total			
<b>Mammals</b>									
1	Indian giant squirrel		4	10	0	14			
2	Mouse deer		4	10	0	14			
3	Giraffe		2	3	0	5			
4	Mandrill		2	3	0	5			
<b>Birds</b>									
1	Sarus crane		3	3	0	6			
2	Demoiselle crane		2	4	0	6			
3	Rosy Pelican		3	3	0	6			
4	Adjutant stork		3	3	0	6			
5	Military Macaw		4	4	0	8			
<b>Reptiles</b>									
1	Yellow monitor		2	4	0	6			
2	Star tortoise		2	4	0	6			
3	Indian rock Python		2	4	0	6			

## 7.0 DISASTER PLANNING

As per the guidelines of the Central Zoo Authority and the model disaster mitigation plan for zoos, a functional plan for the averting natural disaster or man made disasters including escape of animals in the Tata Steel Zoological Park shall be prepared and will be implemented as part of the zoo management plan.

## 8.0 E-GOVERNANCE

Already various measures have been taken by the Tata Steel Zoological Society to make the administration of the Tata Steel Zoological Park paper free. Computerisation of office records have

already been initiated and shall continue. Similarly, record keeping of animals, studbooks etc. has also been initiated. Communication between the management of the Society and zoo is now days done through emails. A step for e-procurement of supplies and filing of tenders is also on the anvil. A zoo website has also been hosted by the Tata Steel Zoological Society for enabling exchange of ideas and knowledge with other zoos through use of chat rooms and blogs.

## 9.0 ADMINISTRATIVE SET-UP

As the volume of activities in the zoo will increase manifold during the implementation of the plan, additional deployment of manpower is proposed to be engaged on full time basis, so that the zoo can achieve its vision of becoming the best managed zoo in the state as well in the country.

The future staffing pattern in the zoo shall be as follows:

S.No	Posts	Existing	To be created	Mode of recruitment
1.	Director	1	-	Direct / Promotion
2.	Addl. Director	-	1	Promotion
3.	Deputy Director	1	-	Promotion
4.	Asst. Director-Veterinary	-	1	Direct
5.	Asst. Director-Administration & Finance	-	1	Promotion/deputation
6.	Estate manager	-	1	Promotion/deputation
7.	Biologist cum Education officer	-	1	Contractual / Direct
8.	Curator (Animals)	1	-	Direct

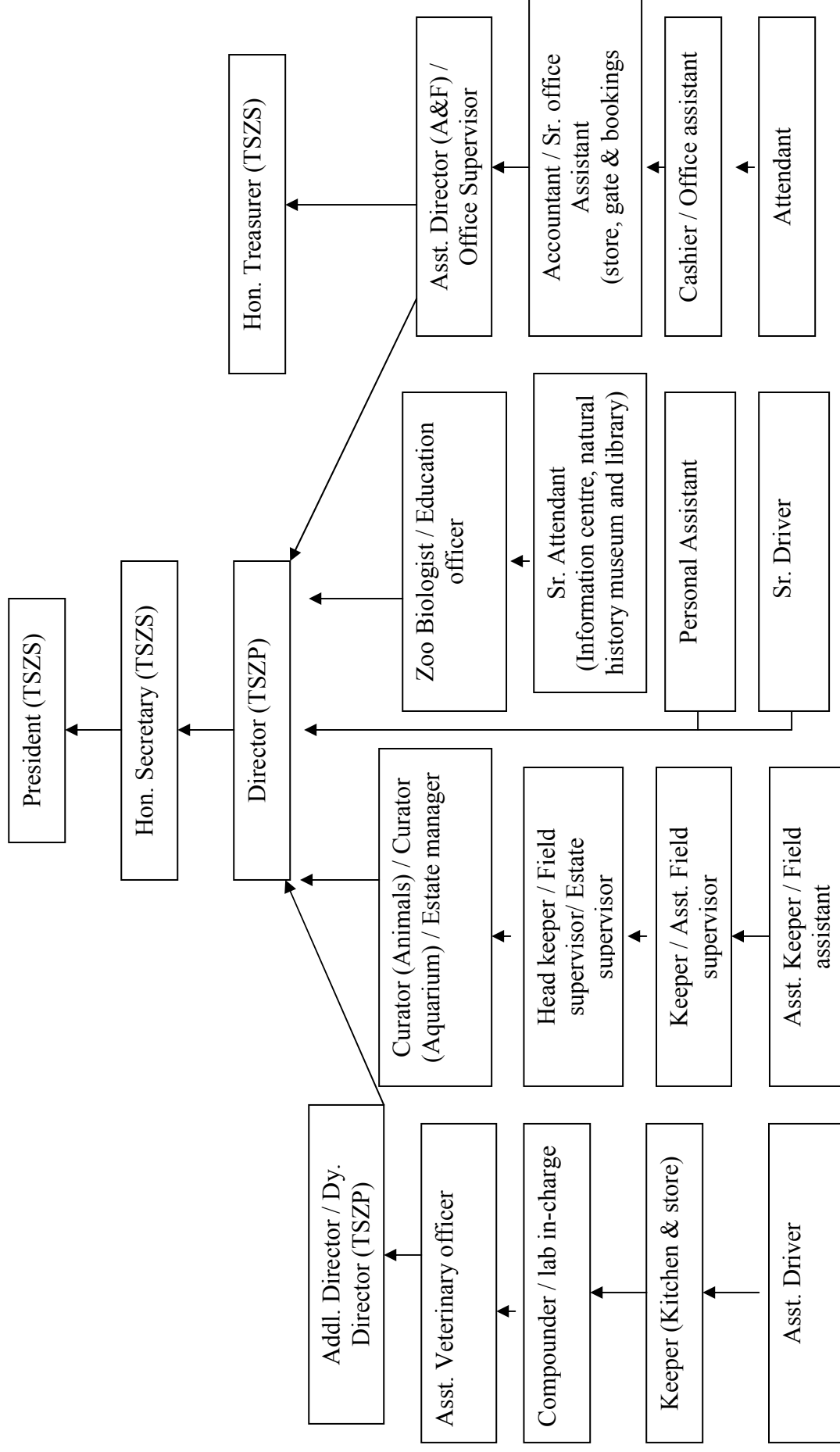
S.No	Posts	Existing	To be created	Mode of recruitment
9.	Curator (Aquarium)	-	1	Direct
10.	Field supervisor	1	-	Promotion
11.	Office & store supervisor	1	1	Promotion
12.	Accountant cum Cashier	-	1	Direct / promotion
13.	Head keeper	-	1	Promotion
14.	Estate supervisor	-	1	Promotion
15.	Keeper	4	2	Promotion
16.	Asst. keeper	11	5	Direct recruitment
17.	Sr. Office assistant	1	-	Promotion
18.	Office assistant	2	1	Direct / contractual
19.	Field Assistant	2	-	Direct
20.	Driver	1	1	Direct / Contractual
21.	Attendant	2	-	Direct
22.	Lab attendant	-	1	Direct / contractual
		<b>28</b>	<b>20</b>	

The proposed organizational structure of the zoo is provided below. Capacity building of all staff shall be continued through regular trainings and by deputing them to other recognized zoos in the country and abroad.





## PROPOSED ORGANIZATIONAL STRUCTURE OF TATA ZOO



## 10.0 ANTICIPATED EXPENDITURE FOR IMPLEMENTING THE MASTER PLAN BY THE YEAR 2030

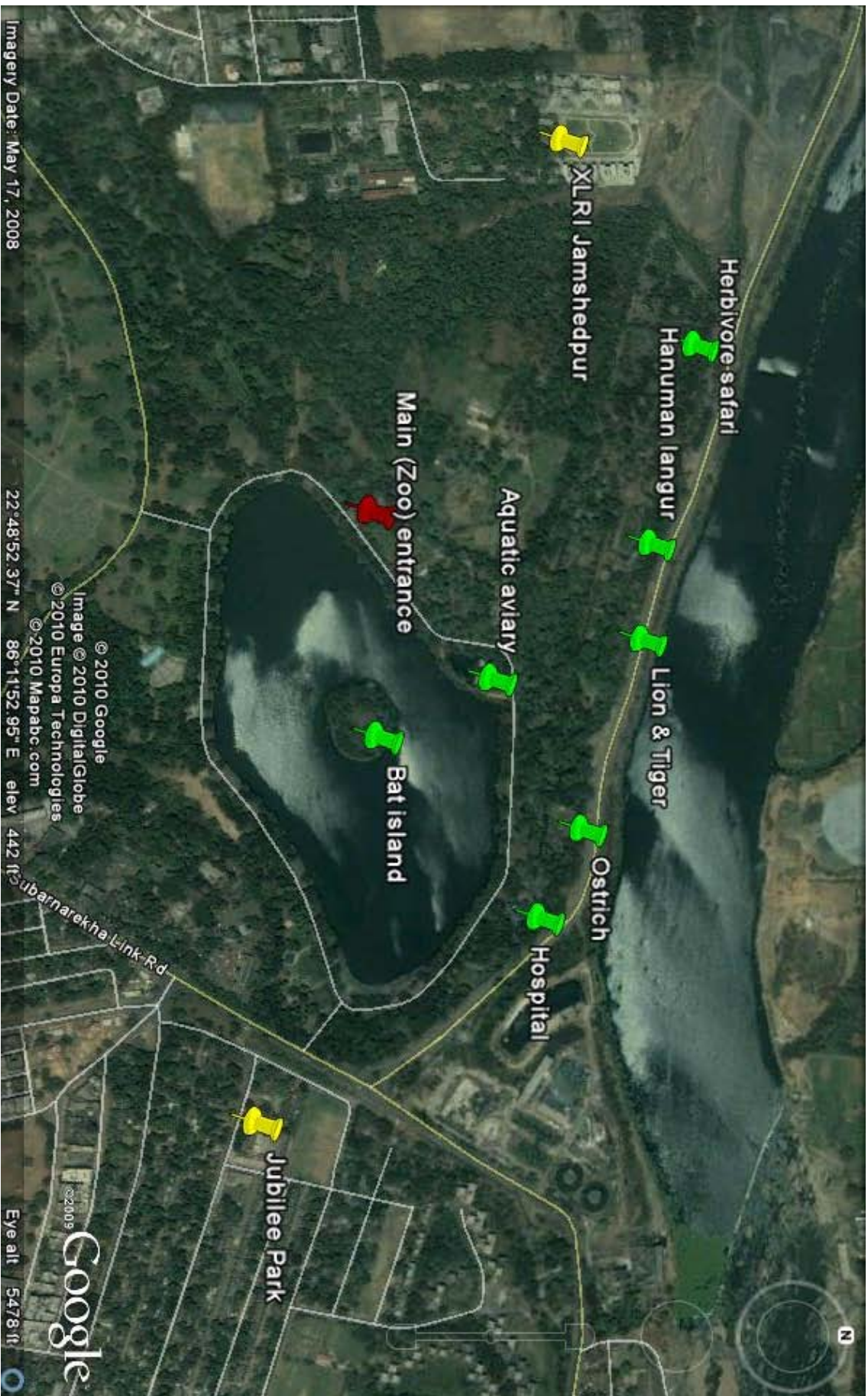
S.No.	Animal enclosure /facility	Estimated cost for construction (in Rupees lakhs)
<b>(A) New facilities</b>		
1	Bonnet macaque enclosure	35.00
2	Stork /crane enclosure	15.00
3	Restaurant / Food court	5.00
4	Aquarium	1500.00
5	Giraffe enclosure	30.00
6	Boundary wall for newly acquired area	75.00
7	Entrance plaza including new society & zoo office	50.00
8	New pathways and roads	10.00
9	New lawns and gardens	5.00
	<b>Sub total</b>	<b>1725.00</b>
<b>(B) Modernisation of existing enclosures / facilities</b>		
1.	Rhesus macaque enclosure-creation of night shelters	5.00
2.	Enlargement of small mammal enclosure	10.00
3.	Enlargement of existing pheasantry	30.00
4.	Enlargement of hippo enclosure	20.00
5.	Enlarging spotted deer enclosure	10.00
6.	Enlarging hog deer enclosure	10.00
7.	Enlarging barking deer enclosure	10.00
8.	Enlarging drive in herbivore enclosure	30.00
9.	Enlargement of peacock aviary	6.00
10.	Modernisation of hospital and food store including purchase of a four wheel vehicle	25.00
11.	Strengthening of existing zoo boundary wall	100.00
12.	Leopard enclosure	30.00
13.	Relocation of pets park	5.00
14.	Visitor toilets and sheds	10.00
15.	Enrichment in existing animal enclosures	10.00

Contd....49/-

S.No.	Animal enclosure /facility	Estimated cost for construction (in Rupees lakhs)
16.	Signage's in enclosures	5.00
17.	Modernization of aviaries	5.00
18.	Remodeling of gharial and mugger enclosure	5.00
19.	Improvement of pathways and roads	10.00
20.	Improvement in bat island	4.00
	<b>Sub total</b>	<b>340.00</b>
	<b>Total (A+B)</b>	<b>2065.00</b>

(Rupees two thousand sixty five lakhs only)

## AERIAL VIEW OF TATA STEEL ZOOLOGICAL PARK, JAMSHEDPUR









# PROPOSED LAYOUT OF TATA STEEL ZOOLOGICAL PARK JAMSHEDPUR



## FUTURE MAKEOVER OF FEW EXISTING ANIMAL ENCLOSURES AT TATA ZOO

**LION ENCLOSURE**



**TIGER ENCLOSURE**





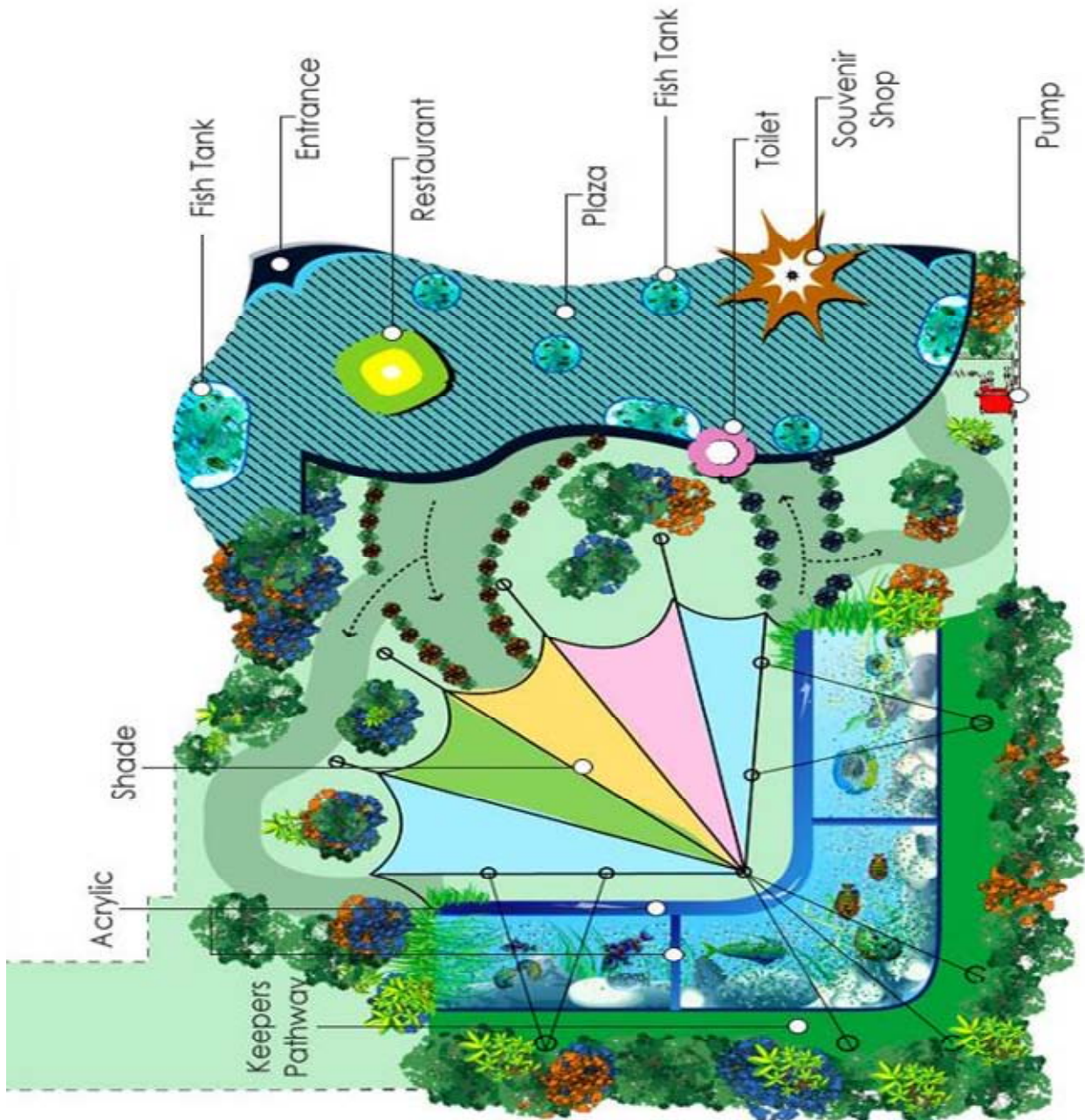
**SLOTH BEAR (OUTDOOR )**



**SLOTH BEAR (INDOOR )**



## LAYOUT OF THE PROPOSED NEW FRESH WATER AQUARIUM AT TATA ZOO



## BUBBLE DIAGRAM FRESH WATER AQUARIUM – TATA ZOO

