



MASTER PLAN



RAJKOT ZOOLOGICAL PARK



RAJKOT MUNICIPAL CORPORATION



Rajkot Zoological Park

(Managed by Rajkot Municipal Corporation)

Master Plan

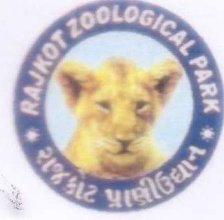
2018-19 to 2037-38

Submission Year

2018-19

Prepared by

Dr. R. K. Hirpara
Zoo Superintendent
Rajkot Zoological Park
Rajkot



Rajkot Zoological Park

(Managed by Rajkot Municipal Corporation)

Master Plan

2018-19 to 2037-38

A Comprehensive Plan for Futuristic Development

Prepared by

(Dr. R. K. Hirpara)

Zoo Superintendent

Rajkot Zoological Park

Rajkot

Counter Signed by

(C. B. Ganatra)

Dy. Commissioner

Rajkot Municipal Corporation

Rajkot

Counter Signed by

(Banchhanidhi Pani)

Commissioner

Rajkot Municipal Corporation

Rajkot

The Master Plan of the Rajkot Zoological Park, Rajkot, Gujarat was placed before the 90th Meeting of the Technical Committee, CZA held on 06.06.2019 & subsequently in the Central Zoo Authority in its 35th Meeting held on 29.08.2019. This has been approved by the Central Zoo Authority subject to condition that the responsibility of mobilizing financial resources for implementation of the Master Plan will be sole responsibility of the Rajkot Municipal Corporation, Rajkot, Gujarat.

Authenticated
MS(CZA)

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MESSAGE

Rajkot Zoological Park had a humble beginning in the year 2010. It is spread over the area of 55.33 Hectares in a beautiful terrain of hills and valleys surrounded by twin lakes of Lalpari and Randarda on both sides. It has been our constant efforts to keep the natural beauty intact with wild aforestation of the area and with the able guidance of Central Zoo Authority; we could achieve the desired results.

The Master Plan is a Vision document which we have meticulously planned to implement in the phases over coming years. At the same time, we have also ensured that the O&M of the Zoo remained World Class.

There are 51 species housed in the Zoological Park at present and we intend to acquire 129 animals spp at the end of 20 years from now. We, therefore, need a solid financial plan so as to support the species all the time in future. We shall also carry out certain activities like Souvenir, adoption of animals etc. which will in turn result in to income for maintenance of zoo. Simultaneously, with that, we have already started Nature Education Camp and other activities related to education and conservation. We intend to strengthen such activities in near future by way of using the wildlife expertise of this region. In this way, we are effectively monitoring the transition of our old Zoo which was constructed way back in the year 1992 to the modern natural habitat for the animals in the Pradyuman Park. This is infect a transition from entertainment to the conservation of our natural forest and the animals of the forest.

Apart from the standard enhancement and enrichment features of the Master Plan, it is worth mentioning that the Zoo intends to take up the activities of Asiatic Lion breeding. The Asiatic Lion belongs to this region and Rajkot is a natural habitat for the Asiatic Lion to breed and grow. The Zoo has already created a favourable environment in which 51 cubs were born in last eight years. Rajkot Zoo planned as a Nodal Center for Asiatic Lion breeding and Research Center for the majestic living species of this World at present. This is our USP. This is our brand.

This plan is prepared under the active guidance of Central Zoo Authority, officials and Consultants headed by Dr. D.N. Singh, Member Secretary, Central Zoo Authority, New Delhi. The management plan and the layout plan is prepared in a proper format so as to make the things easy to understand and easy to implement of the same in future in a planned manner.

(Banchhanidhi Pani)

Commissioner
Rajkot Municipal Corporation

FOREWORD

The Master Plan is essentially a Vision document as to **how we intend** to develop our Zoo in a phased manner for next 20 years. I must state that it is sheer pleasure to foreword the Master Plan of the Zoo prepared by my able Zoo Superintendent Dr. R K Hirpara.

The construction of the zoo is totally different the way we construct other Municipal buildings. Many of my Engineers as well as contractor found it difficult to understand and appreciate the natural or naturalistic concept of the zoo. It essentially required patience and a creative mind to construct a zoo. It has been observed that the coordination between the Zoo officials as to what they want and the Engineers what they intend to do was the most challenging task in the development so far. However, an Urban Body like Rajkot Municipal Corporation has sufficient time, patience and had an ability to do out of box thinking for development of this zoo. I am happy that it has provided a very fruitful result so far. The exceptional hillocks and valleys of the zoo premises have thrown upon enormous opportunities to transform the present zoo in a designer's zoo. I am very happy to note that Dr. R. K. Hirpara has prepared a Master Plan with constant guidance from Central Zoo Authority in such a way that we could keep the natural beauty of the Zoological Park intact with possibilities of further massive tree plantation to give a look of dense forest.

Rajkot Zoological Park has also envisaged a strategy to have efficient financial resources so that the O&M of the Park shall remain absolute efficient for all the years to come.

I am happy that I become part of this special development on the outskirts of Vibrant City of Rajkot which is located in the heart of Saurashtra region of Gujarat State.



(C. B. Ganatra)

Deputy Commissioner
Rajkot Municipal Corporation

PREFACE

Rajkot Zoological Park is one of the modern & naturalistic developing zoos of the country and it spreaded over an area of 55.33 hectors. Zoo housed number of free living animal species, besides, 51 species of zoo animals. Old mini zoo known as Aji Dam zoo was set up in February 1992, where Asiatic Lion, Tiger, Leopard, Himalayan Black bear, Black Buck & Crocodile were housed in old fashion enclosures. Since old mini zoo at Aji dam suffered from many drawbacks and did not match the standards set by the Central Zoo Authority, as a follow up of the recommendation of the CZA, the Municipal Corporation of Rajkot took decision and Standing Committee has passed a resolution to set up a new modern zoological park in an extensive area known as "Pradyuman Park" situated about two kilometers away from Aji Dam zoo. This area was considered as an ideal site for developing a modern zoological park which is now known as "Rajkot zoological park". All the animals were shifted from Aji Dam mini zoo to Rajkot Zoological Park during December, 2009 & Zoo was opened for public on 14th August, 2010. The numbers of animal enclosures have been progressively designed to create large enclosures in natural environment. There is hi-tech veterinary hospital to monitor and provide health care to the animals and rescued birds on day to day basis.

Improvement and development activities in any established institute has to be a regular feature. The expected results could be achieved only if contemplated activities are planned in advance, in a systematic way. For a fast developing Zoo of this stature a master plan covering all aspects is a must. Master plan is a statutory requirement under Rule 10(51) of the recognition of Zoo Rules 1992 of Central Zoo Authority. I am extremely happy that I got the privilege of preparing the first master plan for this modern Zoo.

The present master plan is a comprehensive document giving details planning for next twenty years (2018-19 to 2037-38) with a provision of review every 10 years regarding development, improvement and up-gradation of facilities and infrastructures available in the zoo as well as capacity building of zoo personnel for effective zoo management. The present plan is based on concept layout plan approved by the Central Zoo authority for Rajkot Zoological Park. I am hopeful that at the end of the plan period of the present Master plan prepared for Rajkot Zoological Park; all the objectives will be effectively achieved.

I would like to place on record the contribution of Shri R. S. Bhadauria, IFS, Ex- Principal Chief Conservator of Forests, U.P. for preparation of the master plan. I would like to acknowledge the contribution of Shri Banchhanidhi Pani, IAS, Commissioner, Rajkot Municipal Corporation for his valuable advice in preparation of the Master Plan. I would like to express my sincere gratitude to Shri C. B. Ganatra, Deputy Commissioner, Rajkot Municipal corporation and Shri P.P. Vyas, Ex. Deputy Commissioner, Rajkot Municipal Corporation for contribution and guidance during preparation of the master plan. I would also like to acknowledge the sincere contribution of Dr. M. G. Maradia, Former Zoo superintendent, Rajkot Zoological Park for preparation of the plan.

I would like to express my sincere thanks to Dr. B. R. Jakasaniya, Ex. Veterinary officer, Dr. Upendra G. Patel, Veterinary Officer, Shri Ravi C. Chauhan, Biologist cum Education Officer, Shri Bhargav P. Bhatt, Curator and Shri Manoj Gohel, Veterinary assistant Rajkot Zoological Park for their valuable inputs in preparation and completion of Master Plan. I would like to convey my thanks to all employees of Rajkot Zoological Park who have contributed for the preparation of the document.



(Dr R. K. Hirpara)
Zoo Superintendent
Rajkot Zoological Park

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PART – I

Chapter – 1

INTRODUCTION

a. History

Zoos have a long history, which traces back to ancient civilizations. They were established by powerful rulers who collected and maintained exotic collections of animals for their own amusement and as status symbols of power and prestige. These menageries persisted for centuries until during the later half of last century the zoos were looked upon to fulfill an important role of conservation and environmental education. Despite strict rules and enactment, the threat perceptions to wildlife, in- situ continues. In the present context, therefore, the zoos have to shoulder additional responsibilities of ex-situ conservation with all its facets of captive breeding, conservation education and related research.

Our country with its ancient religion and deep rooted culture has a long tradition of peaceful coexistence with all other forms of life. The zoo movement in India is one of the oldest in the world. There are around Two Hundred zoos located in every nook and corner of the country. They differ mostly in size, organization, animal collection and their management.

Major cities of Gujarat viz., Gandhinagar, Ahmedabad, Baroda, Surat, Rajkot and Junagadh have zoos but these were established as additional attractions in public parks in the last century hence their animal facilities are reminiscent of that era. Some of these zoos have recently under taken renovation of their facilities as per the recommendations of the Central Zoo Authority.

Influenced by the wide exposure to wildlife through films on television and other media, there is a shift in the people's attitude towards zoos. There is now greater awareness about wild animals and nature conservation and the very sight of animals in old fashioned cages sour the mood of the public. Some of the Indian zoos have already responded to public opinion by simulating natural habitats of animals, and by making their exhibits educational and animal friendly. Rajkot city lagged behind in this respect as it has only an out dated mini zoo at Aji Dam.



i. Aji Dam - Mini Zoo

Rajkot being an important city, situated centrally in Saurashtra region, was once the capital of the erstwhile Saurashtra State, prior to its merger with the Gujarat State. It is now the commercial and educational hub of Saurashtra region of Gujarat. Rajkot has a resident population of about 15 lacs and floating population of several thousand, who visit the city every day for business and other purposes.

A dam built on river Aji on the outskirts of Rajkot city is a popular attraction for outing and picnic for the people of the city and the surrounding villages. The area adjoining the water reservoir was developed as a public park by the Municipal Corporation of Rajkot. In 1987, a deer enclosure was constructed in the area to provide attraction and subsequently a mini zoo known as Aji Dam, was set up as an adjunct to the public park in February, 1992, where Asiatic lion, Tiger, Leopard, Himalayan Black Bear, Black Buck & Crocodile were housed in old fashioned enclosures. Since Mini zoo suffers from many drawbacks and does not match standards set by CZA, its closure was recommended by CZA after its evaluation.



Old Aji Dam Zoo

As a follow up of the recommendations of the Central Zoo Authority and sharing the aspirations of the people of Rajkot, the Municipal Corporation of Rajkot took decision and its Standing Committee, passed a resolution vide resolution no. 750 dated 04/02/1999 to set up a new modern zoological park in an extensive area known as “Pradyuman Park” situated about

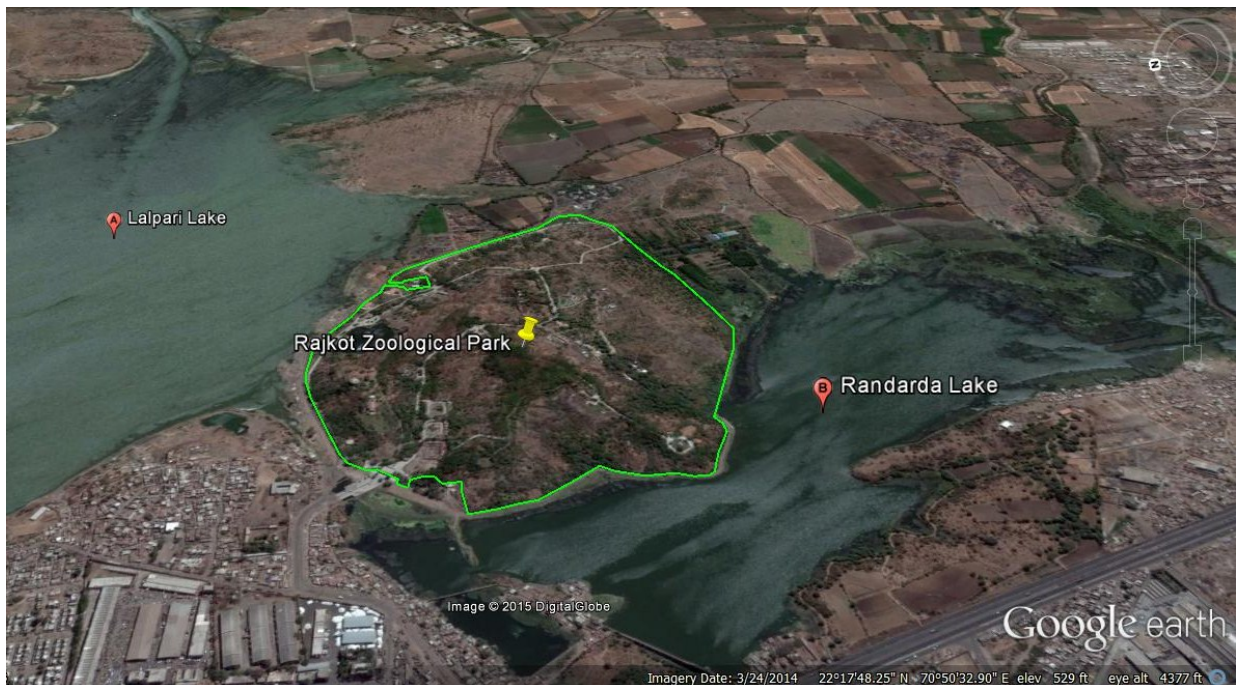
two kilometers away from the existing Mini zoo. It was also decided that the animals from existing mini zoo would be shifted to the proposed new zoo.

Pradyuman Park covers about 55.37 hac area which is undulating with ridges and valleys, rocky outcrops and well drained, surround by two big lakes - **Lalpari and Randarda**. This area was considered as an ideal site for developing a modern zoological park to be known as “**Rajkot Zoological Park**”

ii. Development of “Rajkot Zoological Park”

Consequent upon this decision, a short master plan and layout plan was prepared and submitted to CZA for approval, which was approved by the CZA and grant of Rs 107.58 lacs was sanctioned by CZA to finance partly the construction of boundary wall of the zoo, building water supply infrastructure and Lion & Tiger enclosures. All these activities were done till the year 2004.

Since Rajkot Municipal Corporation was keen to set up this zoo work for revision of layout plan and designing of enclosures work was assigned to Shri R. S. Bhadauria, Ex-Principle Chief Conservator of Forest (U. P.), in the year 2006. He after inspecting the area thoroughly, realized that, while preparing the previous layout plan, some very suitable sites were left out unutilized in between, and therefore he revised the previous layout plan, which was submitted to CZA and it was approved by CZA vide their letter no. F/19-48/92-CZA (Vol. IV) (75)SB Dated 08/08/2007. Thereafter the construction activity started after getting enclosure designs approved by CZA as per CZA guidelines.



Rajkot Zoological Park with surroundings...

The Rajkot Zoological Park, Rajkot was inaugurated by the Hon. Chief Minister of Gujarat State during that time Shri Narendrabhai Modi on 14th August 2010. He has been very keen about the Zoo and its importance for Conservation and Education.



Inauguration of Rajkot Zoological Park by Shri Narendra Modi, Hon. Chief Minister, Gujarat State



Asiatic Lion at Rajkot Zoological Park

Details of the development works are as under.

Year wise Development and Construction Work of Animal Enclosure

Year	Development Work
2007-08	Construction of Lion Enclosure
	Construction of Tiger Enclosure
	Construction of Black Buck Enclosure
2008-09	Construction of Marsh Crocodile Enclosure
2009-10	Construction of Leopard Enclosure
	Construction of Himalayan Black Bear Enclosure
	Construction of Spotted Deer Enclosure
	Construction of Sambar Enclosure
2011-12	Construction of Hog Deer Enclosure
2012-13	Construction of Chausinga Enclosure
	Construction of Chinkara Enclosure
	Construction of Sloth Bear Enclosure
	Construction of Duck Pond Enclosure
	Construction of Rhesus Macaque Enclosure
	Construction of Bonnet Macaque Enclosure
	Construction of Common Langur Enclosure
	Construction of Gharial Enclosure
2013-14	Construction of Hyena Enclosure
	Construction of Fox Enclosure
	Construction of Jackal Enclosure
	Construction of Wolf Enclosure
	Construction of White Tiger Enclosure
2014-15	Construction of Pheasant Aviary
2015-16	Construction of small Cats Enclosure
	Construction of small Animals Enclosure
2016-17	Construction of Reptile House
	Construction of Aquarium
	Construction of Parrot Aviary
	Construction of Walk through Aviary
2017-18	Construction of Emu Enclosure



Lion Exhibit



Leopard Exhibit

Year wise Development and Construction Work of Other than Animal Enclosure

Year	Development Work
1999-2000	Construction of Old Office
	Construction of Well & Bore
2000-01	Construction of Compound Wall (From 1998-2001)
	Construction of Pumping station for Well & Bore
	Construction of ESR for raw water
	Distribution of MS Pipe lines for raw water (From 1999-2001)
2009-10	Construction of Entrance cum Booking Office
	Construction of Administrative Office
	Construction of Toilet Block – 1 No. (Near Entrance)
2010-11	Construction of Toilet Block – 2 Nos. (Near Chausinga enclosure & Kanak Circle)
	Facility of Solar Light - 15 Nos. (At suitable places)
2012-13	Construction of Veterinary Hospital Complex (Veterinary Hospital, Feed Store and Kitchen & P. M. Room)
	Resting Shed – 5 Nos. (Located at Crossing Near Baboon encl.-1, Near Small Animal House-1, Near Duck pond-1, Near Black buck encl.-1 & Near Walking Aviary-1)
	Kiosk – 4 Nos. (Located at Near Lion encl.-1, Near Duck pond-1, Near Premila Circle-1 & Near Kanak Circle-1)
	Food Court – 1 No. (Outside Zoo, Near Entrance)
	Construction of Paving Block Road and Paver Road (In all part of developed area including Kanak & Mohini circles)
	Under Ground Electrification (In all part of developed area including Kanak circle)
2013-14	Construction of GSR for Drinking Water
	Distribution of underground AC Pressure Pipe lines for drinking water
2014-15	Construction of ESR for Drinking Water



Office Building

Year wise Development of Visitor Facilities & Other Facilities at the Zoo

Year	Development Work
1999-2000	Development of Children corner (Near Premila circle & Near Kanak circle)
	Development of Loan & Garden (Near Premila circle)
2009-10	Purchase of Battery Operated Vehicle – 3 Nos.
	Garden Benches for Visitors – 60 Nos.
	Drinking Water Cooler – 2 Nos. (At Entrance Gate - 1, At Premila circle - 1)
2012-13	Purchase of Battery Operated Vehicle – 3 Nos.
	Purchase of Zoo maintenance Vehicle (TATA 207 DI Ex2)
	Signage at appropriate places
	Garden Benches for Visitors – 40 Nos.
	Bicycles for Visitors – 37 Nos.
2013-14	Development of Loan & Garden (Near Black buck enclosure)
2014-15	Construction of Interpretation Centre
	Purchase of Food Distribution Van (Maruti EECO, CNG)
	Purchase of Battery Operated Vehicle – 2 Nos.
2016-17	Construction of Drinking Water Point for Visitors – 7 Nos.
	Enrichment of Interpretation Centre Phase – I



Kinder Garden



Visitors Hut

b. Vision of the Zoo

Aji Dam mini zoo was started in 1987 from a mere deer enclosure and thereafter by adding some more enclosures for Lion, Tiger, Leopard, Himalayan Black bear as an attraction for picnickers. At that time the objective of exhibiting wild animals used to be only to satisfy the curiosity of visitors and there was no element of nature education and awareness part, attached to it. Therefore, the vision behind setting up of Aji Dam mini zoo was only its recreational value for the public.

But, of late, the whole concept of establishing a zoo, its objective, designing and planning, upkeep of animals, their health, its nature conservation value and spreading message of conservation amongst general public have undergone sea change. Therefore, with the current vision in modern zoo will be setup in “Pradyuman Park” at Rajkot.

c. Mission of the Zoo

Since Aji Dam mini zoo was set up only for its recreational value, other aspects of modern zoos like nature education, awareness for nature conservation, study of animal behaviorology and biology, research and animal welfare in captivity were not taken care of. The enclosures were built merely to avoid the escape of animals and feed and upkeep were meant just to keep them alive.

But since the modern zoos have to play multifarious roles of welfare of animals, nature conservation, nature education, insuring gene pool of endangered spp. etc, the mission of setting up new modern zoo at “Pradyuman Park” will take care of all these aspects.

d. Objectives

The Aji dam zoo was established with the sole objective of displaying wild animals for the recreation of the visitors. Therefore neither any welfare aspect of keeping wild animals in captivity was taken care of nor visitor’s facilities were kept in view.

e. Strategy of the Zoo

The strategy adopted in setting up of Aji dam zoo was merely exhibitory of animals without caring for the living requirements of the animals and therefore enclosure are outdated. There is neither any facility for the visiting public. As such there was no proper strategy adopted for setting up of the zoo.

f. Physical features of the area

An area of 55.37 hectares known as Pradyumn Park located just on the outskirts of the city is hilly and picturesque piece of land surrounded by two big lakes viz., Lalpari Lake and Randarda Lake. The land form is undulating with gentle to steep slopes having concave and convex rocky formations providing natural drainage.

g. Geology, Rock & Soil

Geologically the land mass of present Saurashtra region was once under the sea and during some past geological upheaval, it emerged from the sea bed, having rocky hillocks and plains. The Pradyuman Park area is typical one such hillock with basaltic rocks underneath overlaid with ignite rocks as outcrops and cut up with shallow valleys filled with black cotton soil. It is an ideal site for a modern zoological park where animals can be exhibited in near natural habitats. The area provides enough space for animal enclosures, roads, pathways, shelters, lawns, tree groves and water features. There are exposed rocks and boulders strewn all over the site, which will be utilized for enriching and enhancing the exhibit value.

h. Flora and fauna in the Zoo premises

The natural vegetal cover is sparse and patchy, with bare open areas on rocky grounds and low height trees & shrubs in valleys. Therefore the total area of the zoo has been taken under tree plantation of local species. As a result of this special drive, presently entire area is

covered with trees, shrubs, herbs, creepers and climbers of local flora. Identified floral species are listed as Annexure - XI

Free ranging species of birds, mammals and reptiles found within the zoo premises are listed as Annexure – X



Free ranging Common Peafowl at Rajkot Zoological Park

i. Climate

The climate of this district is characterized by hot summer, cool winter and general dryness, except during the monsoon months. The cold season is from December to February followed by the hot season from March to May. The period from June to September receives southwest monsoon followed by the transition period of post monsoon, October – November. Temperature increases rapidly from March to May and April to June are the hottest months with the mean maximum temperature at 41°C and mean minimum at 26°C. On particular days, the maximum temperature may exceed 44°C. With the onset of the monsoon by about mid June, the day temperatures drops considerably, while there is no appreciable change in the night temperature during the monsoon. Withdrawal of southwest monsoon by about the end of September causes rise in the day temperature till October, but the nights become cooler. From November, day and night temperatures begin to drop rapidly. January is the coolest month with mean maximum temp. 29°C and the mean minimum at about 14°C. The district is some time affected severely by cold waves in the wake of the western disturbances, which pass through north India causing the minimum temperature to drop nearly to 9°C.

In the monsoon months, the relative humidity is generally 65 percent or more but the rest of the year is comparatively dry. March and April are the driest months when humidity is

about 45 percent, dropping to 20 percent or less in the afternoon. During winter period (December to February) the relative humidity is generally 55 percent in the morning and 27 percent in the evening while in the post-monsoon period (October to November) they are generally 58 percent and 32 percent in morning and evening respectively.

j. Rainfall

During the southwest monsoon season, particularly in July and August the sky is heavily clouded. During the rest of the year, the sky is mostly clear to lightly cloudy. The average annual rainfall in the district is about 1100 mm. About 95 percent of the annual rainfall is received during the southwest monsoon season. July is the rainiest month which accounts for as much as 45 percent of the annual rainfall, the next rainy month i.e. August contributing about 25 percent. Variation in rainfall from year to year is large. There are about 30 rainy days in a year, on an average.

k. Season

There are three distinct seasons viz, summer, monsoon and winter. Dry summer season stretches from April to June, and there after the monsoon season starts from July and lasts till end of September. Light to moderate winter lasts during October and November, attaining severity during December-January, followed by moderate winter tapering till end of March. There is neither frost nor chilly nights during winters

l. Approach

The present site of the zoo is situated on the south-eastern outskirts of the city and is very well connected with city by a four lane road, branching from Rajkot-Junagadh National Highway.

Rajkot is well connected by roads & Railways within and outside Gujarat and also by air to Mumbai with three daily flights. It is also situated in the centre of Saurashtra region with very good connectivity all around.

- a. Location: Located on Porbandar – Ahmedabad – silchar National Highway No. 8A, behind Marketing yard, opposite Kabir Tekri, Known as “Pradyumn Park”.
- b. Airport: (Distance) 10 Kms.
- c. Railway Station: (Distance) 6 Kms.
- d. Bus station: (Distance) 6 Kms.

m. Demography of the Surrounding area

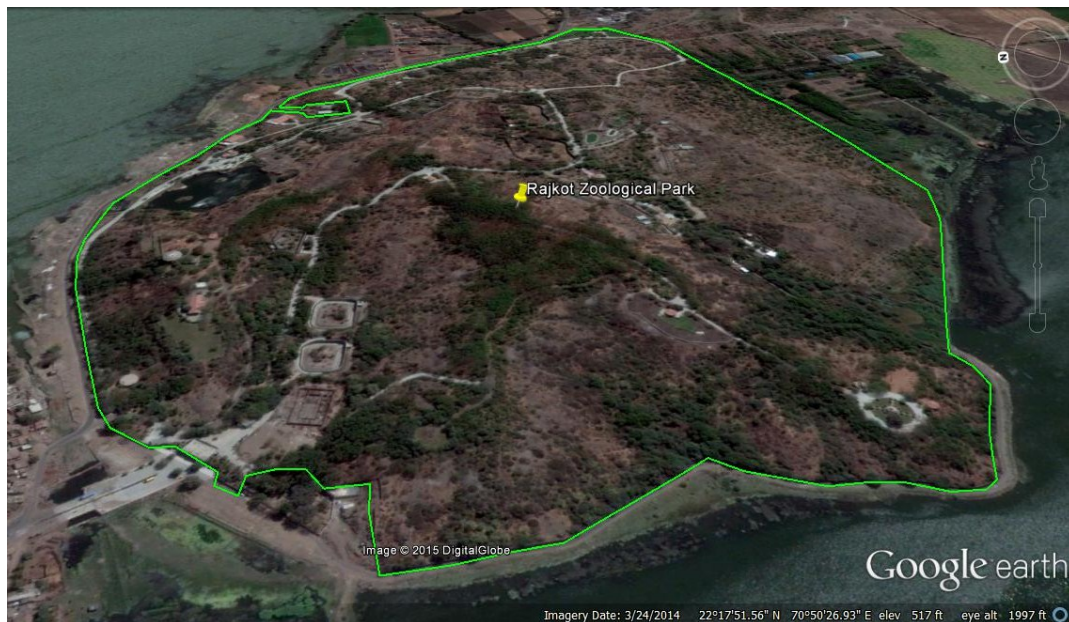
The site of the zoo is flanked by two huge lakes – Lalpari Lake on northern side and Randarda Lake on western side having no neighboring population. On the southern side, there is natural forest having no population. It is on the part of western side, connecting the main city there is some population but it is also separated by a vide - about 200 mtrs. Seasonal water stream is connecting the two aforesaid lakes. Thus there is no population adjacent to the boundary of the zoo, having no demographic pressure on the zoo.

However, from visitation point of view the zoo, there will always be sizeable no. of visitors through the years from local population of Rajkot city and the floating population of the city, because of its importance in the region.

Rajkot city is the biggest city of Saurashtra region having population of around 15 lacs and there are number of small to medium sized cities within 100 km radius. Important tourist locations in Rajkot city are Kaba Gandhi no delo, Mohandas Gandhi Vidhyalaya, Watson Museum, Swaminarayan Temple, Jubilee garden, Aji dam, Nyari dam, Ramakrishna Ashram, Doll museum, Bedinaka Tower etc.

There are numbers of other attractions for tourists coming from different parts of the countries and abroad, such as Girnar of Junagadh, Gir Lion Sanctuary and National Park – Sasan Gir, Wild Ass Sanctuary, Greater Run of Kutch, Hingolgadh, Jain Temples at Palitana, Porbandar, Chorwad Sea shore, Dwarka and Somnath temples.

Saurashtra University with its campus having 28 PG departments and 207 affiliated degree colleges has its campus at Rajkot. Rajkumar College, one of the British time public schools is located here. Besides these Medical College, Pharmacy colleges and number of Engineering/Technical colleges and B-Schools are located here.



Rajkot Zoological Park Satellite View

n. Legal Status of the Land

Rajkot Municipal Corporation is the legal owner of the land which has been allotted for development of Zoological Park vide Rajkot Municipal Corporation Standing Committee resolution No.750, dt.4/2/99. (Annexure - I)

o. Sources of Pollution

Rajkot Township is comparatively clean with very low level pollution. Sea shores being nearby it is a wind swept area and hence air pollution is very low. City by and large, due to good management of sanitation and drainage is neat and clean.



CHAPTER – 2

Appraisal of the Present Arrangement and Constraints

The old mini zoo at Aji dam was developed in unplanned manner and created some old fashioned enclosures, i.e. one Deer enclosure, a carnivore complex for Asiatic Lion, Bengal Tiger, Leopard and Himalayan Black Bear, one Crocodile enclosure & one small Aquarium.

The old mini zoo at Aji dam does not have any boundary wall and proper entrance gate to regulate the entry of public. Besides this, Aji dam area, due to water reservoir and adjoining Municipal garden attracts tourist and picnickers, without any regulation or entry fee. Therefore the old mini zoo also remains accessible for anybody to walk in at any time either day or night. The public park area also houses offices of irrigation and all India Radio (Doordarsan) and therefore the whole Aji dam campus remains open day and night.

The old mini zoo at Aji dam is accessible not only by unrestricted and regulated free entry of human visitors but also open to similar visits by quadrupeds like dogs and bovines. Though guards on duty chase them away but only after they are spotted, squatting near the animal enclosures. The entry of quadrupeds into the old mini zoo at Aji dam area makes the enclosed animals vulnerable to panic and communicable diseases.

The enclosures mentioned above are also out dated and do not fulfill the requirements and standards set by CZA. Also there is no space available for either expansion or modernizations.

Since, Lion enclosures and other animals enclosures of the old mini zoo at Aji dam are good from animal housing point of view (though not good from visitors point of view) and the Lions have been breeding therein, therefore a carnivore complex of the old mini zoo at Aji dam will be used as the Conservation Breeding Center of Asiatic Lion with CZA's approval.

The new Rajkot Zoological Park surrounded by natural habitat is now well established administrative structure and management that caters to the needs of animals housed and meets the expectation of visitors.

The fairly well laid out plan with broad theme of taxonomic basis depicting the existing enclosure, visitor's facilities, administrative building, veterinary hospital, and other infrastructure facilities are enclosed herewith as existing lay out plan (Annex -). The visitors route of 4.0 kms length is fairly streamlined with opportunity to see all displayed animals. The road for visitor has been made by inter lock paving block. At present there are 22 open moated enclosures.

A (i) Animal section

Animals welfare is the most essential and important part in Zoo Management. Animal's welfare comprises aspects like providing near natural habitat to perform their natural activities, its psychological health, meeting sexual requirements for reproduction, food/nutrition and health care for physical health and very important the minimal stress environment. Therefore Animal section is the most important section of any zoo. To meet the first requirement, existing natural landscape, topography and vegetation of zoo has been kept in mind to establish enclosures for different species depending upon their habitats. Additional enrichment is also provided to keep animal busy with some



Reptiles

natural activities and can live psychologically happy.

To meet the second requirement of sexual behavior, the animals have been kept at least in a pair, but preferably in socially accepted groups wherever possible. In order to look after the health of the animals, a diet chart for each spp., providing necessary quantity and nutrition has prepared and food distribution accordingly has be done under the care of veterinary officer. For treatment of ailing/injured animal high-tech veterinary hospital has been constructed in the premises besides providing squeezer cages within the animal house for in situ treatment. For important spp. for looking after the animals, there are keeping keepers on duty round the clock.



Primates

At present Zoo has following animal sections

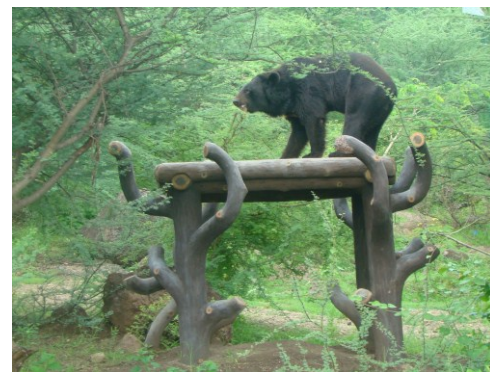
1. Carnivores section:
2. Omnivores section:
3. Herbivores section:
4. Reptile section:
5. Primate section:
6. Birds section:



Carnivores (Lion and Tiger)



Duck Pond



Omnivores



Herbivores



Primates

A (ii) Veterinary section

Among the basic requirements for maintenance of proper health of animals are adequate living space, nutritious diet, clean water, protection from extremes of weather, congenial environment, minimum stress and strain and proper sanitation.

A Hi-tech Veterinary Hospital, feed store & kitchen have been constructed and the Veterinary Hospital shall be equipped with all necessary equipment to make it a hi-tech hospital. A kitchen for mixing and preparing different types of animal diets, store rooms for storage of food items and a meat room have been constructed. The two veterinary officers (Including Zoo Superintendent) assisted by required Para-veterinary staff to take care of the health and nutritious food of the animals. For feed, a diet chart providing balanced and nutritious diet has been prepared and food is being supplied accordingly after proper check/examination by the Veterinary officer. In order to monitor the health of the animals, fecal collection is being carried out periodically on scheduled dates and examined to trace parasite infestation. Deworming and vaccination is being done regularly.



Veterinary Hospital

Facilities available at Veterinary Hospital

Veterinary hospital has the following facilities to meet the requirements of Health care management of captive wild animals.

Operation Theater and Treatment Room: The air conditioned Operation Theater and Treatment room are attached to the hospital is serving to treat and attend surgical operation of

captive wild animals. The equipments available in the operation theater and treatment room are Hydraulic Operation Table, Treatment table, Crash Cart trolley, dressing table, O.T. Light

(Shadow less), halogen focusing lamp, infrared lamp, I/V stands, animal stretcher, weighing machine, Pulse Oxymeter, Electrocautery, surgical equipments etc.

Sterilization cum preparation room:

Sterilization is an important part of treatment being provided to the captive wild animals. This small room is attached to the Operation Theater and Treatment room. All surgical equipment and tranquilizing equipment accessories are sterilized before using in hot water or autoclave. The equipments available in this room are Fumigator Disinfectant Machine, Bowel & Instrument Sterilizer, autoclave, Instrument sterilizer etc.

Ultra sound/ X-ray room: Hospital has facility of ultrasound cum X-ray room having small dark room for developing of X-ray film. Rajkot Zoological Park has no X-ray machine and Ultra Sound Machine till date but it is proposed to purchase.

Laboratory: A laboratory has basic facilities to conduct routine tests on daily basis. The air conditioned laboratory is having a Binocular Microscope, refrigerator, Centrifuge machine and all necessary chemicals and glass wares.



Operation Theater

Medicine & Equipment Room: The required quantity of veterinary medicines, which includes life saving drugs, emergency supplements, all necessary medicines, antibiotics, dressing materials, vaccines and nutritional supplements are stored in medicine room on ready to use basis.



Microscope



Centrifuge

Inpatient Isolation cum Quarantine Wards: The veterinary hospital has inpatient facility to house individually to provide necessary treatment and quarantine the animals. The inpatient ward has separate carnivore, herbivore, small cat and bird's room with squeeze cage facility for restraining and treatment of animals. For close observation and monitoring of sick or isolated animal, close circuit camera is also provided in this ward.

Tranquilizing Equipments: Chemical restraining is an important procedure for providing treatment, vaccination, shifting and crating of wild animals. Veterinary hospital is well equipped

Veterinary Section Activities:

- Routine observation of animal health, hygiene and breeding management
- Prophylactic measure to control viral and bacterial disease among animals and birds.
- Routine supplementation of mineral mixture, vitamins and other supportive medicines to promote good health and to reduce stress of the animals during different weather.
- Treatment of sick and injured wild animals in captive condition.
- Chemical restraining of wild animals for treatment, crating and shifting purpose.
- Handing rearing of rejected young ones and rescued animals/birds to avoid cannibalistic behavior of the mother.
- Monitoring and check up of all kind of food materials and drinking water for wild animals.
- All the data documentation of zoo section is made as per the guidelines of central Zoo Authority, New Delhi and maintained for reference.
- Animal Record keeping System software of ISIS is used for animal history recording and uploaded to ISIS website.

with tranquilizing equipments, accessories and drugs. The hospital has following tranquilizing equipments

- Tel Inject long range projectile Rifle model GUT-50 and their accessories.
- Dist Inject pneumatic short range projectile Gun model 30 and their accessories.
- Blowpipe and their accessories.

Post-Mortem examination room:

Constructed away from the veterinary hospital and inpatient ward. Facilitated with examination platform, focus lighting, proper ventilation and insect proofed.

CCTV unit : Day and night vision camera with recording and display unit is used for undisturbed round the clock monitoring of animal behavior during parturition and neonatal care of animals in dark room that markedly improved in successful breeding of Asiatic lion at old mini zoo at Aji dam.

A (iii) Store and Feed supply Section

This is an important section as far as animal diet is concerned. Storing of quality food, preparation and supply of food to all animals required lot of logistics. The clean, nutritious and safe diet goes a long way in maintaining the health and upkeep of animals. Feed store having two dry ration rooms, kitchen, fruit and vegetable storeroom, store keeper room and adjoining green fodder shed and butchery room.

In feed store following equipments are available:

- Large weigh equipment - 500 kg capacity
- Medium weigh equipment - 200 kg capacity
- Small weigh equipment - 40 kg capacity
- Gas stove - 1 Number
- Refrigerator - 2 Number
- Deep Freeze - 1 Number
- Fire Extinguisher - 1 Number

The feeding articles for the zoo animals are procured based on the E-tender contract for a period of one year. Apart from tender contract, some of the feed articles are received from the authorized Government agencies / societies such as milk from Amul Dairy, concentrate of deer from cattle feed factory, Bread from authorized bakery etc.

The food items supplied to the Zoo premises are checked for both quality as well as quantity. The feed is supplied in feeding troughs to different animal houses by food distribution van.



Food Store

A (iv) Sanitation and Solid Waste disposal

Sanitation is one of the most important activities in a zoo. As lot of solid and liquid wastes are generated every day from the animal enclosure as well as from elsewhere in the park, suitable arrangements to dispose these wastes on daily basis are very important to keep the park clean and pleasant. Hence following steps have been taken and necessary infrastructure developed to carry out cleaning activities.

- (1) Soak pits/drainage lines have been provided with each animal enclosure to take care of daily washing and cleaning of animal houses.
- (2) Solid Waste collected from animal enclosures and sweeping of road, are being collected in steel trash bins, placed at suitable places, which are being towed by municipal trucks and taken outside the zoo to be dumped at dumping places identified the municipal places.
- (3) Regular cleaning of roads and public toilets are being carried out.
- (4) Wheel barrows, raking shovels, spades, bill hook, axes and other instruments for cleaning the park have been provided.
- (5) Polythene and tetra packs are not being allowed to be carried by visitors inside the zoo.

Ban on usage of Plastics

In order to make Rajkot Zoo a Plastic free Zone, following measures have been initiated:

- Screening of plastic at the entrance to avoid visitors carrying plastic articles inside the zoo.
- Kiosks inside the zoo are prevented from using and selling plastic packed items and also serving food in plastic covers.
- Zoo staff and security are always alert to pick the plastic littered around by the public.
- Resolution has been passed and published in the News papers appealing not to use plastics inside zoo.
- Sufficient number of warning boards and signage prohibiting usage of plastic within the zoo premises are provided.

A (v) Maintenance Section

The maintenance section is one of the important sections in Rajkot Zoological Park which looks after sanitation, Maintenance, water distribution, electrification, new development works, etc.

The maintenance section is headed by Additional city engineer of Rajkot Municipal Corporation and is supported by Deputy Engineer, Assist. Engineer and work assistant.

Nature of Works :

- **Civil Works:** The Add. City engineer is overall head and responsible for the civil works, preparation of estimate, supervision and execution of work pertaining to construction of new enclosures according to animal habitats and guideline of CZA, New Delhi. Besides these, this section is also looks after the regular maintenance of all the animal enclosures, boundary wall, roads etc. to ensure safety for both the zoo animals and the visitors.
- **Water Works:** Water source is very important for Zoo management. Augment of water regularly to cater the zoo needs is somewhat a difficult task. Rajkot Zoo has made its own arrangement for raw water supply through water well, bore well and one Elevated Service Reservoir (ESR) with total storage capacity of 4.0 lacs liters to carry out the routine works like maintenance and development of lawn & garden, irrigation, plantation and new construction works.

A Ground Service Reservoir (GSR) of 5.0 lacs liters capacity and Elevated Service Reservoir (ESR) of 2.0 Lacs liters capacities have been constructed for both the zoo animals and the visitors for drinking purpose and cleaning of animal enclosures. The potable water is supplied by Rajkot Municipal Corporation through water line from city.

Maintenance of water distribution has been carried out by water works department of Rajkot Municipal Corporation.

- **Electrification works:** Development and maintenance of electric fittings are carried out by electric department of Rajkot Municipal Corporation.

A (vi) Security Section

Since the zoo area is quite big, it is important to keep the zoo property, animals, visitors and zoo staff safe and secure to enable the zoo function properly. Therefore separate security staff through contractual agency has been provided to keep 24 hrs vigils inside the zoo to prevent any untoward incident. In order to manage security, post of a security supervisor has been proposed in zoo staff who will be assisted by security guards working in shifts round the clock. Contractual arrangement has been explored for hiring the security guards from recognized security agency to minimize establishment cost.

The Zoo has utilized modern technology in security system operation. In order to have a closure look at activities in the Entrance gate, Booking Office, Parking, Service gate, veterinary hospital complex, important animal enclosures etc., CCTV cameras are installed and television Monitors are kept in the Chamber of Zoo Superintendent, veterinary officer and curator. This will help the authorities to ensure fool-proof and cent-percent security for the visitors as well as to the Zoo animals.

A (vii) Visitors Amenities

Provision of visitor amenities in a modern zoo is an essential part of the zoo planning in order to meet the visitor's biological requirements while spending time in going around the zoo. These requirements are hunger, thirst, attending nature call, fatigue and protection/shelter against scorching sun and rain. Lot of open space with greenery and lawns, sitting places, drinking water points with well-maintained toilets are must for the modern zoo. The facilities available for the visitors at Rajkot Zoological Park are depicted in the existing layout map. Following are the existing facilities listed here under.

- **Toilets and bathrooms:** Toilets and bathrooms for both men and women are available near entrance gate, Chausinga enclosure and Saptaparni Circle. These toilet facilities are outsourced to reputed agency on license fee basis with condition to maintain clean and hygienic condition.
- **Resting shed:** Five aesthetically designed resting sheds with benches and beautiful flower beds have been provided at different spots which are depicted in the existing layout map. Three historical shelters at different places are also available for visitors.
- **Drinking Water :** Cooled and filtered water facilities are provide near entrance, char choke, near Lion enclosure, Leopard enclosure, black buck enclosure, Sambar kiosk, children corner at Pramila circle and Saptaparni Circle.
- **Kiosk:** A Zoo restaurant outside the entrance gate and four suitably located small kiosks with drinking water facility inside the zoo have been provided for visitors.
- **Children Corner:** Children/infants constitute sizable part of the zoo visitors as they invariably not only accompany their parents to the zoo but also coax them to visit the zoo time and again. But they get tired physically and mentally much earlier than adults, and require

some kind of diversion and rest. With this end in view, two children corner have been provided at different suitable location in Zoo premises.

- **Signage:** Direction boards for the benefit of visitors, besides warning boards and animal information boards have been provided. The signage provides information on animal biology, distribution, food habits and their habitats.
- **First aid facility** to meet any untoward incident has been provided at entrance and Veterinary hospital for both visitors as well as Zoo staffs.
- **Parking stand** for parking of vehicles against payment of prescribed fee.
- **Brochure** containing Route Map and information about the Zoo.
- Eco friendly **battery operated vehicles** and **Cycles** services on payment
- **Clock Room** near Entrance gate for keeping Luggage.



Entrance and Ticket Window



Clock rooms



Rest huts



Battery Operated Vehicles



Toilets

A (viii) Lawns and garden – landscape section

Since lawns and gardens are an integral part of a zoological park to enhance its ambience from visitor's point of view, the zoo has developed lawns and gardens near places of visitor concentration like kiosks, resting sheds, back of the entrance gate and interpretation centre etc. Aesthetically planned terraced garden is also developed near the administrative block campus where there is ample space for this purpose.

Apart from garden maintenance, the garden section is also involved in maintaining general cleanliness of the zoo garden such as sweeping the gardens, trimming of branches, Topiary works, removal of unwanted plants and removing the debris.

Landscaping

Since the entire site of the Zoological Park is undulating, cut up with the rain water channels, wooded and strewn with boulders and rocks, there is hardly any necessity of landscaping inside the enclosures. Nothing can beat the natural landscape which is being fully utilized. However some areas near the entrance gate will need to be suitably landscaped and planted.

Constraint in Garden Section: Presently it is being well managed by Garden Superintendent of Rajkot Municipal Corporation. The vegetation at present is dominated by few species. We can go for several native and wild species so as to improve the diversity of the flora.



Garden landscapes and Pathway landscapes



B. Animal Collection Plan (existing)

The Rajkot Zoological Park is run by Municipal Corporation of Rajkot. As per guideline and design of animal enclosure approved by Central Zoo Authority, New Delhi, every year new animal enclosures have been constructed by Municipal Corporation and animals are acquired from other zoos under animal exchange programmed after permission from Central Zoo Authority.

The existing animal collection Plan of Rajkot Zoological Park

Mammals:

SR.	Name of Species	Scientific Name	BALANCE AS ON DT. 31/03/2018			
			Male	Female	U/S	Total
1	Lion Asiatic	<i>Panthera leo persica</i>	4	14	0	18
2	Tiger Bengal	<i>Panthera tigris tigris</i>	0	2	0	2
3	Tiger White	<i>Panthera tigris tigris</i>	1	6	0	7
4	Leopard	<i>Panthera pardus</i>	1	1	0	2
5	Hyena Stripped	<i>Hyena hyena</i>	2	2	0	4
6	Indian Wolf	<i>Canis lupus pallipus</i>	1	1	0	2
7	Jackal	<i>Canis aureus</i>	2	2	3	7
8	Fox Indian	<i>Vulpes bengalensis</i>	0	1	0	1
9	Himalayan Bear	<i>Selenarctos thibetanus</i>	1	1	0	2
10	Sloth Bear	<i>Ursus urnisus</i>	1	1	0	2
11	Samber	<i>Cervis unicolor</i>	9	7	0	16
12	Chausinga	<i>Tetracerus quadricornis</i>	0	0	0	0
13	Chinkara	<i>Gazella bennetti</i>	2	3	0	5
14	Spotted deer	<i>Axis axis</i>	6	6	1	13
15	Hog Deer	<i>Axis porcinus</i>	9	6	2	17
16	Black Buck	<i>Antelope cervicapra</i>	13	17	6	36
17	Black Buck White	<i>Antelope cervicapra</i>	2	1	2	5
18	Common Langur	<i>Presbytis entellus</i>	2	3	0	5
19	Bonnet Macaque	<i>Macaca radiate</i>	2	1	0	3
20	Rhesus Macaque	<i>Macaca mulatta</i>	4	5	0	9
21	Jungle Cat	<i>Felis chaus</i>	2	0	0	2
22	Porcupine	<i>Hystrix indica</i>	1	1	2	4
23	Common palm civet	<i>Paradoxurus hermaphroditus</i>	1	1	0	2
Total			66	82	16	164

Birds:

SR.	Name of Species	Scientific Name	BALANCE AS ON DT. 31/03/2018			
			Male	Female	U/S	Total
1	Great White Pelican	<i>Pelecanus onnocrotalus</i>	4	8	0	12
2	Dalmatian Pelican	<i>Pelecanus crispus</i>	1	2	0	3
3	Spot Billed Duck	<i>Anas poecilornyncha</i>	2	3	0	5
4	Emu	<i>Dromaius novaehollandiae</i>	1	1	1	3
5	Golden Pheasant	<i>Chrsolophus pictus</i>	1	1	0	2
6	Silver Pheasant	<i>Lophura nycthemera</i>	2	3	0	5
7	Ring neck Pheasant	<i>Phasianus colchicus</i>	2	2	0	4
8	Kalij Pheasant	<i>Lophura leucomelanos</i>	1	1	0	2
9	Lady Amherst pheasant	<i>Chrysolophus amherstiae</i>	2	2	0	4
10	Cockateil	<i>Nymphicus hollandicus</i>	15	15	16	46
11	Budgerigar	<i>Melopsittacus undulatus</i>	0	0	51	51
12	Great Horned Owl	<i>Bubo Bengalensis</i>	1	0	0	1
13	Ostrich	<i>Struthio camalus</i>	0	1	0	1
14	Red Jungle Fowl	<i>Gallus gallus</i>	2	2	0	4
15	Parakeet Alexandrine	<i>Psittacula eupatria</i>	4	4	0	8
16	Parakeet Rose Ring	<i>Psittacula krameri</i>	4	4	0	8
17	Whie Ibis	<i>Threskornis melanocephalus</i>	4	4	0	8
18	Heron Night	<i>Nycticorax nycticorax</i>	5	5	0	10
19	Cormorant Little	<i>Microcarbo niger</i>	3	3	0	6
		Total	54	61	68	183

Reptiles:

SR.	Name of Species	Scientific Name	BALANCE AS ON DT. 31/03/2018			
			Male	Female	U/S	Total
1	Crocodile Marsh	<i>Crocodylus palustris</i>	2	0	0	2
2	Gharial	<i>Gavialis gangeticus</i>	2	2	0	4
3	Star tortoise	<i>Geochelon elegans</i>	2	3	5	10
4	Cobra Indian	<i>Naja naja</i>	1	1	0	2
5	Indian Rock Python	<i>Python molurus</i>	2	2	0	4
6	Sand boa common	<i>Gongylophis elegans</i>	0	0	2	2
7	Snake Keelback	<i>Xenochrophis piscator</i>	2	2	0	4
		Total	11	10	7	28

C. General Zoo Administrative Section

Rajkot Zoological Park is managed by Rajkot Municipal Corporation of Rajkot. The commissioner of Rajkot Municipal Corporation is the highest administrative authority as far as the zoo is concerned. Deputy Municipal Commissioner is the supervisory authority. Zoo Superintendent is the supervisory and implementing authority of the zoo and is responsible for overall management of zoo.

The Zoo Superintendent has been vested with the disbursement power and hence deals with the entire zoo related expenditure and the contingencies arising if any.

There is a Curator who assists, the Zoo Superintendent in his supervisory role in the zoo to help in day-to-day administration.

Beside above one Biologist cum Education Officer is looking after animal observation-upkeep, research and education & awareness activity in the Zoo.

There is one post of Veterinary Officer who is posted and responsible for the up keep of the animal's health, disease control and over all hygiene of the zoo. He has been provided with veterinary assistant to attend his veterinary duties.

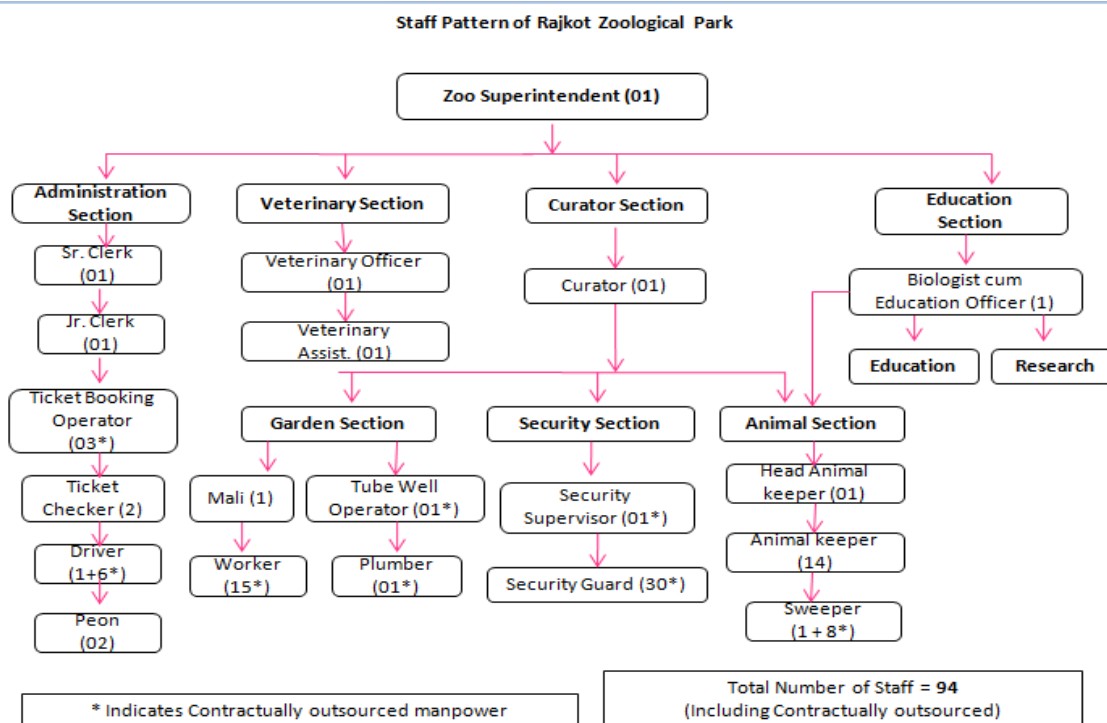
There are 14 Animal keepers assisted by one Head Animal keeper to look after the animals. Besides these, there is one full time sweeper to clean the buildings other than animal enclosures in zoo premises.

For office administration, there is one senior clerk, one junior clerk, one peon and one full time driver to meet office work.

Contract employees through agency:

The staffs which have no direct bearing on the up keep of animals have been outsourced to reduce financial burden on the zoo. Such categories of staff include security staffs, ticket booking operators, drivers for battery cars, sweepers, tube well operator and workers for miscellaneous work.

The organization structure of the Zoo is furnished in the chart given below:



D. Research

Rajkot zoo has very small animal collection. Zoo staff keeps records on different aspects of wild animal behavior, breeding, feeding, mating behavior, life span, habitat preference, parental behavior, nutrition, health and disease management maintained which is freely available to the zoo community and others.

The zoo is open for collaboration with any Research Institutes, Universities, Collage or any researcher to facilitate to conduct animal related research without causing any disturbance or discomfort to animals. One such study has been conducted by a student from a Saurashtra University, Rajkot to study Whisker pattern in Asiatic Lion and the findings have been sent to CZA vide letter no. RMC/ZOO/No.97, dated 15/05/2009.

Rajkot zoo has recently recruited Biologist cum Education Officer to carry out more research in field of animal wellbeing and to fulfill their natural requirements.

The Central Zoo Authority is sponsoring keepers training programme almost every year in different zoos and keepers sent in this programmes. Time to time, Veterinary Officer and other supervisory staff are being sent on training programmes also.



White Tiger at Rajkot Zoological Park

E Conservation Breeding

Rajkot zoo is selected as a participating zoo for planned coordinated conservation breeding program of Asiatic lion and has succeed in breeding this spp. At Rajkot zoo total 51 Asiatic lion cubs borne. Thus there is good pool of knowledge and experience of breeding of Asiatic Lion which will be continued as part of zoo under development. For this facility existing old mini zoo at Aji Dam has been maintained as breeding centre for Asiatic Lion.

The Central Zoo Authority (CZA) has made it mandatory for all the recognized zoos; vide its Rule 36 of Recognition of Zoo Rules, 1992 to



Lioness with Cubs



Curious Cub

undertake conservation breeding of endangered spp. Every zoo has to maintain a viable, genetically healthy population of each exhibited species. Since capture from the wild population is prohibited to replenish the depleted stock, therefore the zoo should breed its own stock to sustain the viable population of all exhibits.

Presently successful breeding is also achieved in Tiger, Sambar, Black buck, spotted deer, Hog deer, Bonnet Macaque, Rhesus Macaque etc., indicating the good management practices of Zoo.

F Education & Awareness

Rajkot Zoological Park carried out various education and awareness programs.

One Day Nature education Camp:

Every Thursday, the Zoo arranged one day nature education camp for students of various schools and colleges. It helps to create awareness about wildlife and to understand the Zoo management among the children. About 50 students and their teachers are allowed in each camp. Students are divided in two to three groups and they went on a track inside the Zoo. Volunteers plays major role here and they also learn many things. They are taken around and explained about the animals, their habitat, diet and interesting factors. The curriculum includes lectures, field visit, wildlife film show, quiz competition, painting, assay competition etc. The one day nature education camp for students is organized throughout year.



Wildlife Week: Every year “Wildlife Week” is being celebrated at the Zoo from 2nd to 8th October. As a part of the Celebration, Quiz, Painting, Assay competition etc are conducted.

Every student will get free entry during entire Wildlife Week.

Teachers Training Program: Zoo organized one day Teachers Orientation Program, to motivate teachers to impart knowledge on wildlife to the students.

Education officer is an essential part to fulfill such activities. In view of that Rajkot zoo has recently recruited **Biologist cum Education Officer** to carry out such activities.

G Any other activity of the Zoo

Animal Adoption: Zoo has introduced the Animal Adoption scheme during the Year 2008-09. Many animal lovers and institutions are coming forwards to contribute under Animal Adoption Scheme for noble cause of conservation of wildlife in captivity.

Details of Adoption received under “Friends of Zoo” Scheme are as under

Sr. No.	Year	No. of Animals	Individuals	Amount (In Rs.)
1	2008-09	31	17	34,438/-
2	2009-10	222	38	72,320/-
3	2010-11	05	04	2,131/-
4	2011-12	09	04	7,800/-
5	2012-13	10	08	14,779/-
6	2013-14	64	11	44,167/-
7	2014-15	42	09	45861/-
8	2015-16	11	09	17,400/-
	Total	394	100	2,38,896/-



Asiatic Lion Female at Rajkot Zoological Park

PART – 2

CHAPTER - III

Future Objectives

A modern zoo known as Rajkot Zoological Park is being set up in “Pradyumn Park” according to CZA guidelines and norms/standards. Endeavour will be made to make it one of the most modern and frontline zoological park of the country by utilizing the natural landscape/ambience of the site and incorporating the latest concepts in zoo designing.

Modern zoological parks, besides having inherent exhibition value of wild fauna, now shoulder additional responsibilities playing an important role to further the cause of wildlife conservation. It is a place where the visiting publics have an opportunity to learn about nature, natural history, eco-systems, wildlife and their conservation issues and also sensitize them to become nature lovers, leading to become conservationist.

The world zoo Conservation Strategy published in 1993 by the I.U.C.N. defined the role of zoos and aquariums in global conservation and concluded that zoos have a key role to play in species conservation. The Strategy affirms the need for zoos to co-operate in captive breeding programs and to convey to their visitors a global conservation message.

Recognizing the responsibility of zoos in wildlife conservation and to realize the goals set by CZA in National Zoo Policy 1998.

a. Vision

Instead of the age-old-exhibition and recreation values, zoos shoulder additional responsibility to act as nature conservation centers to further the cause of wildlife conservation. Zoos also have education value, where the visiting publics get an opportunity to learn about nature, natural history, eco-systems, wildlife and their conservation issues to get sensitized to become nature lovers, leading to become conservationist. Zoos are nature’s laboratories, offering ample opportunities to carry out research on animal health, nutrition, food, diseases, anatomy, physiology, inter and intra spp. behaviour, breeding biology and to make base line data pool of healthy spp. for clinical treatment of wild animals.

The world zoo Conservation Strategy of 1993 formulated by the I.U.C.N. has defined the role of zoos and aquariums in conservation of spp. globally and assigned to the zoo world, a key role to play in species conservation. The Strategy affirms the need for zoos to co-operate with each other, in captive breeding program and to convey to their visitors a global conservation message.

b. Mission

The modern zoos have to play multifarious roles of welfare of animals, nature conservation, nature education; insuring gene pool of endangered spp. etc, the mission of setting up new modern zoo at “Pradyuman Park” will take care of all these aspects.

Briefly stated the mission of the Rajkot Zoological Park would be

“Inspiring Love & Empathy for Wildlife amongst Public and Awareness for Nature Conservation”

c. Objectives

A modern zoo known as Rajkot Zoological Park is being set up in **“Pradyuman Park”** according to CZA guidelines and norms/standards. Endeavour will be made to make it one of the most modern and frontline zoological park of the country by utilizing the natural landscape/ambience of the site and incorporating the latest concepts in zoo designing.

Modern zoological parks, besides having inherent exhibition value of wild fauna, now shoulder additional responsibilities playing an important role to further the cause of wildlife conservation. It is a place where the visiting publics have an opportunity to learn about nature, natural history, eco-systems, wildlife and their conservation issues and also sensitize them to become nature lovers, leading to become conservationist.

The world zoo Conservation Strategy published in 1993 by the I.U.C.N. defined the role of zoos and aquariums in global conservation and concluded that zoos have a key role to play in species conservation. The Strategy affirms the need for zoos to co-operate in captive breeding programs and to convey to their visitors a global conservation message.

Recognizing the responsibility of zoos in wildlife conservation and to realize the goals set by CZA in National Zoo Policy 1998, the future objectives of the Rajkot Zoological Park, being setup will be as follows;

1. The main objective of the zoo shall be to complement and strengthen the national efforts in conservation of the rich biodiversity of the country. Particularly the local wild fauna.
2. To support the conservation of endangered species through coordinated breeding under *ex-situ* conditions and raise stocks for rehabilitating them in wild as and when it is appropriate and desirable.
3. To inspire amongst zoo visitors empathy for wild animals, an understanding and awareness about the need for conservation of natural resources and for maintaining the ecological balance.
4. To provide opportunities for scientific studies useful for conservation in general and creation of data base for sharing between the agencies involved in *in-situ* and *ex-situ* conservation.
5. Besides the aforesaid objectives, the zoos will function as rescue center for orphaned wild animals, subject to the availability of appropriate housing and upkeep infrastructure.

Strategy to achieve Stated Objectives

- Display of animals as an ambient, aesthetic and near- natural simulated habitat, making conditions favorable for their natural behaviour and satisfying biological needs.
- Designing enclosures based on immersion concept for the benefit of exhibit and visitor experience.
- Providing satisfying experience through modern exhibit design and well run visitor services i.e. toilet facilities, resting shed, souvenir shop, cloak room, wheel chairs, parking, battery car, cycle etc.
- Providing larger space for each species to keep them in appropriate social groups for their natural needs and emotional support leading to success in breeding and rising off sprigs for future needs.
- Ensuring high standards of animal health, species specific diet which is similar to as in nature, hygiene and providing expert veterinary care.
- Taking up captive conservation breeding programme in collaboration with identified zoos by CZA for benefit of the conservation of endangered species in captivity.
- Designing an education programme for visitors to the zoo, to familiarize and educate them with what they are going to see as exhibits in the zoo and their role & importance in maintaining equilibrium in the nature so essential for human existence.
- Sensitizing visitors to develop sympathy towards animal and plant life, for their protection and propagation, by educating them about the interdependence of each other and linkage with survival of humans.
- Encouraging students of life sciences to avail opportunities of research by making use of facilities available in the zoo.
- Designing in-reach/outreach programmes for schools and colleges to spread message of nature conservation amongst students and teachers, enlisting their support for this global endeavor.
- Training of all zoo staff, involved in various activities of zoo, organized by CZA at intervals in various zoos for creating trained man power and at institute/college and local level is so essential for proper management of the zoo.

d. Theme

The most distinctive feature of a zoo is its display of live animals. The display has to be educative in an informal way. The display should not only show the animal but also convey something about its habitat, its natural habits and behaviour. The emphasis, therefore, should be on naturalistic display of animals. Closely linked with the display of animal collection is the theme of display or grouping of animals for educational purpose so that the animals can be understood in a broader context. The possible themes include display of animals according to:

1. Taxonomic grouping
2. Zoo geographical distribution
3. Ecological communities

Keeping in view and fully utilizing the natural attribute of site available suiting the biological needs of the exhibit and also the ease of day-to-day management and visitor experience, Rajkot Zoological Park will display its collection of animals based on combination of Taxonomic and zoo geographical themes.



Duck Pond view...

PART – 2

CHAPTER - IV

Future Action Plan

i. Proposed animal collection plan

a. Criteria for Selection of Species

Contrary to the belief that the importance of a zoo is judged by the number of species it has in its collection, there is now greater emphasis on the quality of display rather than the number of exhibits.

The criteria for selection of species in a zoo are based on following considerations;

1. The area and layout of the zoo.
2. Climate of the region where the zoo is located.
3. Availability of Species
4. Theme of display.
5. Design of enclosures.
6. Educational and awareness activities envisaged.
7. Visitors Community to be served.
8. Financial and infrastructure constraints.

On the basis of these criteria, the Rajkot Zoological Park will give preference to Indian animals and birds suitable for the local climate followed by a few representative species from

- Australia,
- South America and
- Africa

Number of species to be displayed at the proposed zoo has been shown in the layout plan, approved by CZA (Annexure - V) and also compiled and appended in animal collection plan.

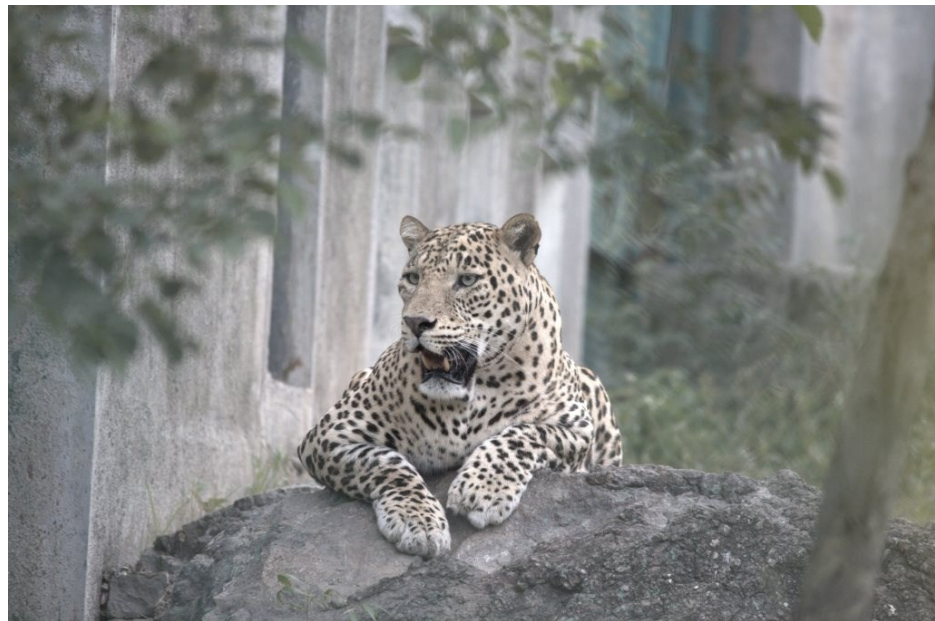
Care has been taken to select only those species which can be procured from other zoos of the country without any difficulty. Issues like existing infrastructure, technical and non-technical manpower, financial implications have also been taken care of, while deciding priority of animals to be procured.

b. Justification for Endangered Spp.

Since Rajkot Zoological Park is being setup in the most natural setting available at the site, combining latest concepts of zoo designing, aided and guided by CZA and also providing highest order of Nutrition health & Veterinary care with a high-tech veterinary hospital and a trained man power, it should be possible to breed in captivity the endangered species shown in the collection plan, for which all out efforts will be made. Modern zoos are now being mandated for conservation breeding and based on the past experience of breeding

Asiatic Lion. Rajkot Zoological Park has been made a participating zoo for conservation breeding of Asiatic Lion by CZA under its conservation breeding program.

Furthermore, if any other endangered spp. breeding is desired by CZA, Rajkot Zoological Park will accept this responsibility with pleasure, sincerity and commitment to fulfil this objective.



**Proposed Animal Collection Plan of Rajkot Zoological Park
(As per captive facilities approved in Lay out plan)**

Mammals

Sr. No	Species	Present stock with the Zoo				Proposed Collection				Animals to be acquired / removed				Remarks
		M	F	U	T	M	F	U	T	M	F	U	T	
1	Asiatic Lion	1	3	0	4	2	3	0	5	1	0	0	1	For Display
		4	10	0	14	2	5	0	7	-2	-5	0	-7	For Breeding
2	Tiger	0	2	0	2	2	2	0	4	2	0	0	2	
3	Leopard	1	1	0	2	2	2	0	4	1	1	0	2	
4	White tiger	1	6	0	7	2	2	0	4	1	-4	0	-3	
5	Jaguar	0	0	0	0	1	2	0	3	1	2	0	3	
6	Wild Dog	0	0	0	0	2	3	0	5	2	3	0	5	
7	Jackal	2	2	3	7	2	3	0	5	0	1	-3	-1	
8	Wolf	1	1	0	2	2	3	0	5	1	2	0	3	
9	Fox	0	1	0	1	1	2	0	3	1	1	0	2	
10	Hyena	2	2	0	4	2	2	0	4	0	0	0	0	
11	Common Indian otter	0	0	0	0	2	3	0	5	2	3	0	5	
12	Jungle Cat	1	1	0	2	1	2	0	3	0	1	0	1	
13	Leopard Cat	0	0	0	0	2	2	0	4	2	2	0	4	
14	Common Palm Civet (Toddy Cat)	1	1	0	2	2	2	0	4	1	1	0	2	
15	Sloth bear	1	1	0	2	2	2	0	4	1	1	0	2	
16	Himalayan black bear	1	1	0	2	1	2	0	3	0	1	0	1	
17	Black buck	12	17	7	36	8	12	0	20	-4	-5	-7	-16	
18	Black buck White	2	1	2	5	2	4	0	6	0	3	-2	1	
19	Four horned antelope	0	0	0	0	3	7	0	10	3	7	0	10	
20	Chinkara	2	3	0	5	3	7	0	10	1	4	0	5	
21	Sambar	8	8	0	16	6	9	0	15	-2	1	0	-1	
22	Spotted deer	6	6	1	13	8	12	0	20	2	6	-1	7	
23	Hog deer	9	6	2	17	5	5	0	10	-4	-1	-2	-7	
24	Wild ass	0	0	0	0	2	2	0	4	2	2	0	4	
25	Rhinoceros	0	0	0	0	1	2	0	3	1	2	0	3	
26	Kangaroo	0	0	0	0	3	5	0	8	3	5	0	8	
27	Wallaby	0	0	0	0	3	5	0	8	3	5	0	8	
28	Rhesus macaques	4	5	0	9	2	4	0	6	-2	-1	0	-3	
29	Bonnet macaques	2	1	0	3	2	4	0	6	0	3	0	3	
30	Common Langur	2	3	0	5	2	3	0	5	0	0	0	0	
31	Baboon – Mandrill /Olive etc spp.	0	0	0	0	2	3	0	5	2	3	0	5	

Sr. No	Species	Present stock with the Zoo				Proposed Collection				Animals to be acquired / removed				Remarks
		M	F	U	T	M	F	U	T	M	F	U	T	
32	Baboon – Hamadryas /Chacma etc. spp.	0	0	0	0	2	3	0	5	2	3	0	5	
33	Chimpanzee	0	0	0	0	1	2	0	3	1	2	0	3	
34	Indian Hare	0	0	0	0	2	3	0	5	2	3	0	5	Small Animals
35	Mongoose spp.	0	0	0	0	2	3	0	5	2	3	0	5	
36	Hedge hog	0	0	0	0	2	3	0	5	2	3	0	5	
37	Indian porcupine	1	1	2	4	2	3	0	5	1	2	-2	1	Nocturnal house
38	Common Yellow Bat	0	0	0	0	3	3	0	6	3	3	0	6	
39	Bearded Sheath Tailed Bat	0	0	0	0	3	3	0	6	3	3	0	6	
40	Indian Flying Fox	0	0	0	0	3	3	0	6	3	3	0	6	
	Total	64	83	17	164	102	152	0	254	38	69	-17	90	

Birds

Sr. No	Species	Present stock with the Zoo				Proposed Collection				Animals to be acquired / removed				Remarks
		M	F	U	T	M	F	U	T	M	F	U	T	
1	Great White Pelican or Rosy pelican	4	8	0	12	6	12	0	18	2	4	0	6	Duck Pond Birds
2	Dalmatian Pelican	1	2	0	3	3	6	0	9	2	4	0	6	
3	Spot billed Pellican	0	0	0	0	3	6	0	9	3	6	0	9	
4	Spot billed duck	2	3	0	5	7	8	0	15	5	5	0	10	
5	Cormorant	3	3	0	6	3	5	0	8	0	2	0	2	
6	Darter	0	0	0	0	2	4	0	6	2	4	0	6	
7	Pin tail duck	0	0	0	0	2	4	0	6	2	4	0	6	
8	King fisher	0	0	0	0	2	4	0	6	2	4	0	6	
9	Brahmy Duck	0	0	0	0	3	6	0	9	3	6	0	9	
10	Comb Duck	0	0	0	0	4	8	0	12	4	8	0	12	
11	Grebe	0	0	0	0	4	4	0	8	4	4	0	8	
12	White stork	0	0	0	0	2	4	0	6	2	4	0	6	Marsh Land Birds
13	Adjutant stork	0	0	0	0	2	4	0	6	2	4	0	6	
14	Spoonbill White	0	0	0	0	3	6	0	9	3	6	0	9	
15	Painted stork	0	0	0	0	2	4	0	6	2	4	0	6	
16	Black necked stork	0	0	0	0	2	4	0	6	2	4	0	6	
17	White ibis	4	4	8	0	4	8	0	12	0	4	0	4	
18	Black ibis	0	0	0	0	2	4	0	6	2	4	0	6	
19	Scarlet ibis	0	0	0	0	3	6	0	9	3	6	0	9	
20	Cattle egret	0	0	0	0	2	4	0	6	2	4	0	6	
21	Little egret	0	0	0	0	4	6	0	10	4	6	0	10	
22	Inter mediate egret	0	0	0	0	2	4	0	6	2	4	0	6	
23	Large egret	0	0	0	0	2	4	0	6	2	4	0	6	
24	Pond heron	0	0	0	0	4	6	0	10	4	6	0	10	

Sr. No	Species	Present stock with the Zoo				Proposed Collection				Animals to be acquired / removed				Remarks
		M	F	U	T	M	F	U	T	M	F	U	T	
25	Night heron	5	5	0	10	5	5	0	10	0	0	0	0	
26	Black Swan	0	0	0	0	2	4	0	6	2	4	0	6	
27	Sarus crane	0	0	0	0	2	4	0	6	2	4	0	6	
28	Demoiselle crane	0	0	0	0	2	4	0	6	2	4	0	6	
29	Common crane	0	0	0	0	2	4	0	6	2	4	0	6	
30	Golden pheasant	1	1	0	2	2	4	0	6	1	3	0	4	Pheasantry
31	Silver pheasant	2	3	0	5	2	4	0	6	0	1	0	1	
32	Lady Amherst pheasant	2	2	0	4	2	4	0	6	0	2	0	2	
33	Yellow Golden pheasant	0	0	0	0	2	4	0	6	2	4	0	6	
34	Ring necked pheasant	2	2	0	4	2	4	0	6	0	2	0	2	
35	Kalij Pheasant	1	1	0	2	2	4	0	6	1	3	0	4	
36	Grey Jungle Fowl	0	0	0	0	2	4	0	6	2	4	0	6	
37	Red Jungle Fowl	2	2	0	4	2	4	0	6	0	2	0	2	
38	Plum headed parakeet	0	0	0	0	2	4	0	6	2	4	0	6	Parrot
39	Rose ringed parakeet	4	4	0	8	4	8	0	12	0	4	0	4	
40	Blossom headed parakeet	0	0	0	0	4	8	0	12	4	8	0	12	
41	Rose breasted Headed	0	0	0	0	4	8	0	12	4	8	0	12	
42	Alexandrine Parakeet	4	4	0	8	4	8	0	12	0	4	0	4	
43	Eclectus parrot	0	0	0	0	2	4	0	6	2	4	0	6	
44	African Grey Parrot	0	0	0	0	2	4	0	6	2	4	0	6	
45	Sulphur crested cockatoo	0	0	0	0	2	4	0	6	2	4	0	6	
46	Blue and yellow macaw	0	0	0	0	2	2	0	4	2	2	0	4	Aviary
47	Scarlet macaw	0	0	0	0	2	2	0	4	2	2	0	4	
48	Cockatiel	15	15	16	46	15	20	0	35	0	5	-16	-11	
49	Spotted dove	0	0	0	0	4	6	0	10	4	6	0	10	
50	Budgerigar	0	0	0	51	15	20	0	35	00	0	-16	-16	
51	Crown pigeon	0	0	0	0	4	6	0	10	4	6	0	10	
52	Munia spotted	0	0	0	0	4	6	0	10	4	6	0	10	
53	Munia red	0	0	0	0	4	6	0	10	4	6	0	10	
54	Munia black headed	0	0	0	0	4	6	0	10	4	6	0	10	
55	Grey partridge	0	0	0	0	4	6	0	10	4	6	0	10	Walk in Aviary
56	Indian Grey Horn Bill	0	0	0	0	2	2	0	4	2	2	0	4	
57	Indian Great Horn Bill	0	0	0	0	2	2	0	4	2	2	0	4	
58	Tree pie	0	0	0	0	4	6	0	10	4	6	0	10	
59	Bulbul	0	0	0	0	4	6	0	10	4	6	0	10	
60	Babbler	0	0	0	0	4	6	0	10	4	6	0	10	
61	Sun conure	0	0	0	0	4	6	0	10	4	6	0	10	
62	Bank myna	0	0	0	0	4	6	0	10	4	6	0	10	

Sr. No	Species	Present stock with the Zoo				Proposed Collection				Animals to be acquired / removed				Remarks
		M	F	U	T	M	F	U	T	M	F	U	T	
63	Barn owl	0	0	0	0	2	2	0	4	2	2	0	4	Nocturnal house
64	Scoops owl	0	0	0	0	2	2	0	4	2	2	0	4	
65	Spotted owlet	0	0	0	0	2	2	0	4	2	2	0	4	
66	Great horned owl	0	1	0	1	2	2	0	4	2	1	0	3	
67	Flamingo	0	0	0	0	6	9	0	15	9	6	0	15	
68	Indian peafowl	0	0	0	0	2	4	0	6	2	4	0	6	
69	White peafowl	0	0	0	0	2	4	0	6	2	4	0	6	
70	Emu	1	1	0	2	2	4	0	6	1	3	0	4	
71	Ostrich	0	1	0	1	2	4	0	6	2	3	0	5	
Total		53	62	17	183	230	379	0	609	165	294	-33	426	

Reptiles

Sr. No	Species	Present stock with the Zoo				Proposed Collection				Animals to be acquired / removed				Remarks
		M	F	U	T	M	F	U	T	M	F	U	T	
1	Marsh crocodile	1	1	0	2	2	4	0	6	1	3	0	4	
2	Gharial	2	2	0	4	2	4	0	6	0	2	0	2	
3	Star tortoise	2	3	5	0	4	6	0	10	2	3	-5	0	Small animal house
4	Monitor lizard	0	0	0	0	2	3	0	5	2	3	0	5	Small animal house
5	King cobra	0	0	0	0	2	2	0	4	2	2	0	4	Reptile House
6	Cobra	1	1	0	2	2	3	0	5	1	2	0	3	
7	Common krait	0	0	0	0	2	3	0	5	2	3	0	5	
8	Russell's viper	0	0	0	0	2	3	0	5	2	3	0	5	
9	Saw scaled viper	0	0	0	0	2	3	0	5	2	3	0	5	
10	Checkered kill back	2	2	0	4	2	3	0	5	0	1	0	1	
11	Vine snake	0	0	0	0	2	3	0	5	2	3	0	5	
12	Common Sand boa	1	1	0	2	2	3	0	5	1	2	0	3	
13	Rat snake	0	0	0	0	2	3	0	5	2	3	0	5	
14	Banded racer	0	0	0	0	2	3	0	5	2	3	0	5	
15	Trinket snake	0	0	0	0	2	3	0	5	2	3	0	5	
16	Python	2	2	0	4	2	3	0	5	0	1	0	1	
17	Iguana	0	0	0	0	2	2	0	4	2	2	0	4	
18	Turtles	0	0	0	0	5	5	0	10	5	5	0	10	Turtle enclosure
Total		11	12	5	28	41	59	0	100	30	47	-5	72	

Grand Total Species					
Sr. No.	Particulars	Present	Addition	Deletion	Proposed
1	Mammals	23	17	0	40
2	Birds	19	52	0	71
3	Reptiles	7	11	0	18
Total		49	80	0	129



Indian Rhinoceros



Chimpanzee



Sarus Crane



Scarlet macaw



King Cobra



Iguana

ii. Description of the layout plan

The layout map for Rajkot Zoological Park has been prepared on the contour map of 1:1000 scales after surveying and covering the whole area (55.37 ha.) of the Pradyumn Park. This layout plan shows contour interval even less than 1 mtr. at steep slopes showing clearly the undulating topography of the area which has been very helpful in planning the location of various animal enclosures, roads and paths and other allied infrastructure for the zoo. The map also marks clearly water bodies, precipitous rocky slopes, natural drainage and slopes, natural vegetation, existing roads, electric lines and picnic spots built by previous owners of this land - The Maharaja of Rajkot.

While preparing the layout plan over the aforesaid contour map, due care has been taken to locate animal enclosures, on sites similar to the habitat of particular spp. Visitors roads/paths have been provided to insure best possible circulation of visitors following easiest possible gradient. Scales of the map and north direction have been clearly marked on the layout plan. The proposed zoo area drains into two adjoining lakes Lalpari and Randarda, which have been shown in the layout plan. Visitor's amenities like toilets, kiosks, drinking water facilities etc have been marked.

Entrance cum Booking office, parking zones for vehicles and approach road to the city marked clearly in the layout plan. Location for administrative building (Zoo Office), Veterinary hospital, store & kitchen, P.M. room and visitor centre (interpretation & education centre) have also been clearly marked on the layout plan.

In compliance of this CZA's initiative a draft Master plan along with Layout plan was prepared and submitted to CZA. The Layout plan was scrutinized by the expert Group of Zoo Designing of CZA in the meeting held on 1st March, 2013 and subsequently approved in the 65th meeting of the Technical Committee held on 22nd March, 2013. Copy of approved revised Layout plan is enclosed as Annexure - V to this Master plan, which has been updated and revised according to approved Layout plan. The revised Master plan takes effect from the financial year 2014-15 and will covers 10 years period until 2023-24 as Phase I. Phase II will cover period from 2024-25 to 2033-34. The works completed till 2013-14 have been marked with black color hatching, while the proposed ones for future are marked with blue color.

Proposed Conservation Breeding Center and Rescue Center will be developed in the area where erstwhile old Aji dam Zoo existed.

Electricity supply

For supplying power to Veterinary Hospital, Store, Booking Office, Administrative Office, Toilets, Kiosks, animal houses and roads (Masked lamps), electricity has been taken from city supply by installing two sub stations, outside the boundary of the zoo, exclusively for use of Zoological Park. Internal under ground supply lines have been laid as and where necessary, as shown in the Layout plan appended as Annexure – VI.

Besides this, solar panels have been installed to energize hot wires on the enclosures, and to supplement electric supply at entrance gate, Admin office and roads.

Water Supply System

For providing potable drinking water to the visitors, animals and also for daily cleaning the animal houses, municipal water from Rajkot city supply has been provided by constricting two storage tanks inside zoo premises, storing 7 lacs cubic liters of water. For internal distribution of water, network of pipelines has been laid out in the zoo area as shown in the layout plan appended as Annexure – VII.

In order to irrigate the lawns, Gardens and Plants etc, separate water supply system has been provided with an over head tank (Capacity of 4 lacs cubic liters), where water is drawn adjoining Lalpari Lake, which is a clean lake and water is drawn from this lake for city supply.

Drainage

The whole zoo area is undulating and hilly and it drains naturally into surrounding lakes viz. Lalpari Lake and Randarda Lake. While planning/designing the zoo, constructing encls and laying of roads etc, care has been taken not to disturb the natural drainage of the area and outlets for flowing rain water have been provided at suitable places in the boundary wall to let the water flow out. Therefore, neither separate drainage pipes/drains were necessary nor laid out.

iii. Proposal to Address the Inadequacies/Shortcoming, Identified in the Appraisal Report

Since the area selected for setting up Rajkot Zoological Park, is quite adequate (55.37 ha.), vegetated, well drained, undulating and full of rocky outcrops & boulders maximum care has been taken while preparing the Layout plan to utilized the full potential of the natural features of the area. All attributes and requirements of a modern zoological park have been provided in the layout plan which has been approved by CZA.

However the salient aspects of the inadequacies identified in the zoo are as follows;

Lack of adequate trained personnel:

Sufficient numbers of trained personnel are necessary for the animal section to look after the animals in the zoo. Zoo will appoint trained and experienced personnel against the identified posts, which will serve the purpose.

Veterinary Section:

It is proposed to purchase diagnostic and surgical equipments in veterinary hospital as per requirements.

Security Section:

- More number of CCTV Camera to be installed at important locations to improve the effectiveness of security system.
- VHF sets will be made available to the security guards to improve communications amongst themselves and with the security supervisor as well as zoo director to muster additional man power in the event of any emergency.
- Mock drills will be carried out for preparing the security as well as other zoo staff for meeting any security threat.
- Watch tower with spot light will be erected at vulnerable points along the boundary to eliminate the possibility of entry crossing the walls.

- Warning system using modern technology will be installed.

Garden Section:

Presently it is being well managed by Garden Superintendent of Municipal Corporation of Rajkot City. The vegetation at present is dominated by few species. We can go for several native and wild species so as to improve the diversity of the flora. As far as possible all the open spaces must be covered with some vegetation.

- It is proposed to appoint Garden supervisor for proper maintenance.
- The Garden would be enriched with attractive fountains with cascades, with a pool of water, with aquatic plants.

Research and study:

- Priority shall be given to the issues like Breeding, effect of enrichment on improving natural behavior etc.

Visitor amenities:

- The existing signage boards shall be more attractive, interactive and informative and technical help of organization like Center for Environment Education shall be taken to improve the signages.
- Proper and prominent direction boards would be put up at all the turnings to guide the visitors and a flow of visitors in one direction. Unnecessary confusion due to roads opening in all direction shall have to be reduced by placing proper direction boards.
- Brochures / Booklets / CD's containing more information on wildlife should be prepared and made available to the visitors, free of cost or at nominal rate.
- All the existing drinking water points should be reconstructed with sleek designs and water cooler and purifiers.

Conservation Education Programme:

This is very important responsibility, casts upon the zoos according to The World Zoo Conservation Strategy adopted by CZA of India in its zoo policy. The program aims not only to showcase the living specimen of wild fauna in their cages, but also to educate the visitors in particular and through them spread the message of the importance of wild creatures, their habitat and necessity to preserve them to maintain equilibrium in natural systems, which are in turn essential for the existence of mankind themselves. Zoo offer unique opportunity for this purpose because zoos provide easiest and cheapest mode of human interface with wild creatures. How it will be done in Rajkot Zoological Park is summarized below.

Interpretation Centre (Visitor Centre)

Rajkot Zoological Park has constructed the Interpretation Center in this year i.e. 2014-15. This is the place where most of the educational activities will be carried out. This Centre should be suitably designed and located near entrance of the zoo.

Interior enrichment work of the Interpretation centre like Glance at the Zoo, Panorama of Gir and Girnar, Panorama of Kutch, Mammals gallery, Birds gallery, Reptile gallery etc by models of animals/birds (fiber glass/POP), paintings and charts with relevant information of the spp., should be exhibited to enable the visitor to have close look. Audio-visual facility for showing video films on wildlife and nature conservation and also for talks/lectures on related subjects should be provided. Digital touch screen facility for disseminating knowledge regarding animals/birds, exhibited inside the zoo should be provided. Themes like animal adaptations behaviour, reproduction, nutrition, food habits and complex subject like- evolution and ecology, food chain, conservation issues should also be explained in the centre. To enhance visitor's knowledge researched information from this zoo as well as other zoos should be displayed in the form of data charts in the centre.

Biologist cum Education officer is recruited in the zoo. He shall be in-charge of the interpretation cum education centre to conduct different education programmes by developing information system at the booking counter to inform the visitors regarding educational programs for the day to be conducted at interpretation cum education centre.

The aim of the education should include following aspects;

1. It should create excitement, enthusiasm and interest amongst visitors about the nature and its creations.
2. It should make them understand the importance of other living beings in the nature, for human survival.
3. It should encourage understanding of conservation issues and visitor's individual roles in them.
4. It should enlist public support and action to address conservation concerns at various levels.
5. It should encompass clear message to convert the community from destroyer of the nature into savior of nature.
6. It should sensitize researchers to realize that zoo provides unique opportunity for scientific studies, relevant to breeding, nutrition, animal diseases & cures, behaviorology and create data base for in-situ & ex-situ conservation.

During the education program following aspects of wildlife related knowledge will be covered by oral talks, trophies, painting of animals/birds, wildlife films, Signage, charts and models & with audio visual aids.

Biological Information

- Identification of spp.
- Food & Nutrition
- Life cycle
- Intra and inter- spp. behavioral pattern - herd / solitary habit etc.
- Living habits- arboreal/ terrestrial/ burrowing / aquatic, swimming and running capability etc.
- Importance of each spp. in maintaining equilibrium in nature.

Habitat Information

- Captive habitat- type of enclosure - its area, enrichment and type of barrier used etc.
- Natural habitat- present status and restorative methods
- Geographical distribution
- Temperature regimes
- Water regime

Population Status

- Abundant
- Normal
- Rare
- Endangered
- Critically endangered

Bio-Diversity Conservation

- Concept of food chain/pyramid
- Maintenance of equilibrium in nature
- Interdependence of spp.
- Life support systems

Rescue Facility:

One of the objectives of zoo is to function as rescue centre for locally injured wild birds and animals and rescued animals by the forest department and local NGO. The Rescue Center is facility where such animals are kept either for whole life or to be released back in the wild or to supplement the zoo population.

Rajkot city is situated in the centre of Saurashtra region and wild birds and animals which have been rescued by Gujarat Forest Department are brought from adjoining districts to zoo. Therefore it will be necessary to shoulder these responsibilities as envisaged in zoo policy. For this purpose, Rescue Facility for housing most commonly rescued animals/ birds from this area like Black buck, Blue bull, Jackal, fox, Wild cat, Mongoose, Monitor lizard, Porcupine, Star Tortoise, Turtles, Monkeys, Snakes and birds like Pelican, Cranes, Stork, Owls etc will be created near old Aji dam zoo area.



CHAPTER - V

Personnel Planning

In order to achieve the stated objectives in a modern zoo as per the guidelines of CZA, adequate and trained staff will have to be provided. According to the plan the requirement of the staff has been worked out and appended as under.

Present and Proposed Staff for Rajkot Zoological Park, Rajkot

Sr. No.	Name of Post	Post Sanctioned	Post filled up	Proposed
Permanent / Regular employees				
1	Zoo Director	1	1	1
2	Dy. Director	0	0	1
3	Veterinary Officer	1	1	2
4	Curator	1	1	1
5	Biologist cum Education Officer	1	1	1
6	Senior Clerk	1	1	1
7	Junior Clerk	1	1	2
8	Peon	2	2	2
9	Ticket Booking Operator	3	3	4
10	Veterinary Assistant	1	1	2
11	Lab. Technician	0	0	1
12	Store keeper	0	0	1
13	Cook	0	0	3
14	Food Distributor	0	0	4
15	Attendant	0	0	1
16	Park supervisor	0	0	1
17	Garden supervisor	0	0	1
18	Sanitation supervisor	0	0	1
19	Education Assistant	0	0	1
20	Education Guide	0	0	1
21	Head Animal Keeper	1	1	1
22	Animal Keeper	14	14	18
23	Driver (For Office & Field)	1	1	2
24	Sweeper for office	1	1	1
	Total – A	29	29	54

Contractually outsourced employees through agency				
25	Sweeper (For encl, road, Garden)	8	8	18
26	Computer Operator	0	0	1
27	Ticket Checker	2	2	2
28	Driver for battery cars	6	6	8
29	Mali	1	1	4
30	Electrician	0	0	1
31	Plumber	1	1	1
32	Tube well Operator	1	1	1
33	Carpenter cum welder	0	0	1
34	Security Supervisor	1	1	1
35	Security Guard	30	30	38
36	Worker for miscellaneous work	15	15	15
	Total – B	65	65	91
	Grand total (A+B)	94	94	145

Total Number of Staff including Security and Contract Employees = 145

CHAPTER - VI

Disaster management

Disaster management is the range of activities designed to mitigate the effects of disaster and emergency situations. It should also provide a frame work for helping animals at risk, to avoid or recover from the impact of disaster. Managing disaster includes steps to be taken prior to, during and after the disaster and involves preparedness, mitigation, response and recovery.

Disasters leading to emergency situations in the zoo can be divided in two categories as follows:

A. Natural Calamities

1. Earth quake, Cyclone/Storm and Flood
2. Heat wave & Cold wave
3. Epidemics
4. Lightning & Fire

B. Man/Animal Origin

1. Vandalism, Law & order breakdown in city
2. Snake bite & Animal attack
3. Animal escape

In order to alert the scattered staff of the zoo to meet any emergent situation, an electric hooter will be installed in the Directors office to send warning signal and get ready for actions expected of them according to prior training given to them.

A. Natural Calamities

Earthquake, Cyclone/Storm and Flood

For all the aforesaid types of calamitous situations, advanced preparation, capabilities to deal with the arisen situation and the post happening mitigation capabilities are the prime concerns of the zoo administration. Customarily, no separate or additional staff is diploid in any Indian zoos. Therefore the present entire zoo staff needs to be trained to remain ready to meet and fight such situations.

In case of natural disasters like earthquake, cyclone and sudden flash flood, which cannot be prevented, it is the post happening situations which needs to be tackled to reduce the damage. In such situation the animal enclosures may be damaged leading to death or injury of animals or even zoo personnel on duty and visitors as well. In such situations veterinary and medical services available in the zoo hospital, and in nearby areas, play the vital role in damage control. The zoo staff in such situations will have to play the role of quick response rescue team to salvage the injured once and to reach them in nearest hospitals. In order to prepare zoo staff for such response, they should be trained with the help of local fire service department and their readiness should be insured by arranging mock drills by the zoo director time to time. Zoo Veterinary hospital should also keep

first – aid kits equipped with necessary medicines to treat even human injuries besides animal injuries. The Rajkot Zoological Park will take such measures.

As precautionary measure as soon as high speed winds start blowing which may lead to storm/cyclone, electric supply system in the zoo should be disconnected. For this while installing electric supply there will be a master control system at one or two point which can be switched off at once.

Heat Wave & Cold Wave Conditions

Although there is remote possibilities of cold wave situations in Rajkot but heat wave conditions during May and June, do occur some times. Since such situation does not occur all of a sudden, necessary preparation to mitigate the vagaries of weather can be made. During peak summer days, around noon time, outside openings (grills and ventilators) of animal houses should be covered with thick curtains or if necessary with khas tattis, sprinkling water over them. Also during such times the animals should be released in open paddocks at night to escape heat inside the animal house. During extreme winters, special care needs to be taken to protect reptiles (snakes and crocodiles), by covering the snake house cubicles by thick curtains or even lighting high voltage bulbs, and crocodiles by keeping the ponds filled with water up to the brim.

Epidemics

Sometime zoo animals become victim of some contagious/vector borne/bacterial/viral diseases and large number of animals get affected. This gives enough indication of epidemic form of the disease.

To meet such situations, besides preventive measures like washing the animal cubicles regularly by using disinfectants, checking the feed daily before serving and maintaining hygienic conditions around the animal house and enclosures, the affected animals, as soon as noticed will need to be isolate, samples of blood and fecal to be taken and examined to determine the cause of epidemic disease. If it is beyond the means of the zoo hospital to treat the identified disease, immediate help of the Animal Disease Investigation Unit of Animal Husbandry Department at Rajkot or even Veterinary College, Anand will be taken. The affected animal/s will be brought back to the enclosure only after full treatment.

During such times the general level of cleaning animal enclosures and the zoo premises as a whole and checking of animal food material before serving will be upgraded and tightened.

Lightening & Fire

Lightening during rains is common phenomena everywhere, but sometimes it damages building structures it strikes and also causes fire if it strikes tree/s. Therefore it strikes, can damage enclosures, killing animals inside and also cause fire in the wooded part of the zoo. In order to prevent such happenings, earth conductors should be installed in all the enclosures and other buildings in the zoo

Sometimes accidental fire may be caused by short circuiting of power supply lines inside the zoo and particularly during storms in the summer season. Besides this, smokers amongst the visitors while smoking and walking carelessly throw burning cigarette butts in the leaf litter along the roads, and it causes fire. In order to prevent accidental fire due to short circuiting, underground cables

installed instead of taking overhead power supply inside the zoo and there should be a master control system near the Director's office, from where the entire power supply system may be switched off temporarily in case of fire by short circuiting. To prevent fires by negligent behaviour of smokers, suitably designed warning boards, banning smoking in side zoo should be put up near the entrance gate and along visitor roads inside.

To deal with fires that have occurred despite aforesaid precautions, hooter warning system, installed in Director's offices should alert the entire staff and quick response teams of the staff, already trained in fire fighting technique, should come into action. To extinguish accidental fires, water hydrants should be installed at suitable places in the zoo and portable fire extinguishers installed within animal houses at suitable places. These preparations will prove very helpful in controlling the fire. Besides starting internal efforts the local fire service stations will be informed at once and for this phone numbers of fire service stations will be pasted in zoo office, entrance gate, interpretation centre, zoo hospital and all security guards and keepers for use during such emergencies.

To deal with such situations Rajkot Zoo has already purchased and installed 8 fire extinguishers at vulnerable place.

B. Man/Animal Origin

Vandalism, Law & Order Breakdown in City

Sometimes the visitors resort to vandalism when they are checked or prevented from doing unlawful activity inside the zoo. It may result into fight with the staff, leading to injury on either side or indulging in destruction of zoo property, setting fire the dry vegetation of grass as a measure of vengeance. Such situations need to be dealt with tactfully and patiently first by the zoo staff on duty and then if needs, by the Director himself, to defuse the situation. However, if the situation escalates, the police should be informed and summoned to handle the situation.

Law & order breakdown in city leading to curfew situation, affects the working of the zoo indirectly as it may, prevent the zoo staff to reach for duty and it may affect the daily supplies of the animal feed. To meet the first situation, the zoo staff on duty should remain prepared to work over time for and detained in office in zoo hospital during duties and shifts until the situation outside eases and the standard staff reports on duty. The staff working overtime will be compensated either monetarily or by allowing compensatory leave. In order to meet the non supply situation of daily feed of perishable items, efforts will be made to arrange supply from outside Rajkot by sending zoo vehicle after obtaining permission from curfew imposing authority.

Contact details for Police and Fire had been obtained as reproduced below:

Police : 100

Municipal Security dept. contact no.: 0281 - 2231567

Municipal Fire dept.: 102, Office contact no.: 0281- 2387001

Snake Bites & Animal Attack

Sometimes the zoo staff and even the visitors get bitten by stray snakes or monkeys. This may lead to eventual death if not treated immediately and properly. To deal with such situation the

Rajkot zoo has already purchased anti-venom and other necessary drugs to treat the victim without undue delay and keeping two portable first aid kits equipped with necessary medicines and injectable.

Sometimes the zoo staff attending the animals may be injured by the animal. For such situation also zoo veterinary hospital will keep itself equipped with necessary medicines to treat the victim.

Animal Escape

Escape of animals from the enclosures is a very important issue because in this situation life of not only animals but also that of visitors and zoo staff is in danger. Every step must be taken to avoid this. Enclosures must be made of strong suitable and durable material. Every specification suggested by Central Zoo Authority for the construction of enclosures must be adhered to at the time of designing and consideration. All the enclosures should be provided with stand-of-barriers. Animal keepers presently working are experienced to deal with this type of situation. In spite of all the precaution if some animal escapes from enclosure, this zoo is fully equipped with trap cages for big carnivores – 3 nos., small animals – 4 nos., birds – 3 nos., reptiles – 3 nos. and primates – 3 nos. for different species of animals and tranquilizing guns with accessories – 1, Pneumatic gun – 1, blow pipes – 1 and medicines required to calm down and capture these animals. Along with all these equipment, zoo is equipped with ropes and animal capture nets. Gates and doors to enclosures containing hazardous animals are locked at all times. All the enclosures are free from vegetation or other items that would aid animal escape. Necessary care has been taken and will be taken care while designing enclosure of dangerous animals in particular and for others in general to exclude any possibilities of animal escape from the encl.

Contact Details for Emergency:

Municipal Security dept. contact no.: 0281 - 2231567

Municipal Fire dept.: 102, Office contact no.: 0281- 2387001

Rajkot Civil Hospital : 0281 – 2471118, 2471218

Medical Emergency contact. no.: 108



City View Point

CHAPTER - VII

CONTINGENCY PLAN

In order to manage efficiently the zoo of such magnitude and cherished status, it is desirable to foresee and plan mitigation of all kinds of problems and unwarranted situations, which may arise from time to time from animal management as well as visitors' point of view. Such problems will need immediate solutions because management of wild animals and visitors both are legally and socially sensitive issues. In order to provide quick solutions to such problems, a well thought out and preplanned written Contingency plan is a must, to be followed at emergent situations.

Emergent/unwarranted situations may be as under:

- a. Animals rescued from the wild
- b. Escape of animals from enclosures
- c. Monkey menace
- d. Dog menace
- e. Arrangement of food in cases of strike/non-supply by contractor
- f. Visitor falling inside enclosure & Getting injured
- g. Snake Bite
- h. Fighting among animals
- i. Epidemics
- j. Breakdown of Power Supply etc.
- k. Vandalism, law & order breakdown

a. **Animals Rescued from the Wild**

Rescued animals from poachers or saved from some calamity or even from animal lovers, kept as pets are brought to the zoo mostly by forest officials for housing them, without prior notice. In order to meet such situations issue, a rescue centre, providing enclosures built as per CZA guidelines will be setup. Since there are no high forests around Rajkot, there are not many wild animals in this area, yet the past experience shows that sometimes among the ungulates, Blue bull and Black buck are rescued by the local forest department, which at present is taken to govt. zoo at Junagadh, where rescue centre exists. Besides this sometimes langur, Rhesus monkey, Jackal, Fox, Peacock and birds of prey like Kite, Owl are also rescued. However snakes constitute major part of rescued animals in this area. Therefore to start with 2 small enclosures, for ungulates, 2 for jackal/fox, 2 for monkeys, 2 aviaries for birds and 2 for snakes will be built with CZA financial assistance. If need be the facility can be expanded as and when felt necessary.

Since at Rajkot, a large Zoological Park at Pradyumn Park, is being developed it will be appropriate to create a rescue facility at Rajkot to save the rescued animals and birds, the agony of long journey to Junagadh. It is also desirable to keep the rescued animals away from the zoo animals to avoid communicable/contagious diseases. In order to meet both of these requirements, a Rescue Center will be developed in the area where erstwhile Old Aji dam Zoo existed. Because ample space available for this purpose and also this facility will be away from exist Rajkot Zoo at Pradyuman Park. For this, budget provision is being made in the plan.

b. Escape of Animals from Enclosures

Escape of animals from the enclosures is a very serious incident requiring prompt action under the overall guidance and supervision of the Director himself, because in this situation life of not only the animal in question but also that of visitors and zoo staff is in danger. To ward off such eventualities, firstly the enclosures must be made of strong, suitable and durable material. Every specification suggested by Central Zoo Authority for the construction of enclosures must be adhered to at the time of designing and construction. Gates and doors provided in the enclosures should remain locked all the time unless opened for some work. Care should be taken to keep on pruning, all the leaning branches of trees in or outside the enclosure which may facilitate escape of arboreal or climbing animals. Keepers and other supervisory staff should keep on inspecting the enclosures regularly to check any damage in the enclosure. The Director should evolve a periodic reporting system about the condition of enclosures.

Though seldom, yet, in spite of all the precautions cases of animal escapes do occur in zoos. To meet such situations, the zoo should remain fully prepared and equipped with necessities like nylon nets, ladders, and mobile cages for different species of animals and tranquilizing equipment/medicines required calming down and capturing such animals. It needless to say that at least two persons (preferably more), should be trained in tranquillization technique to remain available in such emergent situations. Sometimes help of Fire dept personnel may be necessary, therefore contact no. of nearest Fire Service station should be kept handy to call them at shortest notice. If ever there is a case of any dangerous animal escape, the first step to be taken is that the visitors inside the zoo should be asked to get out of the zoo and their entry should be stopped forthwith and then retrieving action should start.

c. Monkey Menace

Monkeys particularly, Rhesus and Common langur, congregate in and around zoos, in order to snatch and share the fruits/vegetables and dry ration, given to zoo animals. To avoid this situation a small animals/birds and Bears should be served food inside cubicles in the animal house but ungulates because of their size and number have to be provided food in open spaces and are therefore vulnerable to monkey attacks. Luckily as of now Rajkot is free from stray monkeys and therefore no immediate danger from monkey menace. However there is every possibility that monkeys may start coming to the zoo premises make gradually. To ward off such situations, close watch will be kept through security guards and other staff and the moment any monkey is and around zoo premises, it will be trapped or tranquilized and put in rescue facility to be either exchanged with some zoo or released in the wild at faraway place.

d. Dog Menace

Dogs are forbidden inside a zoo but if somehow any stray dog intrudes inside it poses big threat to caged animals in the zoo in many ways. The ungulates (deer & antelopes), get panicky at the sight of the dog and start running helter sceptor, hitting the barriers, injuring themselves or succumbing to death due to heart failure. The caged canines like wolves and jackals, may contract any disease from the stray dog, which it suffers from. The big cats become restless at the sight of the dog due to the lure of preying upon it. If the dog is Rabid, it poses danger to the visitors and staff as well. Therefore as a first precaution, the boundary wall of the zoo should be dog proof, leaving no chance of entry of dogs either by jumping across or sneaking through any water outlet. If however any dog is sighted inside, the first priority of the zoo administration should be either to trap it or

even shoot it at the earliest opportunity. Also fresh stock of anti rabies injection should be maintained all the time in zoo hospital to be administered to the victim at once, in case there is any dog bite, either to any staff, visitor or animal

e. Arrangement of Food in Cases of Strike/Non-supply by Contractor

The mini zoo has never experienced break down in supply of food stuff for zoo animals either for herbivores or carnivores in the past, though the city has been curfew bound, Zoo gets buffalo beef and fish from slaughter house situated in the city, fodders and grains obtained from local supplier. Even though there is a long term contract for supply of feed material, zoo management is empowered to purchase from other suppliers whenever it is necessary. If however, situations arises when supplies from the city becomes impossible, attempt will be made to procure supplies from nearby towns by sending the zoo transport to such places after obtaining special permission from concerned authorities. We have also planned to install one deep freeze in near future, so that perishable food stuff may be stored at such calamitous times. Dry ration will always be kept stored for minimum 15 days, as ample storage space has been provided in the feed store.

f. Visitor Falling Inside Enclosure & Getting Injured

Though sufficient safeguards are provided while designing and building the enclosure, by raising the outer walls of the moats, by providing stand-off barriers, and raising live hedge in between, to prevent the visitors from even touching the moat wall and excluding, any chance of falling in to the moat .yet some times some aberrant visitor or a lunatic visitor dares to climb up barriers and eventually fall in to the moat. To deal with such mishaps, the zoo should have ladders (preferably collapsible metal ladders) and ropes ready to salvage the victim as quickly as possible. First aid, if injured, should be provided by zoo vet .and if necessary the injured person should be sent to the nearest medical facility for further treatment.

Keeping in view above requirements Rajkot Zoo has kept ready 3 collapsible ladders and 3 ropes to salvage the victims whenever required.

There should be clear warning signage's fixed near the moats, warning the visitors to stand behind the stand -off barriers and particularly for the parents to take special care of children.

g. Snake Bite

Zoos are mostly situated in semi wilderness areas making it a suitable habitat for free living snakes- Poisonous or non-poisonous. Also rodent population thrives inside zoo sharing cereal food material served to zoo animals and in turn snakes thrive on rodents Therefore occasional cases of snake bite among zoo animals do occur. Similarly sometimes though rarely, visitors are bitten by snakes. For such eventualities, anti-venom injections should always be kept in zoo hospital to be administered immediately to the victim. In case of human bites after administering anti venom in the zoo hospital, the victim should be sent to the nearest hospital for further treatment. In case of animal bite, the vet after giving anti venom injection should remain in attendance of the bitten animal till as long as the animal becomes safe from the effects of snake bite. In order to keep zoo premises free of snakes, free living peacocks and mongoose should be released in the zoo premises as they predate on snakes. Signage warning zoo visitors should also be put up at places to caution them walk carefully on zoo roads. Night duty guards need to be provided torches and instructed to be extra careful.

h. Fighting among animals

Every effort will be made to separate the fighting animals without causing serious injuries. The fighting animals will be driven back to the night shelter (primates and carnivores) and kraals (herbivores) to avoid further fighting. Many times fight occurs during breeding season and the animals are watched carefully to avoid fight and if any fight happens, they will be separated. In Felids only those animals that are compatible will be released in the public exhibit. If needed, the animals will be chemically immobilized and to bring them back to the night shelter.

i. Epidemics

Epidemics like Enteritis in the cat family and F.M.D. in hoofed animals cause havoc in zoo animals. Sometimes out break avian flu threatens birds and particularly pheasants. Zoo animals also become victim of some contagious/vector borne/bacterial/viral diseases and large number of animals get affected. This situation if not controlled immediately, assumes epidemic form.

In order to take precautionary measures to obviate such situations, preventive measures like, checking the feed daily before serving and maintaining hygienic conditions in the animal kitchen, storage and transport containers, washing the animal cubicles regularly using disinfectants, keeping water drains in and around the enclosure clean and disinfected have to be taken without fail throughout the year. The keepers and sweepers, who attend to the animals and wash the cubicles, need to be checked periodically to screen them against communicable zoonotic diseases. The affected animals, as soon as noticed should be isolated and brought to zoo hospital for treatment, samples of blood and faecal of affected animals should be taken and examined to determine the cause of epidemic disease. If it is beyond the means of the zoo hospital to treat the identified disease, immediate help of IVRI at Bareilly or any nearby Veterinary college should be taken for identification and treatment of disease. The affected animal/s should be re-introduced in the enclosure only after full treatment and necessary tests.

j. Breakdown of Power Supply etc.

Power supply taken from city supply grid may fail or disrupt due to storms, rains or any other reason. To meet such contingent situation back up power supply arrangement should be in place near Tube well, Zoo hospital, Director's office and booking window to operate ticket vending machine etc.

k. Vandalism, Law & Order breakdown

Sometimes zoo visitors resort to vandalism when they are checked or prevented from doing unlawful activity inside the zoo. It may result into fight with the staff, leading to injury on either side or indulgence by unruly mobs in destruction of zoo property and even, setting fire the dry vegetation or grass in retaliation and vengeance. Such situations need to be dealt with tactfully and patiently first by the zoo staff on duty and then if needs be, by the Director himself, to diffuse the situation. However, if the situation escalates, the police should be immediately informed and summoned to handle the situation. Unlawful activities by visitors, inside the zoo have been prohibited by Law under section 38J of the Wild Life (Protection) Act 1972 and the Directors of zoos have been empowered to punish the offenders by imposing fine. To make the visitors aware of this legal provision and to educate them for proper behaviour, signages near the entrance gate and other appropriate places should be provided.

CHAPTER - VIII

CAPACITY BUILDING

Skilled and knowledgeable personnel are essential to maintain and up-keep Zoo. As time changes the new challenges will emerge and the staff required to upgrade their skills and potential to handle any eventualities. Capacity Building of different category for better care of animals, providing better nature education and smooth function of the zoo

These are done by learning and training received from knowledgeable and experienced persons in this field, to start with and then continually update and further enhance the latest know how to keep pace with the advancements in the zoo science. Thus the subject of capacity building can be categorized in two heads as under:

1. Skill up-gradation
2. Regional Cooperation

1. Skill up-gradation

There is continuous development in zoo science, its management techniques, veterinary science, designing and enrichment of enclosures, role of zoos in conservation and the visitor's perception towards zoos etc. The central zoo Authority as a controlling and coordinating organization, is responsible to impart latest know how and communicate Gove's policies to the zoo administrators and other personnel, engaged in the zoo management across the country to keep them updated. This is done by training courses organized by CZA in different parts of the country, separately for zoo keepers, foresters, veterinarians, curators and Directors.

The zoo personnel should be trained to impart knowledge in areas like, animal care, animal welfare, animal behaviour - inter and intra spp., food nutrition & hygiene, animal training, animal restraining & handling, the biology & general information of the spp. under the charge, sample collection for diagnosis, tranquilization, first -aid for emergency situations, and daily record keeping etc.

For skill up gradation, zoo should subscribe various useful zoo related publications, containing information on zoo management, animal keeping, zoonotic diseases and veterinary science. A good library, of books on wildlife in general and captive animals in particular and veterinary science should be maintained to enrich knowledge continually. The eminent zoo men and veterinarians should be invited to deliver talks on latest trends in zoo management, and health of animals.

2. Regional cooperation

In today's era of rapidly expanding knowledge and information technology, no zoo can survive in isolation. The CZA also advocates interaction and cooperation amongst zoos for mutual benefit and knowledge up gradation. The zoo should endeavor to maintain close liaison not only with other zoos within the state but also with zoos in neighboring states in particular and zoos across the country in general. Such type of liaison and cooperation is necessary to share technical knowledge on one hand and exchange of animals on the other. Animal exchange is often necessitated either to fill up vacant enclosure or to introduce genetic diversity to stop in-breeding among zoo animals. Sometimes such compatible animals are taken on loan for breeding purpose and then returned when done with. Thus cooperation amongst zoos is must for their survival.

CHAPTER - IX

E - GOVERNANCE

Application of information and communication technology for dissemination of accurate information, exchange of information and interaction with other zoos and organization, maintenance of records and data in digital format would help the zoo administration. The Rajkot zoo has used the available technologies such as internet, e-mail, digital photography etc.

Entrance Gate

Entrance gate is most important point regarding crowd regulation and revenue realization. The entrance tickets issued to the visitors have computerized. These facilities enable accuracy, efficiency and transparency. Ticket issuing by booking operators are outsourced to reputed agency. Security allows the visitors after ensuring valid tickets. Both zoo superintendent and curator could monitor the movement of visitors and issue of tickets.

Close Circuit Cameras with monitors

The development of Rajkot zoo under guide line of Central Zoo Authority, New Delhi is still continuing. So the flows of visitors are also increased every year. The security and surveillance for the safety of animals, visitors and zoo property are inevitable to have different layers of security system in place. Rajkot zoo has recently installed the number of CCTV's to have continuous monitoring and to take require steps in day to day behavior of sensitive or new arrival animals, sick animals and movement of unauthorized persons and to detect the vandalism and thefts, so as to alert security systems. At present there are four monitoring units with 22 Close Circuit Cameras installed at different suitable points viz.

• Entrance Gate:	03
• Service Gate:	01
• Vehicle parking stands	02
• Lion enclosure	03
• Tiger Enclosure	03
• Veterinary Hospital	04
• Administrative office	04
• Children corner	02
• Lion Breeding Center (Old Aji dam)	10
Total Camera:	32

Media management

Photography of new born animals, press release on new acquisition, new born and any other development related to Rajkot zoo are now communicated to both print and electronic media through e-mail to large number of media channels. This would help the Zoo to reach out to large public and attract crowds with little expense in real time. Correct reporting of happenings in the zoo helps to maintain transparency. Also the message of conservation education and importance of captive breeding & its significance could be effectively communicated to general public and animal lovers in particular.

Procurement of works / goods / services through E- tender

The Rajkot Municipal Corporation has issued notification to procure works / goods / services through tenders on e-procurement platform of Rajkot Municipal Corporation (www.rmc.nprocure.com). Accordingly, all tenders for procurement of works, goods and services are being processed through e-tender, achieving transparency in procurement.

Computerization of office work

Presently there are sufficient numbers of computers installed in the zoo in various sections and they are being used for general works, accounting works, monthly pay bill preparation, communication of office orders, exchanging information with other organization and storing useful data. The details of computer System with laser/Multi function printer installed are as under.

- Zoo superintendent's chamber - 1
- Veterinary Officer - 1
- Curator - 1
- Biologist cum Education Officer - 1
- Administrative section - 1
- Education hall - 1
- Ticket booking section - 3

Computerization of hospital work

Computer is provided to veterinary section, where all reports pertain to animal inventory, data entry on ISIS and animal's health reports are generated. Internet facility is provided to veterinary officer to keep in touch with other organization for exchange of information and recent advances in animal health management. Online record keeping having global access in the ZIMS software developed by ISIS is being adopted for better record keeping in zoo.

CHAPTER - X

Broad Budget Analysis for Implementing the Plan

The plan period of the Master Plan of Rajkot Zoological Park is for 20 years starting from 2018-19 to 2037-38. Budget provision for 20 years expenditures, estimated year wise on construction works to develop and maintain Rajkot Zoological Park according to layout plan approved by the CZA has been shown in sub chapter – “A” appended to this plan. It is proposed to complete the development works as per approved layout plan until the year 2018-2019. The maintenance expenditure to be incurred on salary of the staff, feed bills of the animals and other sundry day to day expenditure has also been worked out and appended in sub chapter – “B” to this plan.

The name of the proposed construction works year wise, along with estimated expenditure have been detailed in sub chapter – “A”. The year wise break up of construction activity has been based on the location of proposed work, the ease of reaching building material at the site and keeping in view the simultaneous development of allied facilities like road building, water supply, drainage, power supply etc.. It has also been kept in mind that the animals for the completed enclosures should be acquired by the time the enclosures with other allied facilities are completed.

As per CZA instruction, previous approved revised layout plan, future expansion for Conservation Breeding of African Cheetah will now developed as Green Belt.

In future, possibility of utilizing this Green Belt area for African Animals as stipulated before, will be explored and implemented after approval from CZA. On western side, there is area available which is suitable for development as Butterfly Park and Arboretum. Accordingly these works have also been including in Layout plan and approved by CZA.

For Construction of animal enclosures of endangered spp., Rescue centre etc, where CZA can provide financial assistance, efforts will be made to obtain and utilize funding from CZA and expenditure for rest of the works and maintenance cost will be borne by Rajkot Municipal Corporation.

Part of the maintenance cost will be met from the sale of entry tickets, rentals from Kiosks, Souvenir shop and parking lot.

In recent years a very good and encouraging trend has developed in zoo keeping that animal lovers from public are coming forward to adopt animals of their choice in the zoo and offer to bear the entire or part of food cost, health care cost etc incurred on that animal for the whole year. Such benevolent people have started joining this gesture and it is hoped that the number will increased in years to come. Such co-operation from people will help meet part of recurring expenditure on annual feed and also spread the message of wildlife conservation amongst masses, making them animal friendly as well as friends of the zoos.

A. Construction and Development (Phase –I)

Year wise physical and Financial Projections of Development works during 1 to 10 years of master plan period are given below:

(Rs. In lacs)

Sr. No.	Item of work	Year wise break up										Total
		2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	
1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Construction & Enrichment of Interpretation Centre	80.00	00.00	00.00	00.00	0.00	0.00	0.00	0.00	0.00	0.00	80.00
2.	Construction of Wild Ass encl.	50.00	00.00	00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00
3.	Const. of Common Peacock Aviary	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00
4.	Const. of White Peacock Aviary	12.00	00.00	00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00
5.	Construction of new road	25.00	5.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.00
6.	Facility of Electrification	10.00	10.00	10.00	10.00	02.00	02.00	02.00	02.00	02.00	02.00	52.00
7.	Maintenance of Compound wall	10.00	5.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	31.00
8.	Maintenance of enclosure, road, foot path & other structures.	10.00	10.00	10.00	15.00	20.00	25.00	30.00	35.00	40.00	50.00	245.00
9.	Landscape Gardening and Planting	5.00	5.00	5.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	29.00
10.	Animal enclosures enrichment	15.00	20.00	20.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	90.00
11.	Purchase of vet. Equipments	10.00	10.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	60.00

Sr. No.	Item of work	Year wise break up										Total
		2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	
12.	Signages & Education equip.	5.00	5.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	26.00
13.	Construction of Otter Encl.	0.00	30.00	10.00	00.00	00.00	00.00	00.00	0.00	0.00	0.00	40.00
14.	Construction of Turtle Encl.	0.00	10.00	10.00	00.00	00.00	00.00	00.00	0.00	0.00	0.00	20.00
15.	Construction of Flamingo encl.	0.00	40.00	30.00	00.00	00.00	0.00	0.00	0.00	0.00	0.00	70.00
16.	Const. of Marshland bird Aviary	0.00	50.00	30.00	00.00	00.00	0.00	0.00	0.00	0.00	0.00	80.00
17.	Const. of Hamadryas Baboon encl.	0.00	40.00	0.00	00.00	00.00	0.00	0.00	0.00	0.00	0.00	40.00
18.	Construction of Staff colony	0.00	50.00	100.00	100.00	100.00	00.00	00.00	0.00	0.00	0.00	350.00
19.	Construction of Kangaroo encl.	0.00	0.00	30.00	20.00	00.00	0.00	0.00	0.00	0.00	0.00	50.00
20.	Construction of Wallaby encl.	0.00	0.00	30.00	20.00	00.00	0.00	0.00	0.00	0.00	0.00	50.00
21.	Construction of Chimpanzee enc	0.00	0.00	50.00	30.00	00.00	0.00	0.00	0.00	0.00	0.00	80.00
22.	Construction of Baboon spp. Enclo.	0.00	0.00	30.00	20.00	00.00	0.00	0.00	0.00	0.00	0.00	50.00
23.	Const. of Nocturnal Animal house	0.00	40.00	20.00	00.00	00.00	0.00	0.00	0.00	0.00	0.00	60.00
24.	Construction of Toilet block-2	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00
25.	Purchase of Battery operated vehicles	15.00	15.00	0.00	15.00	0.00	0.00	15.00	0.00	0.00	0.00	60.00

Sr. No.	Item of work	Year wise break up										Total
		2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	
26.	Visitor facility (Resting shed & Benches)	00.00	10.00	5.00	00.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00
27.	Construction of Ostrich encl.	0.00	40.00	00.00	00.00	0.00	0.00	0.00	0.00	0.00	0.00	40.00
28.	Construction of Rhino encl.	0.00	0.00	00.00	50.00	50.00	0.00	0.00	0.00	0.00	0.00	100.00
29.	Construction of Jaguar encl.	0.00	0.00	00.00	50.00	25.00	0.00	0.00	0.00	0.00	0.00	75.00
30.	Setting up of Butter fly park	0.00	0.00	50.00	30.00	00.00	0.00	0.00	0.00	0.00	0.00	80.00
31.	Setting up of arboretum	0.00	5.00	2.00	00.00	00.00	0.00	0.00	0.00	0.00	0.00	07.00
32.	Setting up of Cactus park	0.00	3.00	2.00	00.00	00.00	0.00	0.00	0.00	0.00	0.00	05.00
33.	Construction of rescue centre	0.00	0.00	50.00	30.00	00.00	00.00	0.00	0.00	0.00	0.00	80.00
34.	Construction of Wild dog encl.	0.00	0.00	30.00	20.00	00.00	00.00	0.00	0.00	0.00	0.00	50.00
35.	Installation of CCTV	10.00	10.00	05.00	00.00	00.00	00.00	0.00	0.00	0.00	0.00	25.00
Total		269.00	423.00	543.00	426.00	213.00	43.00	63.00	53.00	58.00	68.00	2159.00



Panoramic view of duck pond and Lalpari Lake

Construction and Development (Phase –II)

Year wise physical and Financial Projections of Development works during 2nd 10 years of master plan period are given below:

(Rs. in lacs)

Sr.	Item of work	Year wise break up										Total
No.		2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	
1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Improvement of Existing Enclosure	40.00	40.00	45.00	45.00	50.00	50.00	55.00	55.00	60.00	60.00	500.00
2.	Up-gradation of Water Supply System	2.00	2.00	3.00	3.00	3.00	4.00	4.00	5.00	5.00	5.00	36.00
3.	Development /Improvement of Infrastructure	5.00	5.00	5.00	6.00	6.00	6.00	7.00	8.00	9.00	10.00	67.00
4.	Development/Improvement of Visitor Facility	5.00	5.00	6.00	6.00	6.00	7.00	7.00	8.00	9.00	10.00	69.00
5.	Facility of Electrification	3.00	3.00	4.00	4.00	4.00	5.00	5.00	5.00	6.00	6.00	45.00
6.	Maintenance of Compound wall	2.00	2.00	3.00	3.00	4.00	4.00	4.00	5.00	5.00	5.00	37.00
7.	Maintenance of road	2.00	2.00	3.00	3.00	3.00	4.00	4.00	4.00	5.00	5.00	35.00
8.	Landscape Gardening and Planting	2.00	2.00	3.00	3.00	3.00	4.00	4.00	4.00	5.00	5.00	35.00
9.	Animal enclosures enrichment	5.00	5.00	6.00	6.00	7.00	7.00	8.00	9.00	10.00	10.00	73.00
10.	Purchase of vet. Equipments	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	50.00
11.	Signages & Education equip.	2.00	2.00	3.00	3.00	4.00	4.00	4.00	5.00	5.00	5.00	37.00
12.	Purchase/maintenance of Battery operated vehicles	2.00	7.00	2.00	2.00	7.00	2.00	2.00	8.00	3.00	10.00	45.00
13.	Installation/maintenance of CCTV	1.00	1.00	3.00	1.00	1.00	3.00	1.00	2.00	3.00	2.00	18.00
14.	Training and Capacity Building	2.00	2.00	3.00	3.00	4.00	4.00	4.00	5.00	5.00	5.00	37.00
Total		78.00	83.00	94.00	93.00	107.00	109.00	114.00	128.00	135.00	143.00	1084.00

B. Day to Day Maintenance

The year wise estimated recurring expenditure is incurred on various items during Master Plan period is given below:

(Rs. In lacs)

Sr. No.	Year	Particulars				Total Amount
		Expenditure on establishment	Expenditure on animal food	Expenditure on veterinary care	Expenditure on Miscellaneous	
1	2	3	4	5	6	7
1	2018-19	105	90	3	2	200
2	2019-20	115	100	4	3	222
3	2020-21	130	115	4	4	253
4	2021-22	150	130	5	5	290
5	2022-23	170	145	5	6	326
6	2023-24	200	160	6	7	373
7	2024-25	230	180	6	8	424
8	2025-26	270	200	7	9	486
9	2026-27	310	225	8	10	553
10	2027-28	370	250	9	11	640
11	2028-29	420	280	10	12	722
12	2029-30	470	310	11	13	804
13	2030-31	520	350	12	14	896
14	2031-32	580	390	13	15	998
15	2032-33	660	430	14	17	1121
16	2033-34	750	480	15	19	1264
17	2034-35	840	530	17	21	1408
18	2035-36	930	580	19	23	1552
19	2036-37	1030	640	21	25	1716
20	2037-38	1150	700	23	28	1901
Grand Total		9400	6285	212	252	16149

Total Budget for the plan period (Rs. In lacs)

Sr. No.	Year	Particulars		Total Amount
		Construction and Development	Day to day maintenance	
1	2	3	4	5
1	2018-19	269.00	200	469
2	2019-20	423.00	222	645
3	2020-21	543.00	253	796
4	2021-22	426.00	290	716
5	2022-23	213.00	326	539
6	2023-24	43.00	373	416
7	2024-25	63.00	424	487
8	2025-26	53.00	486	539
9	2026-27	58.00	553	611
10	2027-28	68.00	640	708
11	2028-29	78.00	722	800
12	2029-30	83.00	804	887
13	2030-31	94.00	896	990
14	2031-32	93.00	998	1091
15	2032-33	107.00	1121	1228
16	2033-34	109.00	1264	1373
17	2034-35	114.00	1408	1522
18	2035-36	128.00	1552	1680
19	2036-37	135.00	1716	1851
20	2037-38	143.00	1901	2044
Grand Total		3243.00	16149	19392

CHAPTER - XI

Annexures to the Master Plan

Sr. No.	Details	Annex. No.
1.	Resolution for Land transfer for Rajkot Zoological Park.	I
2.	Copy of Earlier Revised Layout Plan's Approval Letter of CZA (2007-08)	II
3.	Earlier Approved Revised Layout Plan of Rajkot Zoological park (2007-08)	III
4.	Copy of Revised Layout Plan's Approval Letter of CZA (2012-13)	IV
5.	Earlier Approved Revised Layout Plan of Rajkot Zoological Park (2012-13)	V
6.	Copy of Revised Master Layout Plan's Approval Letter of CZA (2017-18)	VI
7.	Approved Revised Layout Plan of Rajkot Zoological Park (2017-18)	VII
8.	Separate Layout Plan showing distribution of electric line	VIII
9.	Separate Layout Plan showing distribution of water line & drainage	IX
10.	Existing animal collection plan / inventory (Male : Female)	X
11.	Free Living Species occurring in the Zoo Campus – Fauna	XI
12.	Free Living Species occurring in the Zoo Campus – Flora	XII
13.	Sanctioned, proposed & present staffing pattern and position.	XIII
14.	List of building other than animal enclosures.	XIV

Annexure I Resolution of Land for Rajkot Zoological Park

સ્ટે.ક.ઠ.નં.૭૫૦

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પ્રધુમન પાર્ક ખાતે એક આધુનિક જી ઉભુ કરવા મ્યુનિસિપલ કમિશનરશ્રીએ પત્ર નં.-૨૧૫ તા.૦૬/૦૭/૯૮ થી રજૂ કરેલ દરખાસ્ત આ કમીટીનાં ઠ.નં.-૨૭૭ તા.૦૫/૦૮/૯૮ અન્વયે ના મંજૂર કરવામાં આવેલ.

ઉપરોક્ત ઠરાવ અન્વયે પત્ર નં.-૬૮૧ તા.૦૧/૦૨/૯૮ થી દરખાસ્ત કરતા મ્યુનિસિપલ કમિશનરશ્રી જણાવે છે કે જી ચાલુ રાખવા માટે સેન્ટ્રલ જી ઓથોરીટી પાસેથી માન્યતા મેળવવાનું ફરજીયાત હોય તેમજ તેમના સુચનોનો અમલ કરવાનો થાય છે, જે માટે નાણાકીય સહાય પણ સેન્ટ્રલ જી ઓથોરીટી પાસેથી મળે છે. આ સંજોગોમાં પત્ર નં.-૨૧૫ તા.૦૬/૦૭/૯૮ થી રજૂ કરવામાં આવેલ. નિચે જણાવેલ બાબતો ધ્યાને લઈ પ્રધુમન પાર્ક ખાતે જી ઉભુ કરવા ધટીત નિર્ણય કરવાનો રહે છે.

કોર્પોરેશન દ્વારા પંડિત દિનદયાલ ઉપાધ્યાય પાર્ક (આજી ડેમ) ખાતે આવેલ પ્રાણી સંગ્રહાલયમાં હરણપાર્ક, મગરપાર્ક, માછલીઘર, પ્રાણીઘર, પક્ષીઘર જેવા એકમો આવેલા છે જે પૈકી પક્ષીઘર અને માછલીઘર કોન્ટ્રાક્ટ પર સુપ્રત કરવામાં આવેલ છે.

વન્ય પ્રાણી ધારા, ૧૯૭૨ ની કલમ ૩૮(એચ) અન્વયે સેન્ટ્રલ જી ઓથોરીટી ન્યુ દિલ્હી પાસેથી જી માટે માન્યતા મેળવવી ફરજીયાત છે. રાજકોટમાં પંડિત દિનદયાલ ઉપાધ્યાય પાર્કમાં આવેલ જી ને તા. ૩૧/૦૩/૯૭ સુધી શરતી માન્યતા આપવામાં આવેલ હતી. ત્યારબાદ વિશેષ માન્યતા મળવા માટે અરજી કરવામાં આવેલ જે અન્વયે સેન્ટ્રલ જી ઓથોરીટી દ્વારા તા. ૧૪-૧૫/૦૫/૯૭ ના જુની તપાસ કરી ઓથોરીટી તરફથી જુના વિકાસ બાબતે વિવિધ વાંધા અને સુચનો કરવામાં આવેલ તેમજ જુને માન્યતા આપવા માટે મ્યુનિસિપલ કમિશનરશ્રીની બાંહેધરી માંગેલ છે.

હાલના સ્થળે જુના વિકાસ બાબતે નીચેની બાબતોનો અમલ કરવાનો રહે છે.

- (૧) જી માટેનો વિસ્તાર નક્કી કરી તેની ફરતે ૨ મીટર ઉચી કમ્પાઉન્ડ દીવાલ બનાવવાની રહે.
- (૨) મગર તેમજ હરણના પાંજરા નવી જગ્યાએ બનાવવા.
- (૩) સિંહ, વાઘ, રીંછ જેવા અન્ય પ્રાણીના પાંજરા 'ખાઈ' (MOAT) વાળા પાંજરામાં ફેરવવા અથવા નવીજગ્યાએ તેમના માટે ખાઈવાળા પાંજરા બનાવવા. ખાઈવાળા પાંજરા હરણ તેમજ અન્ય પ્રાણી માટે બનાવવા.
- (૪) મોટા પક્ષી જેવા કે મોર, બગલા, સારસ વિગેરે માટે મોટા કુદરતી વાતાવરણવાળા પાંજરા બનાવવા. હાલના પક્ષીઘરમાં નાના પક્ષી રાખવા અને પક્ષીઘર સંચાલન માટેની કોન્ટ્રાક્ટ પ્રથા તાત્કાલીક બંધ કરવી.

મોટા પક્ષી ઓથોરીટી
૩-૩/૩-૬
M
M.L.

રાજકોટ મ્યુનિસિપલ કોર્પોરેશન
વેલર યર્કેસ રા.ખા
જનવહર નંબર... ૨૭૭
૧૭/૨

પે..// ૨ //

ઉપરોક્ત બાબત ધ્યાને લેતાં હાલનો ઝુનો વિસ્તાર સિંચાઈ ખાતા હસ્તક છે. જેથી વિસ્તાર નક્કી કરી કમ્પાઉન્ડ ટીવાલ બાંધી શકાય તેમ નથી. તેમજ વિસ્તાર પણ વલ્લોજ ઓછો છે.

સિંહ, વાઘ, દીપડા વિગેરેના હાલ કુલ-૭ પાંજરા છે. જેને 'ખાઈ'વાળા પાંજરામાં ફેરવવામાં આવે તો ૩ પાંજરા બની શકે. તેમજ ડેમની નજીકનો વિસ્તાર હોય ખોદકામ માટે બ્લાસ્ટ કરી શકાય નહીં.

જેથી હાલની જગ્યાએ ઝુનો વિકાસ શક્ય ન જણાતા ઝુના વિકાસ માટે અન્ય સ્થળ પસંદ કરવું જરૂરી બનતા તેમજ સ્થળ પસંદગી તેમજ લે-આઉટ અને માસ્ટર પ્લાન તૈયાર કરવા ડો. જે.એચ. દેસાઈ ન્યુ દિલ્હીને સ્થાયી સમિતિ ઠરાવ નં. ૩૫૪ તારીખ ૨૨/૧૧/૯૫ થી નિમણૂક કરવામાં આવેલ હતી. જેમણે તા. ૨૦/૦૧/૯૬ થી ૨૪/૦૧/૯૬ સુધીના સમય દરમ્યાન રાજકોટ ઝુની તેમજ જરૂરી સ્થળનું ગિરીક્ષણ કરી મ્યુનિસિપલ કોર્પોરેશનના પદાધિકારીઓ તથા અધિકારીઓ સાથે વિકાસ બાબતે સંપૂર્ણ ચર્ચા કરેલ હતી. ઝુના વિકાસ માટે આજીડેમના વનીકરણનો વિસ્તાર તેમજ પ્રધુમન પાર્ક એમ બે સ્થળો પૈકી પસંદગી કરવાનું વિચારવામાં આવેલ. સામાન્ય રીતે હાલના ઝુના વિસ્તારની નજીકમાંજ વધુ વિકાસ થાય તે યોગ્ય ગણાય પરંતુ આજીડેમ નીચેનો વિસ્તાર વલ્લો ઓછો (૧૪ હેક્ટર) હોય અંદાજે ૨૦ પાંજરા બનાવી શકાય. તેમજ ડેમની નીચેનો વિસ્તાર હોય ડેમ ઓવરફ્લો થાય અથવા ડેમને કંઈક નુકસાન થાય તો તેની અસર ઝુને થવા સંભવ રહે. ઉપરાંત નવા પાંજરા બનાવવા માટે ત્યાં હાલ સારી રીતે વિકાસ પામેલા વૃક્ષોને કાપવા પડે.

આમ આજીડેમ વિસ્તારની જગ્યાની સરખામણીમાં ઝુ બનાવવા માટે અન્ય જગ્યા રીકે પ્રધુમન પાર્ક વધારે અનુકુળ જગ્યા છે. કારણકે ત્યાં કુદરતી વાતાવરણ, ઢાળવાળો વિસ્તાર 'ખાઈ' વાળા પાંજરા બનાવી શકાય તેમજ પાંજરા બાંધકામનો ખર્ચ ઓછો આવે, પાંજરા બનાવવા વૃક્ષો કાપવા ન પડે, લાલપરી તેમજ રાંદરડા તળાવ કુદરતી વિસ્તાર હોવાથી પ્રધુમન પાર્કની સુંદરતામાં પણ વધારો થાય. ખાઉડરી ટીવાલ બાંધવા માટે કુદરતી વાતાવરણવાળા વિસ્તારમાં 'ચેઈનલીક' અથવા ખાઉન્ડી કવર કરી શકવાથી ખાઉન્ડી ટીવાલ બનાવવાનો ખર્ચ ઓછો થાય. પ્રધુમન પાર્કનો કુલ વિસ્તાર ૧૯૦ હેક્ટર છે. ઝુના વિકાસ માટે પુરતો વિસ્તાર મળી શકે. હાલ ૧૦૦ એકર જમીનનો ઉપયોગ ઝુ માટે વધારાનો વિસ્તાર ભવિષ્યના વિકાસ માટે અનામત રાખી શકાય. આમ પર્યાપ્ત જમીન હોય ઝુનો સારી રીતે વિકાસ સેન્ટલ ઝુ ઓથોરીટી ના નિતીનિયમ મુજબ કરી શકાય.

પે..// ૩ //

પ્રધુમન પાર્ક ખાતે ઝુના વિકાસ માટેના એરફાયદા તરીકે હાલના ઝુથી વિસ્તાર અલગ પડે છે. જેથી હાલના પાંજરા "બીડીંગકેજ" તરીકે અથવા અન્ય કોઈ રીતે ઉપયોગ કરવાનો થાય.

આધુનિક ઝુ વન્યપ્રાણીના સંરક્ષણ અને પર્યાવરણની જાળવણી માટે ખુબજ અગત્યનો ભાગ ભજવે છે. ઝુ એક એવું સ્થળ છે કે જ્યાં લોકોને વન્યપ્રાણીની કુદરતી બાબતો, કુદરતી રિતભાત વન્યપ્રાણી સંરક્ષણ બાબતોની મુશ્કેલી તેમજ કુદરતી પર્યાવરણથી વાકેફ થવાની તક મળે છે. ઝુ માં જીવંત વસ્તુનું પ્રદર્શન થતું હોય લોકો માટે ખાસ આકર્ષક કેન્દ્ર બની રહે છે. વિશ્વમાં કોઈપણ મનોરંજન સ્થળ કરતા ઝુમાં મુલાકાતીની સંખ્યા વધારે હોય છે. આ ઝુ વન્ય પ્રાણીનું સંરક્ષણ, નાશના આરે ઉભેલા પ્રાણીઓનું બિડીંગ કરી ફરી પ્રાણીઓ કુદરતમાં દાખલ કરવા, વન્ય પ્રાણીઓ અંગે લોકોને શિક્ષણ આપવું, વૈજ્ઞાનિક સંશોધન કરવું, તથા લોકોના મનોરંજન આપવાનો હેતુ પરીપૂર્ણ કરવા માટે બનાવવામાં આવે છે.

આથી ઝુ ના વિકાસ માટે પુરતા વિસ્તારવાળા સ્થળની પસંદગી ખુબજ જરૂરી બને છે જે હકિકત ધ્યાને લેતા પ્રધુમન પાર્ક આ માટે બધી રીતે યોગ્ય જણાય છે. જો પ્રધુમન પાર્કનો વિકાસ કરવામાં આવે તો અંદાજે ૮૬ પાંજરા દ્વારા ૧૩૨ જાતના પશુપક્ષીનો સમાવેશ કરી એક આધુનિક, લોકોની અપેક્ષા સંતોષે અને ઝુ ના ઉદ્દેશો પરીપૂર્ણ થાય તેવું નૈસર્ગિક વાતાવરણવાળું ઝુ બનાવી શકાય.

આ માટે પાંજરા બનાવવા પાછળ અંદાજે રૂા. ૩૫૪ લાખનો ખર્ચ થાય તેમ છે તથા પાણીની ટેન્ક, પાઈપ લાઈન, કમ્પાઉન્ડ વોલ, દિવાલ, તમામ રસ્તા, પ્રવેશદ્વાર, પાર્કીંગ, બુર્કીંગ સેન્ટર, વહીવટી સંકુલ, મુલાકાતીઓની જૂદી જૂદી સુવિધા, ડીસ્પેન્સરી વિ. તમામ માટે અંદાજે રૂા. ૧૮૧ લાખનો ખર્ચ ગણતા કુલ રૂા. ૫૩૫ લાખનો ખર્ચ ખર્ચ થવા સંભવ છે. આ તમામ વિકાસને દશ વર્ષના તબક્કામાં ગોઠવતા વાર્ષિક રૂા. ૫૦ થી ૬૦ લાખનો ખર્ચ થાય. આ કામમાં સેન્ટલ ઝુ ઓથોરીટી હાલ મુખ્યત્વે નીચે જણાવેલ કામોમાં લગભગ ૫૦ ટકાના ધોરણે નાણાકીય મદદ કરે છે.

- :૧: કમ્પાઉન્ડ વોલ બાંધવા
- :૨: પાણી પુરવઠાની વ્યવસ્થા
- :૩: પ્રાણી-પક્ષીના પાંજરા સુધારવા માટે
- :૪: આધુનિક પશુ સારવાર માટે વ્યવસ્થા
- :૫: ખોરાકના સ્ટોરની વ્યવસ્થા
- :૬: કેપેટીવ બીડીંગ પ્રોગ્રામ વ્યવસ્થા
- :૭: માહિતી દર્શક બોર્ડ વ્યવસ્થા
- :૮: બીડીંગ બોન એકસચેન્જ

પે..// ૪ //

આ ઉપરાંત હાલ અમદાવાદ - મૈસુર વિ. શહેરોમાં જે રીતે જી પ્રવેશ ફી રાખી મેનેજમેન્ટ ખર્ચ કાઢવામાં આવે છે તે રીતે રૂા. પ, 'જી પ્રવેશ ફી' રાખી તેમાંથી મેનેજમેન્ટ ખર્ચ વસુલ કરી શકાય અને જી ની સારી રીતે નિભાવણી કરી શકાય.

મ્યુનિસિપલ કમિશનરશ્રીનો ઉપરોક્ત દરખાસ્ત લક્ષમાં લઈ વિસ્તૃત ચર્ચા વિચારણા કરતા સેન્ટલ જી ઓથોરીટી દ્વારા નિયત કરવામાં આવેલ ધારાધોરણ અનુસાર હાલ પંડિત દિનદયાલ ઉપાધ્યાય પાર્ક ખાતે આવેલ જી નો વિકાસ શક્ય જણાતો ન હોય પ્રધુમન પાર્ક ખાતે એક આધુનિક જી ઉભુ કરવા સૈદ્ધાંતિક નિર્ણય કરવામાં આવે છે.

તા. ૪/૦૨/૯૯

સર્વાનુમતે મંજુર

(સહી) પ. જી. ભરેલી
ચેરમેન

પ્રમાણીત નકલ

૦૨/૦૨/૧૯૯૯

૫૭ ૩૧૯ સેક્રેટરી,
રાજકોટ મ્યુનિસિપલ કોર્પોરેશન

સ્ટેન્ડીંગ કમિટી,
રાજકોટ મ્યુનિસિપલ કોર્પોરેશન.

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HGS

Annexure - II
Copy of Earlier Revised Layout Plan's Approval Letter of CZA
(2007-08)

Annexure - I



केन्द्रीय चिड़ियाघर प्राधिकरण
Central Zoo Authority

(STATUTORY BODY UNDER THE MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Dr. B.R. SHARMA
MEMBER SECRETARY

Bikaner House, Annexe VI,
Shahjahan Road, New Delhi-110011
website : <http://www.cza.nic.in>

F. No. 19-48/92-CZA(Vol. IV)(75)(SB)

Dated: - 08/08/2007

To

Shri P.P. Vyas
Dy. Commissioner
Rajkot Municipal Corporation
Rajkot - 360 001.
(Gujarat)

Sub:- Revised lay-out Plan of Rajkot Municipal Zoo, Rajkot - Reg.

Sir,

Please refer to your letter no. R.M.C/200/DO/NO. 114 dated 22/06/2007.

The difficulties pointed out by you with regard to the execution of revised layout plan of Rajkot Municipal Zoo, Rajkot were placed before the meeting of the Sub-Committee on Zoo Designing of the Central Zoo Authority held on 31/07/2007. The Committee Members have approved the revised lay out plan prepared by Shri R. S Bhadauria subject to that you carryout modification in the portion meant for the African Savannah including that the road proposed on the Southern periphery be left for future expansion of the zoo and the same should not be constructed at now.

Yours faithfully
Sd/-

(B.R. Sharma)
Member Secretary

Copy to:-

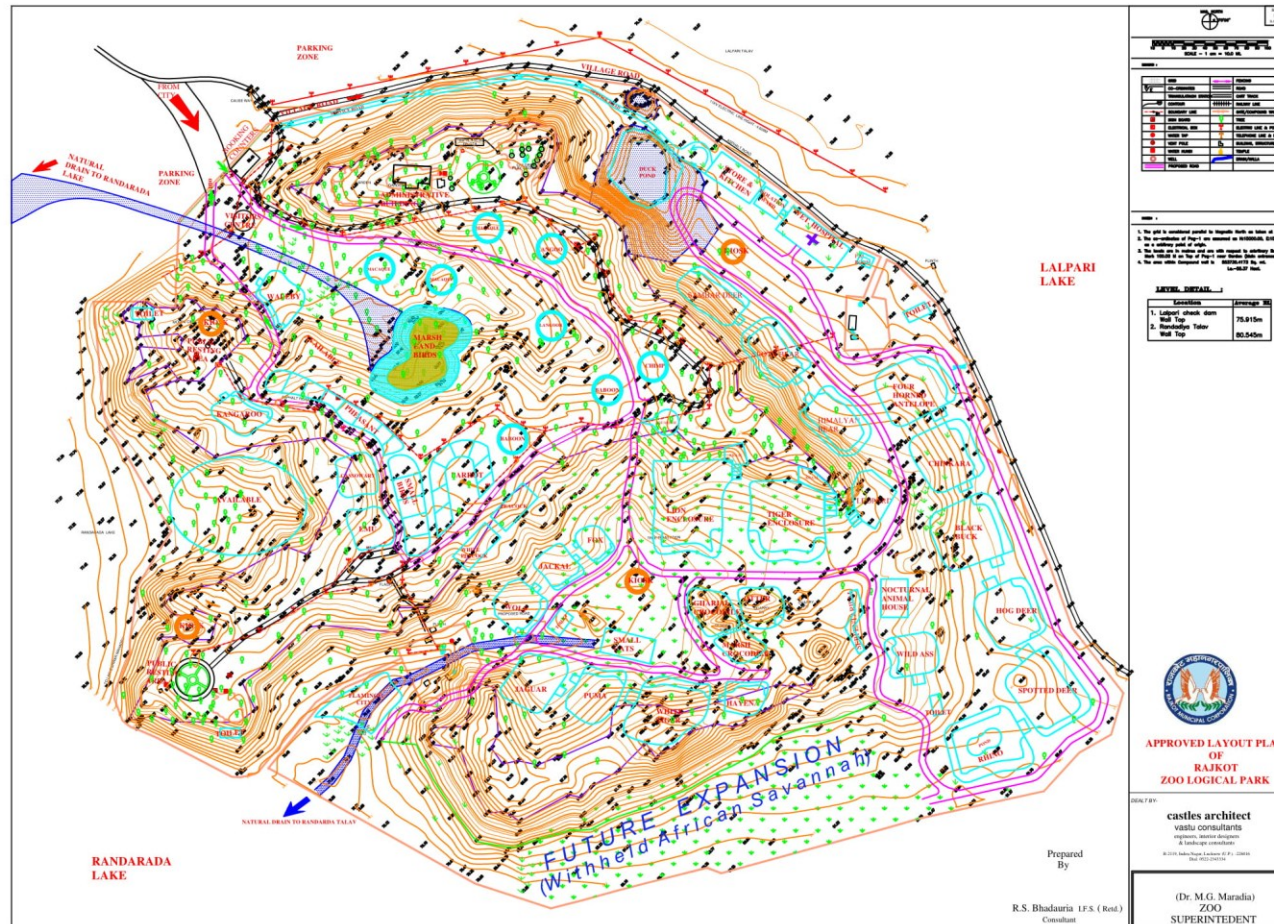
1. The Commissioner, Rajkot Municipal Corporation, Rajkot - for favour of information and necessary action.
2. The Chief Wild Life Warden, Government of Gujarat, Gandhinagar - for favour of information.
3. The Zoo Superintendent, Rajkot Zoo, Rajkot - for favour of information.

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(B.R. Sharma)
Member Secretary

R. S

Annexure - III Earlier Approved Revised Layout Plan of Rajkot Zoological Park (2007-08)

Annexure - III: Earlier Approved Revised Layout Plan of Rajkot Zoological Park (2007-08)



Annexure IV
Copy of Revised Layout Plan's Approval Letter of CZA (2012-13)



THROUGH REGISTERED POST

F. No. 19-48/92-CZA(75)(Vol. VI)(M)/2526

DATE: 04.04.2013

To

The Zoo Superintendent
Rajkot Zoological Park,
Rajkot Municipal Corporation,
Ahmedabad-Junagadh by pass,
Rajkot – 360 003 (Gujarat).

Sub:- Power point presentation on the amended Master (layout) Plan of the Rajkot Zoological Park, Rajkot and the designs for the construction of various enclosures at Rajkot Zoo, Rajkot.

Sir,

Reference is invited to the power point presentation delivered by you on the modification/ changes to be made in the already approved Master (layout) Plan of the Rajkot Zoological Park, Rajkot before the Meeting of the Expert Group on Zoo Designing of the Central Zoo Authority held on 1st March 2013.

After detailed deliberation the Master (layout) Plan was approved subject to the following:-

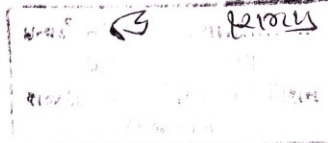
- (i) The position of the water body should be changed as discussed.
- (ii) The availability of Cheetah for proposed Conservation Breeding Centre should be explored till then it would be identified as future expansion for conservation breeding.
- (iii) The fox enclosure to be replaced by wolf.

The designs for the construction of White tiger, Wolf, Wild ass, Jackal and fox enclosures at Rajkot Zoological Park, Rajkot were also placed before the Meeting of the Expert Group on Zoo Designing of the Central Zoo Authority held on 1st March 2013. After detailed deliberation, the committee members approved the designs.

The signed copies of designs are enclosed for necessary action at your end.

Signature
11/4/13

cy.



...2/-

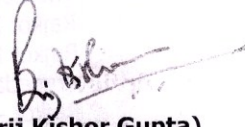
Bikaner House, Annexe VI, Shahjahan Road, New Delhi-110011
Phone : 011-23381585, 23073072, 23070375 (EPABX), Fax : +91-11-23386012
E-mail : cza@nic.in Website : <http://www.cza.nic.in>

Amended copies (three numbers) of revised Master (layout) Plan should be submitted for its approval.

Yours faithfully,
sd/-
(B. S. Bonal)
Member Secretary

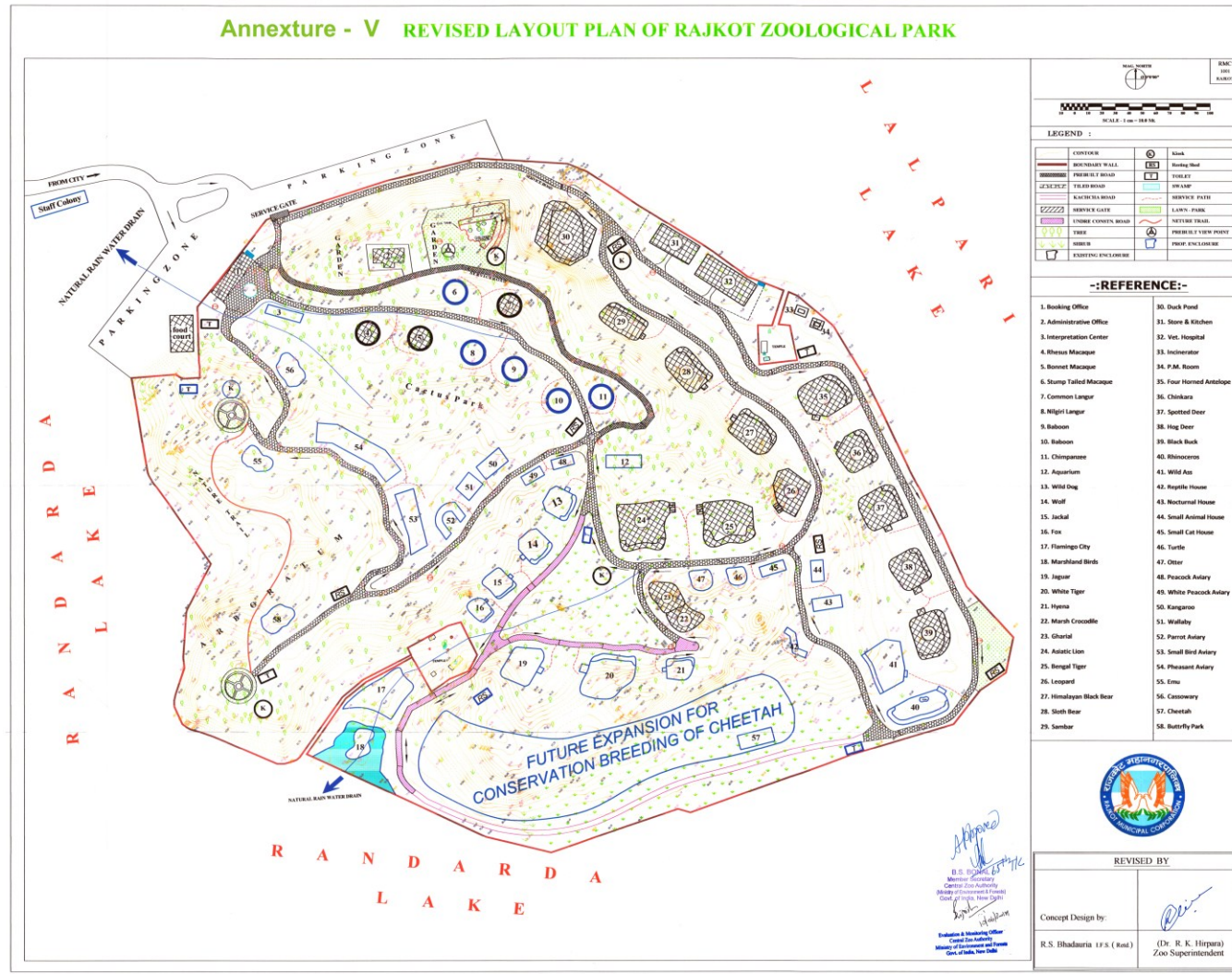
Encl: as above

Copy to the Chief Wildlife Warden, Government of Gujarat, Gandhinagar for favour of information.


(Dr. Brij Kishor Gupta)
Evaluation and Monitoring Officer

Annexure - V

Approved Revised Layout Plan of Rajkot Zoological Park (2012-13)



Annexure - VI
Copy of Revised Master Layout Plan's approval letter of CZA
(2017-18)



GOVERNMENT OF INDIA
भारत सरकार

MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय

Central Zoo Authority
केन्द्रीय चिड़ियाघर प्राधिकरण



By Post

F. No. 19-48/92-CZA(75)(Vol. VII)(PKR)/2234/2017

By Post / E-mail
Date: 29.12.2017

To,
The Commissioner,
Rajkot Municipal Corporation,
Dr. Ambedkar Bhavan, Dhebarbhai Road,
Rajkot - 360 001 (Gujarat),
E-mail: mc_rmc@rmc.gov.in

Sub:- Revised Master (Layout) Plan of the Rajkot Zoological Park, Rajkot, Gujarat – reg.
Ref:-

1. This office letter F. No. 19-48/92-CZA(75)(Vol. VII)(PKR)/1797 dated 25.10.2017.
2. This office letter F. No. 19-48/92-CZA(75)(Vol. VII)(PKR)/1942 dated 13.11.2017.
3. The letter RMC/ZOO/VET/NO. 649 dated 16.12.2017 received from the Zoo Superintendent, Rajkot Zoological Park, Rajkot, Gujarat.

Sir,
Reference is invited to the above cited correspondence.

The amended Master (Layout) Plan of Rajkot Zoological Park, Rajkot, Gujarat has been recommended in 84th meeting of the Technical Committee of the Central Zoo Authority held on 19.09.2017 and approved in 30th meeting of Central Zoo Authority held on 28.09.2017 subject to compliance with the conditions. The same was communicated to you vide letter referred at S. No. 1. As the Zoo have complied with stipulated condition, as communicated to this office vide letter referred at S. No. 3, the approval of this Authority on revised Master (Layout) Plan of the Rajkot Zoological Park, Rajkot, Gujarat is communicated herewith.

Signed copy of the Master (Layout) Plan of the Rajkot Zoological Park, Rajkot, Gujarat is enclosed with this letter for necessary action at your end and records. You are requested to expedite the submission of Master Plan of the Rajkot Zoological Park, Rajkot for scrutiny and approval.

Yours sincerely,

(Dr. D. N. Singh)
Member Secretary

Encl.: As above.

Copy for information and necessary action to:-

The Zoo Superintendent, Rajkot Zoological Park, Near Marketing Yard, Rajkot -
360 003 (Gujarat), E-mail: raikotzoo@yahoo.com

B-1 Wing, 6th Floor, Pt. Deendayal Antyodaya Bhawan, CGO Complex, Lodhi Road, New Delhi-110003
बी-1 विंग, छठा तल, पंडित दीनदयाल अन्तोदय भवन, सीजीओ परिसर, लोधी रोड, नई दिल्ली-110003
Tel.: 011-24367846, 24367851, 24367852, Fax: 011-24367849
E-mail: cza@nic.in, Website: <http://www.cza.nic.in>

Annexure - VII

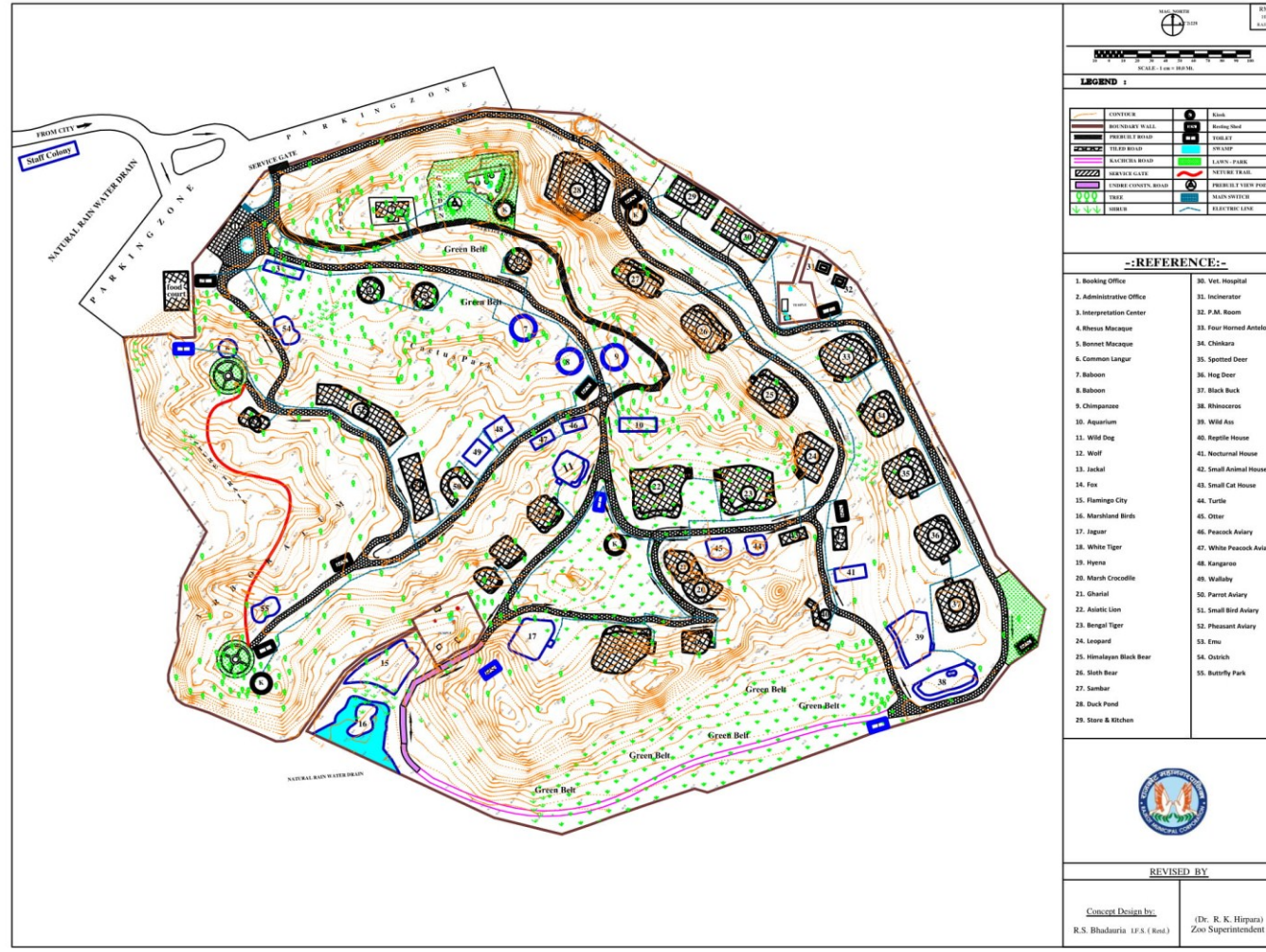
Approved Revised Master Layout Plan of Rajkot Zoological Park (2017-18)

ANNEXURE - VII Revised Master Layout Plan of Rajkot Zoological Park (2017-18)



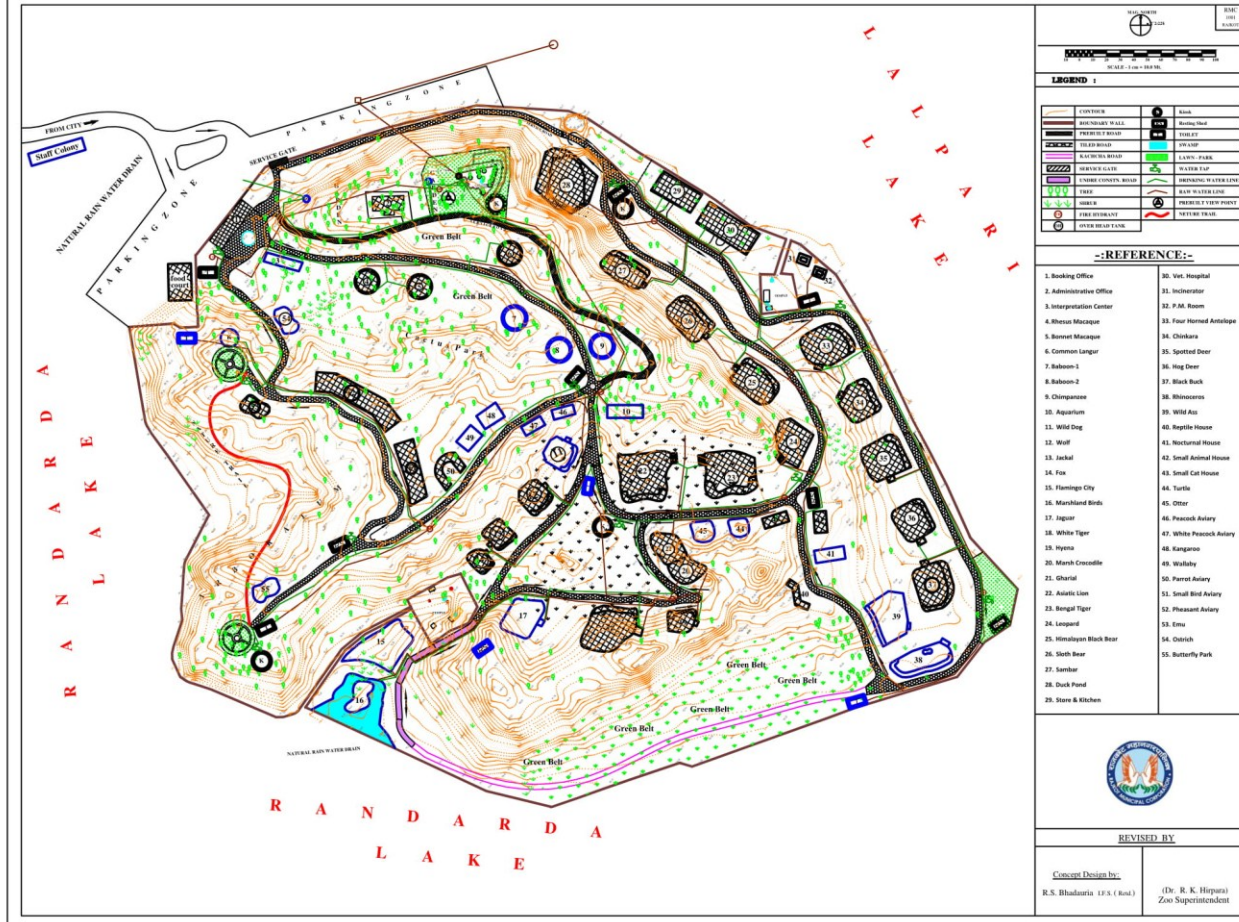
Annexure - VIII Separate Layout Plan showing distribution of electric line

Annexure - VIII : Separate Revised Layout Plan of Rajkot Zoological Park showing "DISTRIBUTION OF ELECTRIC LINE"



Annexure - IX Separate Layout Plan showing distribution of Water line

Annexure - IX : Separate Revised Layout Plan of Rajkot Zoological Park showing "DISTRIBUTION OF WATER LINE"



Annexure - X
Existing animal collection

Mammals:

SR.	Name of Species	Scientific Name	BALANCE AS ON DT. 31/03/2018			
			Male	Female	U/S	Total
1	Lion Asiatic	<i>Panthera leo persica</i>	4	14	0	18
2	Tiger Bengal	<i>Panthera tigris tigris</i>	0	2	0	2
3	Tiger White	<i>Panthera tigris tigris</i>	1	6	0	7
4	Leopard	<i>Panthera pardus</i>	1	1	0	2
5	Hyena Stripped	<i>Hyena hyena</i>	2	2	0	4
6	Indian Wolf	<i>Canis lupus pallipus</i>	1	1	0	2
7	Jackal	<i>Canis aureus</i>	2	2	3	7
8	Fox Indian	<i>Vulpes bengalensis</i>	0	1	0	1
9	Himalayan Bear	<i>Selenarctos thibetanus</i>	1	1	0	2
10	Sloth Bear	<i>Ursus urnisus</i>	1	1	0	2
11	Samber	<i>Cervis unicolor</i>	9	7	0	16
12	Chausinga	<i>Tetracerus quadricornis</i>	0	0	0	0
13	Chinkara	<i>Gazella bennetti</i>	2	3	0	5
14	Spotted deer	<i>Axis axis</i>	6	6	1	13
15	Hog Deer	<i>Axis porcinus</i>	9	6	2	17
16	Black Buck	<i>Antelope cervicapra</i>	13	17	6	36
17	Black Buck White	<i>Antelope cervicapra</i>	2	1	2	5
18	Common Langur	<i>Presbytis entellus</i>	2	3	0	5
19	Bonnet Macaque	<i>Macaca radiate</i>	2	1	0	3
20	Rhesus Macaque	<i>Macaca mulatta</i>	4	5	0	9
21	Jungle Cat	<i>Felis chaus</i>	2	0	0	2
22	Porcupine	<i>Hystrix indica</i>	1	1	2	4
23	Common palm civet	<i>Paradoxurus hermaphroditus</i>	1	1	0	2
Total			66	82	16	164

Birds:

SR.	Name of Species	Scientific Name	BALANCE AS ON DT. 31/03/2018			
			Male	Female	U/S	Total
1	Great White Pelican	<i>Pelecanus onnocrotalus</i>	4	8	0	12
2	Dalmatian Pelican	<i>Pelecanus crispus</i>	1	2	0	3
3	Spot Billed Duck	<i>Anas poecilornyncha</i>	2	3	0	5
4	Emu	<i>Dromaius novaehollandiae</i>	1	1	1	3
5	Golden Pheasant	<i>Chrsolophus pictus</i>	1	1	0	2
6	Silver Pheasant	<i>Lophura nycthemera</i>	2	3	0	5
7	Ring neck Pheasant	<i>Phasianus colchicus</i>	2	2	0	4
8	Kalij Pheasant	<i>Lophura leucomelanos</i>	1	1	0	2
9	Lady Amherst pheasant	<i>Chrysolophus amherstiae</i>	2	2	0	4
10	Cockateil	<i>Nymphicus hollandicus</i>	15	15	16	46
11	Budgerigar	<i>Melopsittacus undulatus</i>	0	0	51	51
12	Great Horned Owl	<i>Bubo Bengalensis</i>	1	0	0	1
13	Ostrich	<i>Struthio camalus</i>	0	1	0	1
14	Red Jungle Fowl	<i>Gallus gallus</i>	2	2	0	4
15	Parakeet Alexandrine	<i>Psittacula eupatria</i>	4	4	0	8
16	Parakeet Rose Ring	<i>Psittacula krameri</i>	4	4	0	8
17	Whie Ibis	<i>Threskornis melanocephalus</i>	4	4	0	8
18	Heron Night	<i>Nycticorax nycticorax</i>	5	5	0	10
19	Cormorant Little	<i>Microcarbo niger</i>	3	3	0	6
		Total	54	61	68	183

Reptiles:

SR.	Name of Species	Scientific Name	BALANCE AS ON DT. 31/03/2018			
			Male	Female	U/S	Total
1	Crocodile Marsh	<i>Crocodylus palustris</i>	2	0	0	2
2	Gharial	<i>Gavialis gangeticus</i>	2	2	0	4
3	Star tortoise	<i>Geochelon elegans</i>	2	3	5	10
4	Cobra Indian	<i>Naja naja</i>	1	1	0	2
5	Indian Rock Python	<i>Python molurus</i>	2	2	0	4
6	Sand boa common	<i>Gongylophis elegans</i>	0	0	2	2
7	Snake Keelback	<i>Xenochrophis piscator</i>	2	2	0	4
		Total	11	10	7	28

Annexure – XI

Free Living Species occurring in the Zoo Campus – Fauna

A. Avian

1	Great crested grebe	37	Shikra
2	Little grebe	38	Osprey
3	Great cormorant	39	Peregrine falcon
4	Little cormorant	40	Common quail
5	Darter	41	Rain quail
6	Large egret	42	Grey francolin
7	Purple heron	43	Indian peafowl
8	Grey heron	44	White breasted water hen
9	Black crowned night heron	45	Water cock
10	Indian pond heron	46	Common moorhen
11	Cattle egret	47	Purple moorhen
12	Median egret	48	Common coot
13	Little egret	49	Pheasant tailed jacana
14	Painted stork	50	Black winged stilt
15	Asian open bill stork	51	Stone curlew
16	Oriental white ibis	52	Red wattle lapwing
17	Black ibis	53	River tern
18	Glossy ibis	54	Blue rock pigeon
19	Eurasian spoonbill	55	Eurasian collared dove
20	Lesser flamingo	56	Red collared dove
21	Greater flamingo	57	Little brown dove
22	Brahminy shelduck	58	Rose ringed parakeet
23	Comb duck	59	Brain fever bird
24	Lesser whistling duck	60	Pied crested cuckoo
25	Northern pintail	61	Asian koel
26	Common teal	62	Greater coucal
27	Spot billed duck	63	Brown owl
28	Gadwall	64	Eurasian eagle owl
29	Eurasian wigeon	65	Spotted owl
30	Northern shoveller	66	House swift
31	Garganey	67	Common Indian nightjar
32	Common pochard	68	Lesser pied kingfisher
33	Tufted pochard	69	Small blue kingfisher
34	Black shoulder kite	70	White breasted kingfisher
35	Honey buzzard	71	Blue cheeked bee eater
36	Black kite	72	Indian roller

73	Common hoopoe	89	Asian paradise flycatcher
74	Coppersmith barbet	90	Grey headed flycatcher
75	Wire tailed swallow	91	Rufous fronted prinia
76	Great grey shrike	92	Ashy prinia
77	Rufous shrike	93	Common tailor bird
78	Eurasian golden oriole	94	Oriental magpie robin
79	Black drongo	95	Indian robin
80	Rosy starling	96	Yellow wagtail
81	Brahminy starling	97	White wagtail
82	Common myna	98	Purple sunbird
83	Indian Treepie	99	Oriental white eye
84	House crow	100	House sparrow
85	Common iora	101	Baya weaver
86	Red vented bulbul	102	Black breasted weaver
87	Large grey babbler	103	Red munia
88	Ticklell's blue flycatcher	104	White throated munia

B. Reptiles

1	Common sand boa
2	Trinket
3	Wolf snake
4	Checkered kill back
5	Rat snake
6	Cobra
7	Saw scaled viper
8	Krait
9	Garden lizard
10	Monitor Lizard
11	Indian Pond Turtle
12	Star tortoise

C. Mammals

1	Indian hare
2	Porcupine
3	Mongoose common
4	Hedge-hog
5	Jungle cat
6	Five Striped Squirrel



Shikra



Red wattleed lapwing

Annexure - XII

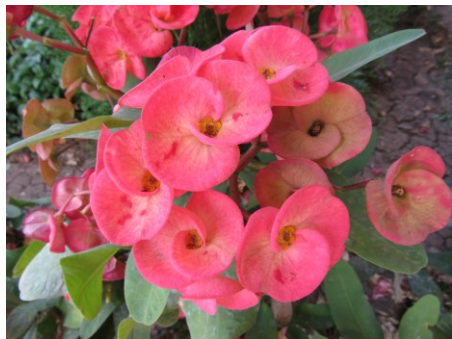
Free Living Species occurring in the Zoo Campus – Flora

Sr. No.	Name	Botanical Name
1.	Sitafal	<i>Annona squamosa</i>
2.	Umabro	<i>Polyalthia cerasoides</i>
3.	Asopalav	<i>Polyalthia longifolia</i>
4.	Paras piplo	<i>Thespesia populnea</i>
5.	Shemlo	<i>Bombax ceiba</i>
6.	Kadayo	<i>Streculia urens</i>
7.	Bili	<i>Aegle marmelos</i>
8.	Bijoru	<i>Citrus medica</i>
9.	Arduso	<i>Ailanthus excelsa</i>
10.	Limdo	<i>Azadiracha indicia</i>
11.	Vikalo	<i>Moytenus emarginata</i>
12.	Bor	<i>Zizyphus glaberata</i>
13.	Aritha	<i>Sapindus emarginatus</i>
14.	Kanji	<i>Anacardium occidentale</i>
15.	Amla	<i>Spondias mangifera</i>
16.	Jungle Saragavo	<i>Moringa concanensis</i>
17.	Khakhro	<i>Butea monosperma</i>
18.	Sissoo	<i>Dalbergia sissoo</i>
19.	Kachner	<i>Bauhinia purpurea</i>
20.	Asondaro	<i>Bauhinia racemosa</i>
21.	Garmalo, amaltas	<i>Cassia fistula</i>
22.	Kasid	<i>Cassia siamea</i>
23.	Samdarso	<i>Delonix elata</i>
24.	Gulmohar	<i>Delonix regia</i>
25.	Arjun	<i>Hardwichia binate</i>
26.	Ram baval	<i>Parkinsonia aculeate</i>
27.	Ashoka tree	<i>Saraca asoca</i>
28.	Amlı	<i>Tamarindus indicia</i>
29.	Khair	<i>Acacia chundra</i>
30.	Hermo baval	<i>Acacia</i>
31.	Deshi baval	<i>Acacia nilotica</i>
32.	Gorad	<i>Acacia Senegal</i>
33.	Subabul	<i>Leucaena leucocephala Fabaceae</i>
34.	Goras Amlı, Jungle Jalebi	<i>Pithecellobium dulce</i>
35.	Khijdo	<i>Prosopis cineraria</i>
36.	Gando baval	<i>Prosopis juliflora</i>
37.	Arjun sadad	<i>Terminalia arjuna</i>
38.	Baheda	<i>Terminalia bellirica</i>
39.	Badam	<i>Terminalia catappa</i>
40.	Harde	<i>Terminalia chebula</i>
41.	Nilgiri	<i>Eucalyptus citriodora</i>
42.	Kadamba	<i>Anthocephalus indicus</i>
43.	Mahuda	<i>Madhuca indicia</i>

Sr. No.	Name	Botanical Name
44.	Rayan	<i>Manilkara hexandra</i>
45.	Bakul, Borsali	<i>Mimusops elengi</i>
46.	Timru	<i>Diospyros melanoxylan</i>
47.	Parijatak	<i>Nyctanthes arbortristis</i>
48.	Piludi	<i>Salvadora oleoides</i>
49.	Saptaparni	<i>Alstonia scholaris</i>
50.	Champo	<i>Plumeria rubra</i>
51.	Pilikaren	<i>Thevetia peruviana</i>
52.	Jungle gundi	<i>Cordia perrottetii</i>
53.	Gundi	<i>Cordial gharaf</i>
54.	Sag	<i>Tectona grandis</i>
55.	Amla	<i>Emblica officinalis</i>
56.	Tagar	<i>Excaecaria agallocha</i>
57.	Vad	<i>Ficus benghalensis</i>
58.	Pipli	<i>Ficus mysorensis</i>
59.	Piplo	<i>Ficus religiosa</i>
60.	Pipar	<i>Ficus amplissima</i>
61.	Golden bamboo	<i>Bamubusa Valgaris</i>
62.	Green bamboo	<i>Bamubusa spps</i>
63.	Palm	<i>Arecaceae</i>
64.	Mango tree	<i>Mangifera indica</i>



Vegetation at Rajkot Zoological Park



Annexure - XIII

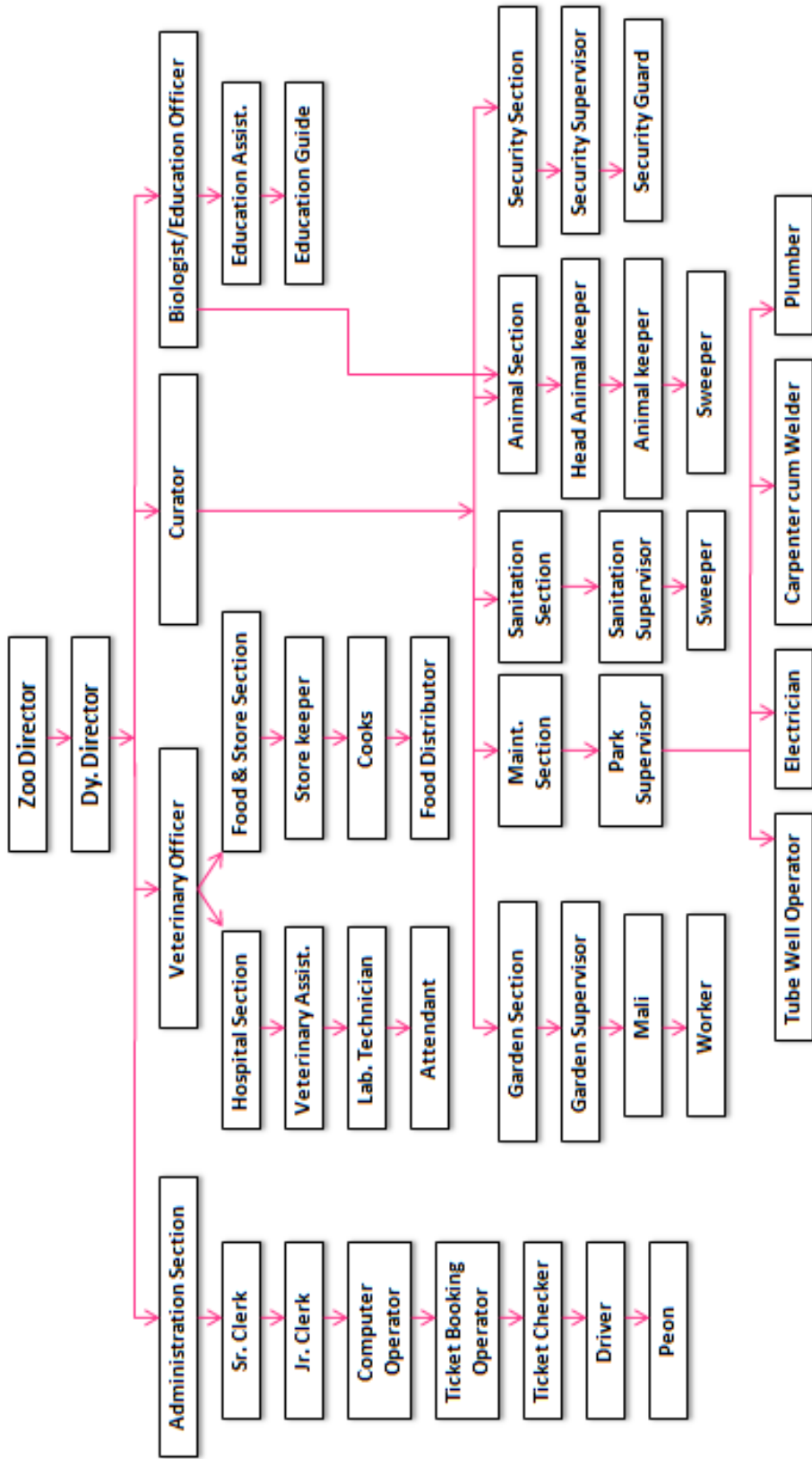
Sanctioned, proposed & present staffing pattern and position

Sr. No.	Name of Post	Post Sanctioned	Post filled up	Proposed
Permanent / Regular employees				
1	Zoo Director	1	1	1
2	Dy. Director	0	0	1
3	Veterinary Officer	1	1	2
4	Curator	1	1	1
5	Biologist cum Education Officer	1	1	1
6	Senior Clerk	1	1	1
7	Junior Clerk	1	1	2
8	Peon	2	2	2
9	Ticket Booking Operator	3	3	4
10	Veterinary Assistant	1	1	2
11	Lab. Technician	0	0	1
12	Store keeper	0	0	1
13	Cook	0	0	3
14	Food Distributor	0	0	4
15	Attendant	0	0	1
16	Park supervisor	0	0	1
17	Garden supervisor	0	0	1
18	Sanitation supervisor	0	0	1
19	Education Assistant	0	0	1
20	Education Guide	0	0	1
21	Head Animal Keeper	1	1	1
22	Animal Keeper	14	14	18
23	Driver (For Office & Field)	1	1	2
24	Sweeper for office	1	1	1
Total – A		29	29	54

Contractually outsourced employees through agency				
25	Sweeper (For encl, road, Garden)	8	8	18
26	Computer Operator	0	0	1
27	Ticket Checker	2	2	2
28	Driver for battery cars	6	6	8
29	Mali	1	1	4
30	Electrician	0	0	1
31	Plumber	1	1	1
32	Tube well Operator	1	1	1
33	Carpenter cum welder	0	0	1
34	Security Supervisor	1	1	1
35	Security Guard	30	30	38
36	Worker for miscellaneous work	15	15	15
Total – B		65	65	91
Grand total (A+B)		94	94	145

Total Number of Staff including Security and Contract Employees = 145

Structure of Proposed Staff Pattern of Rajkot Zoological Park



Annexure - XIV

List of building other than animal enclosures

Sr. No.	Particulars	Present	Proposed
1.	Booking Office Complex	01	01
2.	Administrative Office	01	01
3.	Interpretation Centre	00	01
4.	Feed Store & Kitchen	01	01
5.	Veterinary Hospital	01	01
6.	P.M. Room & Incinerator	01	01
7.	Heritage Circle	03	03
8.	Resting Shed	05	06
9.	Kiosk	04	04
10.	Over Head Tank (ESR)	02	02
11.	Sump (GSR)	01	01
12.	Pump House	01	02
13.	Well	01	01
14.	Bore	01	01
15.	Battery Car/Cycle Shed	08	12
16.	Toilet Block	03	04
Total		34	42



Kanak Circle

One of the Heritage structure at Rajkot Zoological Park



RAJKOT ZOOLOGICAL PARK
“PRADUMAN PARK” BHICHARI ROAD,
BEHIND OLD MARKETING YARD,
RAJKOT – 360003, GUJARAT, INDIA
PHONE: (o) 9723200145, FAX : 0281-2224258
Email: rajkotzoo@yahoo.com