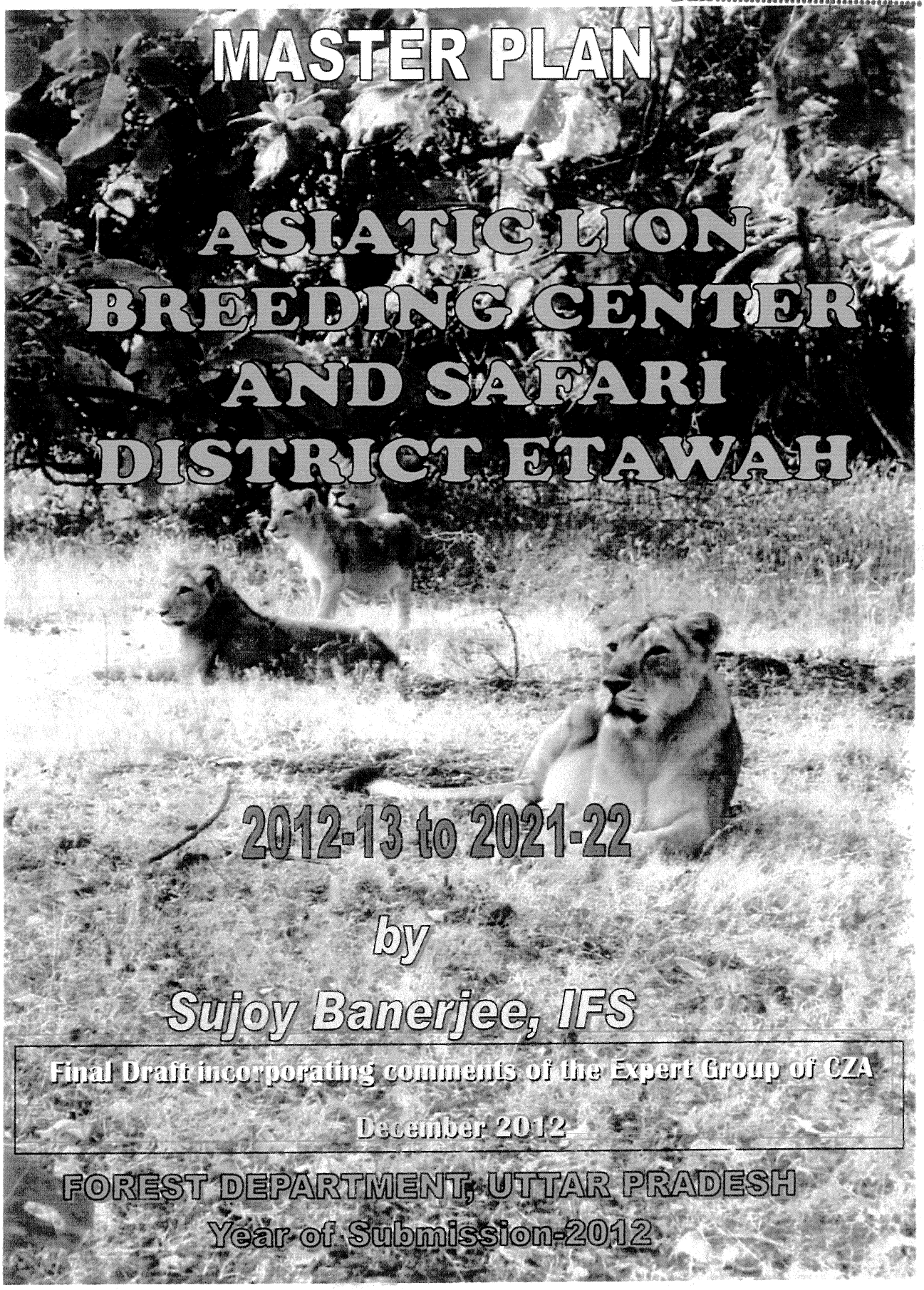
O/o Central Zoo Authority
Diary No. 37
Date 05/2/2013



## CERTIFICATE

This is to certify that this Master Plan for Asiatic Lion Breeding Center and Lion Safari proposed at District Etawah has been prepared by Shri Sujoy BanerJee IFS, Dy. Conservator of Forests, National Chambal Sanctuary Project Division, Agra.

(Sujoy Banerjee)
Dy. Conservator of Forests,
National Chambal Sanctuary Project,

(Rupak De)
PCCF, Wildlife & Chief Wildlife Warden,
Uttar Pradesh, Lucknow

Master Plan of Lion Safari for 2012-13 to 2021-22 is approved in the 64th Meeting of the Technical Committee of the Central Zoo Authority held on 5th February, 2013 subject to the condition that the responsibility of mobilizing the financial resources for implementation of the Master plan will be sole responsibility of the Forest Department, Government of Uttar Pradesh.

**Member Secretary**
**Central Zoo Authority**
**New Delhi**

O/o Central Zoo Authority
Diary No. 37
Date 05/2/2013

## TABLE OF CONTENTS

| | | |
|---|---|---|
| | (c) Animal House Section<br>Animal House Front Elevation | |
| ATTACHMENT 1 | **Central Zoo Authority's letter no, F No 20-81/2004-CZA (498) (Vol. I) (M)/ 2248 regarding approval of this Master Plan** | |

## ACKNOWLEDGEMENTS

I am privileged to be considered worthy of the assignment of overseeing the development and operationalization of the proposed Asiatic Lion Breeding Center and Lion Safari.

I am thankful to Mr. J.S. Asthana, IFS, PCCF, Uttar Pradesh and erstwhile Chief Wildlife Warden, Uttar Pradesh for his continued guidance and support to the project.

I express gratitude to Mr. Rupak De, IFS, Chief Wildlife Warden, Uttar Pradesh who has been a constant source of inspiration and guidance.

I am thankful to Dr. S.P. Srivastava, IFS, Chief Conservator of Forests, Wildlife, Kanpur for his able guidance and support to the project.

I am thankful to Mr. B.S. Bonal, IFS, Member Secretary, Central Zoo Authority, New Delhi for his valuable guidance provided for planning and operationalization of the project.

I wish to thank Dr. Vibhuti Rai, Professor, Department of Geology, Lucknow University and Ms. Purnima Sharma, Researcher, Department of Geology, Lucknow University for their help in GIS mapping of the lion safari area.

(SUJOY BANERJEE, IFS)
Deputy Conservator of Forests,
National Chambal Wildlife Division,
Agra

## PREFACE

The Asiatic lion (*Panthera leo persica*) are one among the five big cats found in India, the other four being the Royal Bengal or Indian Tiger (*Panthera tigris*), leopard (*Panthera pardus*), Snow leopard (*Panthera uncia*) and the clouded leopard (*Neofelis nebulosa*). Their gregarious behaviour, that is, their existence in groups (prides) makes them unique in comparison to other big cats.

The Asiatic lion have evolved as a sub-species due geographical separation some 1,00,000 years ago. Due to this reason, they are morphologically and genetically very similar to the African lion subspecies, namely, the Angola Lion (*Panthera leo bleyenberghi*) found in Zimbabwe, Angola and Zaire, Masai Lion (*Panthera leo massaicus*) found in Eastern Africa, notably Kenya and Tanzania, Senegalese Lion (*Panthera leo senegalensis*) existing in Western Africa and Transvaal or South African Lion (*Panthera leo kruegri*) found in Botswana, Nambia and South Africa. The major difference between the Asiatic Lion and African Lion is that Asiatic have a smaller mane in males, an abdominal fold and pairing (or bifurcation) of the infraorbital foramen (that is, they have two holes as opposed to one in the skull just below the eye). The African and Asian lions are capable of interbreeding. This has resulted in genetic pollution of the lions housed in various zoos in India due to interbreeding with African lions confiscated from circuses and bred in captivity.

Presently, the only wild population of Asiatic lion is found only in Gir National Park, Gujarat. Keeping in view the susceptibility of such population to disease and calamaties, there is a need to create a breeding center for supporting the pure Asiatic lion population. Availability of suitable forest area close to Etawah city, which is also the Divisional headquarters of the Etawah Social Forestry Division qualifies it amply for setting up a Lion Breeding Center and Safari, a smaller version of free ranging lion area. Besides this, the National Chambal Sanctuary is situated close by and is the only Ghariyal repository as a sanctuary in the world. These two wild life attractions will offer the sighting of world's two rarest faunal species and unique heritage of India. From conservation point of view, the establishment of Lion Safari will serve the dual purpose of creating a breeding centre for Asiatic lion as well as replicating a wild population of Asiatic lions of the bye gone era in its former range of habitat, though in captivity, yet nearly free. It is with this intention that the Asiatic Lion Breeding Center and Safari is being proposed in Etawah, which is accessible from Agra, an international tourist destination as well as from other major cities in the state of Uttar Pradesh, namely, Kanpur and Lucknow. The center is proposed at a distance of about 5 kms from the Etawah town.

The proposed Asiatic Lion Breeding Center and Safari would be first lion safari in the state as well as northern India and the only center dedicated to a single species.

## FOREWORD

It gives me great pleasure to be associated with the endeavour of establishing a lion breeding center and safari at Etawah. This facility is sure to go a long way in supplementing the conservation efforts not only within the state and country, but globally. The envisioned facility will help to create a gene bank of Asiatic lion that will be available for supplementing captive populations as well as free ranging populations.

The requirement to promote eco-awareness and eco-sensitivity shall be addressed and will also put to practice the eco-conciousness of the people of the State.

(RUPAK DE)
Chief Wildlife Warden,
Uttar Pradesh

# PART – I

## CHAPTER – I

## Introduction

### A. HISTORY:

The Lion Breeding Center & Safari is proposed to be located in the historical "***Fisher Forests***" located on the Etawah-Gwalior Road, about 5 kms from Etawah town. The area contains one of the oldest plantations in the state. In 1884, the erstwhile District Magistrate of Etawah, Mr. J.F. Fisher was able to convince the *zamindars* of the area to voluntarily hand over the ravine area of 1146.07 ha to the District Magistrate so that it could be saved from further erosion and degradation. The *zamindars* were to pay for the works to be undertaken and the profit accruing through it was to be divided among them. Accordingly, the area was ploughed and seeds of babool (*Acacia nilotica*), shisham (*Dalbergia sissoo*), and neem (*Azhadhiracta indica*) were sown and the area was closed for grazing.

The growth of babool was so encouraging that in 1912, Cooper Allen Company of Kanpur was attracted to take the entire land at a lease rent of Rs. 2.50 per hectare per year for a period of 50 years. This company commercially exploited and extended the Fisher Forests till the year 1914. Thereafter, the company handed over the lease to the Forest Department with a liability of Rs. 2,500 as the cost of the lease and Rs. 2,382 lease rent to be paid to the *zamindars* annually. In this way, these forests have been under the control of the Forest Department since 1914.

Two kinds of activities were undertaken by the Forest Department in the following years; firstly, construction of check dams to prevent soil erosion and secondly, plantation and seed sowing of appropriate species.

In course of time, broad leaved forests were established in the area. However, due to high biotic pressure, the broad leaved species gradually deteriorated, and eventually the area ended up being severely eroded and degraded. In the year 1985 and subsequent few years, broadcast sowing of *Prosopis juliflora* was undertaken. As a result, the density of *P. juliflora* increased and the area was converted into a *P. juliflora* forest with sporadic occurrence of other species.

The Asiatic Lion (Panthera leo) which once roamed and reigned all over northern, western and central Indian forests (from Hindukush to Bay of Bengal and up to Narmada river) was driven out of its range by another big cat, equally matched in power but more cunning and agile spp- the Tiger (Panthera tigris), which sometimes later strayed in to Indian subcontinent through its north –eastern forest corridor from

across south-eastern Asian region. These two big cats rivaled for supremacy and the Tiger proved mightier resulting in to usurping most of the territories held by Lion and driving the later to the western extremity of India - the Gir forests of Kathiawar in Gujarat state. The historical records indicate that in northern India, the last area, held by the migrating lion was the forests in Yamuna river catchment until medieval times as the Mughal emperors shot lion in Shwalik foot hill forests (now Saharanpur forest division) and Aravali ridge forests around Delhi. While Siwalik foothills were occupied by Tigers because the habitat there remained conducive but down below as human population grew man-animal conflict increased and entire prides of lions were wiped out, coupled with depleting prey base and habitat loss, only a small population of Asiatic lion (411 individuals as per April 2010 census) remained in the wild in the Gir forests of Gujarat.

Thus, the Yamuna catchment forests were the last refuge of Asiatic lion in north India, retreating towards western fringe of the country due to constant onslaught of the invading Tigers. Inspired by this historical territorial back ground of lion, the former Chief Wild life Warden of U.P.- Shri R.S. Bhadauria in the year 1990-91, mooted the idea of reviving the past glory of Yamuna river catchment forests, by putting a pride of Asiatic lions back in to its lost territory, Fortunately there exists a very good and vast forest area along Yamuna river, known as Fisher Forest, which is akin to Lion habitat and is situated on the outskirts of Etawah city. Availability of suitable forest area close to Etawah city, which is also a divisional Head quarter of Forest Dept, qualified it amply for setting up a Lion Safari Park- a smaller version of free ranging Lion area. Besides this, there is National Chambal Sanctuary close by, the cradle of the rare spp. of Ghariyals, which is the only Ghariyal repository as a sanctuary in the world. These two wild life attractions offering the sighting of world's two rarest faunal spp and unique possession of India, will complement each other to enhance greatly the attraction for wildlife lovers. From conservation point of view, the establishment of Lion Safari will serve the dual purpose of making it a breeding centre for Asiatic lion as well as replicating a wild population of the bye gone era in its former range of habitat, though in captivity yet nearly free.

With these considerations in view the Lion Safari park was envisaged in the year 1990-91 and proposal was submitted to U.P. Govt. but due to paucity of resources it could not be implemented. In the Year 2004, the erstwhile Chief Minister of U.P. Shri Mulayam Singh Yadav, as chief guest in the concluding function of Wild Life Week Celebrations in Lucknow Zoological Park, on Oct.7.2004, expressed desire for a zoo at Etawah. Chief Minister's desire reminded Shri R.S,Bhadauria, (who had by then retired as PCCF.U.P) of his earlier unimplemented proposal for setting up of Lion Safari at Etawah, submitted to Govt in 1990-91. He therefore saw an opportunity to give shape to his dream project and promptly met the Chief Minister with a letter along with copy

of earlier proposal, requesting him to set up a Lion Safari instead of a zoo, in Fisher Forest near Etawah city in furtherance of his expressed desire. The Hon'ble C.M appreciated the idea of Lion Safari Park and directed the Forest Deptt. U.P. to take prompt action for setting it up.

In the mean time, in the year 1992, the Govt. of India constituted the Central Zoo Authority (CZA) to regulate construction, maintenance, and upkeep of animals etc. in zoos and safari parks for which it framed rules and guidelines. The rules necessitated prior approval of CZA to set up any new captive facility. And after its approval, the clearance from Hon'ble Supreme Court also became mandatory. Therefore, in order to seek mandatory approval from CZA, a Concept Plan of Lion Safari Park justifying its necessity, underlying its regular proper maintenance was prepared and submitted to CZA by the erstwhile Chief Wild Life Warden of U.P. The CZA saw an opportunity to use the proposed facility as a conservation breeding centre also and approved the plan as Lion Breeding Centre cum Safari Park. After obtaining CZA's approval in-principle, the Hon'ble Supreme Court was approached to give its clearance which also has been received.

Meanwhile, since the year 2009, the CZA has mandated the preparation of detailed Master Plan for minimum 10 years for all newly proposed as well as existing zoos and safari parks which requires approval by CZA. It is in this context that the Master Plan as per CZA guidelines has been prepared and is being submitted for CZA's approval so that work on the site may be started soon after its approval.

B. **VISION OF LION BREEDING CENTER & SAFARI**:

To establish an international standard *ex-situ* Lion Breeding Center to augment the captive Asiatic Lion population of the country and support conservation awareness through establishment of Lion Safari.

C. **MISSION**:

(i) To create facilities for captive breeding of Asiatic Lion to supplement the captive lion population within the state as well as the country.

(ii) To create awareness and sensitivity towards the cause of conservation of Asiatic Lion (*Panthera leo persica*) by provision of viewing of the species in a near natural habitat and furthering it through audio-visual and interactive media provided in an interpretation center.

(iii) To create a theme based eco-awareness facility for local people and visitors.

D. STRATEGY:

To create facilities in near natural conditions of international standards wherein, the population of the Asiatic Lion can be furthered through captive breeding. Conservation awareness about the species will be created and promoted through the Lion Safari and the Nature Interpretation Center.

E. OBJECTIVES

The Lion Breeding Center and Safari would be able to fulfill the following objectives:

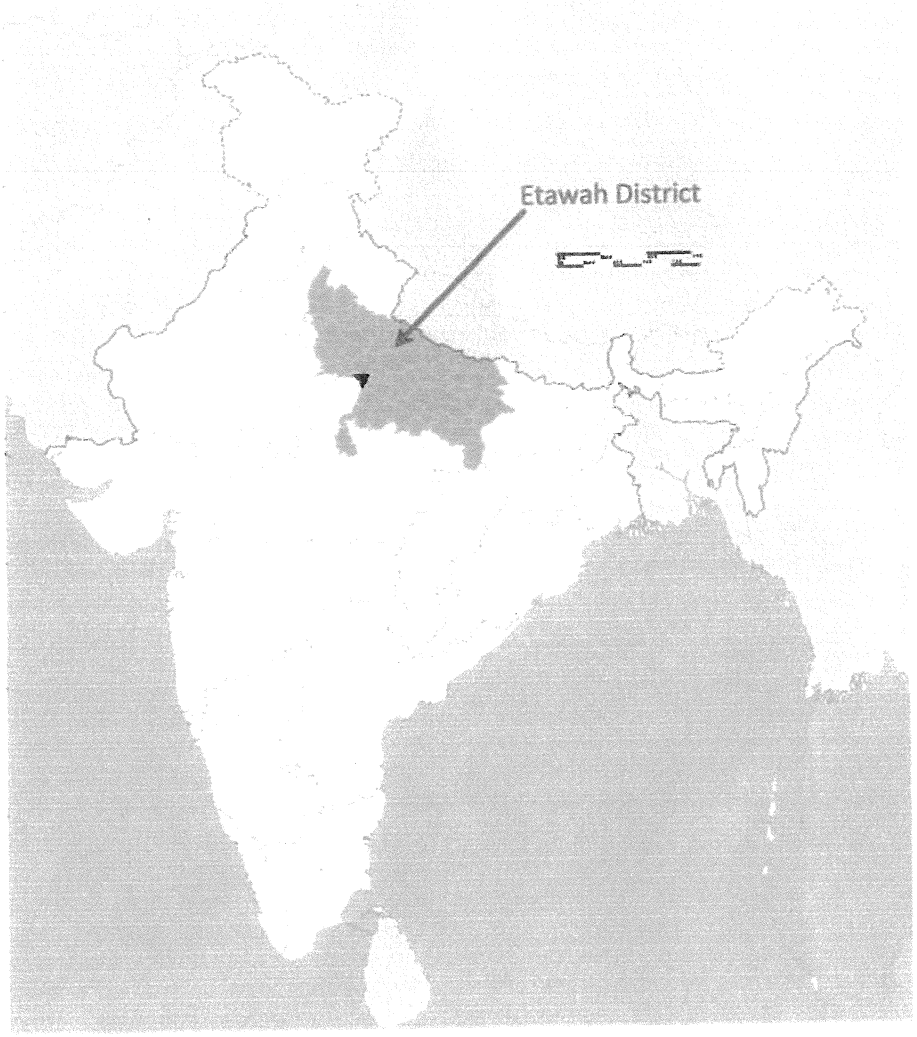
(a) To create facilities of international standards for ex-situ breeding of Asiatic Lion.

(b) To create a facility for public viewing of the species in its near natural habitat.

(c) To create an environment for safe upkeep and maintenance of the population thus created.

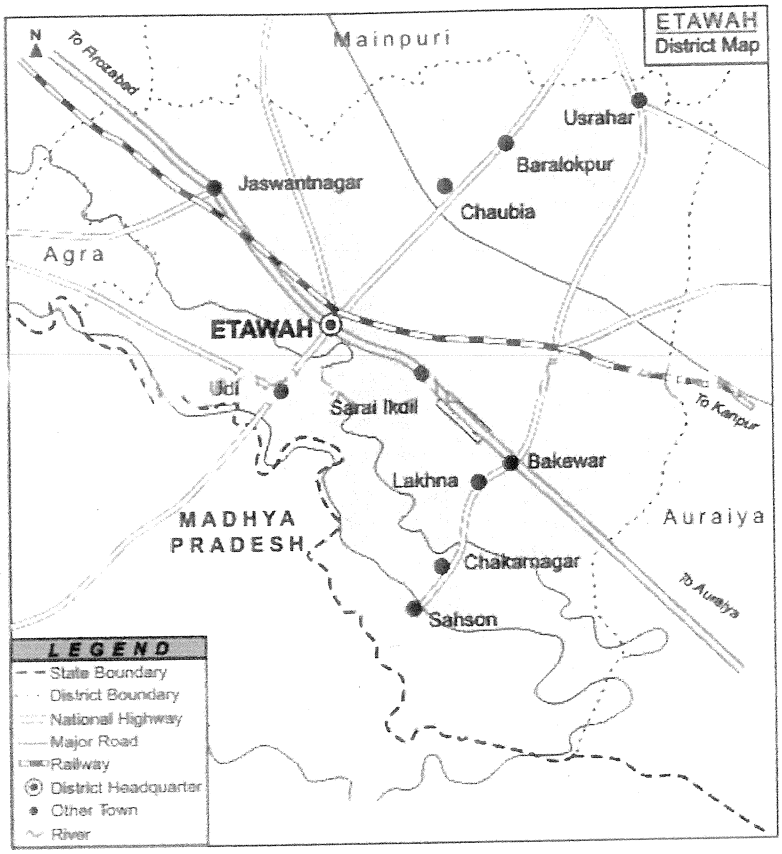
(d) To create high standard eco-awareness facilities including an interpretation center and ancillary facilities (library, wildlife movie theatre etc.) to promote conservation awareness of the species.

## F. PHYSICAL FEATURES AND TOPOGRAPHY




**Map 1**: Location of Etawah District

The district of Etawah lies in the south western part of Uttar Pradesh state with the Chambal river delineating it from the state of Madhya Pradesh. The district is roughly parallelogram shaped with a length of approximately 70 kms from north to south and 66 kms from East to west on one side and 24 kms on the other side. It shares it boundary with the districts of Farrukhabad and Mainpuri in the north, tehsil Bah of Agra district in the west, Auraiya district in the east and Jalaun district of Uttar Pradesh and Gwalior district of Madhya Pradesh in the South. The Chambal and Yamuna rivers, albeit over a short distance, form the interstate boundary.




**Map 2**: District map of Etawah

## G. *Area of Lion Breeding Center & Safari (LBC&S)*

The proposed LBC&S is located in the Fisher forest between N 26° 46' 11.1" E 78° 59' 46.2" and N 26° 46' 50.1" E 78° 59' 22.9". An area of 350 ha has been identified for the LBC&S. Out of this, 50 ha area will be used as exhibition area, about 25 ha. will serve as the area where the animal houses, essential infrastructure such breeding area, roads, veterinary section, staff quarters, public interface area etc. will be developed while the balance area will be used for further expansion in the future.

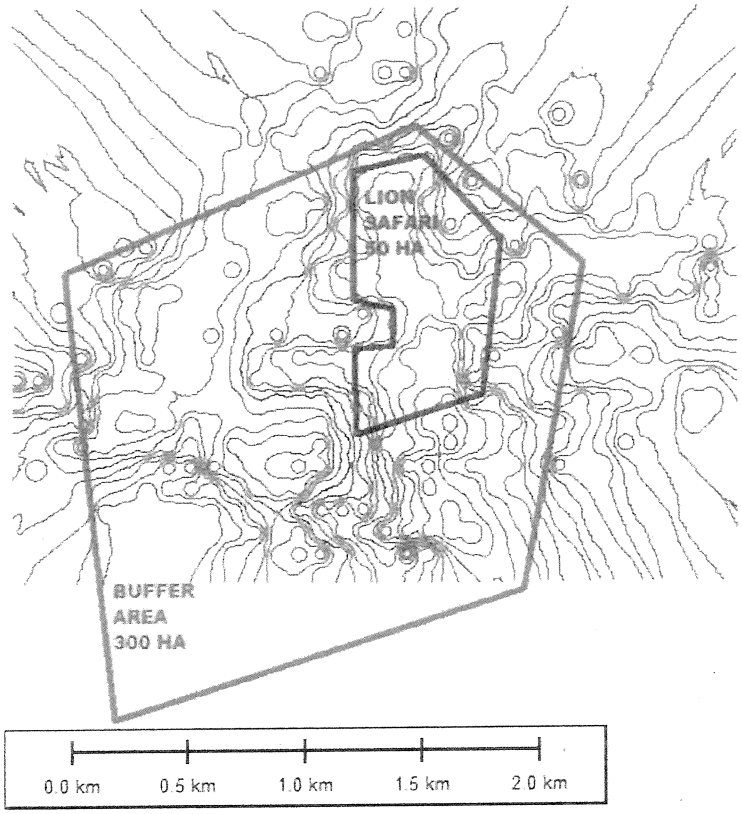



**Fig 1: Proposed area. The quadrangle in green represents 350 ha area. The area of 50 ha of LBC&S is shown in red colour**

The area of the proposed LBC&S is ravinous, whose geology and soil is described in the succeeding paras.

The area is undulating with the altitude varying from 133 m to 151 m. The topography of the area is shown in Fig. 1 below.

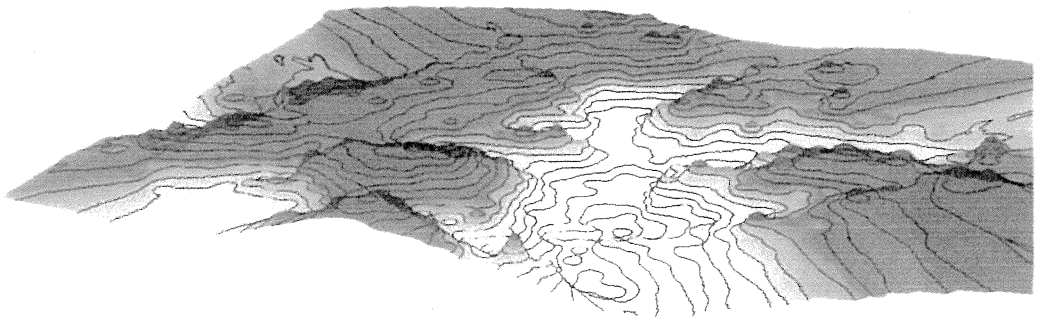


**Fig 1**: Computer simulated image showing topography of the area

## H. GEOLOGY

The area is a part of the **Gangetic Plains** and the entire formation comprises of Gangetic alluvium. The area was originally level, but severe erosion over the past centuries has transformed the landscape into a network of ravines, or "***beehad***" as known colloquially. Excessive leaching of the soil has caused the formation of intercalated ***kankar pans*** below the soil. While the softer pans get washed away in the rains, the harder pans are more persistent rendering the depth of these kankars irregular, the topmost kankar pan frequently being within six feet from the ground level. The spacing between the different kankar pans varies from one foot to six or seven feet.

## I. ROCK & SOIL

The soft soil is held within the layers of kankar pans which follow an undulating course. The hard kankar pans protect the soft soil from being washed away in the rain water. In this way, the configuration of the entire ravines are determined by the undulations of the kankar pans. The soil profile and the presence of these pans are well seen in the embankment of the Yamuna river existing in the near vicinity of the area.

The depth of top soil is determined by the degree of erosion, and hence highly variable. While reasonable deposition of clayey soil is found in the plateaus and flat portions of the ravines, the gully or the beds where active erosion and deposition is still active, deposits of pure kankar washed down in rain water are found.

In spite of the fact that most of the broad leaved vegetation, which existed in the area till recent times have almost completely been replaced by *Prosopis juliflora,* there has been a considerable improvement in soil depth due to binding of the soil by the roots as well as checking the erosion of rain water.

## J. FLORA AND FAUNA:

The flora is predominantly comprised of *Vilayati Babool* (*Prosopis juliflora*), which has dominated all other kinds of vegetation of the area. Some other species found in the area are *Reonj (Acacia leucophloea*), *Chhonkar (Prosopis spicigera*), *Hins (Capparis horrida), Kureel (Capparis aphylla), Ber (Zizyphus jujuba), Chapat (Grewia flavescens)* and *Pilu (Salvadora oleoides), Dalbergia sissoo, Ailanthus excelsa*. The grasses found in the area are *Anjana (Cenchrus ciliaris), Bhanjura (Apluda mutica)* and *Kala lappa (Heteropogon contortus). Daab* grass (*Desmostachya bipinnata*) is common. *Aristida*

*hystrix* and *A. adscensionis* are found in the heavily grazed area. The list of flora in the area is attached as Annexure – I.

The fauna found in the area comprise of the Van Roj (*Bocephalus tragocamelus*) and jackal (*Canis aureus indicus*). The birds found in the area are Egyptian vulture (*Neophron percnopterus*), white throated kingfisher (*Halcyon smyrnensis*), Green bee eater (*Merops orientalis*), Pariah kite (*Milvus migrans govinda*), Magpie robin (*Copsychus saularis*), Indian Roller (*Coracias benghalensis*), Jungle babbler (*Turdoides striata*), Common Myna (*Acridotheres tristis*), Rufous tree pie (*Dendrocitta vagabunda*) etc. The detailed list of fauna found in the area is given in Annexure – 2.

## K. CLIMATE

The area is characterized by severe seasonality with the summer temperatures being excess of 40 ° C, with the hottest period recording temperatures of more than 45° C. Generally, May is the hottest month with the mean daily maximum temperature at about 42 °C and the mean daily minimum at about 26 °C. The heat in the summer is intense with hot, dry and dust-laden westerly winds which is locally referred to as "Loo" make the weather severe resulting in heatstroke. Some deaths are also reported every year on this account. The south west monsoon reaches the area around the third week of June. The onset of winters is from November after which, both the day and night temperatures fall rapidly. January is the coldest month of the year. The winters are characterized by cold waves and dense fog with the minimum temperature reaching 2-3 ° C.

## L. RAINFALL

The average rainfall of the area is 792 mm. The rainfall recorded in the district in the last five years is as under:

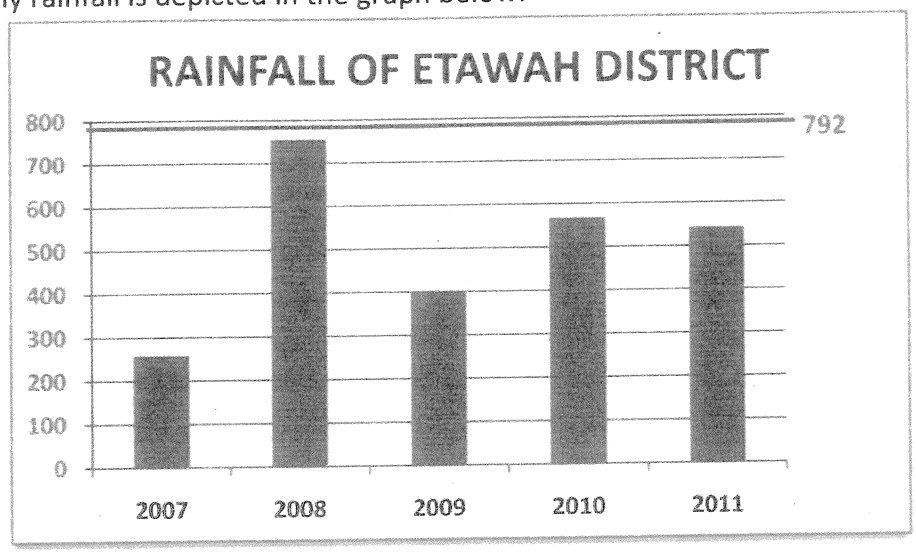
**TABLE 1**: RAINFALL OF ETAWAH DISTRICT (2007-11) IN MM

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2007 | 0.0 | 44.2 | 16.0 | 0.0 | 0.0 | 54.6 | 42.3 | 76.1 | 25.9 | 0.0 | | 0.0 | **259.1** |
| 2008 | 0.0 | 0.0 | 0.0 | 12.6 | 16.0 | 101.2 | 293.9 | 256.8 | 74.3 | 0.0 | 0.0 | 0.0 | **754.8** |
| 2009 | 0.0 | 0.0 | | | 2.1 | 0.0 | 96.0 | 133.2 | 106.0 | 42.6 | 3.0 | 18.0 | **400.9** |
| 2010 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 6.0 | 162.1 | 155.1 | 201.1 | 0.0 | 37.8 | 2.3 | **567.4** |
| 2011 | 0.0 | 5.8 | 0.0 | 2.0 | 10.0 | 48.7 | 251.8 | 167.0 | 56.5 | 0.0 | 0.0 | 0.0 | **541.8** |

Source: Hydromet Division, India Meteorological Department

**Note** : (1) The District Rainfall(mm.)(R/F) shown below are the arithmetic averages of Rainfall of Stations under the District.
(2) Blank Spaces show non-availability of Data.

The yearly rainfall is depicted in the graph below:




It may be seen that the rainfall for the past five years is well below average with rainfall nearing the average only in 2008.

## M. SEASON

Majority of the annual precipitation is received in the months of July-August with some rainfall received in the month of September. During the rainy season the relative humidity is generally high being over 70%. Thereafter the humidity decreases and by summer which is the driest part of the year the relative humidity in the afternoons become less than 30%.

## N. APPROACH

Etawah is well connected to other cities and towns of Uttar Pradesh and other states by road as well as rail. Etawah falls on the Lucknow-Delhi national highway (NH-2) which passes through cities such as Kanpur, Agra, Firozabad, Mathura etc. The district is well connected by road to the neighbouring districts of Mainpuri, Eta and Gwalior. There is a railway station in Etawah with a number of trains having stoppages here, thereby providing connectivity to other major towns and cities of the country.

## O.DEMOGRAPHY OF THE SURROUNDING AREA

As per the 2011 census, Etawah has a population of 15.79 lakhs. There is an increase of 17.95 percent in the population as compared to population census in 2001. The population density is

683 per sq. kms. in 2011 as compared to 579 per sq. km. in 2001. Total area under Etawah district is of about 2,312 sq.km.

Average literacy rate of Etawah in 2011 is 79.99% as compared to 69.57% in 2001. Gender wise, male and female literacy in 2011 is 87.64 and 71.16 respectively, as compared to 79.92 and 57.38 in 2001.

The Sex Ratio in Etawah in 2011 is 867 per 1000 male compared to 858 per 1000 male in 2001. The average national sex ratio in India is 940 as per latest reports of Census 2011 Directorate.

A brief demography of the area is as under:

**TABLE 2**: Demography of Etawah district

| Description | 2011 | 2001 |
|---|---|---|
| Population | 1,579,160 | 1,338,871 |
| Male | 845,893 | 720,749 |
| Female | 733,267 | 618,122 |
| Population Growth | 17.95% | 18.45% |
| Area Sq. Km | 2,312 | 2,312 |
| Density/km2 | 683 | 579 |
| Proportion to Uttar Pradesh Population | 0.79% | 0.81% |

The district is primarily based on agriculture and has rich vegetation. The soil is fertile and 78% of the net cropped area has irrigation facility. It has adopted intensive cropping pattern with a cropping intensity of 155%.

**TABLE 3**: Basic information about Etawah district

| | |
|---|---|
| Geographical area (Sq km) | 2434 |
| Forest (ha) | 26441 |
| Net sown area (ha) | 148,867 |
| Cultivable (*Usar)* Land (ha) | 6,407 |
| Non-cultivable (*Usar)* Land (ha) | 12,424 |
| Area sown more than once (ha) | 82,187 |
| Total cropped area (ha) | 237,835 |

| | |
|---|---|
| Cropping intensity (%) | 155 |
| Fallow land (ha) | 28,729 |
| Net irrigated area (ha) | 134675 |
| By canal (ha) | 59223 |
| By wells & Tube wells (ha) | 57849 |
| By other sources | 17603 |

Agriculture is the backbone of the economy. There are three cropping seasons in the district, rabi, kharif and zaid. The main crops are wheat, paddy, pulses, oilseed and potato. Of which, paddy, maize, jowar and pulses are the major crops of Kharif, wheat, pea and gram are the principal crops during Rabi season. Besides this, fruits like mango, guava, aonla and vegetable crops like tomato, brinjal, cucurbits, leafy vegetable and ladies finger are also cultivated. In allied activities, dairy and goat rearing are the major one.

## P. LEGAL STATUS OF THE LAND:

The area has been declared as a Reserve Forest under notification no. 758-A.F./XIV-23 A.F. – 44 dated July 18, 1946.

## Q. EXISTING INFRASTRUCTURE

Presently there is a Forest rest house in Etawah about 5 km. from the site and sanother facility at Sumer Singh Killa about 3 km away.

## R. SOURCES OF POLLUTION

Since the identified area is an isolated forest patch with minimal amount of biotic interference, there are no direct sources of pollution. Some brick fields are located in the vicinity of a few kilometers, but the pollution caused by them would not be significant from lion conservation point of view.

## CHAPTER – 2

## APPRAISAL OF THE PRESENT ARRANGEMENT AND CONSTRAINTS

There is no existing facility at present. This plan is for proposed activities for LBC&S. However it is worth while to mention here that the area is sporadically covered with *Prosopis juliflora* that is not conducive to Asiatic lion, a soft - padded animal. The long, tough thorns of the *Prosopis juliflora* will inhibit the free movement of the lions. So, a preliminary requirement will be the removal of *Prosopis juliflora* from the area as it is an exotic, and its replacement by native species in the area, root stock of which exsits in abundance and are bound to come back with support. This will help to make the area congenial for lions.

## PART – II

## CHAPTER – 3

## FUTURE OBJECTIVES OF THE LION BREEDING CENTER AND SAFARI

### A. MISSION STATEMENT

1. To create facilities for captive breeding of Asiatic Lion to supplement the captive lion population within the state and country.
2. To create awareness and sensitivity towards the cause of conservation of the Asiatic Lion (*Panthera leo persica*) by provision of viewing of the species in a near natural habitat and furthering it through audio-visual and interactive media provided in an interpretation center.
3. To create a theme based eco-awareness and visitor facility for the outstation visitors and local people.

### B. OBJECTIVES OF LBC&S

The LBC&S will be created with the following objectives:

*(i) Conservation breeding centre*

(a) Conservation breeding of Asiatic Lion as per the CZA protocol.

(b) To create a stock of lion population for populating the lion safari.

(c) To create near natural conditions conducive for lions and to facilitate their breeding.

(d) To build an alternate genetically diverse and vibrant resource pool of Asiatic Lion.

(e) To encourage research by facilitating students to take up studies at the facility.

*(ii) Lion Safari*

(f) To create international standard facility to exhibit Asiatic lion in near natural settings from close quarters and while allowing the animals to roam freely over a substantially large area.

(g) To create facilities for raising awareness and imparting the message of wildlife conservation among the masses.

(h) To create quality facilities for nature and wildlife lovers.

(i) To develop a nature interpretation center to propagate the message of conservation.

(j) To provide a well equipped and stocked library with modern referencing facility.

(k) To provide adequate veterinary facilities for healthy upkeep of the lion population.

(l) To use the facility to promote eco-awareness.

(m) To encourage research by facilitating students to take up studies at the facility.

(n) To involve the masses, especially school children, in conservation.

## C. JUSTIFICATION FOR SETTING UP LBC&S

Asiatic lion is more endangered species than tiger, with only 411 individuals (April 2010 census) surviving in the wild. While reasonable lion population exists in the country under captive conditions, most of the stock is highly hybridized due to intermixing of the individuals of Asiatic and African lion.

While zoos serve as a powerful medium of imparting wildlife education and awareness through viewing from close quarters, they are often criticized for keeping exhibits in small, cramped spaces.

The city of Etawah is strategically located with tremendous potential of eco-awareness due to wilderness areas of natural importance in the near vicinity. The LBC&S is 120 kms away from Agra. Agra attracts largest number of foreign tourists in the country. Among them are nature and wildlife lovers who may like to visit this safari.

Taking into account the above, the LBC&S is proposed, which besides becoming a prominent center for breeding of this endangered species, will also serve the purpose of disseminating awareness among the masses about the importance of conservation of the species in particular and about wildlife conservation in general. It will also ensure that lions kept under captive conditions are provided an

environment almost akin to their natural habitat. Etawah is also home to the largest populations of Sarus Crane and by itself attracts many bird watchers whose numbers will surely increase with the addition of this attraction. Bird watching, gharial, mugger and gangetic dolphin sighting at the Chambal river, and visits to Saman Bird Sanctuary and Patna Bird Sanctuary located nearby are some of the added attractions.

## D. HABITAT DEVELOPMENT WORKS

For providing an environment conducive for the lions, it would be necessary to undertake the development of the area to create a suitable habitat. This would entail the following:

1. *Sowing of grass seeds*: To improve the vegetative cover, to conserve the soil and improve the moisture regime, seeds of suitable grass species will be sown. This would include the *Dinanath* grass (*Dicanthium annulatum*) as well as other local grass species such as *Anjana (Cenchrus ciliaris), Bhanjura (Apluda mutica)* and *Kala lappa (Heteropogon contortus).*

2. *Sowing of seeds of indigenous tree species*:

   Seeds of indigenous species like Semal (*Bombax cieba*), Reonj (*Acacia leucophloea*), Chhonkar (*Prosopis spicigera*), Ber (*Zizyphus jujuba*), Kanji (*Pongamia pinnata*), Khair (*Acacia catechu*), Ardu (*Ailanthus excelsa*), Jungle jalebi (*Pithocolobium dulce*), Neem (*Azhadhirachta indica*), Chilbil (*Holoptelia integrifolia*), will be sown on staggered contour trenches and on earthen check dams constructed for soil and moisture conservation in the area from where prosopis has been removed.

   Subabool (*Leucaena leucocephala*), Jungle jalebi (*Pithocolobium dulce*) and/or other suitable species will be planted along the fence on the inner side at a spacing of 1 m to mask the fence. Bamboo will also be planted intermittently.

## E. STRATEGY TO ACHIEVE OBJECTIVES (VISION AND MISSION)

The objectives of the LBC&S encompasses a breeding center, lion display and visitor facilities including a well equipped Interpretation Center and Library. The objectives will be achieved by the following:

(a) By procuring pure breed Asiatic lion for breeding purposes and subsequent intermixing of population from other sources to ensure genetic diversity. The

repository of lions so created can be used to cater to the demand of Asiatic lion from other zoos and release in the wild in course of time in accordance with protocal prescribed by the CZA.

(b) By developing a habitat conducive to long term survival of lions and to provide them with near wild conditions in captivity by providing large open area for free ranging and movement.

(c) By creating facilities of international standard for veterinary care, feed, health and hyegiene.

(d) By imparting quality information about Asiatic lions in particular and wildlife conservation in general to raise the level of awareness among the visitors and garner support for conservation.

(e) By providing adequate orientation and exposure to staff to deal with their responsibilities and also serve to provide information to visitors as and when required.

(f) By holding awareness camps, activities for school children, wildlife film shows for visitors and eco-camps.

## F. PROPOSED WORKS TO BE UNDERTAKEN IN LBC&S

### 1. General

**(i)** ***Animal Section***:

***(a) Conservation Breeding Center for Asiatic Lions***

Asiatic lions is more endangered species than tiger, with only 411 individuals (April 2010 census) surviving in the wild. While reasonable lion population exists in the country under captive conditions, most of the stock is highly hybridized due to intermixing of the individuals of Asiatic and African lions.

The lion breeding center will be established by procuring pure blood Asiatic lions for breeding purpuses and subsequent intermixing of population from other sources to ensure genetic diversity. Initial correspondence in the matter have been positive and there is a high possibility of the Rajkot Zoo agreeing to provide a few Asiatic lions for breeding purposes. Also, efforts are being made to procure pure blood line Asiatic lions from Hyderabad zoo. Initially two males and five females (subject to availability) will be obtained and bred.

The habitat will be made conducive to long terms survival of lions and to provide them with near wild conditions by providing large open area for free ranging movement. For this purpose congenial habitat will be created.

Subabool (Leucaena leucocephala), Jungle jalebi (Pithocolobium dulce) and/or other suitable species will be planted along the fence on the inner side at a spacing of 1 m to mask the fence. Bamboo will also be planted intermittently.

An isolated area of 1.5 ha will be earmarked for the Conservation Breeding Center. The breeding center would be isolated and away from public facilities so as to keep it free from any kind of disturbance. This center will be barricaded by a 2m high pucca wall. It has been proposed at a higher elevation so that there will be no risk of flood and proper drainage will be ensured. The proposed area is surrounded by forests.

The Conservation Breeding Centre will be semi circular in shape and will have four separate sections to accomodate four breeding populations simultaneously. Each section will have five cubicles and a keeper's gallery. One cubicle will be equipped with a squeeze cage.

Each section will have elleptical paddocks of area 0.25 ha. They will also be equipped with individual kraals of 10 m X 10 m to allow isolation of individuals, as required.

Detailed drawings of the Conservation Breeding Center are being attached alongwith.

High level of sanitation would be observed in the area. The conservation breeding regime of CZA will be followed. There will be separate keepers, sweepers and other trained staff for the Conservation Breeding Center. Separate records keeping will be ensured. Due arrangements shall be made to ensure clean and hyeginic drinking water supply for the animals through a dedicated borewell for the facility.

A maximum population of 10 lions at a time will be kept at the Conservation Breeding Center. Once the cubs reach an age of six months, the family will be shifted to the safari area. Subsequently, once the cubs attain sexual maturity, males and females of separate population/lineage will be bred, which will cater to the requirement of lions in the safari. Excess populations can be distributed to other zoos.

The founder animals will be tested for their genetic lineage, kinship value and physical health. It should be ensured that every year one wild Asiatic lion will be added into the captive population to maximise hetrozysitic level.

(b) *Lion Safari*

This would include housing and feeding areas and open safari area. The feeding areas would also be located away from public viewing areas. The lions would be free ranging within the safari area to allow their viewing to visitors through specially modified vehicles designed to protect the occupants from possible attack of the predator during the course of the safari visit. Quarantine rooms or isolation rooms would also be built for isolating individuals under treatment necessitating isolation from the remaining pride.

***(ii) Veterinary Section:***

It is proposed to create a modernized veterinary center with all the requisite facilities for treatment and care of ailing lions. A full time Veterinary Officer will be posted and will be duly assisted with qualified staff. Arrangement of adequate trained staff to assist the veterinarian would be made. Equipment such as squeeze cage, spray pumps, sterilizing equipment, refrigerator, pathological investigation equipments, etc will be provided. The veterinary hospital will also be equipped to make surgical interventions. There will also be a post mortem room in the section.

Quarantine rooms or isolation rooms would also be created for isolating of individuals under treatment necessitating isolation from the remaining pride.

Linkages will be established with nearby veterinary institutions or State Animal Husbandry Department for specialized treatment in the event of such care becoming necessary.

***(iii) Store and Feed Supply Section:***

The store and feed supply section will take care of the procurement of animal feed and other equipments and items for smooth operation of the LBC&S. The lion feed would be procured in a manner to ensure adequate, hygenic, smooth and timely supply of the same. These supplies will be arranged as per guidelines.

There will be a separate storage area for feed as well as a separate meat inspection room. The animals will be fed once daily during evening for six days in a week, while one day in a week will be fasting day. This will coincide with the day on which the safari will remain closed.

Suitable arrangements will be made to ensure safe and hygienic handling and storage of food/feed articles.

*(iv)* *Sanitation Section*

The sanitation of the facility can be broadly divided into two parts:

(a) Maintenance of the enclosures, feeding area and other parts inhabited by the animals including the veterinary section.

(b) Maintenance of visitors and office section including play areas and public utilities.

The sanitation of the first part will be taken care of by the keepers and assistant keepers/helpers of the facility. A sanitation schedule will be drawn up, which will be strictly followed and will be supervised by the veterinary officer. The work of cleaning roads, paths, drains, toilets, office, children play area etc. will be cleaned by the contractor's labour. The work will be supervised by the range officer in-charge.

*(v)* *Maintenance Section:*

This section will take care of the day to day maintenance and upkeep of the area and visitor facility. For this purpose the services of civil construction and maintenance work labour, plumber, electrician, carpenter, mechanic, welder, painter etc. will be used on contract basis.

*(vi)* *Security Section*

Security will be provided by use of the services of a security agency. The security will provide services to prevent unauthorized entry, use and abuse of the services/facilities in the premises and accord protection to the staff and personnel in the LBC&S. Security guards will be located in strategic and vulnerable sections of the facility to provide round the clock security of the LBC&S. Suitable infrastructure will be built up.

The following measures will be taken for strengthening the security of LBC&S:

(a) Security guards will be equipped with proper uniform to make their identity clear.

(b) They will be provided with guns or lathis to tackle any exigency that may arise in the LBC&S

(c) They will be provided either with walkie talkie or Closed User Group (CUG) mobile phones to enable constant communication.

(d) The movement of visitors at strategic places will be monitored round the clock through deployment of CCTV cameras.

(e) Entries of visitors and vehicles will be diligently recorded in a register.

(f) Entries of security personnel will be made in register/computer at the time of reporting on duty or signing off, so that responsibility can be fixed as per requirement.

(g) Orientation of the security staff will be carried out to ensure proper and polite behaviour with visitors. They will be given suitable training.

(h) They will be provided with security hut for safe keep of records and registers.

(i) Mock drills will be carried out from time to time to test the preparedness of the security staff.

*(vii) Water Supply Section*

The water supply section will ensure water supply from two bore wells to animal night enclosures, the water holes and feeding area in particular. Potable water will also be supplied to other parts of the facility including visitor facilities and amenities, staff quarters, veterinary section, quarantine rooms etc.

*(viii) Disposal of solid and liquid waste/sewerage*

There will be a sewerage line to collect waste from different parts of the area including the animal enclosures. Conservation and harvest of rain and other surface water will be facilitated through suitable engineering structures.

Other wastes such as waste materials from garden, plastic bags, mineral water bottles and cold drink bottles and cans, paper and other dust bin collections etc. will be collected manually and disposed off according. Latest waste disposal methods will be followed.

*(ix) Visitors' Amenities, Lawns and Garden landscapes*

Due care would be taken to provide all the necessary facilities to visitors. These would include adequate toilet facilities, benches, drinking water, sun and rain shelters, restaurant and recreational areas, parking, children play area, first aid facilities, souvenir shop etc outside the safari area and away from breeding center.

There will be adequate signage to guide the visitors through the facility. The special needs of handicapped persons will also be addressed by providing ramps for wheelchairs, handicapped toilets etc.

There will also be a modern and interactive nature interpretation center and library to impart education and awareness regarding lion conservation in particular and wildlife conservation in general. The interpretation center would be located adjacent to the road leading to the lion exhibit area.

*(x) Lion Safari area*

The main attraction of this facility would be the safari area. The visitors would be taken inside the safari area in closed vehicles. The lions will be free ranging inside a 50 ha enclosure provided with a network road.

There will be a double gate entrance to ensure that lions do not escape in the process of entry of visitors. The prescribed protocol of CZA for such facilities will be adhered to strictly.

In addition, there will be watch towers equipped with binoculars/telescope for viewing of the lions.

## 2. RESEARCH

The LBC&S will serve as an excellent repository of information for students who to take up research. The outcomes of their research may also be used for betterment and effective management of the LBC&S.

Researh on ex-situ breeding of lions would provide an excellent insight into the conservation biology of the species in captivity. Since this would be one of the few facilities of its kind in the country, the Conservation Breeding Center would serve as an excellent repository of knowledge and research.

## 3. EDUCATION AND AWARENESS

This is one of most important components of the LBC&LS. The following facilities will be created to cater to this requirement:

(i) A well equipped interpretation center would be built which would use models, audio visuals and other interactive media for disseminating information about lions in India. The interpretation center will also provide information about National Park and Sanctuaries in the state. The concept of "touch and learn" will be encouraged by the use of touch screen multimedia.

(ii) There will be a conference room where talks, screening of films on wildlife and presentations will be organized for viewers, especially school children.

(iii) There will be a library where the visitors will have access to books and multimedia pertaining to lions and other wildlife of India.

(iv) Nature Camps for school children will be organized, where the students will be exposed to bird watching, different cycles in nature and man-animal interactions and conflicts.

(v) Other events such as quiz, debate, painting competition, wildlife essay etc. will be organized from time to time, especially during the wildlife week celebrations.

(vi) Encouraging the visits of school groups to educate and sensitize them towards wildlife conservation.

(vii) Forming eco-clubs for these visiting schools to ensure continuous involvement of children in the LBC&S.

(viii) The facility will be added to the eco-awareness destination in the state.

## CHAPTER – 4

## FUTURE ACTION PLAN

### A. PROPOSED ANIMAL COLLECTION PLAN

The lion breeding center will be established by procuring pure blood Asiatic lions for breeding purposes and subsequent intermixing of population from other sources to ensure genetic diversity. Initial correspondence in the matter have been positive and there is a high possibility of Rajkot zoo agreeing to provide a few Asiatic lions for breeding purposes. Also, efforts are being made to procure pure blood Asiatic lions from Hyderabad Zoo. Initially two males and five females (subject to availability) will be obtained and bred. Captive bred stock from Conservation Breeding Center will be released gradually in lion safari. The lion safari would be opened for visitors only after a suitable population of lions is obtained by breeding.

Attempts will be made to obtain the breeding lions at the earliest. In case they are obtained before the completion of the conservation breeding center of the Lion Safari at Etawah, they will be housed and mated in Lucknow zoo and Kanpur Zoo.

The possibilities of collection of breeding individuals from Gujarat are being made, and in case such individuals, who are brought into captivity at Junagadh zoo and are not fit for release in the wild are available, then they would be a very preferable choice for the Lion Safari at Etawah.

Utmost care will be exercised in the transportation of the lions and separate funds have been earmarked for this purpose.

### B. LAYOUT PLAN OF LBC&S

***Master Layout Plan of the proposed area is attached***. The area can broadly be classified as (i) Exhibit Area and (ii) Buffer (Expansion) Zone. The position of the 50 ha exhibit area with reference to the outer buffer area is shown in key plan provided in the Master Layout Plan.

(i) Exhibit Area:

The entrance will be through a ***double entry gate***. A safari road will allow the visitors to sight the lions from buses specially designed for safe viewing of the carnivores. The movement of the buses will be in clockwise direction. An

*emergency gate*, which will also be a double entry gate, will be provided for a situation of non-functioning of the usual double entry gate.

Activity areas will be provided to engage the lions. This will comprise of logs, both upright and horizontal for allowing the lions to climb. Artificial dens and hides will also be created for resting/hiding of the lions.

Two waterholes will be created artificially which will be supplied through bore wells.This area would serve the purpose of exhibiting the lions. This area would be cordoned off completely by erecting a 6 m (18 feet) high chain link fence. The top of the chain link fence would be bent inwards for 1 m at an angle of 160°. Solar fencing would be installed on the inner side of the exhibit area. The lions would be free ranging within the enclosed area, while the visitors would get an opportunity to view the lions from close quarters while seated inside a protected vehicle. For this purpose, a tarred road of about 3.3 km length will be laid inside the exhibit area to facilitate the movement of two dedicated vehicles for viewing of lions.

Two animal houses would be erected as shown in the master layout plan to provide feed to the animals and also to house them in the night shelter during night time. This would also serve the purpose of isolation of individuals for treatment, or transportation to veterinary hospital, if required.

As mentioned earlier, the area would be developed by creating a natural habitat for the lions.

(ii) Buffer Area:

An area of additional 300 ha surrounding the lion safari area has been demarcated to serve as a buffer as well as for future expansion, if required. The associated structures and facilities related with breeding and upkeep of lion population, visitor facilities and staff housing will be located in the buffer area.

- A **Conservation Breeding Center** would be constructed for breeding of lions. An area of 1.5 ha has been earmarked for this purpose. This breeding center would be barricaded by a 2 m high brick wall. The lions will be provided space for roaming in a large area protected by 6 m high chain link fencing. ***The breeding center will be located away from visitor area and isolated from public viewing and other disturbances.*** The conservation breeding center would be semi circular shaped and divided into four separate parts, each having five cubicles out of which, one will be fitted with a squeeze cage, 100 sq.m. kraal and a 2,500 sq.m. paddock to facilitate the movement of the

breeding animals. Both the kraal and paddock will have gates for access from outside.

- Two **Animal Houses** will be provided for housing the lions during night as well as for feeding and treatment as per requirement. The animal house will have 6 cubicles of 3m X 3m dimension arranged in a linear manner flanked by a 3 m wide keeper's gallery. All the cubicles will be interconnected. One cubicle will be provided with a squeeze cage.

- A **Veterinary Hospital** well equipped with modern facilities and adequately equipped and staffed will serve as a center for treatment of lions. The veterinary hospital will be equipped with a 9m X 9m operation theater. It will also be provided with a treatment room, recovery room and a nursery for rearing cubs. There will be two squeeze cages and a 10m X 10m kraal. The hospital will also be equipped with a lab and store.

  Security would be deployed to check the entry of visitors and unauthorized persons into the animal handling area mentioned above.

- An area of 2.5 ha will be earmarked for **Staff & Officers Residential Colony.** The colony would be provided with a separate entrance and will be equipped with a dedicated overhead tank, boundary wall, play area etc. The colony will be located close to the Etawah-Gwalior highway.

- A 1.2 km **tarred road** will connect the Etawah-Gwalior highway to the lion safari.

(iii) <u>Visitors' facilities</u>:

The visitors will enter the outer buffer area of the proposed LBC&LS through a ***theme based gate***. The visitors will park their vehicle in the ***parking area*** located near the theme based gate. Distance from the theme based gate to the lion safari gate is 320 meters. A computerized ***ticketing counter*** located on the entrance will enable the visitor to buy tickets for entry.

A ***rest shed*** will cater to the requirement of snacks, food items, beverages and soft drinks for the visitors. An ***open sit out*** covered with plastic sheet of 10 m X 10 m will provide a place of sitting as well as rain shelter. ***Toilets*** will be provided for the visitors. ***Landscaped gardens*** will be created for the visitors.

A well equipped ***Interpretation Center & Library*** would be developed for creating awareness among the visitors. The visitors will board the bus for the safari from the ***bus bay*** located at the rear of the interpretation center. In this way, the

visitors would have to compulsively walk through the interpretation center cum library to board the bus.

All the above facilities will be handicapped friendly and will be equipped with wheelchair ramps, handicapped toilets, etc. Wheelchairs will be provided on demand and ramp for boarding the bus etc. will be provided.

Provisions for energy saving and water conservation will be made. Solar panels will be used for street lighting and also for lighting up of other buildings. Rain water harvesting structures will be installed. Provision for proper disposal of solid and liquid wastes should also be made.

The road leading from the Etawah-Gwalior highway into the LBC&LS will be provided with street lights.

All the above facilities would be created away from the lion exhibit area to cause least disturbance to the lions.

The ravinous landscape will be treated to improve the soil moisture regime. Check dams on seasonal rivulets/nullahs will improve water retention and lead to the improvement of avifauna and small mammals. The development of nature trail in this area will supplement the eco-awareness generation activity. The entire area will be secured with fencing.

## PART - III

## CHAPTER- 5

## PERSONNEL PLANNING

For the smooth functioning of the LBC&LS, the following staff will be deployed:

**TABLE 4**: PROPOSED STAFFING OF THE LBC&LS

| S. No. | NAME OF POST | NUMBER | Pay Scale(Rs.) |
|---|---|---|---|
| 1. | Director (ACF Rank) | 1 | PB III: 15,600 – 39,100 GP: 5,400 |
| 2. | Veterinary Officer | 1 | PB III: 15,600 – 39,100 GP: 5400 |
| 3. | Curator | 1 | PB II: 9,300 – 34,800, GP: 4,200 |
| 4. | Biologist | 1 | PB II: 9,300 – 34,800, GP: 4,200 |
| 5. | Education Officer | 1 | PB II: 5,200 – 20,200 GP: 2,400 |
| 6. | Assistant Wildlife Warden | 2 | PB I: 5,200 – 20,200 GP: 2,400 |
| 7. | Wildlife Guards | 3 | PB I: 5,200 – 20,200 GP: 1,900 |
| 8. | Lab Assistant | 1 | PB I: 5,200 – 20,200 GP: 2,400 |
| 9. | Compounder/Stockman | 1 | PB I: 5,200 – 20,200 GP: 2,400 |
| 10. | Clerk (1 for booking & 2 for office) | 3 | PB I: 5,200 – 20,200 GP: 1,900 |
| 11. | Keeper | 3 | 1S: 4,400 – 7,440 GP 1,300 |
| 12 | Sweeper | 3 | 1S: 4,400 – 7,440 GP 1,300 |
| 13. | Driver (1 for Jeep, 1 for pickup van, 2 for visitor bus) | 4 | PB I: 5,200 – 20,200 GP: 1,900 |
| 14. | Tube well & generator operator | 1 | PB I: 5,200 – 20,200 GP: 1,800 |
| 15. | Watchman | 4 | PB I: 5,200 – 20,200 GP: 1,800 |
| 16. | Gateman | 2 | PB I: 5,200 – 20,200 GP: 1,800 |
| 17. | Maali | 2 | PB I: 5,200 – 20,200 GP: 1,800 |

| S. No. | NAME OF POST | NUMBER | Pay Scale(Rs.) |
|---|---|---|---|
| 18. | Electrician | 1 | PB I: 5,200 – 20,200 GP: 1,900 |
| 19. | Plumber | 1 | PB I: 5,200 – 20,200 GP: 1,900 |
| | TOTAL | 36 | |

**Note:**

1. The Curator mentioned at sl. no. 3 shall be of the rank of Range Forest Officer.
2. The Biologist mentioned at sl. no. 4 shall be a post graduate in zoology/wildlife.
3. The Education Officer mentioned at sl. no. 5 shall be of the rank of Assistant Wildlife Warden.
4. The personnel mentioned from sl. no. 1 to 7 shall be imparted an initial special training and thereafter on issues related to lion biology and behavior.

The overall in-charge of the LBC&S would be the Director who will be of the rank of Assistant Conservator of Forest of the Forest Department. He will directly report to Deputy Conservaor of Forests, National Chambal Sanctuary Project, Agra.

The Veterinary Officer will be responsible for the health and well being of the animals. He will, amongst other things related to veterinary care of the animals, be responsible for overseeing the inspection work of feed, cleanliness and hygiene of the enclosures, and health and upkeep of the animals.

The Range Forest Officer (RFO) will be in-charge of the animal section and will oversee the feeding, cleanliness and hygiene of the enclosures and day to day maintenance of the structures related to animal upkeep including the veterinary facility. He will oversee proper disbursement of material and feed, medicines and other equipments and items from the store for animal upkeep from time to time. He will also be responsible for visitor facilities including interpretation center, library etc. He will be responsible for ensuring the cleanliness of parks and play areas and will directly oversee satisfactory execution of work by the staff. He will also be responsible for visitor management to the LBC&S. This would include ticketing, entry to the exhibition area of the safari and for procurement of stores including feed for the animals.

Min. qualification of keepers will be high school pass and they will be trained in animal keeping and particularly in upkeep of breeding centre as per CZA's standards, as early as possible.

## CHAPTER- 6

## DISASTER MANAGEMENT

There may be a possiblity that disasterous situations may arise in the LBS&S as a consequence of natural calamities. To deal with such situations a disaster management strategy is required. To deal with the disasters that may strike the LBC&S the following category wise strategies are proposed:

1. *Fire*: All the buildings will be designed from fire safety point of view with provisions of emergency exits. Fire fighting equipments, pumps, hoses etc. will be installed as per requirement.

   In the event of unprecedented fire in the safari area, the lions will be herded into the enclosures and the fire doused manually.

2. *Flood*: In the event of a flood causing submergence of the safari area, the lions will be moved to the enclosures which would be located on relatively higher ground. In case of extreme floods, the animals would be shifted to safer areas in cages and fed till the flood waters recede. If situation permits, the animals would be moved to Kanpur zoo or Lucknow zoo temporarily till the recession of the flood.

3. *Earthquake Cyclone and Storm*: The propsed site has no history of any severe earthquake or and any strong cyclonic storm in the past. Since these types of calamities strike at once without any forewarning, it is the advance preparation that can be taken to minimize such damages. In case of earthquakes collapsing buildings cause heavy damage to inmates though it cannot be avoided, the staff could be trained to rush out of the buildings as soon tremors are felt. To ensure safety of animals keepers should know that animals roaming free in the paddock area will suffer minimal impact in case of an earth quake. Therefore for most of the time excepting feeding or some other unavoidable reasons, the animals in the enclosures should be kept roaming in the open paddock rather than keeping them confined in cages.

   However in case of cyclone and storm, some forewarning time remains available and action can be taken to save animals by taking as many animals as possible from open paddock to inside the night / feeding cells. Electric supply should be immediately switched off. For this, while installing electric supply there will be a master control system at one point that can be switched off at once. The power supply will be through shielded underground

cable system that is well mapped so that repair and maintenance are done convienently. In order to prepare the staff for proper response they will be trained with the local fire service department and their readiness tested through regular mock drills.

## CHAPTER- 7

## CONTINGENCY PLAN

Contingencies can arise due to a number of reasons such as escape of animals from enclosures, infigting among the animals, or potential injury to animals for various reasons. There can be a situation where the food supply may be hampered due to strike, bandh, riots or other reasons. There could be law and order situation within the facility by notorious elements also. There could be other hazards such as fire, floods or breakdown of power supply.

Adequate measures will be taken to counter any such situations. Some of the exigencies and their mitigation is discussed below:

(i) *Escape of animals from enclosure*: Since lions are large carnivores, any event of animal escape from the safari has to be attended to instantly. To tackle such an event, the LBC&S will be equipped with tranquilizing guns. At least four staff will be trained to independently handle tranquilizing guns and execute tranquilization independently. Their skills will be supplemented by regular training.

A lorry equipped with cage and other necessary equipments will be used for retrieval of the animal(s).

(ii) *Infighting among animals*: Predictably, the chances of such a situation arising are high. As such, the open safari area will be divided into two parts by erection of a chain link fencing with a gate that will allow movement from one part to another. Under normal circumstances, the gate would remain open to allow the prides to move in the entire safari. However, in case of infighting, the prides will be separated and kept in different parts of the safari.

In case of unfriendly behaviour by an individual, it would be isolated and moved into Lucknow or Kanpur Zoo.

(iii) *Arrangement of food in case of non-supply by contractor*: The contract for supply of feed will be made well in advance.

In case of failure to supply feed by the contractor, meat will be procured locally out of contingency fund available at the discretion of the Director of the safari.

A deep freeze will be provided for storing meat for a few days to meet the contingency of stoppage of meat supply for any reason.

(iv) *Injury to visitors*: The vehicles entering the safari would be well protected. Therefore, the chances of visitors being attacked by the lions in the safari is virtually negligible. Since the entrance to the safari is well protected through double gate, the chances of visitors falling inside the enclosure will also be negligible.

The visitor area will be equipped with a first aid box available at the reception to take care of basic first aid needs. The staff will be trained to deal with medical emergencies and carry out life saving procedures such as Cardio Pulmonary Resuscitation (CPR), Heimlich maneuver to prevent choking etc.

(v) *Epidemics*: The animals will be subjected to daily routine check by the veterinary staff. The veterinary hospital will be well equipped to for early detection of epidemics and treatment of the same. There will be an isolation/quarantine room to isolate individual(s) suffering from contagious disease.

(vi) *Breakdown of power supply*: There will be a backup generator to provide adequate power in case of a power failure. The generator will be of silent type to exclude sound pollution.

Apart from the above, the following measures will be taken to deal with disasters and contingencies that may inadvertently arise:

1. Alerting systems will be installed at various points in the safari. The alerting system would include CCTV cameras, fire alarms and disaster alarms.

2. Adequate training will be imparted to the officers, staff and security personnel of the lion safari to deal with exigencies.

3. It shall be ensured that proper equipments, and consumables required to meet any contingency are in place.

4. Alternate line of commands will be defined in case of absence of due authority.

5. Linkages will be established with District Administration, Police, Medical and Disaster Management Authorities so that proper support is available at the time of an exigency. Relevant contact numbers will be displayed at all important points for the purpose.

## CHAPTER- 8

## CAPACITY BUILDING

The staff of the LBC&S will be nominated regularly for the "Keeper's Training" and "Zoo Management Training" organized by the Central Zoo Authority and Wildlife Institute of India. Exposure and hands-on training will be provided to lower staff by sending them to other zoos.

Adequate trainings will also be provided to other veterinary personnel and officers of the Lion Safari as per availability.

## CHAPTER- 9

## E-GOVERNANCE

Proper management of a modern LBC&S would be possible only with e-governance. The records of animals, stud books, feed etc. will be kept electronically. LAN connectivity would be provided so that the data is easily retrieved at different work stations.

As mentioned earlier, computerized displays and interactive media will be used in the interpretation center.

The LBC&S will have a dedicated website. The ticketing will be entirely computerized to prevent any scope of pilferage. Similarly, the stores and feed distribution will also be entirely computerized.

Uttar Pradesh state has been a pioneer state in e-governance extensively adopted under the externally aided projects and the provisions of e-governance as practiced in these projects will also be applied to the management of the LBC&S.

## CHAPTER- 10

## BROAD BUDGET ANALYSIS FOR IMPLEMENTING THE PLAN

The costing of the project has been grouped into construction and development costs, habitat development costs and recurrent costs.

While detailed costing of the project has been worked out, it is only indicative of the cost of the project. The actual cost of the project may vary depending on the prevailing market rates at the time of execution of the project, wage rate and other externalities.

### 1. CONSTRUCTION AND DEVELOPMENT

This would include the civil works to be undertaken, fencing of the area, development of visitor facilities, parks and other amenities, development of animal handling facilities and veterinary facilities etc. This cost would also include cost of purchase of equipments for operationalization of the facility such as vehicles, office equipment and furniture, store equipments, etc. The fund requirement for this purpose is as under:

| S. No. | PARTICULARS | RATE (Rs.) | QUANTITY | AMOUNT (lacs) |
|---|---|---|---|---|
| BREEDING CENTER | | | | |
| 1 | Breeding center (1.5 ha area including free roaming area) [detailed design annexed) | 23.34 | 4 set | 93.36 |
| | Boundary wall around breeding center | 0.03 | 750 rm | 22.50 |
| | **TOTAL** | | | **115.86** |
| LION EXHIBIT AREA (SAFARI AREA) | | | | |
| 2 | Open Safari Area with chain link fencing (50 ha, perimeter 3.282 km) | 0.205 | 3282 rmt | 672.81 |
| 3 | Solar fencing | 0.002 | -do- | 65.64 |
| 4 | Water Holes | 5.00 | 2 | 10.00 |
| 5 | Culverts | 2.00 | 10 | 20.00 |
| 6 | Bridges | 10.00 | 3 | 30.00 |
| 7 | Safari road | 0.12 | 3000 rmt | 3.96 |
| 8 | Jeepable C.C. road 3 m wide around 50 ha lion safari | 0.12 | 4000 rmt | 480.00 |
| 9 | Patrolling path | 0.0135 | 3282 rmt | 44.31 |
| 10 | Earth cutting and filling | 0.00137 | 65700 cmt | 90.01 |
| 11 | Double Entry Gate | 5.00 | 1 | 5.00 |

| S. No. | PARTICULARS | RATE (Rs.) | QUANTITY | AMOUNT (lacs) |
|---|---|---|---|---|
| 12 | Emergency Gate | 5.00 | 1 | 5.00 |
| | Check Dams (5 nos) | 0.127 | 87.75 cmt | 11.14 |
| | Boulder pitching | 0.025 | 3000 sq. M. | 75.00 |
| | **TOTAL** | | | **1512.87** |
| **FENCING OF BUFFER AREA** | | | | |
| 13 | Fencing Cost (five strand barbed wire 2.25 m with rcc poles) | 0.05 | | 366.00 |
| 14 | Outer jeepable road around 350 ha buffer area | 0.0135 | 7,320 m | 296.46 |
| | 1m rcc below 350 ha buffer area fencing | 0.02542 | -do- | 186.07 |
| | **TOTAL** | | | **848.53** |
| **ANIMAL HOUSE** | | | | |
| 13 | Animal House (detailed drawings attached) | 23.34 | 2 set | 46.68 |
| 14 | Overhead Tank (50 kilo litre) | 11.32 | 1 | 11.32 |
| 15 | Electric sub station | 12.16 | 1 | 12.16 |
| 16 | Pump House | 3.04 | 1 | 3.04 |
| 17 | Tube Well Pump with 15 Hp. Motor atomatic starter panel board with shallow deep boring | 23.50 | 2 | 47.00 |
| 18 | Generator (20 KVA) | 6.60 | 1 | 6.60 |
| 19 | Generator Room | 3.04 | 1 | 3.04 |
| | **TOTAL** | | | **129.84** |
| **VETERINARY HOSPITAL** | | | | |
| 20 | Veterinary Hospital + store room | 32.81 | 1 | 32.81 |
| | **TOTAL** | | | **32.81** |
| **VISITOR FACILITIES** | | | | |
| 21 | Reception, Interpretation Center and Library | 45.13 | 1 | 45.13 |
| 22 | Ticketing counters | 2.06 | 1 X 4 | 2.06 |
| 23 | Toilets | 12.50 | 2 | 25.00 |
| 24 | Rain Shelter | 0.18 | 5 | 0.9 |
| 25 | Informal garden | 0.000575 | 6000 $mt^2$ | 34.50 |
| 26 | Rest shed with open sit out | 11.43 | 1 | 11.43 |
| 27 | Watch Tower | 17.75 | 2 | 35.50 |
| 28 | Theme based gate (large) | 15.00 | 1 | 15.00 |
| 29 | Theme based gate (medium) | 5.00 | 1 | 5.00 |

| S. No. | PARTICULARS | RATE (Rs.) | QUANTITY | AMOUNT (lacs) |
|---|---|---|---|---|
| 30 | Parking (@ Rs 1 lakhs per 1000 sq m) | | 5000 $m^2$ | 5.00 |
| 22 | Children Play Area | 0.01 | 2500 $m^2$ | 25.00 |
| | Souvenir Shop | 3.04 | 1 | 3.04 |
| | Bus Bay | 0.0135 | 1000 sq.m. | 13.50 |
| | Pump House (for visitor and residential factility) | 3.04 | 1 | 3.04 |
| | Generator (65 KVA) | 9.00 | 1 | 9.00 |
| | Street Light with florosent lamp as per C.P.W.D 75.00+49% index = 111.75 | 0.000111 | 101188 sq.m. | 113.08 |
| | Generator Room | 3.04 | 1 | 3.04 |
| | **TOTAL** | | | **349.22** |
| **OFFICERS AND STAFF RESIDENCES** | | | | |
| 24 | Type 4 residence | 22.81 | 3 | 68.43 |
| 25 | Type 3 residence | 9.52 | 2 | 19.04 |
| 26 | Type 2 residence | 7.32 | 11 | 80.52 |
| 27 | Type 1 residence | 4.53 | 11 | 49.83 |
| 28 | Office + conference room | 27.32 | 1 | 27.32 |
| 29 | Park/Play area for employee's children | 0.001 | 1000 sq.m. | 10.00 |
| 30 | Garage | | 6 | 15.00 |
| 31 | Tube Well Pump with 15HP Motor, automatic starter, pannel board for residential colony | 23.60 | 1 | 23.60 |
| 33 | Overhead tank (50 kilo litres) for colony and visitor facility | 11.32 | 1 | 11.32 |
| | Garrage | 10.22 | 1 X 6 | 10.22 |
| | Generator Room | 3.04 | 1 | 3.04 |
| | Boundary wall around staff facilities | 3000 | 800 rmt | 24.00 |
| | **TOTAL** | | | |
| **MISCELLANEOUS WORKS** | | | | |
| | Retro reflecting glow signage board 6 m height on main road upto 10 m span | 6.00 | 3 | 18.00 |
| | Construction of 11 KVA independent feeder | 20.00 | 7.5 km | 150.00 |

| S. No. | PARTICULARS | RATE (Rs.) | QUANTITY | AMOUNT (lacs) |
|---|---|---|---|---|
| | **TOTAL** | | | **168.00** |
| **EQUIPMENT PURCHASE** | | | | |
| 54 | Vehicle - Bolero | | 1 | 7.00 |
| 55 | Vehicle - Bolero Camper | | 2 | 12.00 |
| 56 | Camp Lorry | | 1 | 8.00 |
| 57 | Safari Bus | | 2 | 60.00 |
| 58 | Tractor + Tanker | | 1 | 7.00 |
| 59 | Motor Cycles | | 1 | 0.60 |
| 60 | Cycles | | 5 | 0.15 |
| 61 | Laptop | | 2 | 1.00 |
| 62 | Desktops | | 5 | 1.50 |
| 63 | Photocopy Machine | | 1 | 1.00 |
| 64 | Fax machine, telephone, mobile, GPS etc. | | ls | 4.00 |
| 65 | Office furniture including store purchase | | ls | 10.00 |
| 66 | Lab equipment | | ls | 10.00 |
| 67 | Interpretation Center (desing and furnishing) | | ls | 20.00 |
| 68 | Library (books and furnishing) | | ls | 10.00 |
| 69 | Tranquilizing guns (including drugs) | | 2 | 6.00 |
| | | | **Total** | **158.25** |
| **CONTINGENCY** | | | | |
| 70 | Funds for transportation of lions | | ls | 6.00 |
| 71 | Consultancy – (a) Development of interpretation center (b) Overseeing the development of LBC&LS | | ls | 10.00 |
| 72 | International exposure trip of related officers | | ls | 20.00 |
| | Miscellaneous Expenditure | | Ls | 10.00 |
| | | | **Total** | **46.00** |

In this way, the fixed cost of the project works out to be **5,798.16 lakhs**. The detailed computation of the fixed cost of the project is given in Annexure – III (a).

## 2. HABITAT DEVELOPMENT

Habitat development work will be undertaken over the entire 350 ha area including the 50 ha lion safari area. The major works include fencing, eradication of *Prosopis juliflora*, sowing

of annual and perennial grass seeds and endemic tree species, and soil and moisture conservation works. The amount proposed to be spent is as under:

| S.No. | PARTICULARS | AREA | UNIT COST | AMOUNT (in lakh Rs.) |
|---|---|---|---|---|
| HABITAT DEVELOPMENT WORKS | | | | |
| 1 | Zero year works | 350 ha | Rs.44,362 per ha | 155.27 |
| 2 | First year works | 350 ha | Rs.13,790 per ha | 48.27 |
| 3 | Second year works | 350 ha | Rs.10,800 per ha | 37.80 |
| 4 | Third year works | 350 ha | Rs.8,317 per ha | 29.11 |
| | | | Total | 270.44 |

### 3. RECURRING EXPENDITURE

The recurring cost of the project is as under:

| S. No. | Particulars of Work | Amount (in Lakh Rs.) |
|---|---|---|
| 1 | Maintenance of fencing and walls | 6.50 |
| 2 | Maintenance of Animal Area, Safari Area and Internal Roads | 15.00 |
| 3 | Maintenance of Visitor Facilities, Children Park, interpretation center etc. | 10.00 |
| 4 | Electricity charges @ Rs. 0.5 lakhs p.m. | 6.00 |
| 5 | Maintenance contract for cleanliness and hygiene of the visitor area @ Rs. 0.5 lakhs pm | 6.00 |
| 6 | Security through private agency @ Rs. 0.5 lakhs pm | 6.00 |
| 7 | Diesel for generator sets @ Rs. 0.25 lakhs pm | 3.00 |
| 8 | Maintenance of electric sub station | 2.40 |
| 9 | POL and maintenance for safari vans @ Rs. 0.4 lakhs pm | 4.80 |
| 10 | POL for other vehicles @ Rs. 0.5 lakhs pm | 6.00 |
| 11 | Maintenance of tube well and pump house | 3.00 |
| 12 | Electrical, plumbing and other maintenance works | 2.00 |
| 13 | Cleaning and maintenance of overhead tanks | 2.00 |
| 14 | Feed for ten lions @8 kg meat per individual per day | 25.36 |
| 15 | Supplementary foods, vitamins and minerals | 5.00 |
| 16 | Veterinary medicines and consumables | 5.00 |
| 17 | Annual Salary of staff | 89.4 |
| 18 | Contingency | 10.00 |

| | | |
|---|---|---|
| | **TOTAL** | **207.46** |
| | Administrative Expenses (5%) | 10.373 |
| | **GRAND TOTAL** | **217.83** |

The detailed costing of the proposed structures is provided in Annexure – III (a) to (x).

## CHAPTER – 11

## MANAGEMENT PLAN

The Lion Safari is proposed to be developed over a period of about 3 years. Initially, the Conservation Breeding Center and the Veterinary Hospital will be constructed. The work of habitat development of the Safari area as well as the surrounding area will start simultaneously with the construction of the Conservation Breeding Center.

Once the breeding center and the veterinary hospital is complete, it will be utilized for captive breeding of Asiatic Lions. The development of other parts of the Lion Safari such as the animal houses, safari fence, patrolling path, approach road, interpretation center and staff residential quarters etc. will follow thereafter.

A broad timeline for various activities to be undertaken is as under:

| S.No. | NAME OF ACTIVITY | Jul to Sep '12 | Oct to Dec '12 | Jan to Mar '13 | Apr to Jun '13 | July to Sep '13 | Oct to Dec '13 | Jan to Mar '14 | Apr to Jun '14 | Jul to Sep '14 | Oct to Dec '14 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Approval by Central Zoo Authority | | | | | | | | | | |
| 2 | Processing electric supply to the area | | | | | | | | | | |
| 3 | Posting of staff | | | | | | | | | | |
| 4 | Equipment purchase (vehicle, motorcycles, tractor, computer etc) | | | | | | | | | | |
| 5 | Habitat Development/Improvement works | | | | | | | | | | |
| 6 | Construction of breeding Center | | | | | | | | | | |
| 7 | Equipment purchase for breeding center, quarantine center | | | | | | | | | | |
| 8 | Construction of supporting infrastructure, staff quarters etc | | | | | | | | | | |
| 9 | Processing of procurement of lions for the breeding center | | | | | | | | | | |
| 10 | Translocation of lions to breeding center | | | | | | | | | | |
| 11 | Construction of lion safari, roads, water holes etc. | | | | | | | | | | |

The following Officers and Staff will be deployed for the management of LBC&LS:

| S. No. | NAME OF POST | NUMBER |
|---|---|---|
| 1. | Director (ACF Rank) | 1 |
| 2. | Veterinary Officer | 1 |
| 3. | Curator | 1 |
| 4. | Biologist | 1 |
| 5. | Education Officer | 1 |
| 6. | Assistant Wildlife Warden | 2 |
| 7. | Wildlife Guards | 3 |
| 8. | Lab Assistant | 1 |
| 9. | Compounder/Stockman | 1 |
| 10. | Clerk (1 for booking & 2 for office) | 3 |
| 11. | Keeper | 3 |
| 12 | Sweeper | 3 |
| 13. | Driver (1 for Jeep, 1 for pickup van, 2 for visitor bus) | 4 |
| 14. | Tube well & generator operator | 1 |
| 15. | Watchman | 4 |
| 16. | Gateman | 2 |
| 17. | Maali | 2 |
| 18. | Electrician | 1 |
| 19. | Plumber | 1 |
| | **TOTAL** | 36 |

The cost of the project works out to 91.67 crores for ten years. The recurring costs have been compounded @ 5%.

The yearwise budget requirement is given in the table on the following page. **These costs are tentative and are liable to change after detailed planning of the infrastructure and other costs is undertaken, which will be done once the project is finally approved by the CZA.**

The entire funding of the project will be done by the State Government. It will be ensured that adequate funds are made available timely for the various activities mentioned in this Master Plan.

PROPOSED OUTLAY OF THE PROJECT FROM 2012-13 TO 2021-22

| YEAR | CONSTRUCTION COST | EQUIPMENT | CONTINGENCY | HABITAT DEVELOMENT (50 ha) | HABITAT DEVELOMENT (150 ha) | HABITAT DEVELOMENT (150 ha) | RECURRING COST | TOTAL (COL 3 TO 8) | 5 % INFLATION (COMPOUNDED) | ADD 5% INFLATION FOR COL 3 TO 8 | TOTAL (COL 2 + COL 11) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 2012-13 | 1739.45 | 63.3 | 37 | 22.18 | | | 217.83 | 340.31 | 0 | 340.31 | 2079.76 |
| 2013-14 | 2899.08 | 94.95 | 1 | 6.90 | 66.54 | | 217.83 | 387.22 | 5 | 406.58 | 3305.66 |
| 2014-15 | 1159.63 | | 1 | 5.40 | 20.69 | 66.54 | 217.83 | 311.46 | 5.25 | 327.81 | 1487.44 |
| 2015-16 | | | 1 | 4.16 | 16.2 | 20.69 | 217.83 | 259.87 | 5.51 | 274.20 | 274.20 |
| 2016-17 | | | 1 | | 12.48 | 16.2 | 217.83 | 247.51 | 5.79 | 261.83 | 261.83 |
| 2017-18 | | | 1 | | | 12.48 | 217.83 | 231.31 | 6.08 | 245.36 | 245.36 |
| 2018-19 | | | 1 | | | | 217.83 | 218.83 | 6.38 | 232.79 | 232.79 |
| 2019-20 | | | 1 | | | | 217.83 | 218.83 | 6.70 | 233.49 | 233.49 |
| 2020-21 | | | 1 | | | | 217.83 | 218.83 | 7.04 | 234.23 | 234.23 |
| 2021-22 | | | 1 | | | | 217.83 | 218.83 | 7.39 | 235.00 | 235.00 |
| **TOTAL** | **5798.16** | **158.25** | **46.00** | **38.63** | **115.90** | **115.90** | **2178.30** | **2652.99** | | **2791.60** | **8589.76** |

**The above costs are tentative and are liable to change after detailed planning of the infrastructure and other costs is undertaken, which will be done once the project is finally approved by the CZA. The construction cost is calculated as per the details provided by U.P. Awas Evam Vikas Parishad, Etawah.**

(SUJOY BANERJEE)
Deputy Conservator of Forests
National Chambal Wildlife Division
AGRA

(S.P. SRIVASTAVA)
Chief Conservator of Forests, Wildlife
Western Zone
KANPUR

(RUPAK DE)
PCCF, Wildlife & Chief Wildlife Warden
Uttar Pradesh
LUCKNOW

## PART IV

## Annexures to the Master Plan

| | |
|---|---|
| Annexure – I | Flora of the proposed LBC&LS |
| Annexure – II | Fauna of the proposed LBC&LS |
| Annexure - III | Detailed estimates of proposed structures |
| Enclosure – 1 | Master Layout Plan of the area |
| Enclosure – 2 (a) to (d) | Detailed drawings of the Conservation Breeding Center:<br>(a) Conservation Breeding Centre Layout Plan<br>(b) Conservation Breeding Centre Unit Sections<br>(c) Conservation Breeding Centre Unit Elevation<br>(d) Conservation Breeding Centre Unit Plan |
| Enclosure 3 (a) to (d) | Detailed drawings of Animal House:<br>(a) Animal House Layout Plan<br>(b) Animal House Unit Plan<br>(c) Animal House Section<br>(d) Animal House Front Elevation |

## ANNEXURE – I

### FLORA OF THE PROPOSED LBC&S

| S. No. | LOCAL NAME | SCIENTIFIC NAME |
|---|---|---|
| | **TREES** | |
| 01 | Vilayati Babool | *Prosopis juliflora* |
| 02 | Semal | *Bombax ceiba* |
| 03 | Reonj | *Acacia leucophloea* |
| 04 | Chheonkar | *Prosopis cineraria* |
| 05 | Ber | *Zizyphus jujuba* |
| | **SHRUBS** | |
| 01 | Chatpat | *Grewia flavescens* |
| 02 | Hingot | *Balanites roxburghi* |
| 03 | Hins | *Capparis horrida* |
| 04 | Pilu | *Salvadora oleoides* |
| 05 | Karil | *Capparis ophylla* |
| | **GRASSES** | |
| 01 | Anjana | *Cenchrus ciliaris* |
| 02 | Bhanjura | *Apluda mutica* |
| 03 | Kala lappa | *Heteropogon contortus* |
| 04 | Safed lappa | *Aristida hystrix, A. adscensionis* |
| 05 | Munj | *Saccharum munja* |
| 06 | Dab grass | *Desmostachya bipinnata* |

## ANNEXURE – II

### FAUNA OF THE PROPOSED LBC&S

| Sr | Common Name | Scientific Name |
|---|---|---|
| | **BIRDS** | |
| 01 | Egyptian Vulture | *Neophron percnopterus* |
| 02 | White Throated Kingfisher | *Halcyon smyrnensis* |
| 03 | Green Bee Eater | *Merops orientalis* |
| 04 | Pariah Kite | *Milvus migrans govinda* |
| 05 | Oriental Magpie Robin | *Copsychus saularis* |
| 06 | Indian Roller | *Coracias benghalensis* |
| 07 | Jungle Babbler | *Turdoides striatus* |
| 08 | Common Myna | *Acridotheres tristis* |
| 09 | Bank Myna | *Acridotheres ginginianus* |
| 10 | Jungle Myna | *Acridotheres fuscus* |
| 11 | Brahmins Starling | *Sturnus pagodarum* |
| 12 | Rufous Tree Pie | *Dendrocitta vagabunda* |
| 13 | Rose Ringed Parakeet | *Psittacula krameri* |
| 14 | House Crow | *Corvus splendens* |
| 15 | Common Raven (Jungle crow) | *Corvus corax* |
| 16 | Shikra | *Accipiter badius* |
| 17 | Spotted Dove | *Streptopelia chinensis* |
| 18 | Laughing Dove | *Streptopelia senegalensis* |
| 19 | Brown Rock Chat | *Cercomela fusca* |

| | | |
|---|---|---|
| 20 | Grey Bush chat | *Saxicola ferrea* |
| 21 | Red Vented Bulbul | *Pycnonotus cafer* |
| 22 | Indian Grey Hornbill | *Ocyceros birostris* |
| 23 | Greater Coucal | *Centropus sinensis* |
| 24 | Lesser Coucal | *Centropus bengalensis* |
| 25 | Asian Koel | *Eudynamys scolopacea* |
| 26 | Forest Owlet | *Athene blewitti* |
| 27 | Spotted Owlet | *Athene brama* |
| 28 | Crested Bunting | *Melophus lathami* |
| 29 | Black Kite | *Milvus migrans* |
| 30 | Rock Pigeon | *Columba livia* |
| 31 | Green Imperial Pigeon | *Ducula aenea* |
| 32 | Black Drongo | *Dicrus macrocercus* |
| 33 | Grey Francolin | *Francolinus pondicerianus* |
| 34 | Black Francolin | *Francolinus francolinus* |
| 35 | Common Quail | *Cotumix coturmix* |
| | **MAMMALS** | |
| 01 | Pangolin | *Manis crassicaudata* |
| 02 | Van Roj | *Boselaphus tragocamelus* |
| 03 | Hyaena | *Hyaena hyaena* |
| 04 | Jackal | *Canis aureus* |
| 05 | Indian Hare | *Lepus nigricollis* |
| 06 | Jungle Cat | *Felis chaus* |

| | | |
|---|---|---|
| 07 | Indian Small Mongoose | *Herpestes auropunctatus* |
| 08 | Indian Great Mongoose | *Herpestes edwardsii* |
| 09 | Indian Porcupine | *Hystrix indica* |
| 10 | Common Palm Civet | *Paradoxurus hermaphroditus* |
| 11 | Wild Pig | *Sus scrofa* |
| | **REPTILES** | |
| 01 | Pythons | *Python molurus* |
| 02 | Indian cobra | *Naja naja* |
| 03 | Common Kraits | *Bungarus sindanus* |
| 04 | Rat Snake | *Ptyas mucosus* |
| 05 | Common Woolf Snake | *Lycodon aulicus* |
| 06 | Common Sand Boa | *Gongylophis conicus* |
| 07 | Red Sand Boa | *Eryx johnii* |

## ANNEXURE – III (a)

## GENERAL ABSTRACT OF FIXED COSTS

| Sl.No | Particular | Amount (Rs. In Lac) |
|---|---|---|
| 1 | Animal Handling Area | 2754.11 |
| 2 | Visitor Facilities | 862.06 |
| 3 | Staff Facilities | 327.32 |
| | **Total:** | **3943.49** |
| | Add 2% Contingencies | 78.87 |
| | | **4022.36** |
| | Add 10% charges for defficult area & Cartage in Chambal Area | 402.24 |
| | **Total:** | **4424.60** |
| | Soil Testing | 1.50 |
| | Survey | 2.50 |
| | **Total:** | **4428.60** |
| | Less 5% as per Parishad working | 221.43 |
| | | **4207.17** |
| | Add 5% Escalation for the year of 2013-14 on 50% Amount | 105.18 |
| | **Total:** | **4312.35** |
| | Add 12.5% Centage Charges | 539.04 |
| | Add 1% Labour Cess | 43.12 |
| | Add 12.34% Service Tax | 527.83 |
| | Add 0.5% VAT | 21.56 |
| | Construction of 11 KVA independent feeder | 150.00 |
| | **Grand Total:** | **5593.91** |
| | **EQUIPMENT PURCHASE** | |
| 4 | Vehicle - Bolero | 7.00 |
| 5 | Vehicle - Bolero Camper | 12.00 |
| 6 | Camp Lorry | 8.00 |
| 7 | Safari Bus | 60.00 |
| 8 | Tractor + Tanker | 7.00 |
| 9 | Motor Cycles | 0.60 |
| 10 | Cycles | 0.15 |

| Sl.No | Particular | Amount (Rs. In Lac) |
|---|---|---|
| 11 | Laptop | 1.00 |
| 12 | Desktops | 1.50 |
| 13 | Photocopy Machine | 1.00 |
| 14 | Fax machine, telephone, mobile, GPS etc. | 4.00 |
| 15 | Office furniture including store purchase | 10.00 |
| 16 | Lab equipment | 10.00 |
| 17 | Interpretation Center (desing and furnishing) | 20.00 |
| 18 | Library (books and furnishing) | 10.00 |
| 19 | Tranquilizing guns (including drugs) | 6.00 |
| | | **158.25** |
| | **CONTINGENCY** | |
| 19 | Funds for transportation of lions | 6.00 |
| 20 | Consultancy – (a) Development of interpretation center (b) Overseeing the development of LBC&LS | 10.00 |
| 21 | International exposure trip of related officers | 20.00 |
| 22 | Miscellaneous expenditure | 10.00 |
| | | **46.00** |
| | **TOTAL** | **5798.16** |

## ANNEXURE – III (b)

## ABSTRACT OF COSTS VISITOR FACILITIES

| Sl.No | Particular | Quantity | Unit | Rate | Amount (Rs. In Lac) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | Interpretation Center & Library | 1 | NO | 4513000.00 | 45.13 |
| 2 | Ticketing Counter (4 Ns) | 1 | Set | 206000.00 | 2.06 |
| 3 | Toilets | 2 | NO | 1250000.00 | 25.00 |
| 4 | Watch Tower | 2 | NO | 1775000.00 | 35.50 |
| 5 | Rain Shellter | 5 | NO | 18000.00 | 0.90 |
| 6 | Souvenier Shop | 1 | Set | 304000.00 | 3.04 |
| 7 | Rest set with open sit out | 1 | Set | 1143000.00 | 11.43 |
| 8 | Land Scape Garden | 6000 | Sqm | 575.00 | 34.50 |
| 9 | Theme base Gate Large | 1 | NO | 1500000.00 | 15.00 |
| 10 | Double Entry Gate | 2 | NO | 500000.00 | 10.00 |
| 11 | Theme base Gate Medium | 1 | NO | 500000.00 | 5.00 |
| 12 | Internal C.C. Safari Area Road | 3300 | Rm | 12000.00 | 396.00 |
| 13 | Bituminus Road(Approach Road) | 2000 | Rm | 9000.00 | 180.00 |
| 14 | Parking | 5000 | Sqm | 1200.00 | 60.00 |
| 15 | Children Play Area | 2500 | Sqm | 1000.00 | 25.00 |
| 16 | Bus Bay | 1000 | Sqm | 1350.00 | 13.50 |
| | | | | **Total:** | **862.06** |

## ANNEXURE – III (c)

## ABSTRACT OF COST OF ANIMAL HANDLING

| Sl.No | Particular | Quantity | Unit | Rate | Amount (Rs. In Lac) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | Veterinary Hospital | 1 | No | 3281000.00 | 32.81 |
| 2 | Breeding Center | 4 | No | 2334000.00 | 93.36 |
| 3 | Animal House | 2 | No | 2334000.00 | 46.68 |
| 4 | Over Head Tank (50 Kilo Ltr.) | 1 | No | 1132000.00 | 11.32 |
| 5 | Electric Sub-Station | 1 | No | 1216000.00 | 12.16 |
| 6 | Pump House | 2 | No | 304000.00 | 6.08 |
| 7 | Tube Well Pump with 15 Hp. Motor atomatic starter panel board with shallow deep boring | 2 | No | 2350000.00 | 47.00 |
| 9 | Generator 65 KVA | 1 | Set | 900000.00 | 9.00 |
| 10 | Generator 20 KVA | 1 | Set | 660000.00 | 6.60 |
| 11 | Jeepable C.C. Road 3.00M wide | 4000 | Rm | 12000.00 | 480.00 |
| 12 | Barbed wire fancing around 350 Hect. Area of forest on RCC Post | 7320 | Rm | 5000.00 | 366.00 |
| 13 | Additional Work on page..... | | | | 1523.94 |
| 14 | Street Light with florosent lamp as per C.P.W.D 75.00+49% index = 111.75 | 101187.50 | Sqm | 111.75 | 113.08 |
| | Generator Room | 2 | Ns | 304000.00 | 6.08 |
| | | | | | |
| | | | | | |
| | | | | **Total:** | **2754.11** |

## ANNEXURE – III (d)

## ABSTRACT COST STAFF FACILITIES

| Sl. No | Particular | Quantity | Unit | Rate | Amount (Rs. In Lac) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | Type 4 Residence | 3 | No | 2281000.00 | 68.43 |
| 2 | Type 3 Residence | 2 | No | 952000.00 | 19.04 |
| 3 | Type 2 Residence | 11 | No | 732000.00 | 80.52 |
| 4 | Type 1 Residence | 11 | No | 453000.00 | 49.83 |
| 5 | Office cum Conference Room | 1 | No | 2732000.00 | 27.32 |
| 6 | Park/Play for employee's children | 1000 | Sqm | 1000.00 | 10.00 |
| 7 | Tube well pump with 15HP. Motor atomatic starter, pannel board For residential | 1 | No | 2360000.00 | 23.60 |
| 8 | Pump House (for residential colony and visitor facility) | 1 | No | 304000.00 | 3.04 |
| 9 | Overhead Tank (50 Kilo ltr.) for colony and visitor facility | 1 | No | 1132000.00 | 11.32 |
| 10 | Garrage (06 Nos) | 1 | Set | 1022000.00 | 10.22 |
| | Boundary wall around staff facilities | 800 | rmt | 3000.00 | 24.00 |
| | | | | | |
| | | | | **Total:** | **327.32** |

## ANNEXURE – III (e)

## MISCELLANEOUS WORKS

| Sl. No | Particular | Quantity | Unit | Rate | Amount (Rs. In Lac) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | Water Hole | 2 | NO | 500000.00 | 10.00 |
| 2 | Culvert | 10 | NO | 200000.00 | 20.00 |
| 3 | Culvert up to 6.00m span | 3 | NO | 1000000.00 | 30.00 |
| 4 | Outer Chain Link Fancing | 3282 | Rm | 20500.00 | 672.81 |
| 5 | Solar Fancing | 3282 | Rm | 2000.00 | 65.64 |
| 6 | Patrollling path around 50 ha exhibit area | 3282 | Rm | 1350.00 | 44.31 |
| 7 | Earth cutting and filling upto 1 km. | 65700 | Cum | 137.00 | 90.01 |
| 8 | RCC Check Dams | 87.75 | Cu.m. | 12700.00 | 11.14 |
| 9 | Patrolling path around 350 ha buffer area | 21960 | sq.m. | 1350.00 | 296.46 |
| | Boulder pitching | 3000 | sq.m. | 2500.00 | 75.00 |
| | 1 m rcc below 350 ha buffer area fencing | 7320 | rm | 2542.00 | 186.07 |
| 10 | Boundary wall around breeding center | 750 | rm | 3000.00 | 22.50 |
| | | | | **Total:** | **1523.94** |

## ANNEXURE – III (f)

## ESTIMATE – 4 RESIDENCE

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | आवासीय भवन श्रेणी–4 (1 नग) | मी$^2$ | 178.50 | 7870.00 | 14.05 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 178.50 | 240.00 | 0.43 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 178.50 | 240.00 | 0.43 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 178.50 | 240.00 | 0.43 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 178.50 | 360.00 | 0.64 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 178.50 | 300.00 | 0.54 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 2.11 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | नग | 1.00 | 149910.00 | 1.50 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | मी$^2$ | 5 प्रतिशत मद सं0 1 | | 0.70 |
| 10 | आन्तरिक स्थल विकास | मी$^2$ | 5 प्रतिशत मद सं0 1 | | 0.70 |
| 11 | आन्तरिक विद्युतीकरण | नग | 1.00 | 72360.00 | 0.72 |
| 12 | पावर वायरिंग | मी$^2$ | 4 प्रतिशत मद सं0 1 | | 0.56 |
| | | | | | |
| | | | | **Total:** | **22.81** |

## ANNEXURE – III (g)

## ESTIMATE TYPE – 3 RESIDENCE

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | आवासीय भवन श्रेणी–3 (1 नग) | मी$^2$ | 79.00 | 7220.00 | 5.70 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 79.00 | 240.00 | 0.19 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 79.00 | 240.00 | 0.19 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 79.00 | 240.00 | 0.19 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 79.00 | 360.00 | 0.28 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 79.00 | 300.00 | 0.24 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 0.86 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | नग | 1.00 | 60520.00 | 0.61 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | मी$^2$ | 5 प्रतिशत मद सं0 1 | | 0.29 |
| 10 | आन्तरिक स्थल विकास | मी$^2$ | 5 प्रतिशत मद सं0 1 | | 0.29 |
| 11 | आन्तरिक विद्युतीकरण | नग | 1.00 | 46540.00 | 0.47 |
| 12 | पावर वायरिंग | मी$^2$ | 4 प्रतिशत मद सं0 1 | | 0.23 |
| | | | | | |
| | | | | **Total:** | **9.52** |

## ANNEXURE – III (h)

## ESTIMATE TYPE – 2 RESIDENCE

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | आवासीय भवन श्रेणी–3 (1 नग) | मी$^2$ | 57.70 | 7320.00 | 4.22 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 57.70 | 240.00 | 0.14 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 57.70 | 240.00 | 0.14 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 57.70 | 240.00 | 0.14 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 57.70 | 360.00 | 0.21 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 57.70 | 300.00 | 0.17 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 0.63 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | नग | 1.00 | 60520.00 | 0.61 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | मी$^2$ | 5 प्रतिशत मद सं0 1 | | 0.21 |
| 10 | आन्तरिक स्थल विकास | मी$^2$ | 5 प्रतिशत मद सं0 1 | | 0.21 |
| 11 | आन्तरिक विद्युतीकरण | नग | 1.00 | 46540.00 | 0.47 |
| 12 | पावर वायरिंग | मी$^2$ | 4 प्रतिशत मद सं0 1 | | 0.17 |
| | | | | | |
| | | | | **Total:** | **7.32** |

## ANNEXURE – III (i)

## ESTIMATE TYPE – 1 RESIDENCE

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | आवासीय भवन श्रेणी–3 (1 नग) | मी$^2$ | 34.20 | 7320.00 | 2.50 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 34.20 | 240.00 | 0.08 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 34.20 | 240.00 | 0.08 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 34.20 | 240.00 | 0.08 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 34.20 | 360.00 | 0.12 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 34.20 | 300.00 | 0.10 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 0.38 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | नग | 1.00 | 48190.00 | 0.48 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | मी$^2$ | 5 प्रतिशत मद सं0 1 | | 0.13 |
| 10 | आन्तरिक स्थल विकास | मी$^2$ | 5 प्रतिशत मद सं0 1 | | 0.13 |
| 11 | आन्तरिक विद्युतीकरण | नग | 1.00 | 35030.00 | 0.35 |
| 12 | पावर वायरिंग | मी$^2$ | 4 प्रतिशत मद सं0 1 | | 0.10 |
| | | | | | |
| | | | | **Total:** | **4.53** |

## ANNEXURE III (j)

## ESTIMATE VETERINARY HOSPITAL

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | अनावासीय श्रेणी–बी | मी$^2$ | 263.10 | 7320.00 | 19.26 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 263.10 | 240.00 | 0.63 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 263.10 | 240.00 | 0.63 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 263.10 | 240.00 | 0.63 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 263.10 | 360.00 | 0.95 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 263.10 | 300.00 | 0.79 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 2.89 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | | 10 प्रतिशत मद सं0 1 | | 1.93 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | | 5 प्रतिशत मद सं0 1 | | 0.96 |
| 10 | आन्तरिक स्थल विकास | | 5 प्रतिशत मद सं0 1 | | 0.96 |
| 11 | आन्तरिक विद्युतीकरण | | 12.5 प्रतिशत मद सं0 1 | | 2.41 |
| 12 | पावर वायरिंग | | 4 प्रतिशत मद सं0 1 | | 0.77 |
| | | | | | |
| | | | | **Total:** | **32.81** |

## ANNEXURE – III (k)

## ESTIMATE BREEDING CENTER

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | अनावासीय श्रेणी–ए | मी$^2$ | 169.78 | 8440.00 | 14.33 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 169.78 | 240.00 | 0.41 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 169.78 | 240.00 | 0.41 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 169.78 | 240.00 | 0.41 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 169.78 | 360.00 | 0.61 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 169.78 | 300.00 | 0.51 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 2.15 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | | 5 प्रतिशत मद सं0 1 | | 0.72 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | | 5 प्रतिशत मद सं0 1 | | 0.72 |
| 10 | आन्तरिक स्थल विकास | | 5 प्रतिशत मद सं0 1 | | 0.72 |
| 11 | आन्तरिक विद्युतीकरण | | 12.5 प्रतिशत मद सं0 1 | | 1.79 |
| 12 | पावर वायरिंग | | 4 प्रतिशत मद सं0 1 | | 0.57 |
| | | | | | |
| | | | | **Total:** | **23.34** |

## ANNEXURE – III (I)

## ESTIMATE ANIMAL HOUSE

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | अनावासीय श्रेणी–ए | मी$^2$ | 169.78 | 8440.00 | 14.33 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 169.78 | 240.00 | 0.41 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 169.78 | 240.00 | 0.41 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 169.78 | 240.00 | 0.41 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 169.78 | 360.00 | 0.61 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 169.78 | 300.00 | 0.51 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 2.15 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | | 5 प्रतिशत मद सं0 1 | | 0.72 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | | 5 प्रतिशत मद सं0 1 | | 0.72 |
| 10 | आन्तरिक स्थल विकास | | 5 प्रतिशत मद सं0 1 | | 0.72 |
| 11 | आन्तरिक विद्युतीकरण | | 12.5 प्रतिशत मद सं0 1 | | 1.79 |
| 12 | पावर वायरिंग | | 4 प्रतिशत मद सं0 1 | | 0.57 |
| | | | | | |
| | | | | **Total:** | **23.34** |

## ANNEXURE – III (m)

## ESTIMATE ELECTRIC SUB-STATION

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | अनावासीय श्रेणी–बी | मी$^2$ | 100.00 | 7360.00 | 7.36 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 100.00 | 240.00 | 0.24 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 100.00 | 240.00 | 0.24 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 100.00 | 240.00 | 0.24 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 100.00 | 360.00 | 0.36 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 100.00 | 300.00 | 0.30 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 1.10 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | | 5 प्रतिशत मद सं0 1 | | 0.37 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | | 5 प्रतिशत मद सं0 1 | | 0.37 |
| 10 | आन्तरिक स्थल विकास | | 5 प्रतिशत मद सं0 1 | | 0.37 |
| 11 | आन्तरिक विद्युतीकरण | | 12.5 प्रतिशत मद सं0 1 | | 0.92 |
| 12 | पावर वायरिंग | | 4 प्रतिशत मद सं0 1 | | 0.29 |
| | | | | | |
| | | | | **Total:** | **12.16** |

## ANNEXURE – III (n)

## ESTIMATE PUMP ROOM

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | अनावासीय श्रेणी–बी | मी$^2$ | 25.00 | 7360.00 | 1.84 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 25.00 | 240.00 | 0.06 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 25.00 | 240.00 | 0.06 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 25.00 | 240.00 | 0.06 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 25.00 | 360.00 | 0.09 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 25.00 | 300.00 | 0.08 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 0.28 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | | 5 प्रतिशत मद सं0 1 | | 0.09 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | | 5 प्रतिशत मद सं0 1 | | 0.09 |
| 10 | आन्तरिक स्थल विकास | | 5 प्रतिशत मद सं0 1 | | 0.09 |
| 11 | आन्तरिक विद्युतीकरण | | 12.5 प्रतिशत मद सं0 1 | | 0.23 |
| 12 | पावर वायरिंग | | 4 प्रतिशत मद सं0 1 | | 0.07 |
| | | | | | |
| | | | | **Total:** | **3.04** |

## ANNEXURE – III (o)

## ESTIMATE RECEPTION

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | अनावासीय श्रेणी–ए | मी$^2$ | 328.35 | 8440.00 | 27.71 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 328.35 | 240.00 | 0.79 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 328.35 | 240.00 | 0.79 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 328.35 | 240.00 | 0.79 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 328.35 | 360.00 | 1.18 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 328.35 | 300.00 | 0.99 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 4.16 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | | 5 प्रतिशत मद सं0 1 | | 1.39 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | | 5 प्रतिशत मद सं0 1 | | 1.39 |
| 10 | आन्तरिक स्थल विकास | | 5 प्रतिशत मद सं0 1 | | 1.39 |
| 11 | आन्तरिक विद्युतीकरण | | 12.5 प्रतिशत मद सं0 1 | | 3.46 |
| 12 | पावर वायरिंग | | 4 प्रतिशत मद सं0 1 | | 1.11 |
| | | | | | |
| | | | | **Total:** | **45.13** |

## ANNEXURE – III (p)

## ESTIMATE TICKET COUNTER

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | अनावासीय श्रेणी–ए | मी$^2$ | 15.00 | 8440.00 | 1.27 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 15.00 | 240.00 | 0.04 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 15.00 | 240.00 | 0.04 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 15.00 | 240.00 | 0.04 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 15.00 | 360.00 | 0.05 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 15.00 | 300.00 | 0.05 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 0.19 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | | 5 प्रतिशत मद सं0 1 | | 0.06 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | | 5 प्रतिशत मद सं0 1 | | 0.06 |
| 10 | आन्तरिक स्थल विकास | | 5 प्रतिशत मद सं0 1 | | 0.06 |
| 11 | आन्तरिक विद्युतीकरण | | 12.5 प्रतिशत मद सं0 1 | | 0.16 |
| 12 | पावर वायरिंग | | 4 प्रतिशत मद सं0 1 | | 0.05 |
| | | | | | |
| | | | | **Total:** | **2.06** |

## ANNEXURE – III (q)

## ESTIMATE TOILET BLOCKS

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | अनावासीय श्रेणी–ए | मी$^2$ | 90.97 | 8440.00 | 7.68 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 90.97 | 240.00 | 0.22 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 90.97 | 240.00 | 0.22 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 90.97 | 240.00 | 0.22 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 90.97 | 360.00 | 0.33 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 90.97 | 300.00 | 0.27 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 1.15 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | | 5 प्रतिशत मद सं0 1 | | 0.38 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | | 5 प्रतिशत मद सं0 1 | | 0.38 |
| 10 | आन्तरिक स्थल विकास | | 5 प्रतिशत मद सं0 1 | | 0.38 |
| 11 | आन्तरिक विद्युतीकरण | | 12.5 प्रतिशत मद सं0 1 | | 0.96 |
| 12 | पावर वायरिंग | | 4 प्रतिशत मद सं0 1 | | 0.31 |
| | | | | | |
| | | | | **Total:** | **12.50** |

## ANNEXURE – III (r)

## ESTIMATE KIOSK AND REST SHED

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | अनावासीय श्रेणी–बी | मी$^2$ | 100.00 | 7360.00 | 7.36 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 100.00 | 240.00 | 0.24 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 100.00 | 240.00 | 0.24 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 100.00 | 240.00 | 0.24 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 100.00 | 360.00 | 0.36 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 100.00 | 300.00 | 0.30 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 1.10 |
| 8 | आन्तरिक स्थल विकास | | 5 प्रतिशत मद सं0 1 | | 0.37 |
| 9 | आन्तरिक विद्युतीकरण | | 12.5 प्रतिशत मद सं0 1 | | 0.92 |
| 10 | पावर वायरिंग | | 4 प्रतिशत मद सं0 1 | | 0.29 |
| | | | | | |
| | | | | **Total:** | **11.43** |

## ANNEXURE – III (s)

## ESTIMATE SOUVENIR SHOP

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | अनावासीय श्रेणी–बी | मी$^2$ | 25.00 | 7360.00 | 1.84 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 25.00 | 240.00 | 0.06 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 25.00 | 240.00 | 0.06 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 25.00 | 240.00 | 0.06 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 25.00 | 360.00 | 0.09 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 25.00 | 300.00 | 0.08 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 0.28 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | | 5 प्रतिशत मद सं0 1 | | 0.09 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | | 5 प्रतिशत मद सं0 1 | | 0.09 |
| 10 | आन्तरिक स्थल विकास | | 5 प्रतिशत मद सं0 1 | | 0.09 |
| 11 | आन्तरिक विद्युतीकरण | | 12.5 प्रतिशत मद सं0 1 | | 0.23 |
| 12 | पावर वायरिंग | | 4 प्रतिशत मद सं0 1 | | 0.07 |
| | | | | | |
| | | | | **Total:** | **3.04** |

## ANNEXURE – III (t)

## ESTIMATE WATCH TOWER

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | वाचटावर भूतल से 5वां तल तक 6(4.06× 4.06) = 98.88 (आर.सी. सी. संरचना) | मी$^2$ | 98.88 | 8340.00 | 8.25 |
| | छठा तल | मी$^2$ | 16.48 | 8500.00 | 1.40 |
| | सांतवां तल | मी$^2$ | 49.00 | 8660.00 | 4.24 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 16.48 | 240.00 | 0.04 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 16.48 | 240.00 | 0.04 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 16.48 | 240.00 | 0.04 |
| 5 | भूकम्प रोधी संरचना | मी$^2$ | 164.36 | 300.00 | 0.49 |
| 6 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 1.24 |
| 9 | आन्तरिक स्थल विकास | मी$^2$ | 5 प्रतिशत मद सं0 1,2,3 | | 0.24 |
| 10 | आन्तरिक विद्युतीकरण | मी$^2$ | 12.5 प्रतिशत मद सं0 1,2,3 | | 1.74 |
| 11 | तड़िक चालक | मी$^2$ | 0.5 प्रतिशत मद सं0 1,2,3 | | 0.03 |
| | | | | | |
| | | | | **Total:** | **17.75** |

## ANNEXURE – III (u)

## ESTIMATE DIRECTOR'S OFFICE

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | अनावासीय श्रेणी–ए | मी$^2$ | 200.00 | 8440.00 | 16.88 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 200.00 | 240.00 | 0.48 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 200.00 | 240.00 | 0.48 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 200.00 | 240.00 | 0.48 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 200.00 | 360.00 | 0.72 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 200.00 | 300.00 | 0.60 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 2.53 |
| 8 | आन्तरिक जलापूर्ति एवं मल निस्तारण | | 4 प्रतिशत मद सं0 1 | | 0.68 |
| 9 | बाह्य जलापूर्ति एवं मल निस्तारणा | | 5 प्रतिशत मद सं0 1 | | 0.84 |
| 10 | आन्तरिक स्थल विकास | | 5 प्रतिशत मद सं0 1 | | 0.84 |
| 11 | आन्तरिक विद्युतीकरण | | 12.5 प्रतिशत मद सं0 1 | | 2.11 |
| 12 | पावर वायरिंग | | 4 प्रतिशत मद सं0 1 | | 0.68 |
| | | | | | |
| | | | | **Total:** | **27.32** |

## ANNEXURE – III (v)

## ESTIMATE GARAGE

| क्रम सं0 | विवरण | इकाई | मात्रा | दर | लागत (रू0 लाख में) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | अनावासीय श्रेणी–सी | मी$^2$ | 99.81 | 6490.00 | 6.48 |
| 2 | सामान्य ऊँचाई 2.90 मी से उपर प्रत्येक 0.30 मी0 ऊंचाई के लिए | मी$^2$ | 99.81 | 240.00 | 0.24 |
| 3 | दीमक प्रतिरोध | मी$^2$ | 99.81 | 240.00 | 0.24 |
| 4 | सामान्य कुर्सी ऊंचाई 0.60 मी0 से अधिक प्रत्येक 0.30 मी0 ऊंचाई के लिए (केवल पहली मंजिल के लिए) (0.30 मी0) | मी$^2$ | 99.81 | 240.00 | 0.24 |
| 5 | 10 टन/वर्गमी0 भार वहन क्षमता से कम क्षमता वाली मिट्टी पर नींव निर्माण के लिए | मी$^2$ | 99.81 | 360.00 | 0.36 |
| 6 | भूकम्प रोधी संरचना | मी$^2$ | 99.81 | 300.00 | 0.30 |
| 7 | लवण युक्त मिट्टी के लिए अतिरिक्त (केवल पहली मंजिल हेतु) | 15 प्रतिशत मद सं0 1 से | | | 0.97 |
| 8 | आन्तरिक स्थल विकास | | 5 प्रतिशत मद सं0 1 | | 0.32 |
| 9 | आन्तरिक विद्युतीकरण | | 12.5 प्रतिशत मद सं0 1 | | 0.81 |
| 10 | पावर वायरिंग | | 4 प्रतिशत मद सं0 1 | | 0.26 |
| | | | | | |
| | | | | **Total:** | **10.22** |

## ANNEXURE – III (w)

## ABSTRACT OF FIXED COSTS FOR VISITOR FACILITIES

| Sl. No | Particular | Quantity | Unit | Rate | Amount (Rs. In Lac) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | Interpretation Center & Library | 1 | NO | 4513000.00 | 45.13 |
| 2 | Ticketing Counter (4 Ns) | 1 | Set | 206000.00 | 2.06 |
| 3 | Toilets | 2 | NO | 1250000.00 | 25.00 |
| 4 | Watch Tower | 2 | NO | 1775000.00 | 35.50 |
| 5 | Rain Shellter | 5 | NO | 18000.00 | 0.90 |
| 6 | Souvenier Shop | 1 | Set | 304000.00 | 3.04 |
| 7 | Rest set with open sit out | 1 | Set | 1143000.00 | 11.43 |
| 8 | Land Scape Garden | 6000 | Sqm | 575.00 | 34.50 |
| 9 | Theme base Gate Large | 1 | NO | 1500000.00 | 15.00 |
| 10 | Double Entry Gate | 1 | NO | 500000.00 | 5.00 |
| 11 | Theme base Gate Medium | 1 | NO | 500000.00 | 5.00 |
| 12 | Internal C.C. Safari Area Road | 3300 | Rm | 12000.00 | 396.00 |
| 13 | Bituminus Road(Approach Road) | 2000 | Rm | 9000.00 | 180.00 |
| 14 | Parking | 5000 | Sqm | 1200.00 | 60.00 |
| 15 | Children Play Area | 2500 | Sqm | 1000.00 | 25.00 |
| | | | | **Total:** | **843.56** |

ATTACHMENT. I

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

**THROUGH SPEED POST**

**F. No. 20-81/2004-CZA(498)(Vol. I)(M)/3248** **DATE: 25.02.2013**

To

Sh. Rupak De
Principal Chief Conservator of Forests (WL)
Government of Uttar Pradesh,
Lucknow (Uttar Pradesh).

**Sub:- Master Plan of the Lion Safari, Etawah.**

Sir,

The Master Plan of the Lion Safari, Etawah was scrutinized by Expert Group on Zoo Designing of the Central Zoo Authority. Subsequently, the Master Plan was placed before 64th Meeting of the Technical Committee held on 5th February 2013 for its approval. The Technical Committee of the Central Zoo Authority had approved the Master Plan of the Lion Safari, Etawah as recommended by the Expert Group on Zoo Designing of the Central Zoo Authority subject to the condition that:-

(a) the responsibility of mobilizing the financial resources for implementation of the Master Plan will be the sole responsibility of the State Government or respective Zoo Operator, and
(b) the State Government or respective Zoo Operator should quantify the resources available for the implementation of Master Plan.
(c) The Chief Wildlife Warden, Uttar Pradesh, may carefully consider the order issued by the Forest Conservation Division of the Ministry of Environment and Forests dated 13.11.2007 while operating Lion Safari.
(d) The Chief Wildlife Warden, Government of Uttar Pradesh should ensure that the provisions of Forest (Conservation) Act, 1980 are strictly followed and at no point of time the provision are contravened.

In order to send you a copy of the duly signed and approved Master Plan of the Lion Safari, Etawah, you are requested to submit final version of Master Plan (three copies) which should contain the signatures with stamp of the Chief Wildlife Warden, Uttar Pradesh and In-charge of the Lion Safari, Etawah incorporating copy of this letter too.

...2/-

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