



जहाँ है हरियाली।
वहाँ है खुशहाली।।



GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
Central Zoo Authority



F. No. 19-56/93-CZA(23)(M)

DATE: 09.09.2010

To

1. ✓ Shri S. C. Sharma
Addl. DGF (WL) (Retd.),
411, New Delhi Apartments,
Plot No. 7, Vasundhara Enclave,
Delhi - 96
2. Prof. M. Shaheer
(Retd.) Head, Department of Land Architecture,
School of Planning & Architecture,
Residence of 168/7, 2nd Floor
Sarai Julena, Okhla Road,
New Delhi - 110 025
3. Dr. Brij Kishor Gupta
C-280, Beta - I,
Greater Noida - 201 308

Sub:- Revised Master plan for the long-term development of the Deer Park, Chittoor - Regarding.

Sir,

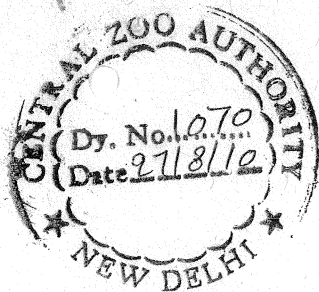
A copy of the revised Master plan of the Deer Park, Chittoor, is enclosed herewith for your comments at an early date.

Yours faithfully,

(B. S. Bonal)

Member Secretary

Encl: as above



Prasanna
Sj
27/8/10

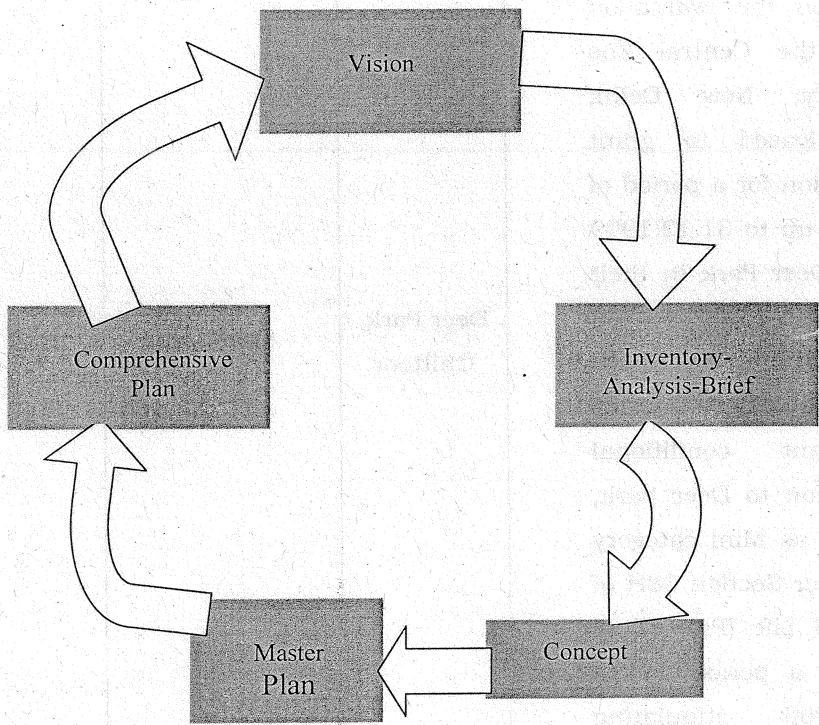
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MASTER PLAN OF DEER PARK, CHITTOOR

History, Background and Future Development

The Deer Park, Chittoor was established in the year 1981-82. The Deer Park was evaluated by Sri M.P.Mathur I.F.S Retd., Dy., Conservator of Forests associated by the then Forest Range Officer based on the evaluation report the Central Zoo Authority, New Delhi, were pleased to grant recognition for a period of 2 years up to 31.12.1999 to the Deer Park in their no 19/56/93 C.Z.A (23) of 01.01.1998. The Central Zoo Authority has decided to grant conditional recognition to Deer park, Chittoor as Mini category Zoo under Section 38H of the Wild Life (Protection) Act, for a period up to 31.08.2009 stipulating certain conditions vide letter no.19.-56/93-CZA(23)(M) dt.24.08.07.

Category	Date of Establishment	Area (in Ha)	Location
Deer Park, Chittoor	1981-82	3.25	Between 13°20'24.0" to 13°20'34.1" North Latitudes and 79°10'29.5" to 79°10'51.9" East longitudes along the Chittoor Reserve Forest. 3-4 Kms from Chittoor Railway Station



The work of improvement of this reserve was started by Revenue Department before the Forest Department took charge of the jungles and hence, its past history and management is obscure. Recorded descriptions of the reserve are available from 1884 only and from the various records available it is deduced, that Mr.A.J.Stuart the then Collector, Chittoor started sowing Red Sanders on PM.Lushington, Conservator of Forest in 1912 placed "The introduction of the Red Sanders to a time prior to Mr.A.J.Stuart's arrival in the country (1863)". Sri V.S.Krishnaswamy opined that 1865 was the likely year of introduction of Red Sanders in Reserve. It is probable that fuel plantations were tried in the reserve between 1865 and 1869 when large-scale fuel plantations were attempted in the division and few Red Sanders trees of this failed plantations might have survived. But the observations of Col.Campbell Walker, Conservator of Forests in 1884, and that of Mr.J.W.Cherry, acting Conservator of Forests in 1889, the note made by Mr.H.A.Stuart, Collector on the inspection notes of Mr.E.P.Popper in 1894, clearly indicate that the credit for what Chittoor Reserve is today must be given to Mr.A.J.Stuart, though he might not have introduced the first Red Sanders seedlings there.

Up to 1929:- Several efforts were made to introduce Red Sanders in this reserve between 1893 and 1899 and they were increased from 1904 onwards. Besides Red Sanders, Pterocarpus marsupium, Chloroxylon swietenia, Tamarindus indica and Dendrocalamus strictus were introduced. The emphasis was on Red Sanders and it responded admirably.

THE RESERVE TODAY AND COURSE OF ACTION PROPOSED :

The Reserve as on today has become one of the favourite tourist spot for the people of Chittoor Town, for no other town can boast of such a beautiful forest in the midst of city environs. Hundreds of people from all walks

- (3) **Theme / Objectives:-** The main objectives of establishing of Deer Park is for Conservation, Education, Research and Recreation.

Physical Features:

- i) Topography : Gentle slope
- ii) Geology : Sloppy area with small boulders
- iii) Rock and Soil : Red Soil with small boulders & rocks out cross
- iv) Flora and Fauna : Flora and Fauna existing in Chittoor RF are as follows.

FLORA:-

Botanical name	Telugu name	Hindi name	Family name
<i>Azadirachta indica</i>	Vepa	Neem	Meliaceae
<i>Pterocarpus santalinus</i>	Yerra chandanamu	Lal-chandan	Fabaceae
<i>Tamarindus indica</i>	Chintha	Imli	Caesalpinaceae
<i>Anona squamosa</i>	Sitaphalam	Sitaphal	Annonaceae
<i>Acacia sundra</i>	Sundra	-	Mimosaceae
<i>Chloroxylon swietenia</i>	Billudu	Bheera	Meliaceae
<i>Albizia amara</i>	Chigara	-	Mimosaceae
<i>Pongamia pinnata</i>	Kanuga	Karanj	Fabaceae
<i>Ficus benghalensis</i>	Marri	Ber	Molaceae
<i>Ficus mollis</i>	Juvvi	Son-pakar	Molaceae
<i>Millingtonia hortensis</i>	Karaka / Akasa malli	Akas-nim	Bignoniaceae
<i>Terminalia chebula</i>	Karakkai chettu / Nalla karaka	Halda	Combretaceae
<i>Dalbergia sissoo</i>	Sissoo	Shisham	Fabaceae
<i>Limonia elephantum</i>	Velaga	Kawat	Rutaceae
<i>Borassus flabellifer (Palmyrah)</i>	Tati	Tari	Palmae-bold
<i>Dendrocalamus strictus (Bamboo)</i>	Veduru	Bans	Cyperaceae

FAUNA:-

Family	Scientific name	English / Popular name	Telugu / Local name
Mammals	<i>Felis chaus</i>	Jungle cat	Adivipilli
	<i>Vulpes benghalensis</i>	Fox	Gunta nakka
Birds	<i>Phasianus colchicus</i>	Common pheasant	Kaki
	<i>Streptopelia decaocto</i>	Dove	China Pavuram
	<i>Euolynamys scolopacea</i>	Koel	Kokila
	<i>Bubo coromandus</i>	Dusky Horned Owl	Gudlaguba
	<i>Francolinus pondicerianus</i>	Grey partridge	Kamju
	<i>Corvus splendens</i>	House crow	House crow
	<i>Corvus macrorhynchos</i>	Jungle crow	Jungle crow
Reptiles	<i>Naja naja</i>	Cobra	Nagupamu
	<i>Ptyas mucosus</i>	Rat sanke	Jerri potu
	<i>Dendrelaphis tristis</i>	Tree snake	Katlapamu
	<i>Python molurus</i>	Python	Kondachiluva

Climate

: The area gets rainfall from both the South West (June - August) and North West (October - December) monsoons, averaging about 380 mm and 410 mm respectively. However, the distribution of rainfall is uneven and Chittoor District is drought prone. The cold weather is experienced from November - February with temperatures some times dropping to 10°C. The hot weather is experienced in summer season (March - May), some times reaching to 44°C. Dew and mist occur during December and January.

Rainfall

: About 800 MM annually

Season

: South West (June - August) and North - East (October - December) monsoons

Approach

: Chittoor to Vellore road

Demography

: The Chittoor Reserve Forest which hosts the Chittoor Deer Park, abuts the Chittoor town on one side and the villages like Cheelapalli, Siddampalli, Bandapalli, Kothur, Ramapuram, Peyanapalli on the other sides.

The main avocation of the people living around this block is milch cattle rearing. Since, most of cattle are stall fed, the pressure on the forest block is minimal.

Even though the park and the rest of the Reserve Forest lies in the midst of the human habitation, the pressures of biotic interferences are negligible. The Reserve Forest acts like a oxygen bank and the public of Chittoor town uses the park for their morning walk and evening stroll, and thereby afford good protection to the forest block.

Legal status of land : Reserved Forest

Sources of Pollution : Nil

(if any)

(II) Appraisal of the present arrangement and constraints:

a(i) Animal Section :

It is a small enclosure over an extent of 3.25Ha in Chittoor Reserve Forest in which, Spotted Deer are present. Initially the number of Spotted Deer was 10-13 now it has increased to 20 Nos.

Except enclosure, there are no separate arrangement for the Deers in this park.

The following constraints have mentioned in this Master Plan for future management.

(ia) Animal Enclosure :

Animal enclosure is to be provided to the animals as a proportion to the population of Spotted Deer.

(ii) Veterinary Section & Health Care :

Main thrust of Chittoor Deer Park is its inhabitants i.e., Spotted Deer. The entire planning process of Deer Park is to be conducive to ensure quality of life, maximum longevity, procreation and welfare of zoo animals i.e., Spotted Deer.

The following works are proposed for Chittoor Deer Park.

- Proper housing
- Proper Feeding & upkeep
- Veterinary / Healthy care for Zoo animals

Strategic Vision-2010:-

“Our Deer Park shall be an abode for healthy, contented and virile Spotted Deer”

(iii) Stock and Feed supply Section

Animals in the wild have the freedom to gather and eat their choicest food items from innumerable flora, fauna, mineral and water sources available in wild to meet their requirements. In contrast the animals in captivity are dependant upon the food supplied to them. The feed provided in the Park is as stipulated by the Central Zoo Authority, New Delhi. Adequate quality of nutritious species-specific food is proposed to be provided to the Deer to ensure good health, vitality, satisfactory reproductive status, ability to withstand diseases and ward off nutritional stress.

The following measures being followed :

- Steps are being taken to care for Young and growing animals providing adequate vitamins, minerals and energy producing food.
- Feeders and water troughs are arranged in such a way to avoid contamination with faeces and urine.
- Adequate hygienic storage of food, Park kitchen, distribution facilities are maintained in Chittoor Deer Park.
- Spoilage of stored items of food by rats, insects etc., are avoided by providing proper storage facilities.
- To avoid injuries due to fighting or otherwise and to ensure proper intake of food, proper monitoring is ensured.
- Clean water from protected water supply system is supplied to prevent water borne health problems in Deer Park.

(iv) Sanitation and Hygiene

The following parameters needs to be considered :

- Infectious agents remain in highly dormant form in nature and in highly concentrated form in zoos because of confinement.
- Accumulation of solid and liquid wastes, decaying vegetation etc., inside zoo premises can act as reservoir

and breeding ground for the disease causing microbes and vectors.

- Excreta and food refuses of animals and all sorts of solid and liquid wastes have to be cleaned daily and quickly disposed off at appropriate places followed by disinfections.
- General sanitation and hygiene of animal enclosures and surrounding areas and visitors' utility places must be ensured.
- Disinfectants should be selected on the basis of effectiveness and safety.
- Attempts should be directed to reduce or eliminate stress to minimize stress related morbidity and mortality in zoos.
- Losses or traumatic injuries resulting from infighting during mating related activities, feeding, capture/shifting operations, incompatibility etc., can be prevented / reduced by keeping compatible pairs / groups and well managed capture operations.
- Neonatal deaths needs to be controlled by identification of causes. (e.g. Inbreeding, disturbance during advanced stage of pregnancy and nursing period, stress, infection, etc) and adopting remedial measures.
- Ill-effects of inbreeding like still-births, congenital anomalies, early mortality, abortion and infertility needs to be minimized or eliminated by planned breeding programme.

Disease control measures:-

The precautionary measures shall broadly be based on the following principals:

- Disease is the manifestation of disturbances in the normal physiological process leading to structural and functional alternations in the cells of a living body of an individual and arise as an aftermath to be collusion between pathological agents and a susceptible host.
- All disease are influenced by several factors such as environment around the host (air, water, food, climate, space for movement and social surroundings etc.) inherent resistance, senility.
- Vaccination is commonly practiced to

induce immunity against further invasion by specific infectious agents responsible for causing infectious diseases of bacterial or viral origin.

- Control of tuberculosis(TB) : it is common in many Indian Parks among deers.
- Confirmed TB cases are to be isolated and treated.
- Mass treatment with multidrug therapy using anti-tuberculous drugs like isoniazid, rifampicin, pyrazinamide and thambutol in the recommended doses along with feed for 2-6 months has been able to control the infection.
- Parasitic infestations cause considerable morbidity and mortality in Deer Park especially in young animals.
- A de-worming schedule is usually practised in Deer Park.

Health monitoring : Deers in the Park require keen day to day observations for health monitoring. After detection of illness, diagnosis of disease followed by suitable action by improving the management practices appropriate therapeutic measures or both can be taken. Animal keepers / caretakers have to be trained for detection of illness, abnormal behaviour at the initial stage and on principles of preventive medicine and environmental sanitation.

Zoo Personnel health & hygiene : Animal keepers are screened frequently and their health status monitored periodically during employment for infectious diseases so that chances of infection from keeper to animal or vice versa could be avoided or minimised.

Zoo veterinary hospital : The treatment room is required in the premises of the Deer Park and it should be properly equipped with facilities for disease diagnosis, handling, restraining and treatment of sick animal. Utilizing in local Veterinary Hospital whenever requires.

Post-mortem examination room and carcass disposal facilities

- Post-mortem room with proper equipments and provision for conducting post-mortem examination(PME) is required and proposed.
- There should be a special grave yard or an incinerator for disposal of carcasses after PME to prevent the spread of infection.

Environmental amelioration measures :

- Environmental amelioration measures (eg: Lawns and Gardens, Nursery planting of seedlings of various tree species, Orchidarium etc.,)
- Lawns and Gardens have to be developed in and around the Zoo Park.
- Nursery, Planting of seedlings of various tree species in the park and sale to the public.
- Orchidarium for public awareness to the School children and College Students.

Landscaping and beautification : is also required in park for aesthetic look to the visitors.

Fodder cultivation :

- Proposed Fodder Farm : 2 Acres – Eg. NB-21, Stylo, Various other Grasses – Common and Para grass, Maize, Miscellaneous crops should be grown in Farm land.

Visitors amenities :

- Parking Place, Visitors movement and other facilities and services should be provided to the visitors.
- Visitors facilities like ticket counters, souvenir shops, rest rooms, rain shelters, food courts, toilets / urinals made of transport. Security to the visitors are the components to be taken care of.
- Visitors circulation in the zoo should be well defined.

Water supply Section:

One new borewell and pipeline is required for water to the visitors and animals .

One overhead tank with motor is also necessary for storage of water in the park.

Signs & Graphics :

- Interpretive boards giving scientific information of each spp., fixed near exhibit, boards spelling out the Do's & Don'ts, boards indicating public facilities like toilets, water taps, restaurants, kiosks, tram/riding stations and parking etc., The signages should be prepared with the help of Communications Interpretive firm, to make them attractive, eco-friendly and aesthetical. They have to be properly lit to make them readable at night.

Publication and Publicity Material :

- Publicity material should be carefully designed by defining its purpose, choosing the right type of format (print or electronic) and eco-friendly material. The material can be in the form of booklets, pamphlets, brochures, folders, stickers, badges, caps, neck-ties, T-shirts, hand bags, paper bags and picture post cards etc.,

Training :

- Keepers
- Teachers
- Rangers / Guides
- Volunteers

Influence on Human Life :

- Man's existence depends upon nature's equilibrium. If disturbed affects human life adversely.
- "Live and let live"
- Jiyo Aur Jine Do – In Hindi

PART – II

1. **Present scenario & Future Development Salient Features :** (Layout plan enclosed)

The existing area of Deer Park in Chittoor is 3.25 Ha. Now it has to be extended 5.21 Ha for long-term development as suggested by Central Zoo Authority and agreed upon in the Facilitation Workshop held at Hyderabad A.P. on 6th February, 2009.

This entire area is divided into 3 (three) Sections as follows.

- (1) Enclosure for display of herd of Deers to the public (2.21 Ha).
 - (2) Enclosure for segregation of Male deers to Control Breeding (1.50 Ha).
 - (3) Enclosure for segregation of Female deers to Control Breeding (1.50 Ha).
- ❖ One **Corridor** is provided for animal keeper to operate gates in the enclosure.
 - ❖ **Vegetation Barrier** is also provided along the visitor's zone to prevent the visitors to approach the animals.
 - ❖ Nature trail
 - ❖ Water supply arrangement i.e., laying of pipe line and construction of overhead tank.
 - ❖ Children park
 - ❖ Stores
 - ❖ Enrichment of enclosures
 - ❖ Health care management i.e., treatment room.
 - ❖ Sanitation and cleanliness
 - Eg: Waste Management
 - Regulation for use of polythene
 - Disposal of liquid waste
 - ❖ Environmental amelioration measures
 - Eg: Lawns and Gardens
 - Nursery
 - Planting of seedlings various tree species
 - ❖ Fodder cultivation
 - ❖ Landscapping & Beautification

Degree of Susceptibility :

- ❖ Susceptible to land slides
- ❖ Along wilderness areas susceptible to wild fires

(2) Capacity Building:

Basically this is a Mini Deer Park and requires one animal keeper, one Forest Guard to look after these deers and maint., of park in Chittoor.

It has been decided to arrange short term training for the zoo incharge and animal keeper in alternate years in collaboration with all Dehradun and Indian Veterinary Research Institutue Barilly.

The Central Zoo Authority shall also sponsor short-term training programmes to zoo keepers annually.

to be responsible to the public

to be responsible to the public

(b) General Statement

Historically this is a Main Deck Park and remains one of the

largest and most popular to look after these days and maintain it

park in Chicago

It has been decided to start a program for the zoo

in charge and control aspect in alternate years in conjunction with

all Department and related research Institute Library

The Central Zoo Authority shall also sponsor other forms

training programmes to be carried out

MAN POWER

- (i) Regular staff i.e., Headquarter staff are busy with other territorial works as well other duties. Under this circumstances one retired Forest Officer not below the rank of Forester / One youngster who is interested on Wildlife with Biology background with Degree qualification is to be engaged on outsourcing basis to take care of animals and works as full time in-charge Officer of the Deer Park. He is working full time officer in-charge under the control of Divisional Forest Officer.
- (ii) One veterinarian shall be engaged on contract basis (part time) as a consultant to make regular visits to the Deer Park to give treatment, whenever necessary to the animals.
- (iii) **Support Staff :**

Two Animal Keepers should be engaged to take care of the day to day work in the Deer Park for feeding to the animals, clearing the enclosures, cleaning the water tubs and regular watching during the day time.

One Security Guard / Ex-serviceman shall be engaged for night security from reputed outsourcing Security Agency to take care of animals during the night time.

(3) Day to Day maintenance:

Sl. No.	Name of the Animal	Name of the item	Amount proposed per month (in Rs.)	Amount required per annum (in Rs.)
1	Spotted Deer	1. Cattle Feed - 1Kg./ Deer / Day 40 Nos @ Rs.13/1kg / day	14,400	1,72,800
		2. Napier Grass 2 Kgs /1 Deer / 1Day 40 Nos @ Rs.3/1Kg.	7,200	86,400
		3. Animal Keeper (2 Nos) Semi skilled @ Rs.200/ Day for 26 days in a month.	10,400	1,24,800
		4. Maintenance of infrastructures in the park i.e., Electrical Charges, Repairs and Replacements to the pipeline etc.,.	6,000	72,000
		5. Engaging Forester level full time in-charge officer for outsourcing basis (1 No.) @ Rs.8000/Month	8,000	60,000
		6. Engaging Veterinarian (1 No.) on contract basis (part time) @ Rs.5000/Month	5,000	60,000
		7. Night security (1 No.)	5,000	60,000
TOTAL:				6,72,000

It is proposed an amount of Rs.6,72,000/- per annum towards day to day maintenance minimum as base cost in the initial year i.e. 2009-10 and 10% escalation is provided on the base cost of previous financial year in the subsequent years.

(4) **Broad Budget analysis for implementing the plan**(a) **Construction & Development:**

Sl.No.	Name of the item	Amount proposed (in lakhs)
1	Store room for feed	1.50
2	Digging of borewell and providing pipe line and overhed tank	5.00
3	Post-mortem examination room	2.00
4	Environmental amelioration message - lawn, garden and nursery	3.00
5	Orchiderium	1.00
6	Toilets	2.00
7	Rest room	3.00
8	Raising of fodder plots	1.00
9	Visitors circulation	1.00
10	Room for animal keeper	1.50
11	Education & Research	2.00
12	Inter-pretation Centre i.e., (Audio, Visual photographs, boards etc.,)	3.00
13	Publicity material	1.00
14	Fencing around the enclosure	13.00
	TOTAL	40.00

Requirements:

- ❖ Fencing around the Deer park
- ❖ Digging of borewell with pipeline and construction of overhead tank
- ❖ Post mortem room
- ❖ Store room for feed
- ❖ Rest room for animals
- ❖ Toilets for visitors
- ❖ Environmental Amelioration Measures i.e., Lawns, Gardens, Orchidarium, and Nursery.
- ❖ Raising of fodder plots
- ❖ Room for animal keeper
- ❖ Inter-pretation centre.
- ❖ Education and Research

Notable attractions:

- ❖ This Deer park is close proximity to Chittoor Town
- ❖ Children park is existing besides the Deer park
- ❖ Red sanders bearing forest, which is a forest plantation, adds to the aesthetic value.
- ❖ There is a newly Constructed "District Science Museum Centre", near the Deer park, which is a source of attraction for School Children.
- ❖ Forest Guest House located near Deer Park in the Chittoor R/F.

Existing Animal Collection Plan

Spotted Deers (*Axis axis*) occurs only in the Deer Park.

Free living species in Zoo campus:

Fauna - Spotted Deers (*Axis axis*)
 Flora - Trees list mentioned in Part-I.

Present staffing pattern and position

In-charge staff :
 i. Forest Section Officer, Chittoor
 ii. Forest Beat Officer, Chittoor
 iii. Assistant Beat Officer, Chittoor
 iv. Animal keeper - (Temporary- 1 No.)

List of Buildings other than animal enclosures:

--- NIL ---

Notification :-

Recognition : Rc.No.19/56/93 C.Z.A(23) of 01.01.1998.

Management Plan

Sl. No.	Name of the proposed work	Amount required (in Rs.)						Total (in Rs.)
		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	
1. NON RECURRING								
1	Fencing, sliding doors, digging Borewell with pipeline, overhead etc.,	18,00,000	-	-	-	-	-	18,00,000
2	Rest room, store room for feed	0	12,00,000	0	0	0	0	12,00,000
3	Visitor circulation, fodder plots, shelter for animal keeper	0	0	10,00,000	0	0	0	10,00,000
4	Post mortem room, education, research	0	0	0	0	0	0	0
5	Toilets, interpretation, orchidarium	0	0	0	0	0	0	0
6	Visitors, amenities, publicity material	0	0	0	0	0	0	0
	SUB TOTAL	18,00,000	12,00,000	10,00,000	0	0	0	40,00,000
2. RECURRING								
1	Cattle	1,72,800	1,90,080	2,09,088	2,29,996	2,52,995	2,78,294	13,33,253
2	Napier Grass	86,400	95,040	1,04,544	1,14,998	1,26,497	1,39,146	6,66,625
3	Animal keeper (2 Nos)	1,24,800	1,37,280	1,51,008	1,66,108	1,82,718	2,00,989	9,62,903
4	Engaging Retired Forester in-charge (1 No.)	96,000	1,05,600	1,16,160	1,27,776	1,40,553	1,54,608	7,40,697
5	Veterinarian (1 No.)	60,000	66,000	72,600	79,860	87,846	96,630	4,62,936
6	Night security (1 No.)	60,000	66,000	72,600	79,860	87,846	96,630	4,62,936
7	Maint., of infrastructure	72,000	79,200	87,120	95,832	1,05,415	1,15,956	5,55,523
	SUB TOTAL	6,72,000	7,39,200	8,13,120	8,94,430	9,83,870	10,82,253	51,84,873
	TOTAL	24,72,000	11,89,200	11,63,120	12,94,430	15,83,870	14,82,253	91,84,873

**THERE IS NEVER A
WRONG
TIME TO DO
THE
RIGHT
THING**

Sl. No.	Year	Name of work proposed	Amount proposed (in Rs.)	
			Construction of Deer park	Day to day maint.,
1	2008-09	Fencing, digging of borewell with pipeline, overhead tank	13,00,000	2,00,000
2	2009-10	Rest room, store room for feed	4,50,000	2,23,000
3	2010-11	Visitor circulation, fodder plots, shelter for animal keeper	3,50,000	2,42,000
4	2011-12	Post mortem room, education, research	4,00,000	2,67,000
5	2012-13	Toilets, inter-protection, orchidone	6,00,000	2,94,000
6	2014-15	Visitors, amenities, publicity material	3,00,000 1,00,000	3,24,000
		TOTAL	35,00,000	15,50,000

Vermicomposting

Analytical Results

Sl.No.	Tests	Standard Criteria	Results
1.	Colour	Light Black, Dark Black	Light Black
2.	Moisture (%)	15-20	20
3.	PH	6.50-8.0	7.43
4.	EC	1m mhos/sec ²	0.94
5.	N (%)	0.8-1.20	1.51
6.	P(%)	0.30-0.60	0.16
7.	K(%)	0.25-0.80	0.45
8.	Water soluble Nutrients	Percentage should be very negligible	Negligible
9.	Volume for every 100 gm	160-175 ml	200
10.	Relative Density	0.54-0.62	0.50

Source of Raw Material

- Dung of Elephants, Gaur, Mithu, Hippo.
- Garbage from all the herbivore enclosures.
- Garbage from the garden.
- Vegetable and kitchen waste

Production and Pricing

- An average of 1 to 1.5 tons of Vermicompost per day is expected (say around 500 tones per year)
- The existing price in the market is Rs.2800 to Rs.5000 per ton.
- The competitive pricing at Mysore Zoo could be Rs.3000 per ton.
- The expected turnover per year is around Rs.14.00 lakhs.

Marketing

- Visitors, for the garden, in 5 kg and 10 kg packets.
- Bulk buyers, in 50 kg packets.
- Farmers
- Govt. Departments like Forest, Agriculture, Horticulture, etc. in their schemes

Sales

Last year the quantity of Vermicompost sold is 140 tons and amount collected is Rs.4.20 lakhs.

Physical Analysis

Sl. No.	Tests	Standard Criteria	Results
1.	Colour	Light Yellow to Dark Yellow	Light Yellow
2.	Moisture %	17-20	17.5
3.	Oil	0.55-0.6	0.54
4.	W.F.M	0.5-1.20	0.81
5.	PH	0.50-0.60	0.55
6.	Water soluble	0.57-0.61	0.58
7.	Water insoluble	0.03-0.05	0.04
8.	Volatiles	0.05-0.10	0.06
9.	Volatiles for every 100 gm	1.0-1.5 ml	1.2
10.	Relative Density	0.84-0.85	0.84

Source of Raw Material:

Plant of the Government of Karnataka, Bangalore.

Production and Pricing:

An average of 1 to 1.5 tons of Vermicompost per day is expected from ground 500 tonnes per year.

The existing price in the market is Rs.250 to Rs.300 per ton.

The competitive price of Vermicompost will be Rs.200 per ton.

It is expected that the price will be around Rs.150 per ton.

Marketing:

Vermicompost is expected to be sold in 10 kg packets.

Wholesale price in 50 kg packets.

Below is the list of the various sources of Vermicompost in Karnataka and the amount of Vermicompost produced in each source.

FOREST RANGE OFFICER
CHITTOOR EAST RANGE

INDEX

SL. NO.	NAME OF THE ITEM	PAGE NUMBER	
		FROM	TO
1	HISTORY, BACKGROUND AND FUTURE DEVELOPMENT	1	2
2	PART - I	3	5
3	OBJECTIVE	6	13
4	PART - II	14	15
5	MASTER (LAYOUT) PLAN	16	16
6	MAN POWER	17	20
7	MANAGEMENT PLAN	21	22

INDEX

PAGE NUMBER		NAME OF THE ITEM	SL. NO.
TO	FROM		
2	1	HISTORY BACKGROUND AND FUTURE DEVELOPMENT	1
5	3	PART - I	2
13	8	OBJECTIVE	3
15	14	PART - II	4
18	15	MASTER LAYOUT PLAN	5
20	17	MAN POWER	6
22	21	MANAGEMENT PLAN	7