

# **ANNUAL REPORT**

**(2015-2016)**

**OF**

**SAKKARBAUG ZOOLOGICAL PARK**

**&**

**SAKKARBAUG ZOO MANAGEMENT**

**ADVISORY SOCIETY, JUNAGADH**





## Director's Report

It is a matter of great pleasure to publish the first annual report of Sakkarbaug Zoological Park (SBZP) & Sakkarbaug Zoo Management Advisory Society (SBZMAS), Junagadh. The SBZP is under the process of transformation from an old zoo to modern zoo. Change from the old to the new, particularly for a zoo is a difficult and time taking proposition, compared to development of a new zoo.



SBZP has a lion's share in ex-situ conservation of Asiatic Lion. The zoo has been the main source of genetically pure Asiatic Lions for the captive collection of zoos. Since the last 50 years, more than 200 Asiatic lions have been sent to different zoos across the country and abroad. This is perhaps a world record. SBZP also serves the purpose of referral centre for veterinary care in addition to providing rescue facilities for the wild animals.

The year 2015-16 was a remarkable one with many achievements. Number of animal exchange programs with Indian as well as foreign zoos were initiated/implemented. The year was also important as for the first time in the history of the zoo, the staff was felicitated with awards and incentives. The revenue generation during the year, is the highest, so far. The zoo received technical co-operation from Zoological Society of London. The year witnessed development of visitor's facilities like R.O. Drinking Water Plant & Children's play area.

The entire staff of the zoo worked as a team for better upkeep of animals and growth of the institution and deserves appreciation. The contractors also extended their full support in providing quality feed and fodder to the zoo animals.

I sincerely thank Dr. J. A. Khan, IFS, Principal Chief Conservator of Forests, Wildlife, Gujarat State and Dr. A .P. Singh, IFS, Chief Conservator of Forests, Wildlife Circle, Junagadh for their valuable guidance and constant support. I also thank Dr.R.F.Kadivar, Veterinary Officer, Shri. Jagdish Sankaliya, Account Officer SBZMAS, Ms. Aarti Chavda & Ms. Rutu Prajapati, Zoo Trainee Biologists, Shri. Jyotirmay Buch, Education Officer & Mr. Himanshu Damle, Zoo Volunteer in helping me preparing this report.

**S.J.Pandit**

Director,  
Sakkarbaug Zoological Park,  
Junagadh.



Central Zoo Authority  
કેન્દ્રીય ચિત્રિયાલય પ્રાધિકારણ





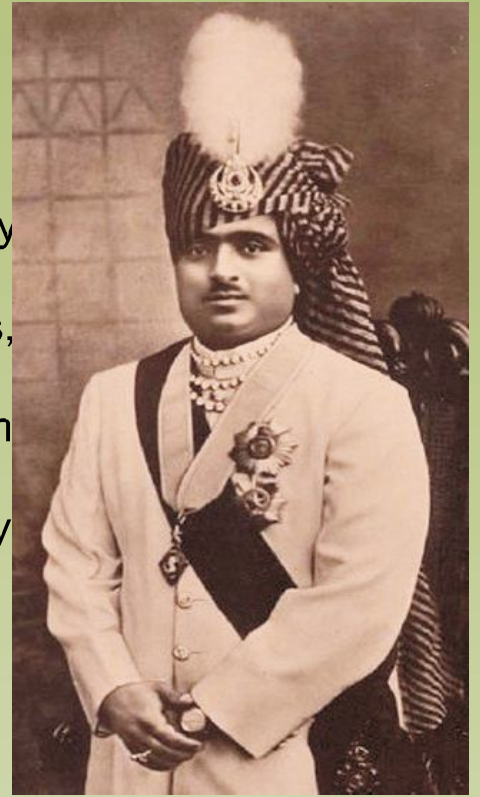
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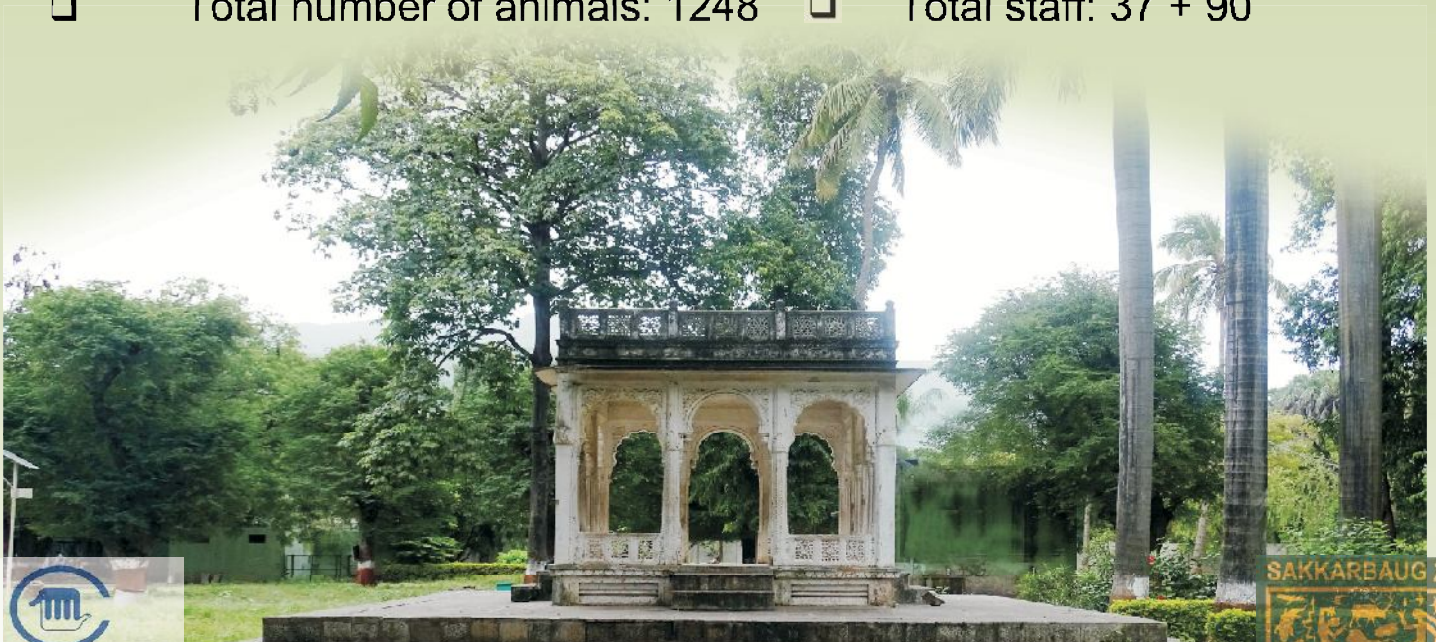
## HISTORY & SALIENT FEATURES

The zoo was established in 1863, by the then Nawab of Junagadh, Mohabatkhanji Babi- II. The place of the zoo was named as Sakkarbaug, because it was a private garden of the Nawab, having a step well with sweet potable water. Initially the zoo had a personal collection of animals of Nawab, which included Asiatic Lions, African Lions, Tigers, Cheetahs, Leopards, Ratel, etc. These animals were taken out as a procession in the town of Junagadh on some auspicious days like Eid for the purpose of display. Later on it was managed by Education department of the state Government before taking over by the State Forest Department in 1960. Earlier, the area of the zoo was only 6 ha. Later on, 78 ha. of land of Reserve Forest, under mining lease was handed over to the zoo following a strong protest by the local NGOs coordinated by the then Zoo Officer, Late Shri P.P.Rawal. Another 2 ha. land was allotted from the adjoining Fruit Trees Research Centre of Junagadh Agriculture University.



It is one of the oldest and largest zoos of India

- Total area: 86 ha.
- Total number of species: 114
- Total number of animals: 1248
- Total staff: 37 + 90





## Conservation Breeding Programme

The Central Zoo Authority is coordinating a flagship programme of planned Conservation Breeding. Sakkarbaug Zoological Park has been allotted responsibility by the CZA for 7 conservation breeding programmes. SBZ is a coordinating zoo for Conservation Breeding Programme (CBP) for Asiatic Lion, Indian Wild Ass, Grey Wolf, Four horned Antelope and Asiatic Cheetah. It is a participating zoo for CBP of Chinkara and Vultures. Thus the zoo plays a vital and pivotal role in the conservation breeding of these endemic and endangered animals. There is a dedicated section of conservation breeding facilities.

### Asiatic Lion



Asiatic Lion Conservation Breeding program has been the most successful programme and we are striving to achieve more precision in our management and healthcare to take it to the next level. The SBZ is also the main source of pure breed Asiatic Lions to the Indian & International Zoos. We have been able to establish links with national and international zoos for information exchange and technology sharing.

The state board for Wildlife of Gujarat has approved the proposal for “Long Term Conservation of Asiatic Lion in the year 2006. Among other measures proposed for the conservation of Asiatic Lions, it has been envisaged to establish an ex-situ gene pool population. Accordingly three gene pool centers are established by Gujarat Forest Department in SBZ, at Rampara Wildlife Sanctuary and Barda Wildlife Sanctuary.

Sakkarbaug Zoo is the nodal agency of this project.



## Indian Wild Ass

The Indian Wild Ass is endemic to the Greater Rann and Little Rann of Kutch. SBZ has the largest captive population of Indian Wild Ass. It is noteworthy that captive Wild Ass is housed in SBZ and Madras Zoo and nowhere else in the world. There is a future plan to strengthen its captive breeding by procuring founder animals.



## Vultures



The vulture breeding aviary was started in the zoo in April 2009. The vulture Conservation breeding Aviary and Hospital aviary are located far from the display area and is surrounded by vegetation to prevent any kind of disturbance.

SBZ has four species of Vultures in captivity under CBP, namely White-backed Vulture, Indian Vulture, Eurasian Griffon Vulture and Red-necked Vulture. We have created all the required facilities at the breeding center such as artificial nesting sites and trees. In a significant development for the conservation of the endangered vulture species, the Sakkarbaug zoo has succeeded in breeding vultures in captivity.

## Chinkara

In the Chinakara CBP ideal climate, good housing facilities, expertise have contributed for successful breeding in the beginning. Later on we have maintained the population for several years. We have reached the stage where we can plan for reintroduction of this species in the wild.



## Four horned Antelope (Chausingha):

Chausingha have been successfully reared and bred. We need more founder animals with different bloodline hence we need to procure more individuals for the Conservation Breeding Programme.



## Indian Grey Wolf



In the beginning of this Breeding Programme we did not have sufficient founder population. In the last 2-3 years by the exchange programmes we have raised our founder population from Udaipur Zoo, Jodhpur Zoo, Lucknow Zoo and Jaipur Zoo. We are concentrating on this programme to get more animals with different blood line for the successful breeding of wolf. Now we are making attempts to procure the Indian Grey wolf.

## Asiatic Cheetah

This particular breeding programme has not been initiated due to total lack of Founder population. It is immensely difficult to find a captive population of Asiatic Cheetah with any zoo or facility complexed with the fact that their population in the wild could be only between 50-70 individuals and found in a small area of Miandasht Wildlife Refuge, Iran.

## Status of Conservation Breeding of last five years

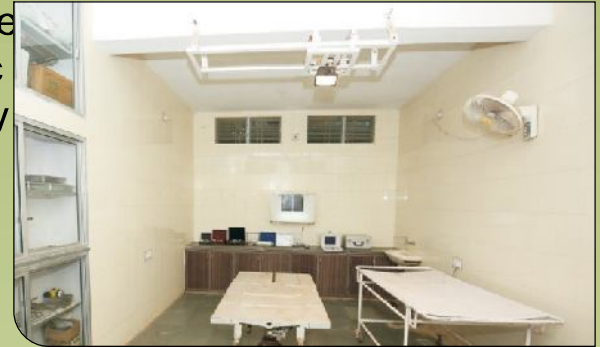
Sr. No	Species	Coordinating Zoo /Participating Zoo	No. of Birth
1	Asiatic Lion	Coordinating Zoo	20
2	Indian Wild Ass	Coordinating Zoo	4
3	Chausingha / Four horned antelope	Coordinating Zoo	15
4	Vulture (WBV)	Participating Zoo	14
5	Chinkara	Participating Zoo	41
6	Indian Grey Wolf	Coordinating Zoo	-
7	Asiatic Cheetah	Coordinating Zoo	-





## Veterinary and Healthcare

- Veterinary Facilities:** Sakkarboug Zoo has a well equipped veterinary hospital. All kinds of basic diagnostic facilities like X-ray, Ultrasonography unit, Multipara monitor, Pulse Oxymeters, Gas anaesthesia machine, Electro thermocautery are available. The Zoo Hospital also has three types of darting equipment like Daninject IM-JMSP, Distinject MOD45N & others. The hospital pharmacy has sufficient quantity of emergency and tranquilizing drugs available 24x7. The hospital has different wards like Isolation ward, Treatment ward & Recovery ward. The critically ill animals are monitored 24x7 by CCTV cameras. In addition, the zoo hospital serves as the referral hospital for wild animals. Many injured and sick rescued animals are referred from various Rescue and Care centres of PAs& Sanctuaries of Gujarat State for intensive care and treatment.



- Rescue & Rehabilitation:** The Zoo Rescue team provides rescue and relief services to areas like Gir, Girnar, Barda Sanctuaries & rest parts of Gujarat. During the year 2015-16 the team rescued a total of 46 endangered animals either for treatment or from conflict zones out of which 24 animals were released back in their habitat once they are healthy. Every year during Kite festival around 200 birds are rescued and treated.



The zoo rescue team is on stand-by 24x7 and includes a Senior veterinarian.



# Release of Captured Leopard



### 3. Artificial incubation & hand-rearing:

This zoo is a participating zoo in Conservation Breeding Project of Vultures as assigned by the CZA.

Many bird species are not good brooders hence we use artificial incubators(Brinsea, UK) to incubate the eggs of various species successfully. During the year 2015-16 more than 6 eggs of White-backed Vultures and more than 20 eggs



more than 6 eggs of White-backed Vultures and more than 20 eggs of various Pheasant species were successfully hatched artificially & 3 vulture chicks were hand-raised since Day 1. Specialized Cub Nursery and Herbivore nursing facility are also available where, in 2015-16, >10 feline cubs, >5 fawns/calves, >10 chicks were successfully reared.



Gaur/ Indian Bison	1 No.
Four-horned Antelope	2 Nos.
Palm Civet	2 Nos.
Jungle cat	2 Nos.
Leopard	3 Nos.
Asiatic Lion	2 Nos.

4. Laboratory: SBZ has established a laboratory for early diagnosis if diseases in animals. Automated Cell Counter( Nihon Coden), Biochemistry analyzer, IDEXX Vet Urine Analyzer, Trinocular Microscope, Laminar Flow, Microtome machine, various Snap Tests for Feline and Canine Viral Diseases, Deep freezer and Refrigerator for storing samples and reagents are a part of the laboratory setup. A full-time Lab technician( D.M.L.T) looks after the laboratory operations.



Test	No. of samples tested
Blood Parameters	159
Food animal blood testing	1200
Faecal samples	4062
Urine & tissue samples	90

5. Disease monitoring & Prevention: Random screening of animals is done for disease monitoring atleast twice a year. Blood, urine and faecal samples are tested for various diseases at the zoo laboratory and if need be, are sent to state and national level laboratory for further analysis. Vaccination and Deworming are carried out in animals at regular intervals. A strict disinfection procedure of Chemical and Burning methods is employed for all enclosures and resting areas from time to time.

During year 2015-16	
Deworming	>3123 animals
Vaccination	>120 animals

6. Each year final year students of Veterinary Colleges of Gujarat State study at the zoo for a period of 1 week as a part of their internship.

7. Successful treatments:

A] A sub-adult lioness was rescued from Savarkundla village with a fractured tibia of right limb. It was successfully immobilized and a remodeling and bone plating surgery was performed by the zoo veterinarian with the help of a local orthopaedic surgeon..

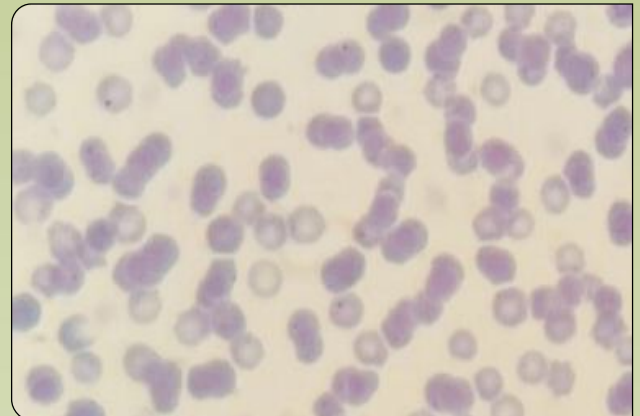


**Plating surgery under way**

The lioness recovered over a period of 2 months but suffered a protozoon infection (Anaplasmosis) which was successfully treated with single shot therapy.



**Severely Fractured Tibia**

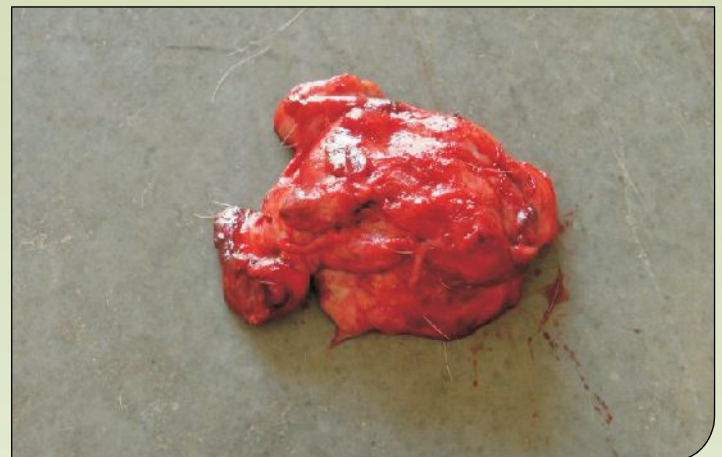


**Anaplasma seen in smear**

B] Lioness Hemali had Fibroma in Right hind paw. It was removed successfully following a surgery.



**Fibroma**



**Excised Fibroma**

8. Liason with other institutes: The zoo has Liason with many institutes for disease diagnosis & veterinary expertise like IVRI, State Animal Husbandry Department, Veterinary College of Junagadh, Anand, S.K.Nagar, etc.

## Daily feed requirement

Sr. No.	Feed	Quantity per day	Cost in Rupees
1	Mixed vegetables	51 kg	1581
2	Fruits	68 kg	1912
3	Bread	3 Loaves	50
4	Pulses & Cereals	72 kg	4584
5	Eggs	50 eggs	225
6	Meat(Carabeef, Veal, Fish, Chicken)	545 kg	60825
7	Green fodder(Lucerne+Maize)	700+600 kg	5750
8	Amul Nutrich Feed Pellets	100 kg	2500
	<b>Total</b>	<b>-</b>	<b>77427</b>



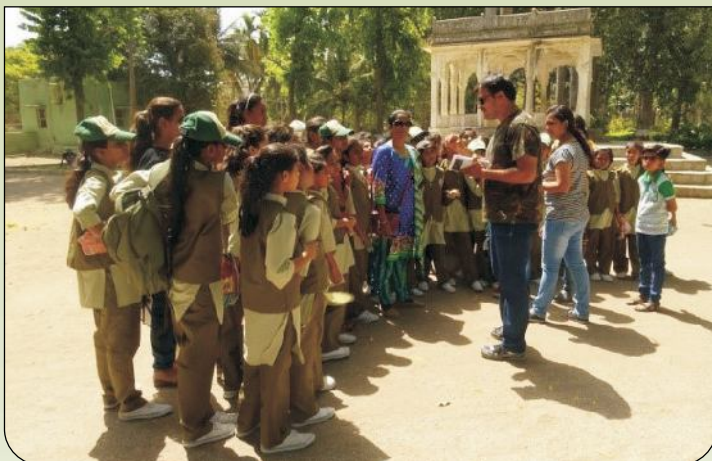
# Wildlife Education and Awareness

Nature education camps were conducted for school students and professionals. In all 2086 participants were benefited by gaining information on wildlife conservation, biodiversity and climate change.

Camps	Students	Teachers	Resource Persons	Total
33	1684	120	20	1833

The Sakkarbaug Zoo Orientation Centre is visited by almost all the visitors to the zoo. This Orientation Centre displays various exhibits, charts, specimens and interactive kiosks.

Other Camps	
Doctors Camp	67
B.S.N.L Camp	57
Press and Media Camp	63
KisanMitra Group	66





## ZSL Project

On the basis of tri-partite agreement between Zoological Society of London (ZSL), Wildlife Institute of India & Forest Department- Government of Gujarat a project named “Partnering to support Gir Lion Conservation in Gujarat” is being implemented. As a part to support Ex-situ conservation of Asiatic Lion, Sakkarboug Zoological Park, Junagadh is supported by ZSL for Conservation Breeding programme, Wildlife Health management and Wildlife Education.

Enrichment of enclosures of Asiatic Lion has been carried out by imparting hands-on training.

The education plan of SBZ has also been prepared. As a part of the project the officers, veterinarians and the staff of SBZ will get an opportunity to visit London Zoo, Zimbabwe and South Africa for the purpose of training.





## Hands-on training on enrichment by ZSL Team



# Animal Collection

Category	Number of Species	Number of Animals
Mammals	36	539
Birds	57	633
Reptiles	21	76
<b>Total</b>	<b>114</b>	<b>1248</b>



# Layout map

## Sakkarbaug Zoological Park સકકરબાગ પ્રાણી સંગ્રહાલય



## Girnar Wildlife Sanctuary ગીરનાર વન્યપ્રાણી સભચારણ્ય



## Enrichment of collection by animal exchange program

Sr. No.	Name of the Zoo	Animals offered from SBZ	Animals received / yet to be received
1.	Haryana Zoo	Asiatic Lion(1:0)	Khaleej Pheasant(2:3) Red jungle fowl(4:6)
2.	Jaipur Zoo	Asiatic Lion(0:1)	Indian Wolf(1:2) Gharial(0:0:2) Indian Wolf(1:1)
3.	Jodhpur Zoo	Asiatic Lion(0:1)	Indian Wolf(1:0)
4.	Kanpur Zoo	Asiatic Lion(1:2)	Striped Hyena(1:0)
5.	Lucknow Zoo	Given to Lion Safari Park Etawah (UP)	Sarus Crane(1:1) Blue and yellow Macaw(0:0:1)
6.	Pilikula Zoo	Asiatic Lion(1:1) White peafowl(2:2) Alexandrine Parakeet(2:2) Lady Amherst's Pheasant (1:1) Eurasian Spoonbill(1:2) Black-headed Ibis(1:1)	Mouse Deer(1:1) King Cobra(1:1) Green Vine Snake(0:0:4) Common Sand Boa(0:0:3) Striped Keel-back(0:0:4) Montane Trinket Snake(0:0:2) Indian Black turtle(0:0:6)
7.	Udaipur Zoo	Asiatic Lion(1:1)	Indian Wolf (1:0) Jackal(1:1) Indian Porcupine(1:1) Common Fox(1:1)*
8.	Prague Zoo	Asiatic Lion(1:2)	Red-necked wallaby(2:3) African Caracal(1:2) Blue and yellow macaw(1:1) Scarlet Macaw(1:1) Green Peafowl(1:2)
9.	Mysore Zoo	Asiatic Lion(0:1)	Wolf (1:0) Black Swan (1:1) Eclectus Parrot (1:1) Sun conure (1:1)
10.	Selvas	Asiatic Lion(1:1)	Ostrich (1:2)
11.	Chandigarh	Asiatic Lion(1:1)	
12.	ZSL	Asiatic Lion(1:1)	African Cheetah (1:1) Plains Zebra (1:1) Ring tailed lemur (3:0)
13.	Pune Zoo	Asiatic Lion(1:1)	Amazon Parrot (1:1) Rainbow lorikeet (1:0) Sulpher Crested cockatoo (1:0) Goffin cockatoo (1:1)
14.	Indore	-	Wolf (1:1)
15.	Bhopal	Asiatic Lion(1:1)	Chausinga (1:0)

# CELEBRATION OF WILDLIFE WEEK



**Awareness rally by the students**



**Hon'ble Mayor participating in ' VicharManch'**



## Special Zoo visit for differently able students



## Photography Competition



## Drawing Competition



## Drawing of 1<sup>st</sup> Prize



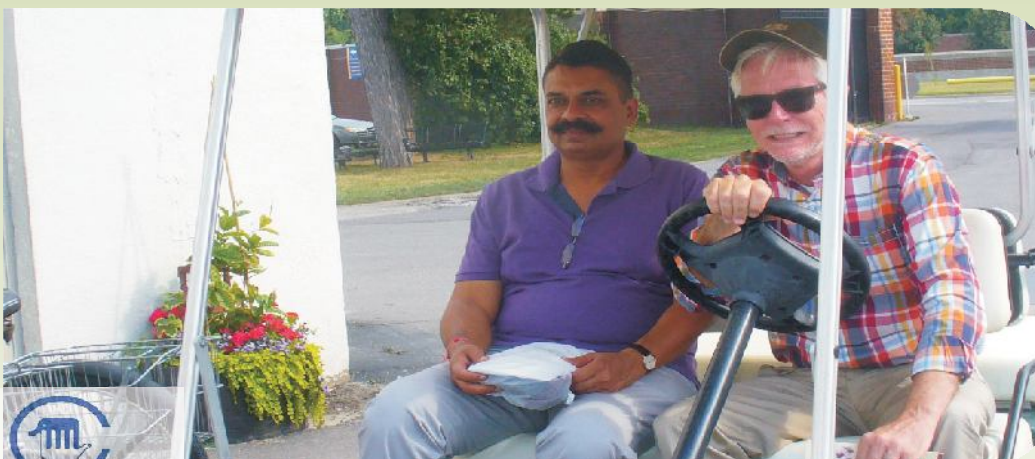
# OPENING OF SOUVENIR SHOP





## International Training programme

The Director of the zoo, Shri S. J. Pandit was selected for the International Training Course on Wildlife Disease Monitoring and management, organized and sponsored by the United States Department of Agriculture at Fort Collins, Colorado, USA from 10<sup>th</sup> to 14<sup>th</sup> August 2015. After attending the course he visited San Diego Zoo, San Diego Safari Park and Detroit Zoo. The visit of the zoos was very fruitful to gather the information of best practices in the field of Captive management of Wild animals, Veterinary Care and Zoo education.



## Trophy and Cash Incentive for special achievements

Late Shri P.P Rawal Awards (Trophy & Cash incentive) for exemplary work, enrichments work, noteworthy monitoring of breeding programme, data recording and rescue work by Sakkarbaug Zoo Management Advisory Society.

Sr. No.	Name of Individual	Post	Achievements
1	Shri P.K. Vadhiya	Forest Guard	For exemplary work
2	Shri D. M. Makwana	Forest Guard	For exemplary work
3	Shri Dostmahamad Bloch	Zoo keeper	For exemplary work
4	Shri Dinesh Jethva	Zoo keeper	For exemplary work
5	Shri Laxman N. Mokariya	Zoo keeper	For exemplary work
6	Shri Subhash Chauhan	Volunteer	For exemplary work
7	Shri Madhubhai Chauhan	Security Supervisor	For exemplary work

## Trophy and Cash Incentive in Team Achievements

Sr. No	Name of team	Achievements
1	Vanchetna (Lion breeding centre)	For Enrichment, note worthy monitoring and data recording
2	Rescue Team	For rescue
3	Small Herbivorous	Conservation breeding programme



## Past managers of SBZ

Sr. No.	Name	Duration
1.	Shri B.R. Pandya	23.05.1986 - 22.09.1988
2.	Late Shri P.P. Rawal	22.09.1988 - 24.11.1990 11.12.1990 - 20.07.1992 09.09.1992 - 06.08.1994
3.	Shri R. D. Katara	13.09.1994 - 29.04.1999 11.06.2002 - 15.10.2007
4.	Shri I. M. Kaila	03.06.1999 - 11.06.2002

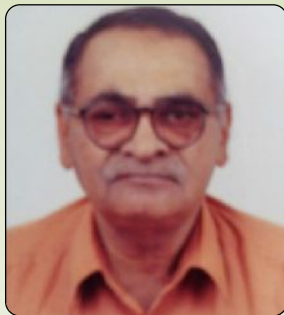


**Shri V.J. Rana**  
(15.10.2007 - 21.01.2015)



**Shri S.J. Pandit**  
(02.02.2015 - Cont.)

## Past Veterinarians of SBZ



**Dr.C.N. Bhuva**  
(01.05.1982-21.04-1987,  
02.05.1998-21.08-2009)



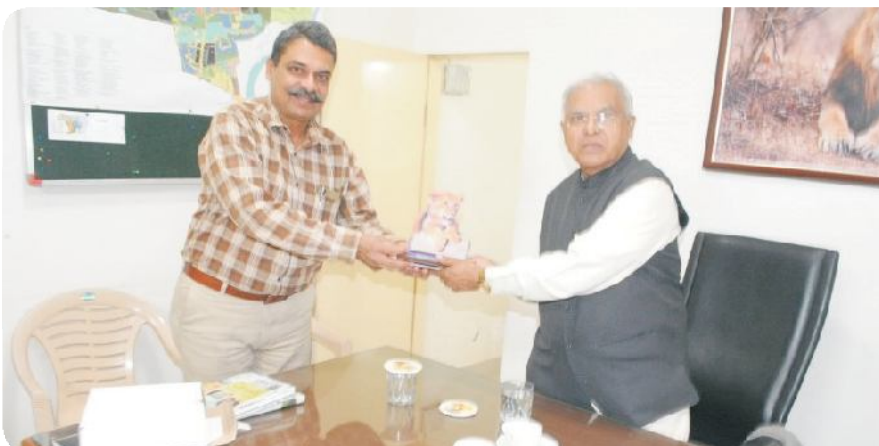
**Dr.Kadivar**  
(22.11.2010 - Cont.)

## Past visits by VIPs



**Shri Narendra Modi,  
Hon'ble CM**

**Shri Jairam Ramesh,  
Hon'ble Minister  
of Environment &  
Forests, GoI**



**Shri Mangubhai Patel,  
Hon'ble Minister  
of Forests  
& Environment, GoG**



## Human Resource

Sr. No	Category of Post	Sanctioned Strength
1	Director	1
2	Veterinary Officer	1
3	Range Forest Officer	1
4	Forester	1
5	Accountant	1
6	Storekeeper Cum Supervisor	1
7	Clerk	3
8	Gardener Cum Mechanic	1
9	Driver	1
10	Forest Guard	3
11	Zoo Nayak	1
12	Peon	1
13	Gardener	1
14	Watchman	16
15	Sweeper	4



## Contractual appointment/posts under SBZMAS

Sr. No	Category of Post	Sanctioned Strength
1	Assistant Veterinary Officer	2
2	Zoo Trainee Biologists	3
3	Account Officer	1
4	Laboratory Technician	1
5	Storekeeper	1
6	Education Officer	1
7	Administrative Assistant	1
8	Data Entry Operator	5
9	Driver	4
10	Zoo Security Supervisor	4
11	Zoo Security Assistant	22
12	Zoo Volunteers	10
13	Zoo Field Worker	35



# VISITORS AMENITIES



**Kids play area**



**Safari Bus**



**Rest hut**



**Canteen**



**Wheelchair**



**Souvenir shop**



**Photo booth**



**Orientation Center**

## Number of Visitors

Sr. No.	Year	No. Of Visitors				
		Adult	Children	Student	Sr. Citizen	Total
1	2011-12	769366	185837	243321	5992	<b>1204516</b>
2	2012-13	774111	201436	220352	4700	<b>1200599</b>
3	2013-14	728065	167295	221238	3278	<b>1119876</b>
4	2014-15	817048	171272	209823	3163	<b>1201306</b>
5	2015-16	830007	168913	186318	3699	<b>1188937</b>

## Income

Visitors	Other	Total
19932755	1521768	<b>21454523</b>
19817915	1448488	<b>21266403</b>
18429245	1617209	<b>20046454</b>
20238010	2001987	<b>22239997</b>
20280685	3702332	<b>23983017</b>

Sr. No.	Year	Amount of APO	Expenditure
1	2011-12	8625000	5593318
2	2012-13	12800000	6797590
3	2013-14	16360000	16090707
4	2014-15	27650000	16686369
5	2015-16	54000000	15068000



## Details of fixed deposits of SBZMAS

Sr. No.	Receipt No.	Period	Rate of interest	Date of deposit	Amount	Date of maturity	Maturity amount Rs.	Bank / Institute
1	32988810141	3 Yrs	8.75 %	10-05-13	3500000	10-05-16	3500000.00	State Bank of Saurashtra
2	33067881770	3 Yrs	8.75 %	19-06-13	2500000	19-06-16	25000000	-"
3	32079886895	3 Yrs	8.75 %	19-06-13	5000000	19-06-16	50000000	-"
4	31903	666 Days	9.00 %	30-06-15	10000000	30-06-16	10840121	Gujarat State Fire. Service
5	33317	366 Days	8.50 %	23-09-15	20000000	23-09-16	21582192	-"
6	34071	366 Days	7.75 %	09-11-15	10000000	09-11-16	10718965	-"
7	35298	365 Days	7.75 %	02-01-16	10000000	01-01-17	10717014	-"
8	35299	365 Days	7.75 %	09-01-16	10000000	08-01-17	10717093	-"
9	35873	366 Days	7.75 %	26-02-16	15000000	26-02-17	16079487	-"
10	36494	365 Days	7.75 %	31-03-16	18000000	31-03-17	19292440	-"



# Free Ranging animals and birds





## Sakkarbaug Zoological Park

Near Majewadi gate, Opp.Essal Park, Rajkot highway, Junagadh-362005

Ph. (0285) 2660235 F. 2660236

E-mail : [directorsbz@rediffmail.com](mailto:directorsbz@rediffmail.com)

