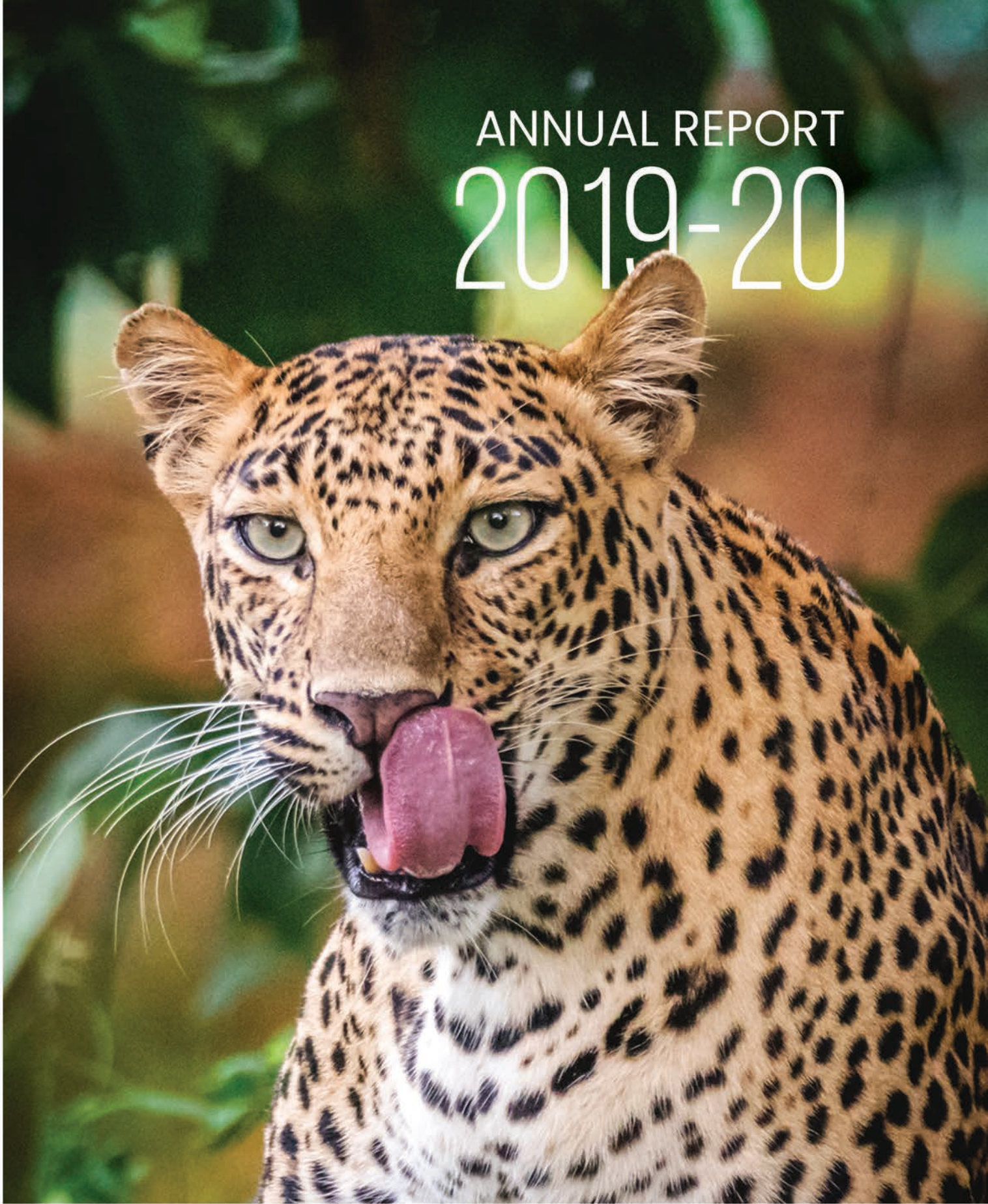


# ANNUAL REPORT 2019-20



Recognized by



Central Zoo Authority  
केंद्रीय विज्ञानपर सचिवालय

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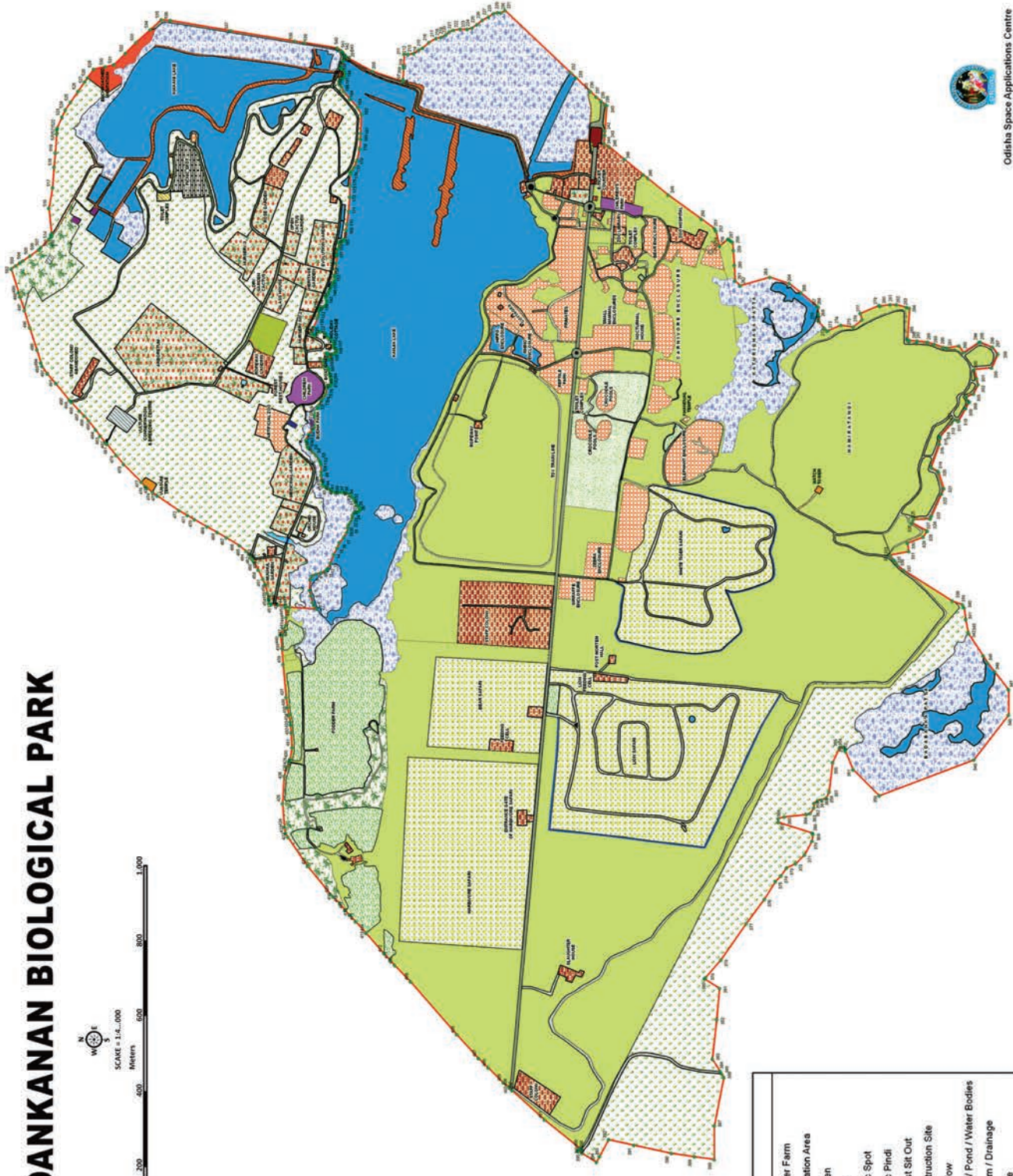


World Association of Zoos  
and Aquariums | WAZA

**NANDANKANAN**



# MAP OF NANDANKANAN BIOLOGICAL PARK



LEGEND	
Built Up Area	Fodder Farm
Encroached Habitation	Plantation Area
Delapidated House	Garden
Pump House	Park
Water Tank	Picnic Spot
Toilet Complex	Picnic Pindl
Major Road	Tourist Sit Out
Other Road	Construction Site
Round About	Meadow
Toy Train Line	Lake / Pond / Water Bodies
Gate	Stream / Drainage
Enclosure (Animal / Bird)	Bridge
Safari Area	Marshy / Swampy Area
Safari Boundary	Embankment
Zoo Area	Temple
Sanctuary Area	



Odisha Space Applications Centre  
Bhubaneswar










A N N U A L   R E P O R T  
**2019-20**



NANDANKANAN BIOLOGICAL PARK  
B H U B A N E S W A R





**PHOTOGRAPHS :** Amit Jana  
Rajesh K. Mohapatra  
Milan K. Panda

**DESIGN & PRINT :** Jyoti Graphics  
701, Saheed Nagar, Bhubaneswar  
0674-2544209, 2953209





# FROM DIRECTOR'S DESK

**Sri Shashi Paul, IFS**  
Director, Nandankanan Biological Park

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**N**andankanan Zoological Park enjoys a special place in our country for its inimitable amalgamation of in-situ and ex-situ conservation initiatives. The Zoological Park Established on 29<sup>th</sup> December 1960 as the first zoological park of the State. It has spearheaded many significant improvements to provide highest standards of housing, husbandry and health care to the captive wild animals and contributed towards enriching our knowledge on the biology of endangered species. The sprawling zoo houses 158 species of amphibians, reptiles, birds and mammals. The natural forest areas of Nandankanan is home to a rich assemblage of free-living wild animals including 13 species of mammals, 15 species of reptiles, 179 species of birds, 20 species of amphibians, 96 species of butterflies and 51 species of spiders.

The State Botanical Garden which spreads over an area of 75 ha adjoining the Zoological Park was handed over to Nandankanan Management in August, 2006. This is one of the most important plant conservation facilities in the State. More than 750 species of plants have been documented in the State Botanical Garden.

There are two important wetlands present in Nandankanan namely Kanjia lake (66 ha) and Kiakani lake (25 ha). The former is the main water source for Nandankanan Zoological Park and State Botanical Garden. It support rich diversity of flora and fauna & is a veritable lab for wetland education. Therefore, it has been listed as a Wetlands of National importance by the Ministry of Environment, Forests and Climate Change, Government of India in the year 2006. The Zoological Park together with the Kanjia lake and the Botanical Garden has been declared as Nandankanan Wildlife Sanctuary over an area of 4.37 sq.km on 3<sup>rd</sup> August, 1979.

We have completed another outstanding year of biodiversity conservation, zoo management and research & education. Nandankanan has been very popular, as always, among the tourist & local habitants and attracted about 2.6 million visitors during the year 2019-20. Significant improvements were achieved in the infrastructure development, animal collection, care of rescued and infant animals, health care, fodder production and conservation research. Many zoo education and outreach activities including Celebration of World Wetlands Day, World Pangolin Day, World Wildlife Day, World Environment Day, International Tiger Day, International Vulture Awareness Day, Wildlife Week, World Elephant Day, International Tiger Day, Foundation Day, and World Veterinary Day etc. were organized during the year 2019-20. Many species of wild and exotic animals including Indian tiger, Black tufted marmoset, Mouse deer, Fore-horned antelope, Painted stork, Silver pheasant, Golden pheasant, Nilgiri langur, Sambar, Common

mongoose, Indian pangolin Barking deer, Hog deer, Blackbuck, Brow antlered deer, Spotted deer, Hippopotamus, Violet Turaco, Grey pelican, Emu, etc. have bred successfully in the Park during the year.

During the year, many enclosures and visitor amenities were renovated and supplemented with enclosure enrichments, standoff barrier, signage and landscaping wherever necessary. Out of which Indian Grey wolf enclosure and Exotic primate enclosure are newly constructed. Animal keeper sheds, renovation of CCTV cameras at different animal enclosures and visitor's path, renovation of ticket checking complex, renovation of toilets and sit out spots, are worth mentioning.

During the financial year 2019-20 we have welcomed 26 new animals of 9 species to the Zoo with objective of infusion of new blood line to the existing stock and also addition of new species to the zoo collection. However, we said final adieu to some precious animals of our Zoo, notably the Orangutan- Bini, Tigress- Priyanka, Elephant- Juli, Chandan, Kamala, Gouri, Leopard-Barsa and Suraj, Nilgiri langur and Asiatic lion- Pichhan who were very popular among visitors. These animals are now a part of Nandankanan's history.

There has been a substantial improvement in the field of health care as reflected in reduced annual death rate during the year 2019-20. This was possible due to sincere efforts by our staff in order to maintain highest standards of health care and animal husbandry practices and close cooperation with college of Veterinary Sciences and Animal Husbandry, Odisha University of Agriculture & Technology, Bhubaneswar and also with the valuable advice and guidance of the Health Committee and Technical Committee on important health care issues.

The Zoological Park has always been an outstanding centre for education and research. 11 publications on different aspects came out during the year in different national and international journals and periodicals and 2 numbers of books on various aspects of ex-situ conservation, health care and management of captive wild animals were published.

Information on various aspects of management and development of Nandankanan during the year 2019-20 has been provided in the present Annual Report. I would like to thank all my staff and officers for their dedication and hard work for one more successful year in the journey of Nandankanan. I am grateful to all who have helped and contributed in this journey from 1960 till date. I have confidence to believe that Nandankanan will continue to grow as a world class zoo contributing significantly in the field of wildlife conservation, education and research in coming years.







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# HISTORY OF THE ZOO

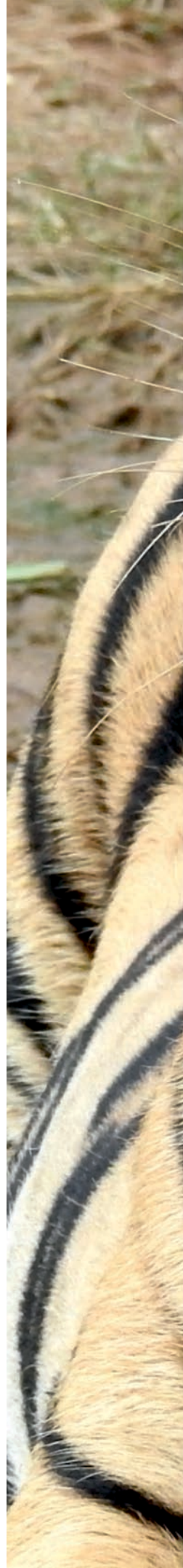
**N**andankanan had a very interesting beginning. A number of wild animals (two spotted deer, two barking deer, two black buck, one mouse deer, one leopard cat, one flying squirrel, one r-tailed drongo, one hornbill, two parrots, two hill mynah, one peacock, one mongoose, one pangolin, two porcupines, a pair of wild boars and a python) were collected from different parts of the state for the World Agricultural Fair organized in New Delhi in Jan-Feb, 1960. After the end of the Agricultural fair, the animals were brought to Orissa in May, 1960 and housed near Khandagiri and exhibited to the people. Water scarcity was the main problem in this location and it was difficult to decide where to locate these animals. Then it was thought of establishing a Zoo as there was no zoo in the state by that time.

The then Chief Minister, Dr. Hare Krushna Mahatab and the Minister for Development Dr. Radhanath Rath along with senior forest officials tried to locate a suitable site for establishing a zoo with good water source. After search for suitable area, it was found that a stretch of forest in the then famous Chandaka forest contain a good natural water body called Kanjia lake. This was close to the Barang Railway Station. It was decided to establish the zoo there taking part of Jujhagarh and Krishnanagar Demarcated Protected Forest (DPFs). Pursuant to the decision, construction activities were taken up over a very small area to house and animals.

On 29th December, 1960, Sri S.K. Patil, the then Minister of Food and Agriculture, Govt. of India inaugurated the new Biological Park named "Nandankanan" which means the heavenly garden of God. Subsequently, in the year 1963 a Botanical Garden came up adjoining to the park in the other side of Kanjia lake. The park along with the adjoining forests has been notified as Nandankanan Wildlife Sanctuary vide erstwhile Forest, Fisheries & Animal Husbandry Department, Government of Orissa Notification No. 8F(WL)-160/78-20672/FFAH dated 3rd August 1979 and published in the Official Gazette vide S R O No.935/79 dated 3rd August 1979. The Nandankanan Biological Park subsequently in 1980's was renamed as Nandankanan Zoological Park on recommendation of the Orissa Legislative Assembly Committee on Estimates, 1981-82. The zoo started growing slowly with addition of new enclosures. The first tiger was brought to the zoo in the year 1964 from the Alipore Zoo in Calcutta along with a pair of African lions, a puma and a pair of muggers during All India Congress Committee session at Bhubaneswar. In 1967, the first open air tiger enclosure was constructed in the zoo and it surprised everybody that the last surviving tigress in Chandaka forest was lured on the 04th January, 1967 into this enclosure, where a male tiger "Pradeep" was already housed. She was named "Kanan" by the zoo officials. Proximity to wilderness has led to another interesting incident in 1964, when a courting wild tusker kidnapped a cow elephant from the zoo. However, the cow elephant returned to its enclosure later.

Nandankanan attained distinction in first ever breeding of the Gharial in captivity in a naturalistic pool created for the purpose, though a full grown male gharial was brought from Frankfurt zoo on breeding loan. This happened on 7th May, 1980 with 24 hatchlings hatched in the gharial pool. In the same year, 2 normal coloured tigers 'Deepak and Ganga' gave birth on the 8th January, 1980 to 3 white off-springs named 'Debabrata', 'Alaka' & 'Nanda' creating history. With this, Nandankanan created its own family of white tigers and a separate gene pool. The park forged ahead in its developmental activities under the advice & guidance of Nandankanan Development Board to become a leading zoo in the country with wide variety of animals in near natural environment. On 20th Jan 1984, a Lion safari over 20 ha. was inaugurated inside the zoo premises. There after the first White Tiger safari spread over 12 ha was also established in the year 1991. Two more safaris namely Herbivore safari (21ha) and Bear safari(5 ha) were established in 2011 and 2012 respectively.

The zoo has bred number of species of animals, birds and reptiles. Many of them are endangered as per the Wildlife Protection Act, 1972. Some of them are tigers (normal coloured and white), leopards (black & normal), Asiatic lion, all the 3 Indian crocodiles, Indian tiger, elephant, lion-tailed macaque, Nilgiri langur, peafowl, Indian pangolin, thamin deer, ratel, black kite, water monitor lizard, gaur, and many others. A toy train has been in operation in the park since 10th August' 1971 donated by the Ministry of railways, Government of India. A rope way also links zoological park with the botanical garden since 01.10.1994. An aquarium was dedicated to visitors on 4th February, 2008 by the Honourable Chief Minister, Odisha. Gradually many facilities like electronic entry gate, battery operated vehicles, RO drinking water kiosk, interpretation centre, zoo museum, live feed rearing centre, etc. were added or renovated for better management of animals and visitors.







## VISION

To strengthen the efforts in conservation of biodiversity of the region through the ex-situ conservation linked with in-situ practices.

## MISSION

To achieve the distinction of an outstanding zoo through World Class Conservation, Education, Research and Exciting visitor experiences by connecting people to biodiversity conservation.



## OBJECTIVES

Housing of wild animals and birds with special emphasis on research and education on their ecology, behavioural biology, physiology and enrichment in a semi-natural environment.

- Conservation breeding of the endangered species in captivity with least human imprints and to release them in nature to recoup their status in the wild.
- To facilitate research and scientific study on animal behaviour, enclosure enrichment, feed, nutrition and reproductive biology.
- To promote education & awareness amongst visitors towards conservation of wildlife.
- To ensure housing of captive animals and birds with special emphasis on health care, animal welfare and excellent animal husbandry.

## NANDANKANAN ZOOLOGICAL PARK

Nandankanan Zoological Park is one of the premier large zoos located amidst a beautiful natural setting recognized by Central Zoo Authority, Govt. of India. Unlike conventional zoos, it spreads over vast 3.62 sq.km. of undulating topography with natural moist deciduous forest, water bodies and enchanting landscape that provides the zoo inhabitants an appropriate ambience to live in harmony with the nature. It was dedicated to the public on 29th December 1960. Most of the animals of Nandankanan live in open, large moated areas surrounded by natural vegetation. This gives them a feeling of living close to their natural habitat. The Zoological Park is a part of Nandankanan Wildlife Sanctuary.



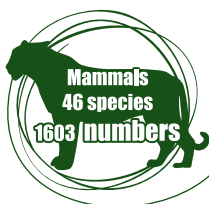


## SALIENT FEATURES

Area

Nandankanan Zoological Park  
(includes Kanjia lake of 66.1 ha.)  
Nandankanan Wildlife Sanctuary

362.1 ha. (3.62 Sq.Km.)  
437 ha. (4.37 Sq.Km.)



No. of animal House  
Zoo holiday

212 nos. (covered- 118, open moated- 94)  
Every Monday except when it falls on Independence Day, Republic Day, Christmas Day, New Years Day, Raja and Dussehra. In these cases of exception, the zoo will remain closed on the following Tuesday.

Zoo timing

For visitors 0730 hrs. to 1730 hrs. (April-September)  
0800 hrs. to 1700 hrs. (October-March)

Animal feeding time

Carnivores 03.00 pm to 05.00 pm (Except Monday)  
Reptiles 11.00 am to 1.00 pm  
Birds 11.00 am to 1.00 pm / 3.00 pm to 5 pm  
Herbivores 11.00 am to 1.00 pm / 3.00 pm to 5 pm



## SPECIAL ATTRACTIONS

The sylvan setup of the Park provides many special features which attract the visitors in large numbers.



### BOATING

Boating on paddle or row boats in the blue water of Kanjia lake is an exhilarating experience. The multi-storey Boat Ghat is renovated to give new looks providing enough space for the visitors to relax and enjoy the picturesque fresh water spreading over an area of 66.1 ha. lake. The boating service is outsourced for better management and satisfaction of the visitors. The lake is also known for its rich floral and faunal diversity and is declared as a Wetland of National Importance by Govt. of India.



### TIGER SAFARI

A unique tiger safari established on 1st October, 1991 over an area of 12 ha. in natural surroundings exposes you to unique situation where the visitors are confined in a vehicle and the animals roam in the open jungle. Nandankanan is the first zoo in India with three (Melanistic, Normal Coloured and White) types Royal Bengal Tigers in the safari. With new entry gate commissioned during 2019-20 and separate exit gate, movement inside safari is hassle free.



### LION SAFARI

A twenty-minute drive through the meandering roads crisscrossing the natural forest in a specially protected vehicle takes the visitors straight into pride of lions in the lion safari over an area of 20 ha. established in the year 1984.

### HERBIVORE SAFARI

Herbivore safari was established in the year 2011-12 extending over an area of 21 ha. with a road network of 2 Km. length. The safari houses Barking Deer, Spotted Deer, Sambars, Four horned antelope, Wild Pig, Jungle fowls, Peafowls, etc.







### BEAR SAFARI

A Bear safari covering an area over 4.1 ha. has been established in the zoo during the year 2012-13. Visitors can avail opportunity to sight sloth bears in their natural habitat through safari bus service.



### NOCTURNAL ANIMAL HOUSE

Many animals that only move freely at night but are almost immobile and hide in the thicket or in their burrows during the day are housed here. The twilight condition is created in these enclosures to provide an opportunity to the visitors to know what these animals secretly do in the darkness of the night. It is one of the best nocturnal house in the country.

### REPTILE PARK

A reptile park, with a life size Tyrannosaurus at its entrance with an interpretation centre houses 29 species of reptiles including crocodiles, lizards, turtles and snakes. One would encounter crocodiles, king cobras and a huge Reticulated Python inside the reptile park.



### REPTILE INTERPRETATION CENTRE

An Interpretation Centre depicting the evolution and biology of reptiles has been established in the entrance of Reptile Park displaying models of prehistoric animals.



### TOY TRAIN

The toy train has been a great attraction for the children. Its starts from the toy train station which goes round a circular track of 1.58 Km. along the lake and thickly vegetated hillock area with free ranging herbivores. The entire facility is now under renovation. It is expected to operate shortly.

## AQUARIUM

Aquarium is an integral component of a modern zoo. Adequate steps were taken to include well researched education materials on the various aquatic ecosystems both marine and fresh water indicating their uniqueness and conservation needs. The aquarium was dedicated to the visitors on 4th February, 2008 by the Honourable Chief Minister, Odisha.



## LIBRARY

If one has got time and an aptitude for learning then the centrally located library, with a wonderful collection of more than 5000 books and journals on wildlife, veterinary and other matters can serve one's satisfaction.



## INTERPRETATION CENTRE

The Interpretation Centre has been established near the entrance gate. The Centre has display boards, models and audiovisual aids depicting the importance of Zoological Park and other important wildlife areas of Odisha. It also displays the activities behind the scenes for creating awareness amongst the visitors. A film on Nandankanan is also screened in the mini-auditorium inside the Centre.

## ZOO MUSEUM

The zoo museum established in Nandankanan to preserve, display and interpret the animal specimens of zoological importance for public viewing and nature education. The museum displays taxidermy specimens, formalin preserved specimens of early developmental stages of animals and eggs of flightless birds. This facility will be of great interest to the visitors in general and school children in particular.



## BATTERY OPERATED VEHICLE

To facilitate elderly and physically challenged visitors in particular and tourists in general, Battery Operated Vehicles (BOVs) are available for tourists for Rs.80/- per person.





## ELECTRONIC GATE ENTRANCE SYSTEM

An automated electronic entry gate system has been installed in the Zoological Park on 30.03.2012. Each visitor is issued with a bar-coded ticket for entering through any of the six electronic gates into the park. This gives an exact figure of adult, children and foreigner visitor entry statistics at any point of time. This facility is the first of its kind for entry into any tourist place in Odisha. On-line ticket booking system is also facilitated for the visitors. LED display screen is installed for information to the visitors.



## AMPHIBIAN ENCLOSURE

An amphibian enclosure has been established with viewers gallery over a plinth area of 56 m<sup>2</sup>. Necessary behavioural enrichments like flowing water, saw dust, live plants, water pool etc. have been provided within the enclosure. The enclosure is designed to house and display amphibian species. Nandankanan is the first premier large zoo to exhibit amphibians. At present there are 21 numbers of amphibians belonging to six species.

## WALK THROUGH AVIARY

The walk through aviary for exotic birds is a unique exhibit of its kind in the country. The walk through aviary has a cascading waterfall and a meandering water channel of 58 m length connecting two pools having two arched cross over bridge along the 216 m laterite stone paved walking path with separate entry and exit points. In addition to the existing large and small trees, hundreds of selective plants have been planted to provide perches and hiding places for the birds housed. There are enough feeding points and nest boxes for use of the birds selectively. The inmates of the aviary are mixture of arboreal, terrestrial and aquatic birds. It is a visitor's delight to view the free flying birds over head.



## OPEN TOP LEOPARD ENCLOSURE

The new open top Leopard enclosure in Nandankanan is one among the very few in the country which attempts to exhibit this species in a large naturalistic enclosure which is open to the sky. This enclosure has been designed aesthetically to maximise visitor satisfaction without compromising the safety and security of the animal as well as visitors. The enclosure which has an exhibit area with a deep dry moat, also has four feeding chambers and two back kraals. The entire enclosure has existing natural vegetation including two large *Ficus bengalensis* trees together with other trees and bushes. In addition, environmental enrichment by way of machan platforms, stone cave, wooden logs, water trough etc. has been provided to encourage them to indulge in natural activities.



## OTHER SERVICES

- Interactive education & outreach programme.
- Conducted tour for school children.
- Availability of trained guides.





# VISITORS' AMENITIES

- RO water kiosks
- Toilets at convenient locations
- Special toilets, wheel chairs & ramps for differently abled persons
- Rest areas / sit-outs / visitors' shed at various locations
- Tourist cottages
- Restaurant & Snacks bar (run by OTDC)
- Cloak room near the entrance gate
- Perambulator for children
- First-aid (at zoo hospital & administrative office)
- Library
- Baby Care House
- Emission free battery operated vehicles
- Guide maps
- Publications
- Nature shop (Souvenir shop)
- Children Park
- Souvenir shop
- Polythene exchange counter



# ENTRY FEES AND OTHER CHARGES

## NANDANKANAN ZOOLOGICAL PARK

### Entry Fee:

Indians (Above 12 years)	Rs. 50/-
Children Age group of 3-12	Rs. 10/-
Foreign visitor	Rs.100/-
Tourist Cottage	Rs.200/- & 300/-
Handy cam camera	Rs.100/-
High end Video Camera (Amateur Photographer)	Rs.500/-
Movie Camera (Professional Photographers)	Rs.4,000/-
Safari	
Lion safari	Rs. 15/-
Tiger safari	Rs. 15/-
Herbivore safari	Rs. 15/-
Bear safari	Rs. 15/-
Toy Train	Under construction
Boating (for 30 minutes)	
Paddle Boat (2 seater)	Rs. 50/-
(4 seater)	Rs.100/-
Family Boat	Rs.150/-
Battery Operated Vehicle	Rs. 80/- per person

### FREE FACILITIES

Aquarium  
Cloak room  
Baby care house  
Entry of differently able persons  
Entry of children below 3 years  
Digital still camera  
Perambulator for children  
Walk through aviary  
RO water and use of toilets  
Wheel chair for differently able persons



## MONTH WISE NUMBER OF VISITORS DURING 2019-20

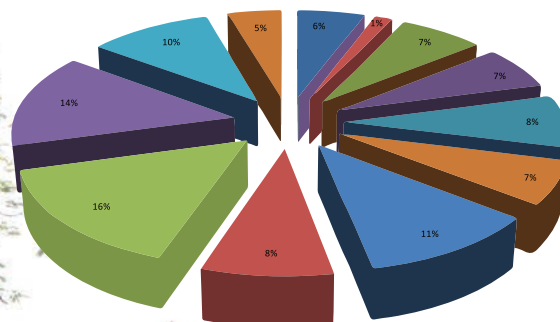
Month	No. of visitors	Month	No. of Visitors
April	1,48,320	October	3,00,395
May	39,278	November	2,15,978
June	1,86,192	December	4,08,468
July	1,74,114	January	3,78,745
August	2,11,247	February	2,71,208
September	1,74,194	March	1,19,407
Free entry of school children during Wildlife Week & Children's Day			1,120
Free entry of differently abled persons			890
<b>TOTAL</b>			<b>26,29,556</b>



Month wise % of number  
of visitors during 2019-20

No. of visitors

■ April, 2019 ■ May, 2019 ■ June, 2019 ■ July, 2019 ■ August, 2019 ■ September, 2019  
■ October, 2019 ■ November, 2019 ■ December, 2019 ■ January, 2020 ■ February, 2020 ■ March, 2020



# HUMAN RESOURCES

## (A) DIRECTOR'S OFFICE IN MAYUR BHAWAN, BHUBANESWAR

Sl. No.	Designation	Number of Sanctioned Posts	Persons in position	No of vacancy in position
1	Director	1	0	1
2	D.C.F.	1	0	1
3	Senior Steno	1	0	1
4	Senior Assistant	4	3	1
5	Junior Assistant	4	3	1
6	Driver	1	0	1
7	Chowkidar	1	0	1
8	Sweeper	1	0	1
9	Office Peon	1	1	0
10.	Watchman	1	1	0
<b>TOTAL</b>		<b>16</b>	<b>10</b>	<b>08</b>

## (B)DEPUTY DIRECTOR OFFICE, NANDANKANAN ZOOLOGICAL PARK

Sl.No.	Name of each category of post.	Sanctioned strength	No. of staff in position	No. of vacancy
1	Deputy Director, N.K.Z.P.	1	1	0
2	Sr. Veterinary Officer	1	1	0
3	ACF	3	2	1
4	Vety. Assistant Surgeon	1	1	0
5	Forest Ranger	8	5	3
6	F.E.S.	0	0	0
7	Head Clerk	1	1	0
8	Zoo Biologist	1	1	0
9	Education Officer	1	1	0
10	Dy. Ranger	0	1	-1
11	Fitter-cum-Mechanic	1	0	1
12	Junior Accountant	5	4	1
13	Junior Stenographer	1	1	0
14	Forester	9	10	-1
15	Driver (H.V.)	3	2	1
16	Driver (L.V.)	4	2	2
17	Livestock-Inspector	3	2	1
18	Projector Operator	1	0	1

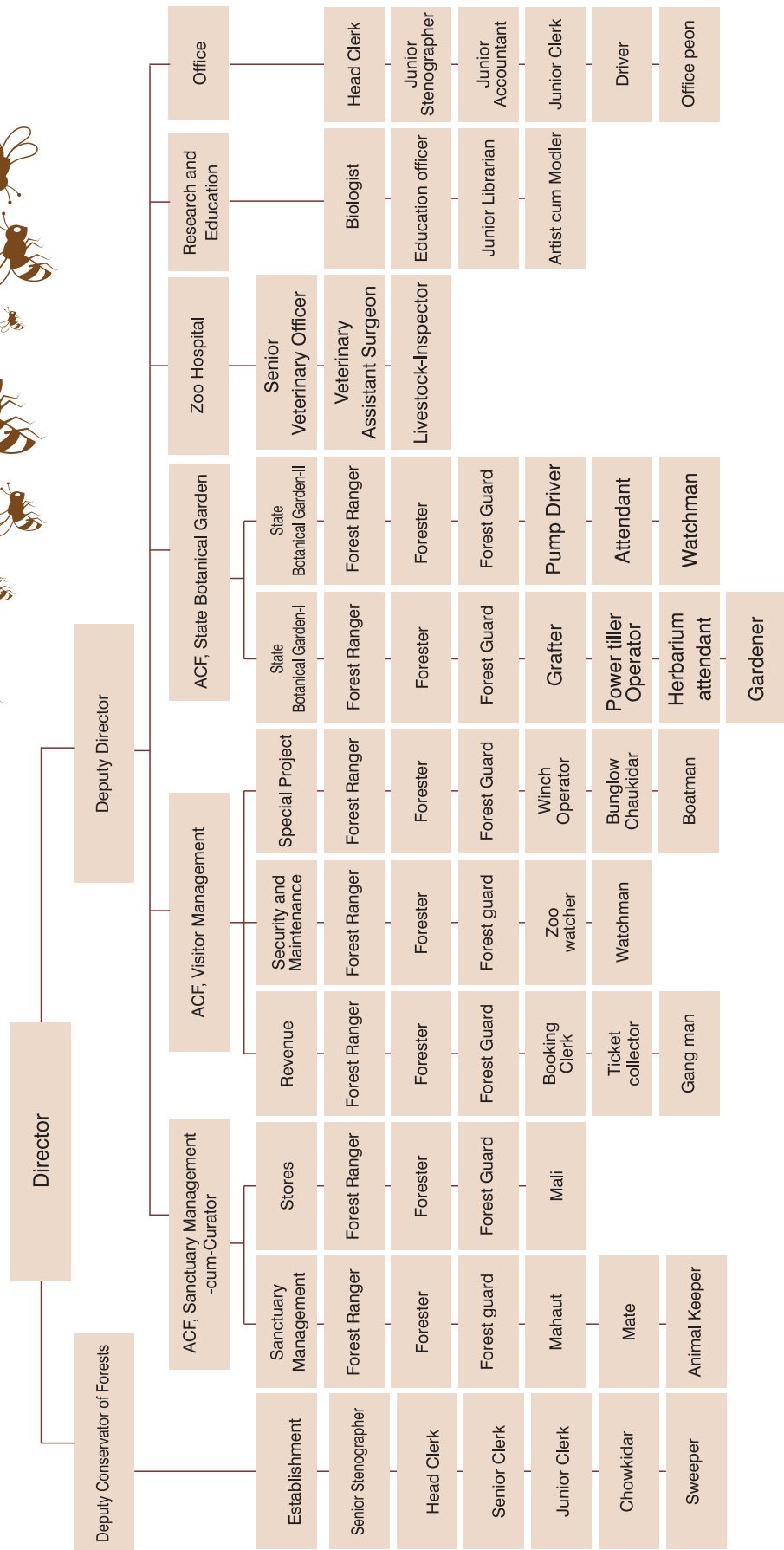
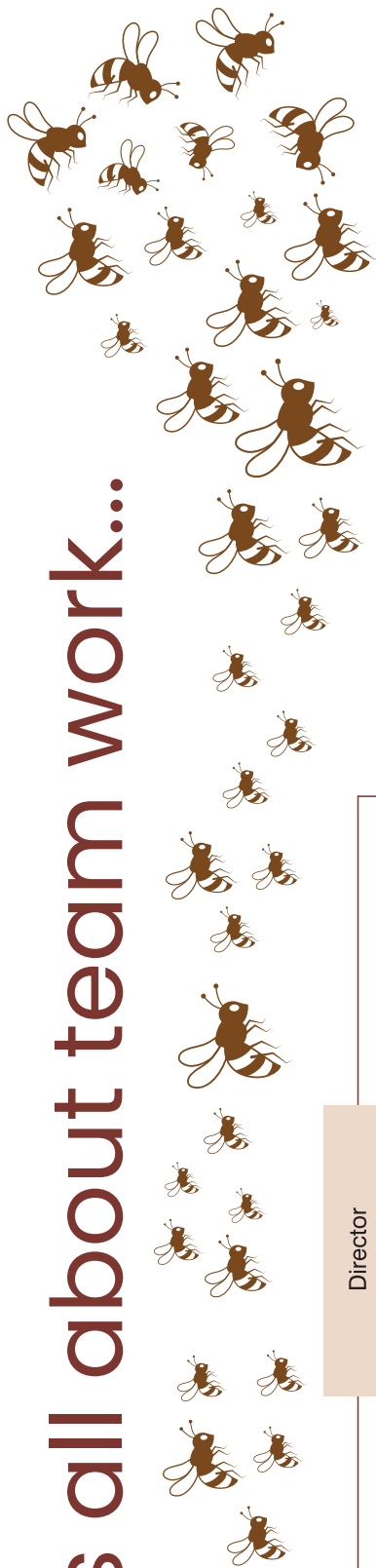


19	Junior Librarian	1	1	0
20	Artiste-cum-Modeler	1	1	0
21	Guide	1	0	1
22	Junior Clerk	4	2	2
23	Booking Clerk	3	1	2
24	Welder-cum-Blacksmith	1	0	1
25	Forest Guard	25	16	9
26	Mahout	8	0	8
27	Mali	5	3	2
28	Khansama	1	1	0
29	Mahout	3	2	1
30	Ass. Mahunta	8	0	8
31	Animal Keeper	101	72	29
32	Office Peon/Attendant	6	5	1
33	Sweeper	11	7	4
34	Bungalow Chowkidar	3	1	2
35	Winch Operator	1	1	0
36	Ticket Collector	10	7	3
37	Mate	2	1	1
38	Boat Man	2	0	2
39	Zoo Watcher	22	17	5
40	Watchman	27	22	5
41	Cook-Cum-Animal feed Distributor	2	0	2
<b>GRAND TOTAL:</b>		<b>292</b>	<b>195</b>	<b>99</b>

**(C). STATE BOTANICAL GARDEN, NANDANKANAN**

Sl. No	Name of each category of post	Sanctioned strength	No. of staff in position	No. of vacancy
1	Curator	1	0	1
2	Junior Typist	1	0	1
3	Grafter	2	0	2
4	Pump Driver	1	0	1
5	Powertiller operator	1	0	1
6	Herbarium Attendant	1	0	1
7	Gardener	6	0	6
8	Attendant	6	0	6
9	Peon	3	1	2
10	Watchman	1	0	1
<b>GRAND TOTAL:</b>		<b>23</b>	<b>1</b>	<b>22</b>

# Its all about team work...







## CAPACITY BUILDING OF ZOO PERSONNEL

- Dr Rajesh Kumar Mohapatra, Biologist, Sri Milan Kumar Panda, Education Officer, Sri Kumar Behera, Range Officer and Sri Arupa Kumar Rout, Forester has participated in “Middle Level Official Training Programme” conducted by CZA, New Delhi at Bhubaneswar from 16th to 18th July, 2019.
- Dr Alok Kumar Das, SVO and Dr Sudipta Kumar Panda, Range officer has participated in “International Seminar on Elephant Endotheliotropic Herpes Virus (EEHV)” conducted by Assam Agricultural University, Khanapara, Guwahati from 28th -30th November, 2019.
- Dr Sudipta Kumar Panda, Range Officer, Sri Sujit Kumar Jena, Forest Guard and Sri Sushant Kumar Behera, Forest Guard has participated in “Tranquilization Training Programme” held at Nandankanan Zoological Park, Bhubaneswar from 23rd- 24th February, 2020.
- Sri Rama Chandra Kandi and Miss Pragya Sahu has participated in “Monkey Menace Training Programme” held at Nandankanan Zoological Park, Bhubaneswar on 25th February, 2020.





## EXPOSURE VISIT

- Miss Pragya Sahu, Forester, Mrs Sudipa Behera, Forester, Mrs Milibala Jena, Forest Guard, Mrs Jayanti Singh, Forest Guard, Sri Pratap Kumar Khuntia, Forest Guard, Mrs Abhilipsa Mandal, Forest Guard and Mrs Sagarika Biswal, Forest Guard have been sent for exposure visit to Bannerghata Biological Park, Bengaluru and Chamarajendra Zoological Garden, Mysore from 17th February to 24th February, 2020.
- Mrs Rahmita Sethy, Forester, Sri Banmali Jena, Forester, Sri Bimbadhar Rout, Forest Guard, Miss Rajeshree Rout, Forest Guard and Premalata Guru, Animal Keeper have been sent to Nehru Zoological Park, Hyderabad from 01st to 05th March, 2020.
- Sri Kaita Hembram, Forest Guard, Sri Ramakanta Nayak, Zoo Watcher, Sri Satyanarayan Sahoo, Zoo Watcher, Sri Rajkishore Jena, Watchman, Sri Rajendra Jena, Watchman and Sri Batakrushna Bhoi, Zoo Watcher have been sent for exposure visit to Bannerghata Biological Park, Bengaluru and Chamarajendra Zoological Garden, Mysore from 10th March to 16th March, 2020.





# FINANCE

Revenue collected:

An amount of Rs.1503.48 lakhs was generated towards revenue from all sources during the year 2019-20.

Closure of zoo and garden for 21 days during May 2019 due to devastation caused by cyclone "Fani" and 15 days during March 2020 (from 15th March, 2020 due to COVID-19 Pandemic) impacted revenue generation.

## VISITOR FLOW AND REVENUE GENERATED DURING THE YEAR 2019-20

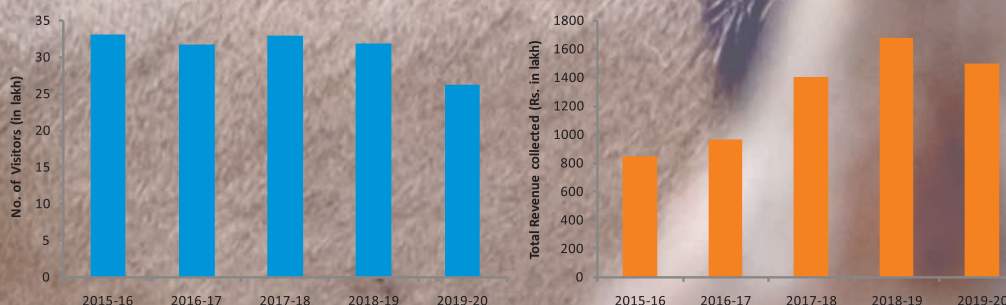
Item	Visitors number	Revenue (in rupees)
<b>Entry fees</b>		
Common visitors (Above 12 years)	2237560	111878000
Children (3 to12 years)	336569	3365690
School children	41993	419930
Foreign visitors	1097	109700
Online booking- Adult	7905	0
Online booking- Children	2414	0
Online booking- Foreign Visitor	8	0
Free entry during Wildlife Week and Childrens' Day	1120	0
Free entry of differently abled persons	890	0
Handycam	335	33500
Video camera	1	500
<b>Outsourced facility</b>		
Boating facilities		1084621
Safari facility		8799556
Rent of Parking Place		4503495
O.T.D.C. Restaurant		127600
O.T.D.C. Snacks bar		78690
O.T.D.C. Snacks bar (SBG)		158400
Rent of Weighing machine		21160
Rent of BOV facility		12926534
Rent of Souvenir shop		214664
Rent of ATM counter (SBI)		76800
Rent of ATM counter (PNB)		90530
<b>State Botanical Garden (SBG)</b>		
Revenue collected at SBG		6122300
<b>Online entry / facility reservation charges (Zoo and SBG)</b>		
<b>Others</b>		
Tourist cottage		400
Fine collected		5950
Documentary film		30000
Cost of tender paper		301062
Adoption of animals		16200
<b>Total revenue collected</b>		<b>Rs. 150348082</b>



## REVENUE GENERATED DURING LAST FIVE YEARS

### Visitor flow during last five years

Year	No. of visitors (in lakh)	Total Revenue collected (Rs. in lakh)
2015-2016	33.193	856.90
2016-2017	31.813	969.53
2017-2018	32.993	1410.60
2018-2019	31.943	1685.27
2019-2020	26.295	1503.48



## ALLOTMENT AND EXPENDITURE OF NANDANKANAN ZOOLOGICAL PARK DURING THE LAST FIVE YEARS: (AMOUNT IN LAKHS OF RUPEES)

Year	Expenditure & Allotment	Non-Plan	State-Plan	Central Plan	Centrally sponsored plan	CZA grant	CAMPA	Society Fund	Total
1	2	3	4	5	6	7	8	10	11
<b>2015-16</b>	Allotment	707.93	65.7	-	6.65	15.00	119.75	944.00	1859.03
	Expenditure	698.84	65.7	-	6.65	15.00	118.78	767.91	1667.87
<b>2016-17</b>	Allotment	859.84	12.10	-	8.886		597.50	1113.120	2591.44
	Expenditure	859.83	12.10	-	8.886		293.26 (continuing)	867.381	2041.56
<b>2017-18</b>	Allotment	1067.63	511.70	-	8.25	3.70	204.76	1221.6	2812.85
	Expenditure	1025.26	511.70	-	8.25	2.90	147.18	1129.0	2677.15
<b>2018-19</b>	Allotment	111.184	615.74	-	12.208	-	507.90	1820.19	2812.85
	Expenditure	110.327	615.74	-	12.208	-	504.60	1309.29	2552.165
<b>2019-20</b>	Allotment	11.59	346.15	-	11.0	12.80	236.93	1846.00	2504.47
	Expenditure	11.37	346.15	-	11.0	09.82	236.92	1369.55	1984.81





## ANIMAL EXCHANGE AND PROCUREMENT

S.N.	Species	Sex(M:F:U)	Zoo name	Date of arrival
1.	Black Tufted Marmoset	0:2:0	Purchased from AFAZ Farm, Madurai	15.02.2019
2.	Indian Fox	1:1:0	Kamala Nehru Prani Sangrahalaya, Indore	08.08.2019
3.	Indian Grey Wolf	0:1:0	Kamala Nehru Prani Sangrahalaya, Indore	08.08.2019
4.	Tufted Capuchin	1:1:0	Purchased from Jai Farm, Chennai	03.10.2019
5.	Squirrel Monkey	1:1:0	Purchased from Jai Farm, Chennai	03.10.2019
6.	Nile Crocodile	2:1:0	MCBT, Mahabalipuram	22.10.2019
7.	Yellow Anaconda	0:0:8	MCBT, Mahabalipuram	22.10.2019
8.	Asiatic Lion	4:0:0	Kanan Pindari Zoological Garden, Bilaspur	17.03.2020
9.	Indian Fox	1:1:0	Kanan Pindari Zoological Garden, Bilaspur	17.03.2020



## GLIMPSES OF THE EVENTS OF 2019-20

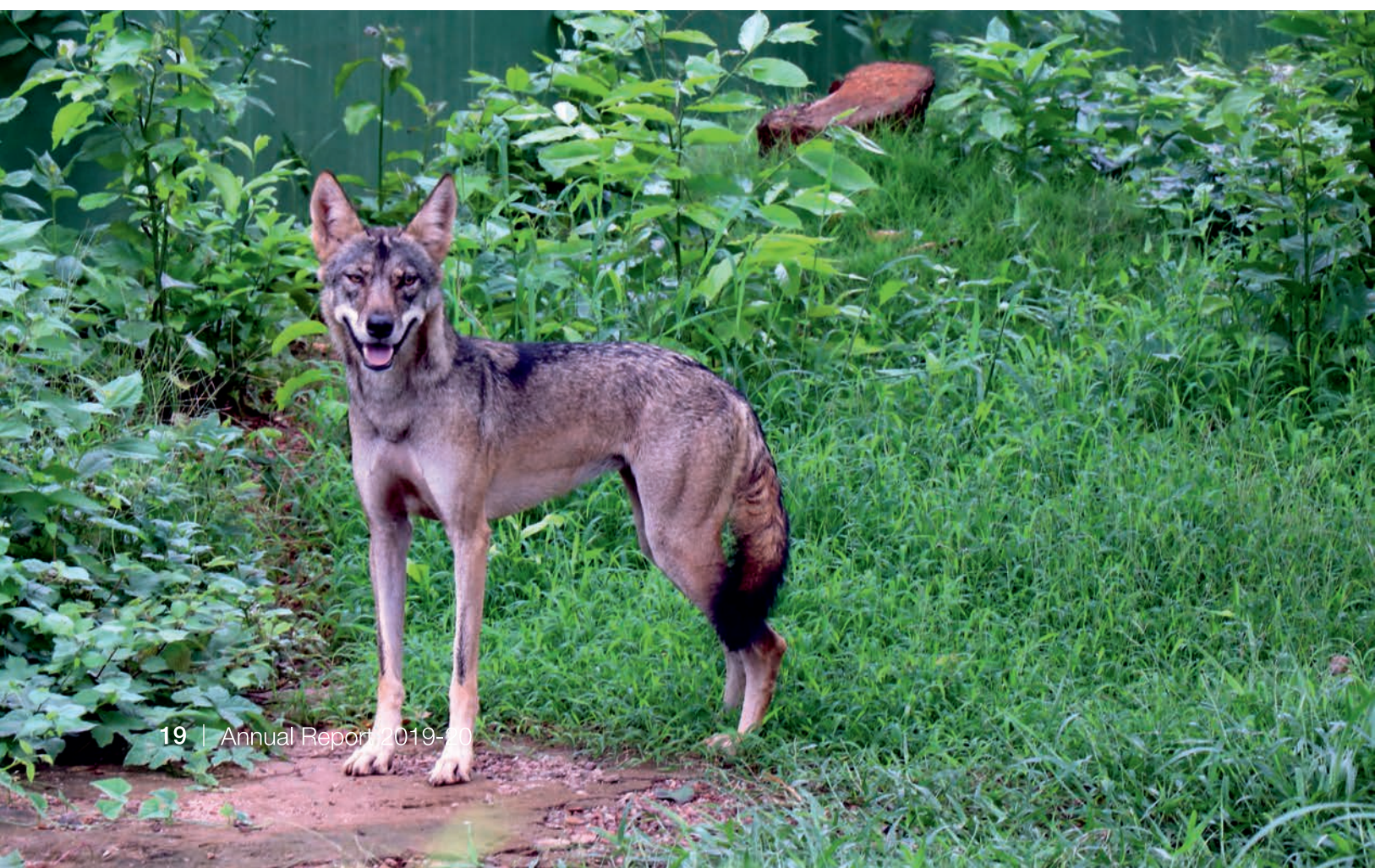
### EXOTIC PRIMATE ENCLOSURES

Three Exotic Primate Enclosures were created over an area of 281.25 sq.m. with a total expenditure of Rs. 20 lakhs from the society budget of Nandankanan to house three exotic primate species namely; Tufted capuchin, Red hand tamarin and Common squirrel monkey. Each enclosure has 60 sq.m. exhibit area along with two retiring cells and species specific enclosure enrichments. Superior-strength glass fronted viewing area provides proper visibility and better visitor experience. A pair of tufted capuchin, a pair of common squirrel monkey and one female red hand tamarin are exhibited in respective enclosures. A pair of red hand tamarin will be procured shortly.

### INDIAN WOLF ENCLOSURE

An Indian wolf enclosure was created over an area of 1087 sq.m. with a total expenditure of Rs. 53.84 lakhs from the society budget of Nandankanan to house Indian wolf. The enclosure has an exhibit area of 207sq.m. with species specific enrichment, two back kraals, 6 retiring cells and keeper's corridor. The construction was done following CZA guidelines and design for better management and health care

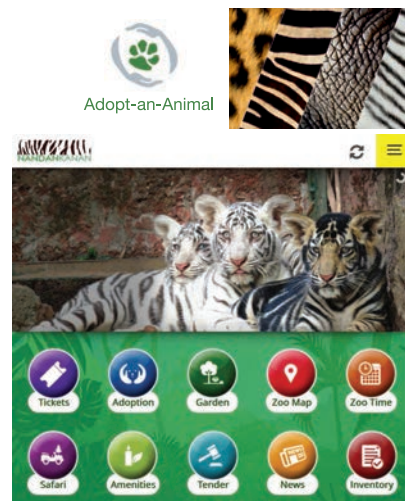
of species. One female Indian grey wolf is exhibited in the enclosure. The zoo management is in contact with different Indian zoos namely, Kamala Nehru Prani Sangrahalaya, Indore, Nahargarh Zoological Park, Rajasthan and Machhia Biological Park, Rajasthan for procurement of more number of wolves.





## BECOME A CARE GIVER: OUR ANIMAL ADOPTION SCHEME

A people's movement towards Conservation and Preservation of flora and fauna brings in higher dividends. Zoos across the World have evolved Adoption Scheme with a primary intention of involving general public in the conservation of endangered animals, birds and reptiles. Herein lies the fact that, individual, philanthropists, organizations, corporate can adopt an animal by way of contributing the feed cost of individual animal including its maintenance and veterinary health care. Now adoption can also be done through online mode. Mobile Android App has also been introduced.



### LIST OF DONORS FOR 2019-20

Sl. No.	Name of the persons / Institution	Animals / Birds / Reptiles adopted	Period of adoption
1	Jayant Kumar Das, Nuapada Nayabazar Po, Cuttack, Odisha-753004	One No. of Sambar Deer	23rd February 2020 To 22nd March 2020
2	Sabyasachi Swain, Plot No-114, Near Corporation Bank Lane, Jayadev Vihar, Bhubaneswar	One No. of Himalayan Black Bear	19th January 2020 To 18th February 2020
3	Anis Kumar Kabiraj, Subhas Nagar Po Adra, Dist.: Purulia, West Bengal-723121	One No. of Java Sparrow	5th January 2020 To 4th February 2020
4	Sonal Sudeep, 55-A, BDA Duplex, Baramunda, Bhubaneswar, Khordha, Odisha-751003	One No. of Russel's Viper	30th December 2019 To 29th January 2020
5	Sushree Sangita Sethy, Pl.No.299/303, Durgapur Patna, P.O. Bankuala, P.S.: Saheednagar, Khurda, Odisha - 751002	One No. of Nilgai Blue Bull	6th December 2019 To 5th March 2020
6	Er. Karishma Das, Niccopark Road, M.S. Nagar, Bhubaneswar, Odisha - 751012	One No. of Swainson's Lorikeet	6th December 2019 To 5th January 2020
7	Jayant Kumar Das, Nuapada Nayabazar Po, Cuttack, Odisha-753004	One No. of Blue Faced Lorikeet	5th November 2019 To 4th December 2019
8	Sri Trinath Nayak, At-R.E.O. Colony, Po- Nayabazar, Dist- Cuttack, Pin-753004, Odisha	One No. of Yellow Backed Lory	4th June 2019 To 3rd June 2020
9	Sri Tamoghna Acharya, Qtr No. 3, Plot No. 353/69/3556, Jaydev Vihar- 751013, Bhubaneswar, Odisha	One No. of Indian Flap Shell Turtle	20th April 2019 To 19th April 2020



# IMPRESSION OF OUR ESTEEMED GUESTS

*This was a memorable visit. The employees of zoo have managed it very well. All the fauna are managed properly. Protocol of zoo is very good.  
Thanks & a lot of regards.*

Rakesh Kumar  
Election Commission of India  
28.05.2019

*Great place to acquaintance with wild animals. Decorated and Kept-Joyful.*

Justice Raj Shekhar Attri  
Judge PS, Haryana High Court, Chandigarh  
04.06.2019

*Had a very informative visit. All the enclosures are well maintained, and campus is very clean. The toilets have improved from the previous visit. Good to see the park achieving greater heights.*

Saurabh Garg  
Principal Secretary  
Agriculture & F. E Govt of Odisha  
07.06.2019

*The visit to Nandankanan is always endearing and new window to nature exposure, despite having number of visits during last 3 decades. There is an apparent improvement in cleanliness and upkeep of the enclosures. Efforts for deweeding of Kanchia lake is also good and needs to be in a continuous manner, apart from enabling natural drainage for maintaining its water quality. More experiences for tourists like Toy Train Ride and Ropeway is under final stage. The providing of Pure water, Baby care and other visitor friendly measures are really welcome. Hope and sure that Conservation Breeding Programme also placed in Greater Heights! All the Best*

Dr Sandeep Tripathy  
PCCF & HOFF, Odisha  
13.07.2019

*The setting and the environment have been well- designed keeping in mind the animal comfort and visitors requirement. The animal-visitor interfaces are attempted well. Some enclosures are well enriched which allows the animal to display his best behaviours. Large and moated enclosures fit well into the larger picture. Materials in enclosures and circulation routes are chosen appropriately. The Aviary is very well enriched and landscaped. The zoo staff mainly Mr Rajesh, Biologist and Mr Milan, Education Officer were very sincere and committed.*

Dr Aarti Grover  
Faculty, SPA, New Delhi  
18.07.2019

*The Zoo with lush green cover occupies the exhibits of various species, many of them exhibits has high educational and conversational value. The Walk-Through-Aviary has forest way and vegetation. The initiative taken by Zoo Biologist & Education Officer are worth to mentioned that the whole zoo. The enrichment of animal exhibits in zoo has many innovative ideas and to be appreciated the concern for animal welfare. The Hippo enclosures is one of the best enclosures in the region. I wish the Zoo shall in future come up with much more innovative approach.*

Dr Brij Kishor Gupta  
Evaluation & Monitoring Officer  
Central Zoo Authority, New Delhi  
18.07.2019

*This zoo has very good collection of wild animals particularly the White tigers. We had great time and enjoyed seeing variety of wild animals. Wish the Authorities, all the best in their endeavours.*

Ramachandra Tejarath, IAS (Rtd)  
Special Representative of Telangana  
Government of Telangana  
28.07.2019

*Visited the Zoological Park and had wonderful experiences to view varied species of Tigers, Lions and Reptiles. Very well kept the more or less natural habitat.*

C.R. Choudhary,  
IFS Batch-2007  
14.09.2019

Rajiv Lal  
Chief Commissioner of Income Tax(Rtd)  
New Delhi  
23.08.2019

*I belong to Cuttack, but visiting this zoo after a long time. Pretty impressed by the developments to the environment and the way the cyclone damages have been restored. Its awesome to see the animals and reptiles. Keep improving!*

Trailokya Jena  
Ex-Principal Director General Income Tax  
New Delhi  
23.08.2019

*Visited the Safari and Park. Very nicely maintained. Keep it up. I came from Delhi and also seen other Park and Safari, but this is the best one.*

Surender Kumar  
CBI, New Delhi  
27.08.2019

*Visited the Zoo and find very well maintained, clean and beautiful. The Walk-Through-Aziary is unique, well planned and maintained. All the Tigers especially the Black tigers are found interesting and found very healthy.*

Prasad Rao  
MD, TRPC, Tripura  
14.09.2019

*Visited the Zoological Park. Visit the Pangolin Conservation Breeding Centre. Very nicely managed. Tiger especially Black Tiger first time experience. Learned about the Scientific management in Zoological Park.*

S.R. Yadav  
IFS Batch-2006  
14.09.2019

*Tremendous effort in captive breeding of Indian pangolin and the Tigers. Really excellent work and the scenic beauty is quite appreciable. We are highly benefited with the concept of Walk through Aziary and the natural environment given is really interesting.*

*Visit Zoological Park. Tremendous and wonderful experience gained. This is the one of the best Zoological Park in India. All animal and bird species are lovely and nice. Well maintained and neat enclosures of animal. Staff deputed there very disciplined and dedicated to duty. Good management with scientific attitude. Wonderful experience I gained.*

G. H. Singh  
Sr A.O  
MOEF & CC, New Delhi  
27.09.2019

*Visited Nandankanan Zoological Park. Its wonderfully created and maintained amidst purely natural and pristine surroundings. Being so close to Bhubaneswar city and being visited by large number of human populations including children watching the animals with curiosity is amazing. Forest & Wildlife staff at cutting edge levels and higher-level managerial ranks have maintained the entire forest area, water-bodies, animals in robust health. This indeed is highly remarkable. All kudos to them. Entire NFZP experiment is a replicable model across the country for increasing urban population to have a deeper level connect with nature.*

Dr Vijay Kumar,  
IFS  
CVO, KIOCL, Bangalore  
09.10.2019

*Highly organized, healthy in mates, clean, wide variety of animals and birds. Natural environment. Enjoyed a lot. Very good hospitality too. All the best.*

Prof. Ishan Patro  
Vice-Chancellor  
Ravenshaw University  
Cuttack

*Wonderful day spent and had a nice and adventurous experience to be cherished year ahead. Surely will visit again in near future.*

Justice Anindita Ray Saraswati  
High Court, Calcutta  
19.11.2019



*Visited this park for the first time. It was amazing to see rare animals and birds like vulture. I was happy to know about the conservation breeding of vultures and other animals. Footfall of 15-16 Lakhs visitors in a year is great. The park is well maintained. Best Wishes to Zoo officers for further work.*

Dr S.H. Patel,  
IFS (Rtd)  
30.11.2019

*U.N. Behera, IAS (Rtd) visited the Zoological Park with my granddaughter. She enjoyed the visit. We went too most of the enclosures and the safaris. The Park has become very popular among the tourists. The footfall is increasing day-by-day. This is one of the finest Zoos in our country. I really enjoyed this visit, commendable work by the Zoo management.*

U.N. Behera  
Chairman, OERC  
03.12.2019

*It's a very exhilarating experience to visit Nandankanan after a gap of 09 years. My kids thoroughly enjoyed it.*

Rakesh Arora,  
DGM (HR), NTPC  
Vishakhapatnam  
15.01.2020

*One person's vision can produce such amazing results. The huge influx of tourists displays its great popularity. An island of tranquillity bordering a huge city, worth a visit and stay in this quaint P.R.H.*

Varun Kapoor,  
IPS  
Addl. Director General of Police  
Indore, MP  
01.02.2020

*Very good. Location & interesting zoo speciality for children. Ecology of Zoo and water reservoir is attractive.*

Mrs Seema Sharma  
Director, Mahanadi Coal Field Ltd  
04.02.2020

*Far from the din and bustle of cities Nandankanan Biological Park is nestled in the lap of mother nature. Its really a home*

*away from real home (forests) for the wild animals kept here. I found the Zoo superbly managed from every point of view. For it my high appreciations for the Director, Dy. Director, Officers and all the staff of the Zoo. I wish a brighter future than glorified past for this park.*

Pradeep Kumar, IFS (Rtd)  
Ex-PCCF, Wildlife, Jharkhand  
06.02.2020

*Very good and eco-friendly place. A must visit for every person.*

Amarjeet Bhagat  
Food & Cultural Minister  
Chhattisgarh  
16.02.2020

*A pleasure to spend time at this heaven. Wish had more time.*

Saurabh Tiwari  
Joint Secretary  
Cabinet Secretary of India  
29.02.2020

*An extremely beautiful landscape. The diversity of birds, animals kept in near natural set up are well managed. All the officers and staff associated with management deserve to be congratulated.*

Dr H.S. Gupta, IFS  
PCCF (R.T)  
Ranchi, Jharkhand  
06.03.2020

*Unexpected abstract landscape very pleasing to mind and soul. Thanks for being 100% disabled friendly. My son, had a blast greatly knowledgeable and devoted staff. It has a well-maintained greenery too.*

Dr S.D. Singh  
APCCF, Uttarakhand  
06.03.2020

*Beautiful and well managed park. Officers and staff of the park deserve appreciation and best wishes for more improvements to innovative things in the coming years for park.*

T.V. Reddy, IFS  
PCCF (RE & WP), Assam  
07.03.2020

*Very good location of the Zoo. Management is very excellent. Zoo speciality for every children.*

Lalit Mohan Panda  
C.A.O, UK  
07.03.2020

*Visited the Biological Park. A unique landscape. Enclosures are well designed and are safe for visitors, enough space for animals in their natural environment. Congratulations to officers and staff.*

Ajay Mishra  
PCCF (Dev), Karnataka  
07.03.2020

*Nandankanan Zoological Park is gifted with beautiful lake with natural forests. This Zoo is very well managed with greenery, flowering plants adding colour to the natural surroundings. The healthy and agile animals are the live examples of perfect management as per CIA norms. The Deputy Director and the staff deserves all compliments for maintaining such good practices.*

K. Ashok Kumar  
DCF, Tirupati, Andhra Pradesh  
Ex-Curator, Sri Venkateshwara Zoological Park  
Tirupati, Andhra Pradesh  
07.03.2020





## VETERINARY CARE

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Nandankanan Biological Park has always given priority for highest standards of animal husbandry and veterinary care. Monitoring of animal health starts from the moment of its birth / arrival at the zoo. Prevention of disease / ailment is the main motto of the health program of Nandankanan.

A dedicated veterinary hospital is located inside the park. Three full time veterinary surgeons are providing veterinary services to the captive animals and birds with specialist support from the College of Veterinary Science & Animal Husbandry (C.V.Sc. & A.H.) Bhubaneswar and input from an array of experts. A five member 'Technical Committee' constituted by Government of Odisha regularly monitor and review the health care and related matters. A close liaison is maintained with the C.V.Sc. & A.H., Bhubaneswar and the services of the 'Health Committee' from C.V.Sc. & A.H. are requisitioned in case of emergency. A strict protocol for vaccination, deworming and prophylactic chemotherapy is meticulously followed to prevent diseases.







# INFRASTRUCTURE AT ZOO HOSPITAL

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The Zoo Hospital is well equipped with the following infrastructures.

- A well equipped operation theatre backed by a generator, oxygen supply gadget and an x-ray unit.
- A spacious isolation ward to house the sick and injured animals for treatment.
- A quarantine ward to house the newly acquired animals and sick animals suspected for contagious diseases.
- A microbiological laboratory to carry out the cultural tests and antibiotic sensitivity tests of different bio-samples for easy diagnosis and effective treatment of different ailing animals.
- An incubation unit to assist the incubation of eggs of exotic and indigenous species of birds.
- A fully fledged anti-depredation unit equipped with all necessary equipments and drugs for chemical immobilization is operating from the Nandankanan Biological Park which meets the emergency needs of the entire state.

## **COLLABORATION WITH ODISHA VETERINARY COLLEGE:**

A MoU is signed with the College of Veterinary Science & Animal Husbandry (C.V.Sc. & A.H.), Bhubaneswar for captive use of the "Centre for Wildlife Health". The centre is equipped with onsite ultra-sound and X-ray facility backed by a state of the art clinical laboratory.

The 'Centre for Wildlife Health' was initially set up in the Veterinary College, Odisha University of Agriculture and Technology, Bhubaneswar as a regional centre with the financial assistance from the Central Zoo Authority, New Delhi. It was renamed as 'Centre for Wildlife Health' since April 2007 subsequent upon the bipartite agreement signed between the Forest Department, Government of Odisha and Odisha University of Agriculture and Technology, Bhubaneswar. The centre received an amount of Rs. 26 lakhs during 2016-17 from Nandankanan for upgradation of facility as well as to meet the recurring expenses. The prime objective of the centre is to extend diagnostic facilities and advanced medical care to the captive animals and birds of the Nandankanan Zoological Park. The centre is well equipped to carry out haematobiochemical, bacteriological, parasitological and histo-pathological examinations.



# COMMITTEES CONSTITUTED BY GOVERNMENT OF ODISHA

## 1. Expert Committee:

Government of Odisha, Forest & Environment Department vide Office order No FE-WL-WLF-0027-2019/21236/F&E dated 05.11.2019 constituted an 'Expert Committee' with the following members for strengthening of healthcare and upkeep of animals of Nandankanan Zoo.

- Shri S. K. Patnaik, IFS (Retd. PCCF Wildlife Odisha and Member CEC)- Chairman
- Director, WII, Dehradun or his representative- Member
- Director, IVRI, Izatnagar, Bareilly or his representative- Member
- Director, Wildlife Trust of India, Noida or his representative- Member
- Director, Salim Ali Centre for Ornithology & Natural History, Coimbatore or his representative- Member
- Director, Central Avian Research Institute, Bhubaneswar- Member
- Director, MCBT and Centre for Herpetology or his representative- Member
- Project Coordinator, Animal Disease Research Institute, Phulnakhara- Member
- Director, Nandankanan Biological Park, Bhubaneswar- Member Convener

Date on which meeting was held during the year- NIL

## 2. Expansion of Technical Committee:

Government of Odisha, Forest & Environment Department vide Office order No FE-WL-WLF-0027-2019/21238/F&E dated 05.11.2019 expanded Technical Committee. The following members and officials were included in the committee.

- Dr. S. K. Ray, Retd Prof. & Head, Deptt of Medicine, Odisha Veterinary College- Chairman
- Dr. J. N. Mohanty, Retd Prof. Surgery, Odisha Veterinary College- Member
- Sri S. Mohapatra, IFS (Retd.), former CWLW Odisha- Member
- Dr. L. N. Acharjyo, Retd Zoo Veterinarian- Member
- Dean, College of Veterinary Sciences, Odisha- Member
- Dr K. K. Sharma, Assam Veterinary College, Guwahati- Member

- Dr Naveen Kumar, Veterinarian (Retd.), Hyderabad- Member
- Dr Utkarsh Shukla, Deputy Director, Lucknow Zoo- Member
- Dr Arun A. Sha, Veterinary Director, Wildlife SOS, NewDelhi- Member
- Director HSDL, Bhopal or his representative- Member
- Director, Nandankanan Biological Park, Bhubaneswar- Member Convener

Date on which meeting was held during the year- 10.12.2019

## 3. Health Committee:

Government of Odisha, Forest & Environment Department vide Office order No FE-WL-WLF-0027-2019/21234/F&E dated 05.11.2019 constituted a Health Committee for strengthening of healthcare and upkeep of animals of Nandankanan Zoo, with the following members

- Professor and Head, Department of Preventive Medicine, CVSC & AH-cum- Project Coordinator, Centre for Wildlife Health, OUAT, Bhubaneswar- Chairman
- Professor and Head, Department of Surgery, CVSC & AH or his Nominee- Member
- Professor and Head, Department of Pathology, CVSC & AH or his Nominee- Member
- Head, Department of Parasitology, CVSC & AH or his Nominee- Member
- HOD, Department of Nutrition, CVSC & AH or his Nominee- Member
- Senior Veterinary Officer/ VAS Nandankanan- Member Convener
- All Veterinary Officers of Nandankanan- Member
- Deputy Director, Nandankanan Zoological Park- Member
- Curator, Nandankanan Zoological Park- Member
- Range Officer, Sanctuary Management Range- Member

Date on which Health Committee visited/ meeting held during the year- 01.04.2019, 28.05.2019, 29.05.2019, 24.07.2019, 09.08.2019, 16.08.2019, 10.09.2019, 18.09.2019, 13.10.2019, 07.03.2019, 14.02.2020, 24.03.2020



#### Intervention by the veterinary wing of the zoo:

Sl.No.	Activities	Number of cases dealt
1.	Cases treated	10651
2.	Surgery performed	6
3.	De-worming	8579
4.	Chemical immobilization	62
5.	Screening of blood smears	150
6.	Bacteriological examination	28
7.	Faecal Sample examination	587

#### Vaccination:

Sl. No.	Vaccination	Number of cases dealt
1	BioFel PCHR (against Feline Panleucopenia)	58
2	Raksha-Triovac	4
3	H.S.V.	19
4	TriquinAdministartion	138
5	Anti-Rabies Vaccine	17
6	Tetanus Toxoid	11
7	Multivalent Vaccine for canids	16
8	B.Q. Vaccine	28
9	Anthrax	4







## PROPHYLACTIC PROTOCOL

A set of protocol are hermitically followed as a prophylactic measure against some of the devastating diseases. In addition to this disinfection and deworming protocols are followed for management of the ecto and endo parasitic infestations in captive animals. Following prophylactic protocol is observed in the park:

- Annual vaccination to Tigers, Lions, Leopards, leopard cat and Jungle cats against Feline Panleucopenia.
- Annual vaccination of Jackal and Hyena with multivalent vaccine.
- Administration of Triquin as a prophylactic measure against Trypanosomiasis to Tigers, Lions and Leopards at quarterly interval.
- Vaccination of elephants against Haemorrhagic Septicemia, Tetanus, Rabies and Foot & Mouth Disease. Vaccination of four horned antelopes with BQ vaccine.
- Body spray with cypermethrin at 2 months interval against ticks, flies and other vectors in case of big cats.
- K-Orthrine sprays in enclosures at two months intervals.
- Screening of the fecal samples of all Nandankanan Biological Park inmates and de-worming at 3 months interval.
- Periodical screening of blood samples.

# SIGNIFICANT ACHIEVEMENTS IN HEALTH CARE

## **1. Surgical treatment of Angiomyolipoma in a Asiatic lioness**

The only Asiatic lioness of the Park 'Shyama', aged about 18 years gradually developed a large mass originating at the base of the left pinna causing distress to the animal. Physical examination inside the squeeze cage revealed that there was no apparent involvement of bone. Therapy including a five-day treatment with antibiotics, NSAID and local dressing did not yield any improvement. The dark brownish mass gradually became large, and ulcerated due to constant rubbing on the rough surfaces. Hence it was decided to go for immobilisation of the lioness for radical excision of the tissue mass. On 06.06.2019, the lioness was immobilised using a drug mixture of Xylazine and Ketamine. In order to reduce bleeding, blood vessels at the base of the mass were ligated using absorbable suture Vicryl. The mass was excised by giving a blunt dissection, minor bleeding was checked by application of adrenaline-soaked cotton. The edges were sutured using Vicryl. The representative tissue mass was subjected to histopathology examination which revealed that the mass was Angiomyolipoma with absence of malignant features. The surgical wound completely healed by administration of antibiotics and local dressing for five days. Presently the lioness is doing well.

## **2. Ulcerative keratitis in an Asian elephant and its successful management**

On 25.08.2019, the 21-year-old female Asian elephant 'Hira' was reported with profuse lacrimation from left eye with history of traumatic injury to the eye. Hira was experiencing pain and irritation. Topical ophthalmic therapy with antibiotics and analgesics did not yield result. Cornea experts of LV Prasad eye Institute were consulted through CWH. On 10.09.2019, doctors from LVPEI examined Hira under sedation. Scarification and debridement of the affected area was carried out and Cornea scrapings were collected for culture and sensitivity test. The procedure was followed by prescribed topical therapy. The team again visited on 18.09.2019, for follow up treatment. Gradually in about two months, all the lacrimation, ulceration and opacity subsided. Though the vision in left eye was lost to some extent, but the eye condition became normal.

## **3. Management of mixed infection of HS and BQ amongst hog deer and spotted deer population**

On 11.03.2020 morning, four hog deer out of twenty housed at enclosure 70 were found with nervous signs like torticollis, inability to put forelimbs straight, salivation and high rise of temperature. All four affected animals were immediately segregated from the group and treated with parenteral antibiotics. One of them was tranquilised for detailed investigation and bio-sample collection. On 13.03.2020, ten spotted deer out of 200 from the adjacent enclosure were found suffering from same clinical signs. Within a period of five days i.e., from 11th to 15th Mar 2020, seven hog deer and twelve spotted deer got affected out of which three hog deer and two spotted deer died due to this illness. Microbiological analysis of bio-samples and necropsy samples at CWH revealed presence of *Pasteurella* and *Clostridium* spp. Aggressive steps were taken to contain the spread of the infection to other vulnerable population of Nilgai, Black buck and four horned antelope housed in adjacent enclosures, as vaccination was not possible in these timid deer species. Segregation and treatment of affected animals, mass administration of antibiotics, disinfection of enclosures premises, repeated cleaning of feeding and water troughs, restriction of human movement within the enclosures and strict personal hygiene were implemented. No new cases were reported after 15.03.2020 and the affected animals slowly got cured in about one month.



#### **4. Treatment of simple tibial fracture in a Jackal**

On 05.08.2019, one female jackal housed at the back-kraal of enclosure 23, was found limping. It was unable to touch its right hind limb on the ground. It was immediately segregated and shifted to Isolation Ward of Zoo Hospital for treatment. X-ray imaging of the affected limb revealed that, it had suffered a simple fracture of right tibia at the proximal end. Experts of CVSc & AH were consulted for treatment. On 09.08.2019, it was immobilized by the experts and modified Thomas splint was applied after reduction and stabilization of the fracture ends. Elizabethan collar was applied to prevent biting of the bandage. The jackal was kept inside a squeeze cage and gunny bag bedding was provided to avoid wetting of the bandage. It was supplemented with calcium and vitamin D3 in its diet to improve calcification. The jackal was kept undisturbed in a secluded place. The jackal recovered completely in two months and returned to its enclosure.

#### **5. Post parturient uterine prolapse in a swamp deer and its management**

On July 30, 2019, a female swamp deer that has delivered a fawn on 24.07.2019, was observed with uterine prolapse, the everted uterus was hanging from the vagina. There were chances of injury to the prolapsed mass. Hence, the deer was tranquilised by using drug mixture xylazine and ketamine, darted using a dart gun from outside the enclosure. After the deer went down, it was brought to the corner of the enclosure by means of a stretcher. The treatment was initiated by giving DNS solution intravenously. Then the prolapsed mass was washed with 1:1000 potassium permanganate solution and ice pack was applied to reduce inflammation. The mass was repositioned by initial pushing of the lateral walls, then middle portion with fist hand. Two number of steclin bolus were put intrauterine to control bacterial infection. Trans-vulval horizontal mattress sutures were put using absorbable synthetic braided suture 'Vicryl'. Long acting Penicillin and Meloxicam injections were administered intramuscularly. A dose of tetanus toxoid was given as a preventive measure. The deer was revived from anaesthesia smoothly. Oral antibiotics were added mixed in feed for five days. The deer recovered uneventfully from the sickness.

#### **6. Diagnosis of concurrent infection of Mason-Pfizer Monkey virus (M-PMV) and Chromobacterium violaceum in a captive Nilgiri langur**

An apparently healthy male Nilgiri langur developed signs of diarrhoea, lethargy, dullness, fever and loss of appetite on May 17, 2019. The haemato-biochemical investigations showed marked leukopenia, thrombocytopenia, Neutrophilia, hyperbilirubinemia and elevated liver enzymes levels. Therapy consisting of antibiotics, polyionic fluid and other liver supportive therapy failed to alleviate suffering and said langur died on May 31, 2019. The clinical and postmortem samples collected, were sent to ICMR-NIV for virological investigations. The microbiological and PCR investigation at Centre for Wildlife Health, OUAT confirmed the presence of Chromobacterium violaceum which rarely cause disease in healthy subjects but reported to cause fulminant fatal disease in immune-compromised individuals. Laboratory investigation reports of next generation sequence (NGS) from ICMR-NIV confirmed the presence of simian beta retrovirus (SRV) sequences having close similarity with SRV-3 (Mason-Pfizer Monkey Virus, M-PMV). This detection of Mason-pfizer in Nilgiri langur at Nandankanan is the first report in any primates in an Indian zoo. The diagnosis of such concurrent infection carries lot of significance for the zoo management due to its zoonotic importance.

#### **7. Management of Haemorrhagic enteritis amongst yellow anacondas**

Nandankanan Zoological Park had procured eight yellow anacondas from Madras Crocodile Bank Trust, Chennai on October 22, 2019. Suddenly, two of them died on 28-11-2019 and 30-11-2019 due to 'Acute haemorrhagic enteritis'. Three others were off-fed, dull and frank blood was found in their stool. Post-mortem samples, cloacal swabs and fecal samples were processed for culture and sensitivity test at CWH. Diagnosis was made on a direct smear with Lugol's iodine as protozoan infection of Entamoeba species.





Anticipating a generalised *Entamoeba* infection in the rest of the stock, aggressive steps were taken with regards to treatment, management and bio-security measures. All six living yellow anacondas are administered with anti-protozoan drug orally and antibiotic (as per sensitivity test) intramuscularly as per schedule. Steps were taken to maintain temperature in 30°-35°C range. The enclosure was disinfected by flame burning, and snakes were housed individually in crates for early detection of illness. Gradually the clinical signs improved and the snakes started taking feed.

#### 8. Treatment trypanosomiasis of Indian Grey Wolf

On 23.4.2019 the male Indian Grey wolf, housed at quarantine ward was reported to be off fed, dull, depressed and lethargic with mucoid dark watery stool. It was in lateral recumbency and body temperature was recorded to be 103.2°F. Symptomatic treatment was provided with antibiotics, haemostatics, antacids and electrolytes in drinking water. Blood and serum samples were collected for analysis. Examination of blood smears stained with Leishman stain revealed presence of extra erythrocytic hemoparasite 'trypanosomes' 5-7 numbers per field (in 40X magnification) which is indicative of very severe infection. Haematological parameters and Serum biochemistry values were also found to be altered. Treatment was provided with Triquinin, antibiotics and other supportive therapy. On 24th April improvement was observed in the activity and body temperature. Feed intake resumed from next day. Follow up treatment including intravenous fluid, antibiotics, antacids, multivitamins, iron tonics etc yielded good result and the wolf recovered completely in a week.





**ANNUAL REPORT ON BIRTH OF CAPTIVE ANIMALS AT NANDANKANAN ZOOLOGICAL PARK  
FROM 01.04.2019 TO 31.03.2020**

S.N.	Date	Species	Sex(M:F:U)	S.N.	Date	Species	Sex(M:F:U)
1	02.04.19	Painted stork	0:0:1	43	05.11.19	Spotted deer	2:1:0
2	03.04.19	Emu chicks	0:0:4	44	07.11.19	Mouse deer	0:0:1
3	05.04.19	Spotted deer	2:0:0	45	08.11.19	Spotted deer	0:3:0
4	16.04.19	Spotted deer	3:2:0	46	27.11.19	Manipuri deer	0:0:1
5	20.04.19	Four horned antelope	0:0:1	47	03.12.19	Sambar	0:0:1
6	23.04.19	Spotted deer	1:1:0	48	05.12.19	Manipuri deer	0:0:1
7	24.04.19	Spotted deer	3:0:0	49	07.12.19	Spotted deer	0:0:5
8	23.05.19	Mouse deer	0:0:1	50	08.12.19	Spotted deer	0:0:3
9	30.05.19	Black buck	0:0:1	51	08.12.19	Black buck	0:0:2
10	30.05.19	Hog deer	0:0:2	52	24.12.19	Indian Pangolin	0:0:1
11	31.05.19	Spotted deer	0:0:2	53	25.12.19	Manipuri deer	0:0:1
12	31.05.19	Silver pheasant	0:0:7	54	01.01.20	Grey pelican	0:0:2
13	31.05.19	Golden pheasant	0:0:3	55	01.01.20	Spotted deer	0:0:3
14	01.06.19	Nilgiri Langur	0:0:1	56	09.01.20	Tiger, normal colour	0:0:2
15	01.06.19	Hippopotamus	0:0:1	57	10.01.20	Spotted deer	1:2:0
16	21.06.19	Mouse deer	0:0:1	58	14.01.20	Spotted deer	0:2:0
17	26.06.19	Black buck	0:0:1	59	17.01.20	Spotted deer	3:0:0
18	26.06.19	Hog deer	0:0:1	60	21.01.20	Spotted deer	2:2:0
19	29.06.19	Spotted deer	0:0:1	61	24.01.20	Spotted deer	1:3:0
20	28.07.19	Black buck	0:0:1	62	27.01.20	Spotted deer	0:4:0
21	03.08.19	Hog deer	0:0:1	63	28.01.20	Spotted deer	2:1:0
22	04.08.19	Violet Turaco	0:0:1	64	29.01.20	Spotted deer	1:1:0
23	21.08.19	Mongoose common	0:0:1	65	30.01.20	Spotted deer	0:0:2
24	26.08.19	Mouse deer	0:0:1	66	30.01.20	Hog deer	0:0:2
25	26.08.19	Spotted deer	2:0:0	67	31.01.20	Indian Pangolin	0:0:1
26	30.08.19	Spotted deer	1:1:0	68	31.01.20	Spotted deer	0:0:5
27	16.09.19	Swamp deer	0:0:1	69	04.02.20	Spotted deer	2:2:0
28	17.09.19	Black buck	0:0:1	70	05.02.20	Spotted deer	0:3:0
29	18.09.19	Spotted deer	3:0:0	71	17.02.20	Spotted deer	2:5:0
30	22.09.19	Black buck	0:0:1	72	19.02.20	Spotted deer	1:4:0
31	22.09.19	Hog deer	0:0:1	73	22.02.20	Spotted deer	2:0:0
32	23.09.19	Barking deer	0:0:1	74	23.02.20	Mouse deer	0:0:1
33	25.09.19	Swamp deer	0:0:1	75	25.02.20	Spotted deer	2:2:0
34	01.10.19	Manipuri deer	0:0:1	76	01.03.20	Spotted deer	5:0:0
35	02.10.19	Marmoset	0:0:1	77	03.03.20	Spotted deer	6:0:0
36	02.10.19	Black buck	0:0:2	78	05.03.20	Spotted deer	0:0:4
37	05.10.19	Black buck	0:0:1	79	06.03.20	Spotted deer	0:0:3
38	09.10.19	Spotted deer	3:0:0	80	12.03.20	Black tufted Marmoset	0:0:1
39	17.10.19	Black buck	0:0:1	81	12.03.20	Indian fox	0:0:2
40	21.10.19	Hippopotamus	0:0:1	82	14.03.20	Spotted deer	2:3:0
41	21.10.19	Spotted deer	3:0:0	83	30.03.20	Spotted deer	0:3:0
42	31.10.19	Hippopotamus	0:0:1				

**ABSTRACT**

	MAMMAL	BIRD	REPTILE	AMPHIBIAN	TOTAL
BIRTH	173	18	0	0	191

**ANNUAL REPORT ON DEATH OF CAPTIVE ANIMALS AT NANDANKANAN  
ZOOLOGICAL PARK FROM 01.04.2019 TO 31.03.2020  
MAMMALS**

Sl. No.	Date	Animal	Age	Sex	Cause of Death
1	19.04.19	Red handed Tamarin	Adult	M	Acute Hepatitis
2	22.04.19	Barking Deer	Adult	M	Septicemia resulted from Infighting injuries.
3	29.05.19	Orangutan	About 41 yrs	F	Acute pneumonia and hepatitis
4	31.05.19	Nilgiri Langur	About 17 yrs	M	Necrotic hepatitis
5	03.06.19	Leopard Cat	Adult	M	Haemorrhagic enteritis
6	13.06.19	Jackal	About 2 yrs	M	Anaemia
7	15.06.19	Marmoset	About 2 yrs	F	Cardiac failure
8	24.06.19	Swamp deer	Adult	F	Old age associated with hepatitis
9	18.07.19	Nilgai	Adult	F	Senility associated with cirrhosis
10	28.07.19	Nilgai	Adult	F	Tumor in liver
11	04.08.19	Nilgai	Adult	F	Senility
12	10.08.19	Four horned Antelope	Adult	M	Infighting & internal haemorrhage
13	12.08.19	Normal Colour Tiger	19yrs 5 months	F	Debility and collapsed lungs associated with old age
14	14.08.19	Nilgiri langur	74 days	M	Debility & acute gastritis
15	17.08.19	Indian Grey Wolf	About 5 years	M	Debility, collapsed lungs & chronic enteritis
16	26.08.19	Elephant	About 10 yrs	F	EEHV infection
17	31.08.19	Swamp deer	Adult	F	Nasal tumor
18	14.09.19	Elephant	About 9 yrs	M	EEHV infection
19	22.09.19	Giant squirrel	Adult	F	Pneumonia and enteritis
20	23.09.19	Nilgiri Langur	About 17 yrs	F	Necrotic hepatitis
21	04.10.19	Hippopotamus	About 4 yrs	F	Acute pneumonia and haemorrhagic enteritis
22	05.10.19	Bonnet macaque	Adult	M	Septicemia
23	15.10.19	White tiger	5yr 2 mn	M	Haemorrhagic enteritis, hepatitis, jaundice and ascites
24	16.10.19	Nilgai	Adult	M	Debility and old age
25	21.10.19	Marmoset	Adult	F	Gastro enteritis
26	04.11.19	Sambar	Adult	F	Nasal tumor
27	05.12.19	Manipuri deer	--	M	Still birth
28	05.12.19	Manipuri deer	About 14 yrs	F	Internal haemorrhage and shock
29	08.12.19	Spotted deer	Adult	F	Pneumonia associated with old age
30	24.12.19	Spotted deer	Adult	M	Infighting
31	28.12.19	Asiatic lion	About 21 yrs	M	Emaciation, haemorrhagic gastro-enteritis associated with old age
32	30.12.19	Leopard	About 14 yrs	F	Rupture of wall of oro-pharynx with extensive haemorrhage leading to aspiration and respiratory failure associated with ascites and tumor in colon and uterus



33	04.01.20	Hyena, striped	About 4yrs	M	Haemorrhagic gastro-enteritis with acute Pneumonia
34	12.01.20	Barking deer	Adult	M	Cause of death couldn't be ascertained due to advanced putrefaction of carcass
35	11.02.20	Wild dog	About 5 yrs	F	Acute haemorrhagic gastro-enteritis
36	12.03.20	Hog deer	About 2 yrs	F	Haemorrhagic Myositis
37	12.03.20	Black buck	Adult	F	Pneumonia
38	13.03.20	Hog deer	About 3 years	F	Mixed infection of Haemorrhagic septicemia and Black Quarter
39	13.03.20	Hog deer	Adult	F	Mixed infection of Haemorrhagic septicemia and Black Quarter
40	14.03.20	Spotted deer	Adult	F	Mixed infection of Haemorrhagic septicemia and Black Quarter
41	14.03.20	Spotted deer	Adult	F	Mixed infection of Haemorrhagic septicemia and Black Quarter
42	17.03.20	Leopard	About 16 years	M	Hepatitis, haemorrhagic cystitis associated with aspiration food into trachea and bronchi
43	18.03.20	Hog deer	About 4 yrs	F	Septicemia
44	25.03.20	Black buck	Adult	M	Pneumonia

## BIRDS

SL. NO.	DATE	ANIMAL	AGE	SEX	CAUSE OF DEATH
1	16.04.19	Reeve's Pheasant	About 1yr	M	Pneumo-enteritis
2	18.04.19	Sun Conure	Adult	M	Traumatic injury
3	26.04.19	Swainson's Lorikeet	About 2 yr	F	Haemorrhagic enteritis
4	28.04.19	White Peafowl	Adult	M	Pneumo-enteritis
5	03.05.19	White Necked Stork	Adult	M	Trampled under the tree During cyclone
6	19.05.19	Night Heron	Adult	F	Traumatic injury
7	30.05.19	Sun Conure	Adult	M	Hepatitis and Nephritis
8	30.05.19	Sun Conure	Adult	F	Hepatitis and Nephritis
9	07.06.19	Violet Turaco	Adult	M	Haemorrhagic enteritis
10	07.06.19	Golden Pheasant	Adult	M	Enteritis
11	24.06.19	Golden Pheasant	Adult	M	Enteritis and hepatitis
12	26.06.19	Sun Conure	Adult	F	Pneumonia
13	26.06.19	Mandarin Duck	Adult	M	Tumor at Trachea
14	30.06.19	Black Swan	Adult	F	Acute Pneumoenteritis
15	12.07.19	Ring necked parakeet	Adult	M	Internal haemorrhage
16	16.07.19	Lady Amherst's pheasant	Adult	M	Enteritis
17	20.07.19	Sun conure	Adult	M	Haemorrhagic enteritis
18	22.07.19	Sun Conure	Adult	F	Haemorrhagic enteritis
19	01.08.19	Mandarin duck	Adult	F	Tumor in lungs
20	02.08.19	Mandarin duck	Adult	F	Predator bite

21	04.08.19	Pineapple conure	Adult	M	Hepatitis and nephritis
22	20.08.19	Barn owl	Adult	M	Infighting
23	24.08.19	Yellow sided conure	Adult	F	Snake devoured
24	30.08.19	Barbary dove	Adult	F	Senility and inanition
25	17.10.19	Swainson's lorikeet	About 2 yrs	F	Enteritis
26	18.11.19	Red munia	Adult	M	Debility with old age
27	27.11.19	Silver pheasant	About 2 yrs	M	Infighting
28	15.12.19	Ring necked Parakeet (Lutino)	Adult	M	Pneumonia & enteritis
29	15.12.19	Ring necked Parakeet (Lutino)	Adult	F	Pneumonia & enteritis
30	22.12.19	Mandarin duck	Adult	F	Hepatitis
31	30.12.19	Lovebird (Fischer)	Adult	F	Enteritis
32	31.12.19	Pineapple conure	Adult	F	Haemorrhagic enteritis
33	14.01.20	Barn Owl	Adult	M	Infighting
34	29.01.20	Sun conure	Adult	M	Enteritis
35	01.02.20	Mandarin duck	Adult	M	Tumor in lungs
36	04.02.20	Silver Pheasant	About 2 yrs	M	Infighting
37	04.02.20	Golden Pheasant	About 2 yrs	M	Infighting
38	07.02.20	Love bird Fischers	Adult	F	Enteritis
39	09.02.20	Barn Owl	Adult	F	Hepatitis associated with old age
40	24.02.20	Golden Pheasant	About 3 yrs	M	Infighting
41	14.03.20	Sun conure	Adult	F	Hepatitis & nephritis
42	14.03.20	Jandayaconure	Adult	F	Hepatitis & nephritis
43	18.03.20	Ring necked Parakeet (Lutino)	Adult	F	Devoured by snake
44	18.03.20	Ring necked Parakeet (Lutino)	Adult	M	Mutilated, cause of death couldn't be ascertained
45	23.03.20	Jandayaconure	Adult	M	Hepatitis and enteritis
46	23.03.20	Jandayaconure	Adult	F	Hepatitis and enteritis

## REPTILES

1	06.08.19	Water monitor lizard	Adult	F	Septicemia
2	24.09.19	Siamese crocodile	About 5 yrs	F	Hepatitis
3	28.11.19	Yellow Anaconda	About 2 yrs	F	Acute hemorrhagic enteritis
4	30.11.19	Yellow Anaconda	About 4 yrs	M	Acute hemorrhagic enteritis
5	05.01.20	Water Monitor lizard	About 4yrs	M	Visceral Gout
6	19.01.20	Water Monitor lizard	Adult	M	Pneumonia
7	02.02.20	Green Iguana	About 5 yrs	M	Haemorrhage in lungs
8	10.03.20	Red Iguana	About 5 yrs	F	Egg bound condition

## ABSTARCT

Mammals	Birds	Reptiles	Total
44	46	08	98



BIRTH AND DEATH OF CAPTIVE ANIMALS FOR THE LAST FIVE YEARS  
TOTAL STOCK POSITION FROM 01.04.2015 TO 31.03.2020

2015-16

Types	Stock as on 01.04.2015	Birth	Acquisition	Death	Disposal	Stock as on 31.03.2016
Mammals	917	74	18	62	11	936
Birds	1375	116	13	27	4	1473
Reptiles	242	16	0	11	8	239
Amphibians	21	0	0	0	0	21
Total	2555	206	31	100	23	2669

2016-17

Types	Stock as on 01.04.2016	Birth	Acquisition	Death	Disposal	Stock as on 31.03.2017
Mammals	936	247	27	30	5	1175
Birds	1473	68	65	18	42	1546
Reptiles	239	13	18	1	7	262
Amphibians	21	0	0	0	0	21
Total	2669	328	110	49	54	3004

2017-18

Types	Stock as on 01.04.2017	Birth	Acquisition	Death	Disposal	Stock as on 31.03.2018
Mammals	1175	191	6	35	02	1335
Birds	1546	122	34	35	14	1653
Reptiles	262	24	10	04	03	289
Amphibians	21	0	0	0	0	21
Total	3004	342	50	74	19	3303

2018-19

Types	Stock as on 01.04.2018	Birth	Acquisition	Death	Disposal	Stock as on 31.03.2019
Mammals	1340	149	9	32	5	1461
Birds	1653	102	12	27	0	1740
Reptiles	289	7	0	1	0	295
Amphibians	21	0	0	0	0	21
Total	3303	258	21	60	5	3517

2019-20

Types	Stock as on 01.04.2019	Birth	Acquisition procurement	Death	Disposal	Stock as on 31.03.2020
Mammals	1461	173	13	44	0	1603
Birds	1740	18	44	46	0	1756
Reptiles	295	0	11	8	7	291
Amphibians	21	0	0	0	0	21
Total	3517	191	68	98	7	3671





### DEATH OF CAPTIVE ANIMALS IN NANDANKANAN ZOOLOGICAL PARK DURING THE PAST FIVE YEARS

Year	Total Stock	Number of Deaths					Percentage
	As on 31st March	Mammals	Birds	Reptiles	Amphibians	Total	
2015-16	2669	62	27	11	0	100	3.61%
2016-17	3004	30	18	01	0	49	1.62%
2017-18	3303	35	35	04	0	74	2.24%
2018-19	3517	32	27	01	0	60	1.67%
2019-20	3671	44	46	08	0	98	2.60%



## ENSURING QUALITY FEED

Supply of well-balanced quality food is crucial for the sound health and reproduction of the captive animals in a zoo. Keeping this in mind, supply of nutritious, healthy and hygienic food to the animals and birds is an important mandate of the Nandankanan Zoological Park. The Park has a Food Distribution Center with a zoo kitchen to cater to the needs of the captive animals and birds. A separate Store Range is headed by a Range Officer looks after the supply of feed materials. To achieve the quality supply of feed, a captive slaughter house was established within the Park. A fodder farm has also been developed to achieve self-sufficiency in fodder production to meet the nutritional requirements of the herbivores. Various feed items are being procured daily through an annual tender/departmental procurement process. The Tender Committee headed by the Chief Wildlife Warden approves the rate for procurement of feed items.

- **Establishment of captive slaughter house:**

As a step forward the park has set up a captive slaughter house, first of its kind, inside the park to ensure regular supply of fresh and hygienically processed buffalo meat for the carnivores. Routine inspection includes ante and post-mortem examinations of animals and meat respectively. Post mortem examination is supported by both gross and microscopic examination of meat and vital organs. As a result, food borne health complications are being successfully kept at bay. The daily requirement of buffalo meat to feed the carnivore population in the park is about 350 Kg.


- **Captive fodder farm:**

Different types of grasses and fodder are given to the herbivores from the captive fodder farm of the zoo spread over an area of 33 Acres. Seasonal/Periodical organic farming of different grass/fodder is carried out in the farm to ensure supply of fresh and essential fodder to the herbivores in the zoo (daily requirement being about 3200 Kg). The month wise production of different grass and fodder during 2019-20 is as follows.

### MONTH WISE PRODUCTION OF FODDER FROM NANDANKANAN ZOOLOGICAL PARK FODDER FARM (IN QUINTALS) FOR THE YEAR 2019-20

Month	Para grass	Hybrid Napier (NB-21) grass	Common grass	Sorghum grass	Oat grass	Cowpea	Mandia grass	Chinna	Total
04/2019	222.90	127.50	329.20	180.00	-	146.00	-	-	1005.60
05/2019	217.00	124.00	447.00	186.00	-	80.00	-	-	1054.00
06/2019	210.00	120.00	525.00	134.00	-	-	-	-	989.00
07/2019	218.07	127.40	497.96	95.43	-	15.12	-	-	953.98
08/2019	221.86	137.70	491.55	145.60	-	-	-	44.40	1041.11
09/2019	209.80	113.50	556.45	109.00	-	-	-	-	988.75
10/2019	217.00	108.50	549.10	118.00	-	-	-	-	992.60
11/2019	210.00	105.00	543.00	42.00	-	-	60.00	-	960.00
12/2019	217.00	108.50	632.50	14.00	-	-	20.00	-	992.00
01/2020	183.00	108.50	540.50	62.00	98.00	-	-	-	992.00
02/2020	145.00	101.50	421.50	34.00	192.00	34.00	-	-	928.00
03/2020	217.00	108.50	486.50	88.00	54.00	38.00	-	-	992.00
<b>TOTAL</b>	<b>2488.63</b>	<b>1390.60</b>	<b>6020.26</b>	<b>1208.03</b>	<b>344.00</b>	<b>313.12</b>	<b>80.00</b>	<b>44.40</b>	<b>11889.04</b>





THE TOTAL PRODUCTION OF FODDER IN THE FODDER FARM DURING THE YEAR 2019-20 WAS 11889.04 QUINTALS. THE COST OF PRODUCTION WAS CALCULATED TO BE RS.1.60 KG OF FODDER.

- **Feed distribution centre**

Feed items received from various sources are screened by the Range Officer (Store), Assistant Director and the Zoo Vets. All the green vegetables and other perishable feed items are thoroughly cleaned and disinfected before distribution. The feed items received are weighed and distributed in prescribed quantities to various animal houses. 107 feed items are collected and supplied daily to meet the nutritional requirements of the 158 species of mammals, birds and reptiles. These include very specific items such as snail without shell, tree termite egg, live grass hoppers and the like. The feed items are procured from various suppliers through open tenders and the price is approved by the Purchase Committee constituted by the Govt.

- **Seasonal feed**

To supplement the dietary requirements, some seasonal fruits and vegetables are provided to the animals considering their liking and acceptance like water melon, sugarcane, green coconut water, Ripe apple, Jamun, custard apple, green pea, ripe papaya, amla, guava and orange.

- **Chlorination plant**

The zoological park has chlorination plant to ensure the supply of purified drinking water and thereby preventing the spread of waterborne diseases.

- **Vermicompost unit**

The park has a vermicompost unit located inside the fodder farm where the organic waste of the zoo is being converted to natural plant fertilizer using earthworms. Another unit of vermicompost was added during the financial year.



## MONTH WISE PRODUCTION OF VERMI COMPOST 2019-20

Month	Unit 1	Unit-2	Total
April-19	12 qntl	12 qntl	24 qntl
May-19	-	-	-
June-19	-	-	-
July-19	-	-	-
Aug-19	16 qntl	15 qntl	31 qntl
Sept-19	-	-	-
Oct-19	-	-	-
Nov-19	-	-	-
Dec-19	12 qntl	14 qntl	26 qntl
Jan-20	-	-	-
Feb-20	-	-	-
March-20	6 qntl	8 qntl	14 qntl
<b>TOTAL</b>	<b>46 qntl</b>	<b>49 qntl</b>	<b>95 qntl</b>

### Live Feed Rearing Centre

The centre was established on July, 2015 to ensure regular supply of hygienic live feed to the zoo animals. The centre is successfully breeding Wistar (albino) rat, BALB/c (albino) mice, guinea pig, snails, mealworm and hatching poultry chicks to fulfil daily requirement of live feed required for the zoo animals.

## MONTH WISE PRODUCTION OF LIVE FEED REARING CENTRE 2019-20

Month	White mice	Rat	Guniea pig	Cricket worm meal	Day old chicks	Live chicken
April-19	-	-	-	-	-	-
May-19	-	-	-	4100 nos	-	-
June-19	88 nos	-	-	-	-	-
July-19	-	-	-	6000 nos	-	-
Aug-19	32 nos	-	-	-	-	-
Sept-19	44 nos	11 nos	-	-	200 nos	-
Oct-19	60 nos	-	3 nos	2800 nos	-	-
Nov-19	72 nos	-	-	395 nos	-	-
Dec-19	88 nos	-	-	620 nos	75 nos	-
Jan-20	48 nos	-	-	620 nos	452 nos	-
Feb-20	-	-	-	550 nos	-	-
Mar-20	40 nos	-	-	310 nos	-	194.500 kg
<b>TOTAL</b>	<b>472 nos</b>	<b>11 nos</b>	<b>3 nos</b>	<b>15395 nos</b>	<b>727 nos</b>	<b>194.500 kg</b>

## LAWNS AND GARDENS

Beautiful gardens, lawns and meadows have been established at different strategic locations in the zoo to provide resting places for the visitors. Facilities like sit-outs, drinking water and toilets are also provided near such places. Lawns with gardens in six locations and 3 meadows are available inside the Zoological Park. The gardens are maintained with seasonal flowers round the year and are well appreciated by the visitors.





# RESEARCH & EDUCATION





# RESEARCH

Displaying its long-term commitment to research, Nandankanan Biological Park supported several research projects to assess biodiversity conservation, wildlife management, animal health issues and management of captive animals. To ensure optimal outcomes collaboration with the number of organization was given priority. The research teams are made up of Orissa Veterinary College, zoo vets, collaborating scientists and students of graduate, masters and PhD levels. Funding for research is provided by CZA, New Delhi and State Govt. The research findings would further increase our expertise in the management of captive animals.

The project entitled 'Ecto-endo parasites of captive animals of Nandankanan Zoological Park' was successfully completed which was jointly operated by the Orissa Veterinary College, Bhubaneswar and Nandankanan Zoological Park, Govt. of Orissa. The results of the study revealed the prevalence of helminthic infection, either single or mixed, in large carnivores. On the other hand, the administration of different anti helminthic drugs have been tested successfully and found effective in treatment of the infected animals.

## **(a) Indian Pangolin Conservation Breeding Programme:**

The research on conservation breeding of Indian pangolin is actively going on in the established 'Indian pangolin conservation breeding centre'. Monitoring through the infrared sensitive CCTV cameras unfolds the secrets of the life of the pangolins. The centre has successfully bred Indian pangolins in captivity, leading to total birth of 7 pangolins in the centre. Besides, the centre is also focussing to standardize the hormonal assay of fecal steroid metabolites to better understand reproductive aspect of these endangered species.

## **(b) Conservation Breeding of Long billed vultures:**

The vulture Conservation Breeding Centre has been constructed in an off-exhibit area of Nandankanan Zoological Park, Bhubaneswar during the year 2011-12 in an area of 0.3 acres surrounded by seven acres of undisturbed forest land with financial assistance from Central Zoo Authority, New Delhi. The Centre was established with objectives to develop protocol for captive management and breeding of long billed vultures for reintroduction and release in to wild. The founder populations are twelve numbers of long billed vultures procured from Gandhi Zoological Park, Gwalior on 26.11.2018. All the vultures are marked with leg bands for individual identity. The centre presently has one colony aviary (100'X40'X20'), two nursery aviaries (10'X12'X8'). A laboratory complex with observatory room for CCTV monitoring, laboratory for analysis of biological samples, incubation room and biologist chamber is available. The activity patterns of vultures are being monitored through two fixed angle and one PTZ camera with infrared facility. Mating of two vulture pairs was recorded though CCTV in the centre during December 2018 from which one pair laid an egg on 3rd Jan 2019 that hatched after incubation of 57 days on 1st March 2019.

## **(c) “Species Recovery of Gharials (*Gavialis gangeticus*, Gmelin) in River Mahanadi”:**

Gharials are critically endangered crocodiles. Seven gharials bred and reared at Nandankanan Zoological Park, Bhubaneswar have been rehabilitated in the river Mahanadi during 2019-20 to develop a sustainable population in the river Mahanadi. Five gharials (2males and 3 females) on 20th July 2019 and 2 female gharials on 14th February 2020 were release to river Mahanadi at Sunakhania, Satkoshia Gorge Sanctuary. The gharials were hatched in June 2015 and reared with live fish feed. They are individually marked and fitted with VHF transmitters manufactured by ATS (Advanced telemetry systems, USA) for future identification and tracking of their dispersal route and survival. Three numbers of postgraduate Research scholars were engaged for day-to-day observation and keeping track of the released ones.

## **(d) Establishment of the laboratory:**

Wildlife forensics is an emerging field having an assemblage of different governmental, legal and scientific experts which works to link offence cases. A wildlife forensic laboratory was constructed in Nandankanan Zoological Park with objective for scientific investigation of wildlife crime, identification of the species, to establish a reference sample repository of the species and submission of report for necessary investigation. Necessary laboratory equipments have been purchased under CAMPA fund during the year.

The research studies carried out during the year mostly focussed on standardization of artificial incubation techniques for birds and reptiles, standardization of hand rearing protocols for baby animals, management of health care related issues, behavioural studies on maternal behaviour of Indian pangolins, analysis effect of inbreeding on captive tigers, hormonal studies to determine reproductive status and stress in wild animals. Some of the studies are published in national and international journals which are mentioned below.

## PUBLICATIONS:

Displaying its long-term commitment to research, Nandankanan Biological Park supported a number of research projects to assess biodiversity conservation, wildlife management, animal health issues and management of captive animals. To ensure optimal outcomes collaboration with the number of organization was given priority. The research teams are made up of Orissa Veterinary College, zoo vets, collaborating scientists and students of graduate, masters and PhD levels. Funding for research is provided by CZA. The research findings would further increase our expertise in the management of captive animals.

The major focus of the research studies carried out during the year mostly focussed on standardization of artificial incubation techniques for birds and reptiles, standardization of hand rearing protocols for baby animals, management of health care related issues, behavioural studies on maternal behaviour of Indian pangolins, analysis effect of inbreeding on captive tigers, hormonal studies to determine reproductive status and stress in wild animals. Some of the studies are published in national and international journals which are mentioned below.

1. Mohapatra, R.K., Banik, A., Sahu, S.K., Panda, S. and Dangar, T.K. (2020) Parasites and bacteria associated with Indian pangolins *Manis crassicaudata* (Mammalia: Manidae). Global Ecology and Conservation. p.e01042: 1-9.
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## ZOO EDUCATION PROGRAM

Around 3.1 million people visit Nandankanan Zoological Park. Such a wide, diverse, varied and regular audience provides an excellent opportunity for education, and an enormous potential to heighten public perception and awareness about the animals and their conservation. Zoos are living institutions, living classrooms, living landscapes. Zoo education is a holistic discipline targeted at zoo visitors, staff and the wider community aiming to promote an understanding of, and concern and respect for biodiversity, animals and the natural world, and encourage action for a sustainable future. In order to have impact, we need to influence as many people as possible. To do this, we need to promise and deliver something relevant and attractive to the wider community. We want visitors to enjoy themselves, and to feel the wonder and affection toward animals. We want to make it easy for visitors to take action during their visit and after they leave our gates. To achieve this education programmes are designed with a different flavour, like celebration of birthday, elephant day, naming of new born, wetland day, pangolin day, world wildlife day, international tiger day, veterinary day, vulture day, display of signage etc. There is a dedicated zoo education officer in Nandankanan to take care of these activities.



DATE	PROGRAMME / EVENT	No. of PARTICIPANTS
04.04.2019	Field visit of B.Sc, 3rd year Zoology students from JKBK College, Cuttack	20
14.04.2019	Field Visit of B.Sc Zoology Students, from S.C.S College, Puri	18
19.04.2019	Zoo Outreach Programme	Visitors
21.04.2019	Zoo Outreach Programme	Visitors
27.04.2019	Celebration of World Veterinary Day	>200
03.05.2019	East India tour programme of 26 no. of FRO trainees from Uttarakhand Forestry Training School	26
10.05.2019	Study tour of B.V.Sc& A.H. students from O.U.A.T, Bhubaneswar	45
05.06.2019	Celebration of World Environment Day	>200
17.06.2019	Field Visit of B.Sc Zoology Students, from BJB(A) College, Bhubaneswar	15
28.06.2019	Field Visit of B.Sc Zoology Students, from Kendrapada(A) College, Kendrapada	30
26.07.2019	Orientation visit of Forest Guard trainees from NTS, Champua	41
29.07.2019	Celebration of International Tiger Day	>200
12.08.2019	Celebration of World Elephant Day	>200
21.08.2019	Orientation visit of Forest Guard from FTS, G.Udaygiri, Odisha	41
24.08.2019	Orientation Programme of B.Sc Life Science students of Maharishi College of Natural Law, Bhubaneswar	25
07.09.2019	International Vulture Awareness Day	>150
10.09.2019	Orientation visit of FROs trainees from Gujarat Forest Academy, Gujarat	36
15.09.2019	Exposure visit of Phase I trainees (MCT) programme from IGNFA	05
16.09.2019	Field visit of trainees from Odisha Sector Development Project (JICA)	15

20.09.2019	Orientation visit of FROs trainees from CASFOS, Burnihat, Assam	40
24.09.2019	Orientation Programme of 11th Class students from K.V. No 1 Ram Mandir, Bhubaneswar	06
02.10.2019	Cleanliness Drive by zoo staffs	Officers & Staff
03.10.2019	65th Wildlife Week Celebration	>200
02.11.2019	Study tour of B.V.Sc & A.H. students from O.U.A.T, Bhubaneswar	45
09.11.2019	Field visit of B.Sc, Sustainability students from XIMB, Bhubaneswar	20
10.11.2019	Orientation tour of IFS probationers from IGNFA Group-A	39
15.11.2019	Field visit of Senior Secondary students from "SURAVI" from different districts of Odisha.	1600
14.11.2019	Field visit of primary students from Shining Star Kids School, Bhubaneswar	35
20.11.2019	Orientation tour of IFS probationers from IGNFA Group-B	39
23.11.2019	Zoo Outreach Programme from BJB College, Bhubaneswar	29
28.11.2019	Study tour of B.Sc, Forestry students (Gr-A) from O.U.A.T, Bhubaneswar	44
29.11.2019	Study tour of B.Sc, Forestry students (Gr-B) from O.U.A.T, Bhubaneswar	44
01.12.2019	Zoo Outreach Programme from JKBK College, Cuttack	22
07.12.2019	Study tour of B.V.Sc, students from O.U.A.T, Bhubaneswar	45
08.12.2019	Orientation visit of FROs trainees from Tamil Nadu Forest Academy, Coimbatore	29
14.12.2019	Orientation visit of FROs trainees from Telangana State Forest Academy, Dulapally, Hyderabad	40
03.01.2020	Field visit of B.Sc, 3rd year Life Science students from Tulasi Women's College, Kendrapada	60
03.01.2020	Waterfowl census at Nandankanan Sanctuary	40
09.01.2020	Orientation visit of SFS trainees from CASFOS, Burnihat, Assam	37
13.01.2020	Field visit of B.Sc, 3rd year Botany students from Hinjikut Govt. College, Ganjam	80
17.01.2020	Field visit of B.Sc, 3rd year Zoology students from D.R.Nayapally College, Bhubaneswar	25
01.02.2020	Orientation visit of Forester trainees from FTS, Ghatkia, Bhubaneswar	
02.02.2020	World Wetland Day	>250
05.02.2020		
&06.02.2020	Visit of CZA evaluation team from New Delhi	02
08.02.2020	Cleanliness Drive and Plastic collect campaign by NSS students of KIIT University, Bhubaneswar	30
08.02.2020	Field visit of orphanage students from "KAR FOUNDATION" of Bhubaneswar.	35
11.02.2020	Field visit of B.Sc, students from XIMB, Bhubaneswar	10
11.02.2020	Field visit of B.Sc, 3rd year Zoology students from Govt (A) College, Rourkela	40
13.02.2020	Zoo Outreach Programme from Maharishi College, Bhubaneswar	25
13.02.2020	Orientation visit of FROs trainees from Karnataka Forest Academy, Dharwad	42
15.02.2020	World Pangolin Day	>200
21.02.2020	Zoo Outreach Programme from Centurian University, Bhubaneswar	26
25.02.2020	Study tour of B.V.Sc & A.H. students Group-A from O.U.A.T, Bhubaneswar	45
27.02.2020	Study tour of B.V.Sc & A.H. students Group-B from O.U.A.T, Bhubaneswar	45
23.02.2020&		
24.02.2020	Tranquilization training programme for field level staff of Forest Department of Odisha	27
25.02.2020	Tranquilization training for Monkey menace for field level staff of Forest Department of Odisha	15
01.03.2020	Field visit of B.Sc, 3rd year Zoology students from Devi Kandal Nityananada College, Cuttack	30
03.03.2020	World Wildlife Day	>150
05.03.2020	Orientation visit of Foresters trainees from NTS, Champua	32
06.03.2020	Study tour of B.Sc, Forestry students (Gr-A) from O.U.A.T, Bhubaneswar	42
07.03.2020	Study tour of B.Sc, Forestry students (Gr-B) from O.U.A.T, Bhubaneswar	47
14.03.2020	Orientation visit of FROs trainees from Telangana State Forest Academy, Dulapally, Hyderabad	41



## WORLD VETERINARY DAY

World Veterinary Day was celebrated at Nandankanan Zoological Park on 27th April 2019. The celebration was observed with discussion highlighting the role of vaccination with a message to protect the health of animals. ACFs, Range Officers, Zoo Veterinarians, Biologist, Education Officer, Forester, Forest Guard, Animal Keepers and other Group D staff attended this programme. Zoo vets highlighted in their speech significance of vaccination. An open quiz was organized amongst visitors with above theme and finally a signature campaign was conducted in front of Interpretation centre to raise awareness among the people.



## WORLD ENVIRONMENT DAY

Nandankanan Zoological Park commemorates the World Environment Day on 5th June, 2019 by organizing and promoting the Day through a series of engaging activities and events generating strong public interest and participation. This auspicious Day started with clean up drive of the Zoo surroundings. A signature campaign was organized in three different locations inside the Zoo to create awareness to free the earth from Plastic. The visitors coming to the Zoo from different parts of the country participated in this campaign. A quiz competition was also organized on the theme “Beat Air Pollution” where visitors participated and were given a prize as token of memory and commitment to the cause of the Day. On this day, fruit bearing and medicinal plants were planted by the officials and visitors in the identified locations inside the Zoo.



## INTERNATIONAL TIGER DAY

International Tiger Day was celebrated on 29th July, 2019 at Conference Hall of Nandankanan Zoological Park. The celebration was attended by school students, teachers, and representatives of Print and Electronic media and staff of Nandankanan. An interactive written quiz programme on “Tiger Conservation” was conducted amongst the school children. 53 students from 6 schools participated in the quiz competition. Prizes were distributed to the students who answered correctly in the quiz and finally, a signature campaign was conducted in front of Ticket counter to raise awareness among the students.



## WORLD ELEPHANT DAY

Elephant day was celebrated at Nandankanan Zoological Park on 12th August, 2019 in the presence of Sri Suresh Kumar Routray, Hon'ble, MLA, Jatani, Khordha, Sri Sushanta Kumar Rout, Hon'ble, MLA, Bhubaneswar (North), Khordha, Dr Ajay Kumar Mohapatra, (IFS), PCCF (WL) & CWLW, Odisha, Sri Shashi Paul, (IFS) Director, Nandankanan Biological Park and Sri Jayant Kumar Das, Deputy Director, Nandankanan Zoological Park. The members of NWCSO (Nature & Wildlife





Conservation Society of Odisha) have also participated in this awareness programme. The celebration was observed with a mass awareness programme amongst the visitors with a message for elephant conservation. The elephants received a special treat of coconut, banana, sugarcane, maize, grapes and apple. The mahouts were also felicitated on the auspicious occasion for their hard work. A meeting was convened to distribute prizes to the winners of Sit & Draw competition which was organized previously.

## INTERNATIONAL VULTURE AWARENESS DAY

International Vulture Awareness Day was celebrated at Nandankanan Zoological Park on 7th September, 2019 to create awareness among people. A Quiz competition on theme “Vulture Conservation” was organized during the celebration. The school children, visitors, zoo guides and employee of Nandankanan Zoological Park participated in the celebration. Finally, a signature campaign was conducted in front of Interpretation centre to raise awareness among the people.



## WILDLIFE WEEK

65th Wildlife Week was celebrated at Nandankanan Zoological Park on 3rd October, 2019 in a great manner with Nature & Wildlife Conservation Society of Odisha, (NWCSO). An interactive quiz programme on “Wildlife Conservation” was conducted amongst the school children. 65 students from 11 schools participated in the quiz competition. Prizes were distributed to 20 students. A meeting was convened to distribute prizes to the winners of Sit and Draw competition which was organized previously. Finally, a signature campaign programme was conducted Infront of Interpretation centre of Nandankanan Zoological Park to create awareness on importance of Wildlife amongst the visitors.







## FOUNDATION DAY

The 60th Foundation Day of Nandankanan was celebrated on 29.12.2019 in the zoo premises. Sri Suresh Kumar Routray, Hon'ble, MLA, Jatani, Khordha and Sri Sushanta Kumar Rout, Hon'ble, MLA, Bhubaneswar (North), Khordha graced the occasion as Chief guests. Dr Hari Shankar Upadhyay, (IFS), PCCF (WL) & CWLW, Odisha, was the guest of Honour of the ceremony. Annual Report for the year 2018-19 and a calendar for 2020 were released on the occasion. The best workers of Nandankanan were rewarded by the Guests. The meeting was attended by school children, visitors, local inhabitants, serving and retired forest officers and zoo staff and media persons. On the eve of 60th foundation day, the newly constructed Grey Wolf enclosure and Exotic Primate enclosures were inaugurated by the chief guest.

## WORLD WETLANDS DAY

World wetland Day was celebrated on 2nd February, 2020 on the bank of Kanjia Lake, near Water bird aviary at Nandankanan Zoological Park. The celebration was attended by the local school students, representatives of Print and Electronic media and staffs of Nandankanan Zoological Park. The theme for this year 2020 was "Wetlands and Biodiversity". An interactive quiz programme on "Wetland Conservation" was conducted amongst the school children. Prizes were distributed amongst the winners of quiz programme. An awareness rally on wetland conservation was conducted by school students to make aware the people about wetlands and its conservation strategy.





## WORLD PANGOLIN DAY

The World Pangolin Day was celebrated at Nandankanan Zoological Park on third Saturday of February, i.e. 15th February 2020. A quiz competition on theme “Pangolin Conservation” was organized among school children on this occasion and prizes were distributed to the winners. Besides, a signature campaign theme “I Support Pangolin Conservation” and selfie programme were organized during this celebration which was supported by many school children, teachers, staff of Nandankanan, zoo guides and visitors by their signature and writing their message for pangolin conservation. Leaflet and stickers with information on pangolin and their conservation were distributed to visitors for awareness.



## WORLD WILDLIFE DAY

The World Wildlife Day was celebrated at Nandankanan Zoological Park on 3rd March 2020 to create awareness among people. A Quiz competition on theme “Sustaining all life on Earth” was organized during the celebration. The school children, visitors, zoo guides and employee of Nandankanan Zoological Park participated in the celebration. Finally, a signature campaign was conducted in front of Interpretation centre to raise awareness among the people.





# STATE BOTANICAL GARDEN, NANDANKANAN

The State Botanical Garden spreads over an area of 75 ha. and is situated in the sylvan settings of the moist deciduous forest of the sprawling green of Nandankanan Sanctuary hemmed between two wetlands. The Botanical Garden was established in the year 1963 and was under the management of Horticulture Department. The management of the State Botanical Garden was transferred to Nandankanan on 01.08.2006. One would be definitely impressed by the nature's symphony and the exquisite touch of the wilderness here. This is one of the pioneering plant conservation and nature education centre of the State. The Botanical garden is sure to provide memorable experience to the green enthusiasts. The State Botanical Garden is situated inside Nandankanan wildlife sanctuary. Kiakani lake with an area of about 25 ha. is located inside the State Botanical Garden.





## ENTRY FEE & OTHER CHARGES

Children upto 12 years – Free

Adult – Rs.20/-

Two wheeler – Rs.30/-

Three wheeler – Rs.30/-

Four wheeler – Rs.100/-

Heavy vehicle – Rs.200/-

### Picnic spot

Smaller pindies – Rs.250/- + Rs.50/- (Service charges) each.

Bigger pindies – Rs.500/- + Rs. 50/- (Service charges) each.

Each room of the barrack – Rs.1,200/- + Rs.100/- (Service charges)

FRH-I (Suit-I) – Rs.3,000/- + Rs.100/- Service charges

FRH-I (Suit-II) – Rs.2,500/- + Rs.100/- Service charges

FRH-II – Rs.2,500/- + Rs.100/- Service charges

Holiday Cottage (ground floor) – Rs.2,500/- + Rs.100/- Service charges

Holiday Cottage (first floor) – Rs.2,500/- + Rs.100/- Service charges

Special picnic pindies – Rs.1,500/- + Rs.100/- (Service charges) each

Picnic sheds – Rs.1,200/- + Rs.100/- (Service charges) each

Film shooting – Rs.25,000/- per day

TV serial/documentary – Rs.15,000/- per day

Album song – Rs.10,000/- per day

### TIMING

The Garden remains open on all public days except Mondays from 7.30 AM to 5.30 PM (April to September) during summer and 8.00 AM to 5.00 PM (October to March) during winter.

### VISITOR FLOW & REVENUE GENERATED DURING LAST FIVE YEARS

Year	No. of Visitors	Total Revenue collected (Rs. in lakh)
2015-2016	184915	35.09
2016-2017	200007	54.28
2017-2018	192590	71.73
2018-2019	186494	72.26
2019-2020	154824	61.22



# INFRASTRUCTURE

The Botanical Garden covers 26 different satellite gardens spread all over undulating landscapes mixed with natural vegetation and meadows. The important facilities available in the Botanical Garden are described below.

## Glass House

A spacious glass house of 2013 sq.ft. has been developed for housing succulent plants. A variety of bonsai adds beauty to the Glass House. One can enjoy blooming ornamental plants from the period November to March.



## Cacti House

A 1080 sq.ft. Poly house houses important species of cacti and succulent plants. A rich collection of more than 1200 cacti are available in the Cacti House.



## Dry Garden

A garden of xerophytic plants has been developed over an area of 0.65 Acre in front of Glass House. The entire garden has been designed with loose stone work to give it exclusive look of dry zone which attracts the visitors.



## Green House

A state of art green house of 5200 sq.ft. houses the cultivars of 60 species of indoor plants like Aglaonema, Philodendron, Calathea, Cordyline, Diffenbachia, Spathophyllum, Peperomia, Monstera, Hemigraphis etc.



## Children's Park

A niche for the kids has been created within the natural setting by providing swings, merry-go-round, sliding chute, etc. The gallery located nearby filled with ornamental plants enhances beauty of the Park.



## Buddha Park

The park has been developed over an area of 12000 sq.ft. located by the scenic beauty of Kanjia Lake. It features a beautiful Buddha Statue as its centre piece. Rain shelter, sit outs and ornamental flower beds are other attractions.

### Artificial zoo

Models of different animals are used to explain the ecological niche with an objective to generate awareness among the children.



### Butterfly Park

Butterfly Park, an interesting option among visitors has been developed over an area of 36590 sq.ft. The garden has a unique landscape with 6400 butterfly dependant plants. The garden has one cascading waterfall with 170 sq.ft. flowing water channel, fountains and artistic bridges. One can sight more than 58 species of butterfly here. The visitor will get the fragrance of beautiful flowers and feel the beauty of flying jewels of nature. The Butterfly Park was opened to the visitors in February, 2014.



### Butterfly Interpretation Centre

The Centre spreads over an area of 800 sq.ft. and has been developed near the Butterfly Park. The centre has colourful pictorial display boards to disseminate information on butterfly to the visitors. The main objective of the centre is to provide latest information on various aspects of butterfly. A short documentary about butterfly is an added attraction. The Interpretation centre was opened to the visitors in March, 2015.

### Rosarium

It is one of the richest collections of 1200 Rose plants belonging to 55 varieties grown over an area of 1.5 Acres of land. The garden is liked by the visitors most and has maximum footfall during winter.



### Orchid House

The largest Orchid House of the State spreads over an area of 5000 sq.ft. and displays more than 1000 orchids of 57 varieties belonging to 37 species. One can enjoy the orchid in bloom round the year displaying various colour of nature.







### Medicinal Garden

A well renovated medicinal garden spreads over an area of 2.26 Acre which displays rich collection of 225 species of herbs, shrubs, creeper, climber and trees.

### Japanese Garden

A state of art Japanese Garden in Tsukiyama-niwa style with flowing streams and other typical features is a star attraction. It covers an area of 0.50 acre.



### Mughal Garden

The Mughal Garden covering an area of 1.01 ha has a cascade of flowing water and flowering plants both seasonal and perennial on both sides give a look of gardens of Mughal era. The garden is liked mostly by the young people and has maximum footfall during winter.

### Evolution Garden

The Evolution Garden covering an area of 0.77 ha gives complete information about the evolution system of plant kingdom. The one way path takes a visitor from lower plant groups like Algae, fungi, Bryophyta, Pteridophyta to evolution of large plant groups like Gymnosperm and Angiosperms. The concept of such garden is very informative for the students and researchers.



### Heritage Garden

The Heritage Garden covering an area of 1.2 Acre is situated adjoining to the Evolution garden with natural rock and old Banyan trees. A Tulsi (*Occimum santum*) garden containing six varieties of Tulsi plant with models of monk, live size cow and tribal hut are the attraction of the garden.

### Arboretum

The Arboretum spread over an area of 4 ha has been established with collection of more than 234 species (from 49 families) found in the Eastern Zone forests. A minimum of 10 nos. of each species has been planted with signage displayed. A network of path has been made through the plantation which will be an ideal walk way for botanization for the trainees and students.





### Landscape Garden

It is a model landscaping having different elements like lawn, trees and shrubs spread over an area of 1.6 Acre. 1000 trees of different species have been planted to maintain the rhythm.

### Palm Garden

Palm garden is an amazing site to see varieties of common and rare palms. A collection of 29 varieties of beautiful palms have been planted over an area of 15000 sq.ft. One designed water body along with 15000 sq.ft. grass carpet has been developed inside the Palm Garden for the public.



### Bougainvillea Garden

One Bougainvillea garden has been developed over an area of 21400 sq.ft. More than 1000 Bougainvillea plants of different colours (8 varieties) have been displayed in the garden. A series of creepers raised on the back of the garden adds beauty to the park.

### Hibiscus Garden

A garden has been developed over an area of 11000 sq.ft. located in between glass house and Palm garden. More than 130 nos of plants of 27 varieties have been planted in the garden.



### Carnivorous Plant Garden

The garden established inside the state botanical garden covering an area of 800 sq.ft. is intended to exhibit carnivorous plants. Nandankanan is first of its kind to display carnivorous Plants. The garden has been developed initially to accommodate 4 species of carnivorous plants with provision of naturalistic landscape.

### Hydrophytes Garden

Hydrophytes garden is an amazing site to see varieties of common and rare hydrophytes. A collection of 23 varieties have been planted over an area of 0.1 Acre.







## CONSTITUTION OF THE SOCIETY FOR MANAGEMENT AND DEVELOPMENT OF NANDANKANAN BIOLOGICAL PARK.

Government of Orissa constituted the “Society for Management and Development of Nandankanan Zoological Park” on 27th August, 2005 and the society has been registered under the Registration of Societies Act of 1860 with Registration No. 22073/54 of 2005-2006 dated 27.08.2005, with the following principal objectives.

- (a) Complementing, supplementing, strengthening or otherwise expanding the activities of Nandankanan Zoological Park in the cause of in-situ conservation of wildlife captive management of wildlife and eco-tourism and facilitating linkage between ex-situ and in-situ management of wildlife.
- (b) To act as platform for open debate, discussion and subscribe to otherwise assist any charitable, benevolent, scientific, national, public or any other institution the object or purpose of which are consistent with or which promotes objects of the society.
- (c) To coordinate and liaise with national/international bodies, experts and funding agencies and to receive constitution and funds from Government of India, Central Zoo Authority, State Government or any individual, institute, national or international agencies, any other institution of Central Government or State Government for specific conservation programme, development of eco-tourism amenities of Nandankanan.
- (d) To receive and manage all contributions given to the Society in large interest of Nandankanan Zoological Park for maintenance and upkeep of zoo animals, improvement of the premises as well as maintenance and upkeep of zoo animals, improve the premises as well as maintenance and improvement of visitors amenities.
- (e) To engage/employ such staff as may be necessary for efficient handling and conduct of business of the society with approval of General Body.
- (f) To do all such acts and activities as area incidental or conducive to attainment of the objectives or directly beneficial to the society in promotion of its objects, subject to the overall control of the Chief Wildlife Warden and in conformity with the Society Registration Act, 1860.
- (g) To carry out any other activities in the furtherance of the above objectives.



## UNIQUENESS OF NANDANKANAN

- Only zoo in the world where melanistic tigers were born (2014) and displayed to the visitors.
- It is the host zoo for white tigers, white tigers were born to normal coloured parents in 1980, a unique event in the world.
- First zoo in the country where endangered Gharials were born in captivity in 1980.
- A unique white tiger safari was established in the Zoological Park on 1st October, 1991.
- Wonderful site for wildlife conservation and education where one can experience integration of ex-situ and in-situ conservation of wild fauna and flora.
- Presence of Kanjia Lake- A wetland of National Importance (2006)
- Conservation Breeding Centre for Indian Pangolin and Long billed vultures.
- Nandankanan has largest enclosures for housing Gharials and Hippopotamus.
- Second largest heronry for open billed storks in Odisha.
- Has a Captive Fodder Farm (over 33 Acs.) and a Slaughter house to cater the dietary needs of animals housed in the Zoological Park.
- First zoo in the country to become an Institutional member of World Association of Zoos & Aquarium (WAZA).
- First Zoo in the country where endangered Ratel was born in captivity.
- First zoo in the country after which an express train 12815/12816 Puri-New Delhi Express has been named as “Nandankanan Express”.





Animal Adoption rates proposed for different species which are arrived based on the data collected for feed charges, veterinary care charges, animal keeping charges and administrative charges for per year/ six months/ three months and one month.

#### ADOPTION CHARGES PROPOSED FOR DIFFERENT SPECIES

Serial no.	Name of the Species	Scientific name	No. of animal available for adoption	Adoption charges in Rupees			
				Per year (365 days)	Per six months (180 days)	Per three months (90 days)	Per month (30 days)

#### SCHEME

#### BIRDS

1.	HILL MYNNAH	<i>Gracula religiosa</i>	1	10000/-	5000/-	2500/-	1000/-
2.	INDIAN PEAFOWL	<i>Pavo cristatus</i>	13	15000/-	7500/-	3800/-	1300/-
3.	WHITE INDIAN PEAFOWL	<i>Pavo cristatus</i>	7	15000/-	7500/-	3800/-	1300/-
4.	EURASIAN WHITE SPOONBILL	<i>Platyleura leucorodia</i>	1	10000/-	5000/-	2500/-	1000/-
5.	CINEREOUS VULTURE	<i>Aegypius monachus</i>	2	10000/-	5000/-	2500/-	1000/-
6.	LONG BILLED VULTURE	<i>Gyps indicus</i>	1	10000/-	5000/-	2500/-	1000/-
7.	WHITE BACKED VULTURE	<i>Gyps bengalensis</i>	1	10000/-	5000/-	2500/-	1000/-
8.	BRAHMIN KITE	<i>Haliastur indus</i>	2	10000/-	5000/-	2500/-	1000/-
9.	BLACK KITE	<i>Milvus migrans</i>	11	10000/-	5000/-	2500/-	1000/-
10.	SHIKRA	<i>Accipiter badius</i>	2	10000/-	5000/-	2500/-	1000/-
11.	GREY HORNBILL	<i>Ocyrops bitorstris</i>	2	10000/-	5000/-	2500/-	1000/-
12.	SARUS CRANE	<i>Grus antigone</i>	1	15000/-	7500/-	3800/-	1300/-
13.	EMERALD DOVE	<i>Chalcophaps indica</i>	4	10000/-	5000/-	2500/-	1000/-
14.	SPOTTED DOVE	<i>Spilopelia chinensis</i>	8	5000/-	2500/-	1500/-	500/-
15.	RING NECKED DOVE	<i>Streptopelia capicola</i>	3	5000/-	2500/-	1500/-	500/-
16.	CATTLE EGRET	<i>Bubulcus ibis</i>	6	5000/-	2500/-	1500/-	500/-
17.	LARGE EGRET	<i>Coereba albus</i>	1	5000/-	2500/-	1500/-	500/-
18.	LITTLE EGRET	<i>Egretta garzetta</i>	6	5000/-	2500/-	1500/-	500/-
19.	MEDIAN EGRET	<i>Egretta intermedia</i>	1	5000/-	2500/-	1500/-	500/-
20.	NIGHT HERON	<i>Nycticorax nycticorax</i>	72	10000/-	5000/-	2500/-	1000/-
21.	WHITE IBIS	<i>Threskiornis aethiops</i>	159	10000/-	5000/-	2500/-	1000/-
22.	KOEL	<i>Eudynamis scolopacea</i>	2	10000/-	5000/-	2500/-	1000/-
23.	RED MUNIA	<i>Estrella amandava</i>	2	10000/-	5000/-	2500/-	1000/-
24.	BLACK HEADED MUNIA	<i>Lanchura ludacea</i>	1	10000/-	5000/-	2500/-	1000/-

25.	SPOTTED MUNIA	<i>Lanchura punctulata</i>	1	10000/-	5000/-	2500/-	1000/-
26.	BARN OWL	<i>Tyto alba</i>	17	10000/-	5000/-	2500/-	1000/-
27.	BROWN FISH OWL	<i>Bubo zeylonensis</i>	2	10000/-	5000/-	2500/-	1000/-
28.	ORIENTAL SCOPS OWL	<i>Ovis sunia</i>	1	10000/-	5000/-	2500/-	1000/-
29.	ALEXANDRINE PARAKEET	<i>Pittacula eupatria</i>	16	5000/-	2500/-	1500/-	500/-
30.	BLOSSOM HEADED PARAKEET	<i>Pittacula nymphaea</i>	4	5000/-	2500/-	1500/-	500/-
31.	ROSE RING PARAKEET	<i>Pittacula krameri</i>	25	5000/-	2500/-	1500/-	500/-
32.	GREY PELICAN	<i>Pelecanus philippensis</i>	14	10000/-	5000/-	2500/-	1000/-
33.	ROST PELICAN	<i>Pelecanus onocrotalus</i>	5	10000/-	5000/-	2500/-	1000/-
34.	PAINTED STORK	<i>Mycteria leucocephala</i>	19	15000/-	7500/-	3800/-	1300/-
35.	OPEN BILL STORK	<i>Anastomus oscitans</i>	11	10000/-	5000/-	2500/-	1000/-
36.	WOOLY NECKED STORK	<i>Ciconia episcopus</i>	1	15000/-	7500/-	3800/-	1300/-
37.	RED JUNGLE FOWL	<i>Gallus gallus</i>	8	10000/-	5000/-	2500/-	1000/-
38.	BUDGE BUDGE	<i>Melospirtracus undulatus</i>	514	5000/-	2500/-	1500/-	500/-
39.	COCKATIEL	<i>Nymphicus hollandicus</i>	92	5000/-	2500/-	1500/-	500/-
40.	LESSER SULPHUR CRESTED COCKATOO	<i>Cacatua alphurea</i>	1	10000/-	5000/-	2500/-	1000/-
41.	UMBRELLA CRESTED COCKATOO	<i>Cacatua alphurea</i>	1	10000/-	5000/-	2500/-	1000/-
42.	BROWN THROATED CONURE	<i>Euphittula perfinax</i>	3	5000/-	2500/-	1500/-	500/-
43.	JANDAKA CONURE	<i>Aratinga jandaya</i>	25	5000/-	2500/-	1500/-	500/-
44.	SUN CONURE	<i>Aratinga solstitialis</i>	48	5000/-	2500/-	1500/-	500/-
45.	PINEAPPLE CONURE	<i>Pyrrhura molinae</i>	4	5000/-	2500/-	1500/-	500/-
46.	YELLOW BRED CONURE	<i>Pyrrhura sordida</i>	9	5000/-	2500/-	1500/-	500/-
47.	BABABAY DOVE	<i>Streptopelia risoria</i>	2	5000/-	2500/-	1500/-	500/-
48.	DIAMOND DOVE	<i>Geopelia cuneata</i>	2	5000/-	2500/-	1500/-	500/-
49.	LAUGHING DOVE	<i>Spilopelia senegalensis</i>	2	5000/-	2500/-	1500/-	500/-
50.	MANDARIN DUCK	<i>Aix galericulata</i>	17	5000/-	2500/-	1500/-	500/-
51.	LESSER ADJUTANT STORK	<i>Leptopeltis jamaicens</i>	2	15000/-	7500/-	3800/-	1300/-
52.	EMU	<i>Dromaeus novaehollandiae</i>	5	10000/-	5000/-	2500/-	1000/-
53.	BENGALISE FINCH	<i>Lanchura striata</i>	21	5000/-	2500/-	1500/-	500/-
54.	LONG TAILED FINCH	<i>Poephila erictra</i>	2	5000/-	2500/-	1500/-	500/-
55.	STAR FINCH	<i>Poephila ruficauda</i>	1	5000/-	2500/-	1500/-	500/-
56.	ZEBRA FINCH	<i>Poephila guttata</i>	212	5000/-	2500/-	1500/-	500/-

#### MAMMALS

81.	FOUR HORNED CHOWINGHA	<i>Tetracerus quadricornis</i>	4	10000/-	5000/-	2500/-	1000/-
82.	INDIAN BLACK BEAR	<i>Selenarctos ussuricus</i>	6	20000/-	10000/-	5000/-	1700/-
83.	SLOTH BEAR	<i>Melursus ursinus</i>	4	20000/-	10000/-	5000/-	1700/-
84.	BLACK BEAR	<i>Ursus arctos</i>	17	10000/-	5000/-	2500/-	1000/-
85.	JUNGLE CAT	<i>Felis chaus</i>	5	5000/-	2500/-	1500/-	500/-
86.	LEOPARD CAT	<i>Prionailurus bengalensis</i>	1	10000/-	5000/-	2500/-	1000/-
87.	COMMON PAUM CIVET	<i>Paradoxurus hermaphrodites</i>	23	5000/-	2500/-	1500/-	500/-
88.	SMALL INDIAN CIVET	<i>Viverricula indica</i>	1	10000/-	5000/-	2500/-	1000/-



89.	BROWN ANTILPEER/ SANGAI	Cervus eldi	9	20000/-	10000/-	5000/-	1700/-
90.	MOLISE DEER	Tragulus memina	7	20000/-	10000/-	5000/-	1700/-
91.	SWAMP DEER/ BARASINGHA	Cervus dovarelli	11	20000/-	10000/-	5000/-	1700/-
92.	INDIAN ELEPHANT	Elephas maximus	5	250000/-	125000/-	63000/-	21000/-
93.	GAUR	Bos gaurus	4	50000/-	25000/-	12500/-	4200/-
94.	LEOPARD/PANTHER	Panthera pardus	5	50000/-	25000/-	12500/-	4200/-
95.	ASIANIC LION	Panthera leo persica	2	100000/-	50000/-	25000/-	8500/-
96.	BONNET MACAQUE	Macaca radiata	10	10000/-	5000/-	2500/-	1000/-
97.	RHESUS MACAQUE	Macaca mulatta	8	10000/-	5000/-	2500/-	1000/-
98.	INDIAN PANGOLIN	Manis crassicaudata	7	50000/-	25000/-	12500/-	4200/-
99.	RATEL	Mellivora capensis	3	50000/-	25000/-	12500/-	4200/-
100.	GIANT SQUIRREL	Ratula indica	2	10000/-	5000/-	2500/-	1000/-
101.	COMMON MANGOSE	Haplorhina edwardsi	3	5000/-	2500/-	1500/-	500/-
102.	BENGAL TIGER (PCT)	Panthera tigris tigris	15	100000/-	50000/-	25000/-	8500/-
103.	BENGAL TIGER (WHITE)	Panthera tigris tigris	8	100000/-	50000/-	25000/-	8500/-
104.	TIGER BENGAL (MELANISTIC)	Panthera tigris tigris	4	150000/-	75000/-	37500/-	12500/-
105.	NILGIRI LANGUR	Trachypithecus johnii	2	25000/-	12500/-	6300/-	2100/-
106.	ASIANIC WILD DOG	Cuon alpinus	2	20000/-	10000/-	5000/-	1700/-
107.	ASSAMESE MACAQUE	Macaca assamensis	3	10000/-	5000/-	2500/-	1000/-
108.	BLACK BUCK (WHITE)	Antelope cervicapra	1	20000/-	10000/-	5000/-	1700/-
109.	BARKING DEER	Muntiac muntjak	78	10000/-	5000/-	2500/-	1000/-
110.	HOG DEER	Axis porcinus	36	10000/-	5000/-	2500/-	1000/-
111.	SAMBAR DEER	Rusa unicorn	20	10000/-	5000/-	2500/-	1000/-
112.	SPOTTED DEER	Axis axis	480	5000/-	2500/-	1500/-	500/-
113.	INDIAN HARE	Lepus nigricollis	3	10000/-	5000/-	2500/-	1000/-
114.	STRIPED HYAENA	Hyena hyaena	7	10000/-	5000/-	2500/-	1000/-
115.	GIANT FRUIT BAT	Pteropus giganteus	3	5000/-	2500/-	1500/-	500/-
116.	JACKAL	Canis aureus	4	5000/-	2500/-	1500/-	500/-
117.	NILGAI/ BLUEBULL	Boselaphus tragocamelus	21	5000/-	2500/-	1500/-	500/-
118.	WILD PIG/MILD BAIT	Sus scrofa	4	5000/-	2500/-	1500/-	500/-
119.	INDIAN PORCUPINE	Hystrix indica	4	10000/-	5000/-	2500/-	1000/-
120.	HAMADRYAS BABOON	Papio hamadryas	2	10000/-	5000/-	2500/-	1000/-
121.	CHIMPANZEE	Pan troglodytes	6	50000/-	25000/-	12500/-	4200/-
122.	GRAFFE	Giraffa camelopardalis	1	100000/-	50000/-	25000/-	8500/-
123.	HIPPOTAMUS	Hippopotamus amphibius	15	20000/-	10000/-	5000/-	1700/-
124.	HYBRID LION	Panthera leo	8	50000/-	25000/-	12500/-	4200/-
125.	AFRICAN LION	Panthera leo	4	100000/-	50000/-	25000/-	8500/-

126.	RED HANDED TAWAIN	Saguinus midas	1	15000/-	7500/-	3800/-	1300/-
127.	BLACK TUFTED MARMOSSET	Callithrix penicillata	2	15000/-	7500/-	3800/-	1300/-
128.	KING COBRA	Ophiophagus hannah	3	30000/-	15000/-	7500/-	2500/-
129.	MONOCULATE COBRA	Naja naja kouthia	3	5000/-	2500/-	1500/-	500/-
130.	BIGGULATE COBRA	Naja naja	2	5000/-	2500/-	1500/-	500/-
131.	LONG-SQUIDED CROCODILE	Gavialis gangeticus	123	20000/-	10000/-	5000/-	1700/-
132.	MUGGER CROCODILE	Crocodylus palustris	21	20000/-	10000/-	5000/-	1700/-
133.	SALT WATER CROCODILE	Crocodylus porosus	1	20000/-	10000/-	5000/-	1700/-
134.	COMMON MONITOR LIZARD	Varanus bengalensis	2	10000/-	5000/-	2500/-	1000/-
135.	WATER MONITOR LIZARD	Varanus salvator	6	10000/-	5000/-	2500/-	1000/-
136.	BURMESE PYTHON	Python molurus bivittatus	1	10000/-	5000/-	2500/-	1000/-
137.	INDIAN ROCK PYTHON	Python molurus molurus	2	10000/-	5000/-	2500/-	1000/-
138.	RETICULATED PYTHON	Python reticulatus	2	20000/-	10000/-	5000/-	1700/-
139.	BAT SNAKE	Phyas mucosus	1	5000/-	2500/-	1500/-	500/-
140.	FRESH WATER TURTLE / FLAP-SHELL TURTLE	Lissemys punctata	64	5000/-	2500/-	1500/-	500/-
141.	GANGES SOFT-SHELL TURTLE	Trionyx gangeticus	1	5000/-	2500/-	1500/-	500/-
142.	RUSSELLS VIPER	Vipera russelli	1	5000/-	2500/-	1500/-	500/-
143.	INDIAN CHAMELEON	Chamaeleo zeylanicus	2	5000/-	2500/-	1500/-	500/-
144.	COMMON SAND BOA	Eryx johnii	3	5000/-	2500/-	1500/-	500/-
145.	RED SAND BOA	Eryx conicus	2	5000/-	2500/-	1500/-	500/-
146.	CHITRA TURTLE	Chitra indica	3	10000/-	5000/-	2500/-	1000/-
147.	BANDED IGUANA	Bungarus fasciatus	2	5000/-	2500/-	1500/-	500/-
148.	COMMON INDIAN IGUANA	Bungarus	2	5000/-	2500/-	1500/-	500/-
149.	INDIAN STAR TORTOISE	Geochelone elegans	13	5000/-	2500/-	1500/-	500/-
150.	INDIAN TURTLE	Pangshura tentoria	3	5000/-	2500/-	1500/-	500/-
151.	MORELET'S CROCODILE	Crocodylus moreletii	2	15000/-	7500/-	3800/-	1300/-
152.	SWAMEE CROCODILE	Crocodylus siamensis	19	15000/-	7500/-	3800/-	1300/-
153.	SWAMP CUCKER CANAN	Pelecanus palpestris	5	15000/-	7500/-	3800/-	1300/-
154.	GREEN IGUANA	Iguana iguana	3	10000/-	5000/-	2500/-	1000/-
155.	RED IGUANA	Iguana iguana	4	10000/-	5000/-	2500/-	1000/-

*Together, we can make the difference!*

The challenge of wildlife conservation and education is a huge task which can only be met if everybody joins hands and takes it as a collective responsibility. There are many ways in which you can help to conserve wildlife. Animal Adoption at Nandankanan Zoological Park is certainly a way of showing your concern.

Your participation and contribution will help us care for our wildlife conservation programmes while inspiring others to take the lead. We hope you will join us in our effort to protect the wildlife and in building a safe environment for everyone to flourish.

## Privileges proposed for the visitors who will adopt the animals in Nandankanan Zoological Park, Bhubaneswar.

- A. Level-I (Rs. 500/- to Rs. 10000/-)**
- Official certificate of adoption.
  - Information Sheet about Adopted animal.
  - Adoption folder with pen
  - Mention on Adopter's chart on web wall of Nandankanan website.
  - Mention on Annual Report Donor's chart.
  - Five free Zoo entry ticket
  - A plaque at the animal's enclosure.
- B. Level-II (Rs. 10001/- to Rs. 25000/-)**
- All donations and adoption contribution are exempted U/S 80G Income Tax Act 1961.
  - Official certificate of adoption.
  - Information Sheet about Adopted animal.
  - Adoption folder with pen
  - Mention on Adopter's chart on web wall of Nandankanan website.
  - Mention on Annual Report Donor's chart.
  - Four free zoo entry ticket
  - A plaque at the animal's enclosure.
- C. Level-III (Rs. 25001/- to Rs. 50000/-)**
- All donations and adoption contribution are exempted U/S 80G Income Tax Act 1961.
  - Official certificate of adoption.
  - Information Sheet about Adopted animal.
  - Mention on Adopter's chart on web wall of Nandankanan website.
  - Mention on Annual Report Donor's chart.
  - Six free zoo entry ticket
  - A plaque at the animal's enclosure.
- D. Level-IV (Rs. 50001/- to Rs. 75000/-)**
- All donations and adoption contribution are exempted U/S 80G Income Tax Act 1961.
  - Official certificate of adoption.
  - Information Sheet about Adopted animal.
  - Adoption folder with pen
  - Mention on Adopter's chart on web wall of Nandankanan website.
  - Mention on Annual Report Donor's chart.
  - Eight free zoo entry ticket
  - A plaque at the animal's enclosure.
- E. Level-V (Rs. 75001/- to Rs. 100000/-)**
- All donations and adoption contribution are exempted U/S 80G Income Tax Act 1961.
  - Official certificate of adoption.
  - Information Sheet about Adopted animal.
  - Adoption folder with pen
  - Mention on Adopter's chart on web wall of Nandankanan website.
  - Mention on Annual Report Donor's chart.
  - Ten free zoo entry ticket
  - A plaque at the animal's enclosure.
- F. Level-VI (Rs. 100001/- to Rs. 150000/-)**
- All donations and adoption contribution are exempted U/S 80G Income Tax Act 1961.
  - Official certificate of adoption.
  - Information Sheet about Adopted animal.
  - Adoption folder with pen
  - Mention on Adopter's chart on web wall of Nandankanan website.
  - Mention on Annual Report Donor's chart.
  - Five free Botany Vehicles ticket
  - Five free Safari entry ticket
  - A plaque at the animal's enclosure.
- G. Level-VII (Rs. 150001/- to Rs. 200000/-)**
- All donations and adoption contribution are exempted U/S 80G Income Tax Act 1961.
  - Official certificate of adoption.
  - Information Sheet about Adopted animal.
  - Adoption folder with pen
  - Mention on Adopter's chart on web wall of Nandankanan website.
  - Mention on Annual Report Donor's chart.
  - Five free Botany Vehicles ticket
  - Five free Safari entry ticket
  - A plaque at the animal's enclosure.
- H. Level-VIII (Rs. 200001/- to Rs. 250000/-)**
- All donations and adoption contribution are exempted U/S 80G Income Tax Act 1961.
  - Official certificate of adoption.
  - Information Sheet about Adopted animal.
  - Adoption folder with pen
  - Mention on Adopter's chart on web wall of Nandankanan website.
  - Mention on Annual Report Donor's chart.
  - Ten free Botany Vehicles ticket
  - Ten free Safari entry ticket
  - A plaque at the animal's enclosure.

Deputy Director  
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— GREAT ACHIEVEMENT ALWAYS NEED A HARD WORK —



Sri Rama Chandra Kandi, Forest Guard awarded Second position in Discus throw by 25th All India Forest Sports Meet, 2020.



Sri Santosh Murmu, Forester awarded Second position in 4X400 Relay race by State Forest Sports Meet, Angul, 2020, Forest & Environment Department, Odisha.



Nandankanan Zoological Park awarded Champion trophy for Pot Bougainvillea and Running trophy for Potted Flowering Plants in Bougainvillea in 32nd Annual State level flower show competition, organized by Plant Lover's Association and Regional Plant Resource Centre, Bhubaneswar on 11th and 12th January, 2020 at RPRC, Bhubaneswar.



Sri Santosh Murmu, Forester awarded First position in 4x100 Relay race by Zonal Forest Sports Meet, Berhampur, 2020, Forest & Environment Department, Odisha.

# YOUR CONTRIBUTION TOWARDS NANDANKANAN ALWAYS REMIND US



**SRI ANJAN KUMAR MOHANTY**  
ASSISTANT CONSERVATOR OF FORESTS,  
SANCTUARY MANAGEMENT



**SRI RAJANIKANTA BEHERA**  
FORESTER



**SRI RAMESH CHANDRA RATH**  
KHANSAMA



**SMT MINA DEI**  
COOK CUM ANIMAL FEED DISTRIBUTOR



**SRI KABI JENA**  
SWEEPER



**SRI PIRU MURMU**  
ANIMAL KEEPER



**SRI KANKARAM MARANDI**  
ZOO WATCHER



**SRI DUKHIYA BEHERA**  
SWEEPER





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