



ANNUAL REPORT 2020-21
NANDANKANAN BIOLOGICAL PARK



NANDANKANAN BIOLOGICAL PARK
ODISHA

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1. Report of the Officer-in-charge

Nandankanan Biological 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 29th 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 160 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 supports 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 3rd August, 1979.

We have completed another outstanding year of biodiversity conservation, zoo management, research & education. Nandankanan has been very popular, as always, among the tourist & local habitants and attracted about 8,20,894 visitors during the year 2020-21. 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 and Foundation Day etc. were organized during the year 2020-21. Many species of wild and exotic animals including Indian tiger, Black tufted marmoset, Swamp deer, Jungle cat, Mouse deer, Black Kite, Fore-horned antelope, Painted stork, Silver pheasant, Lady Amherst pheasant, Yellow golden pheasant, Reeves pheasant, Golden pheasant, Nilgiri langur, Sambar, Jackal, Indian fox, Stump tailed macaque, Assamese macaque, Common mongoose, Chimpanzee, Indian pangolin, Sloth bear, Barking deer, Hog deer, Blackbuck, Budgerigar, Zebra finch, White ibis, Brow antlered deer, Spotted deer, Gaur, Giant fruit bat, Nilgai, Indian rock python, Indian peafowl, Red jungle fowl, Hippopotamus, Night heron, Mandarin duck, Violet Turaco, Grey pelican, Emerald dove, 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 where ever necessary. Out of which New Safari Bus stop and Zoo exit path are newly constructed.

Animal keeper sheds, renovation of CCTV cameras at different animal enclosures and visitor's path, renovation of toilets and sit out spots, are worth mentioning.

During the financial year 2020-21 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 Tigress- Anini, Himalayan Black Bear- Kulu & Chulu, Sloth Bear-Arati and Lioness- Superia and a White buck who were very popular among visitors. These animals are now a part of Nandankanan history.

There has been a substantial improvement in the field of health care as reflected in reduced annual death rate during the year 2020-21. 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. Five publications including three research papers in different national and international journals and two books were made on various aspects of ex-situ conservation, health care and management of captive wild animals.

Information on various aspects of management and development of Nandankanan during the year 2020-21 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 form 1960 till date. I have to 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.

Sri Shashi Paul, IFS
Director, Nandankanan Biological Park

2. History of the Zoo

Nandankanan had a very interesting beginning. Some forest officials conceived the idea of including some rare wild animals and rare orchids typical to our State in the Odisha pavilion in World Agricultural Fair 1960 at Delhi. It was contemplated that rare animals from Odisha would certainly make the Odisha pavilion a crowd puller. Since procurement of wild animal and their transport to Delhi would be an expensive affair, therefore it was decided to include small animals like Mouse deer, Leopard cat, Wild cat, Pangolin, Racket tailed drongo, Flying Squirrel, Hill Mynah, Peacock etc. The idea was much appreciated at the higher level and a decision was taken to have a mini zoo in the World Agricultural Fair. Since there was hardly any time for the capture of wild animals from wild, it was decided to approach persons who are in possession of the wild animals and procure the same by way of hire or purchase for the exhibition. Accordingly, the Divisional Forest Officers were instructed to procure the wild animals for dispatch to Delhi. Fortunately, within a month several wild animals i.e. two Spotted deer, two Barking deer, two Black buck, one Mouse deer, one Leopard cat, one Flying squirrel, one Racket-tailed drongo, one Hornbill, two Parrots, two Hill Mynah, one Peacock, one Mongoose were collected. The then Divisional Forest Officer, Deogarh (Late G.M. Das) captured one Pangolin (Scaly ant-eater), two porcupines from the forests. Similarly, Late P. Mohapatra, the then Divisional Forest Officer, Puri captured a pair of wild boars and a Python from the forest. All these animals were sent to the Delhi and exhibited inside Odisha Pavilion in the World Agricultural Fair.

Unfortunately, the State Finance Department raised serious objections to the idea of starting a zoo in Odisha as it would involve a lot of expenditure for its establishment and maintenance. Such a venture at that point of time needed deliberation in the legislative assembly and special budget provision. In the meantime, the wild animals arrived at Bhubaneswar by May, 1960 and their upkeep and feeding posed a serious problem for forest department. Fortunately, the late P. Mohapatra, Divisional Forest Officer, Puri and the Late G.K. Das, Divisional Forest Officer, Deogarh came to the department's rescue. With their co-operation and efforts, temporary structures with brush wood and thatched roof were constructed

at Khandagiri near Bhubaneswar to shelter these wild animals. The Jain community also came forward with the help of feeding these wild animals at Khandagiri. These animals at Khandagiri attracted large number of visitors both from Bhubaneswar town and neighboring villages. On the 6th day Dr. H.K. Mahatab, the then Chief Minister of Odisha was pleased to see these wild animals. He immediately discussed with the Forest Minister, Forest Secretary, Finance Secretary, Chief Secretary and Chief Conservator of Forests regarding establishment of a Zoo in Odisha.

Initially it was proposed to have the zoo at Ghatikia close to Khandagiri and Udayagiri caves. It would also provide recreation to the urban population of Bhubaneswar. Later it was felt that Ghatikia would pose water problems in future. A zoo needs lot of water to meet the need of animals, cleaning of animals sheds and for various other purposes. The then Range Officer, Chandaka suggested Jujhagarh forest block on Kanjia lake near Barang Railway station as the most ideal location. The then Chief Conservator of Forests, Divisional Forest Officer, Puri, Range Officer, Chandaka and D.P. Ghosh, Forest Ranger visited the place and were impressed with its scenic beauty. Kanjia lake with its vast expanse over 125 acres low and undulating hills of Jujhagarh and Krushnanagar D.P.F.S. with lush green vegetation on both sides of the lake presented a picturesque site. Jujhagarh Forest Block had all the advantages for locating the zoo except communication from Bhubaneswar and the only approach was via Chandaka covering a distance of 38 Km.

A committee consisting of Dr. Radhanath Rath, Sri G.C. Dash and Sri D.N. Choudhury, the then Minister of Forests, Secretary, Forest and the Chief Conservator of Forests respectively visited the place. They were very much impressed with its aesthetic beauty and recommended location of the zoo there with construction of a straight road (a distance of 14 to 15 Kms.) from Bhubaneswar. Accordingly, it was decided to locate the Zoological Park in Jujhagarh Forest Block, Botanical garden in Krushnanagar Forest Block and develop Kanjia lake for Boating and Angling. The Director, Fisheries agreed to develop a portion of the lake for rearing various kinds of fish for visitors to see. Initially it was decided to keep spotted deer, barking deer, black bucks, wild boars, sambars, nilgai and bears in spacious enclosures. Other animals like leopard cat, mongoose, flying squirrel,

porcupine, python, monkeys, hyena, jackal, civet cat, pangolin, jungle cat, parrots, mynah and other birds in suitable cages. It was decided to put efforts to capture tigers and leopards which could be exhibited in suitable cages for the time being and the suitable spacious enclosures would be built for them later on. It was also decided to raise a good flower garden and to plant important species and medicinal plants of Odisha inside proposed Botanical garden in Krushnanagar D.P.F.

It was contemplated to create nature simulating artificial streams and waterfalls by pumping water from the lake to a reservoir on the hill top and allowing the water to flow through these winding streams and locate animal enclosures along these streams so that the stream would act as barrier. Visitors would view the wild animals from the other side of the stream. Accordingly, a plan was drawn but was to be abandoned because of high cost. Instead it was decided to construct enclosures, with chain link mesh fencing on three sides and wide water moat on the fourth side so that visitors can see wild animals from the moat side. A network of roads would be constructed and animal enclosures as well as animals cages would be located along these roads. The construction activities were started over a small area to begin with to house some herbivores like Cheetals, Sambar, Barking deers and a few birds.

On 29th December, 1960, Sri S.K. Patil, the then Minister of Food and Agriculture, Govt. of India inaugurated the new Biological Park christened as “Nandankanan” the heavenly garden of God. Subsequently, a Botanical Garden came up in the year 1963. The Nandankanan Biological Park was renamed as Nandankanan Zoological Park on recommendation of the Odisha Legislative Assembly Committee on Estimates, 1981-82. The zoo started growing slowly with addition of new enclosures and new animals.

3. Vision:

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

4. 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.

5. Objective

Housing of wild animals and birds with special emphasis on research and education on their ecology, behavioral 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 behavior, 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.

6. About us:

S.No.	Particulars	Information
Basic Information about the Zoo		
1	Name of the Zoo	Nandankanan Zoological Park
2	Year of Establishment	1960
3	Address of the Zoo	Nandankanan Zoological Park, Barang, Bhubaneswar - 754005
4	State	Odisha
5	Telephone Number	+91-674 2547850
6	Fax Number	+91-674 2547840
7	E-mail address	nandankanazoo@yahoo.com
8	Website	www.nandankanan.org
9	Distance from nearest	Airport: 18Km
		Railway Station: 2Km
		Bus Stand: 1Km
10	Recognition Valid upto (Date)	19.08.2023
11	Category of zoo	Large
12	Area (in Hectares)	362.1 ha.
13	Number of Visitors (Financial Year) 2020-21	Adult: 702893 (including 410 differently abled persons-free entry)
		Children: 117807 (free entry on wildlife week and children's day- Nil)
		Total Indian: 820290
		Total Foreigners: 194
		Total Visitors: 820894
14	Visitors' Facilities Available in Zoo	<ul style="list-style-type: none"> • Drinking water kiosks with RO facility • Free toilets at convenient locations • Special toilets, wheel chairs & ramps for

S.No.	Particulars	Information
		<p>differently abled persons</p> <ul style="list-style-type: none"> • Rest areas / sit-outs / visitors' sheds at various locations. • Tourist cottages • Restaurant & Snacks bar (run by OTDC) • Free cloak room near the entrance gate • Perambulator for children • First-aid (at zoo hospital, observatory & administrative office) • Library • Emission free battery-operated vehicles • Guide maps • Publications • Nature shop (Souvenir shop) • Children Park • Baby care centre
15	Weekly Closure Day of the Zoo	Monday
Management Personnel of the zoo		
16	Name with designation of the Officer in-charge	Sri Shashi Paul, Director
	Name of the Veterinary Officer	Dr Ramani Ranjan Biswal
	Name of the Curator	Sri Amulya Kumar Parida
	Name of the Biologist	Dr Rajesh Kumar Mohapatra
	Name of the Education Officer	Mr Milan Kumar Panda
	Name of the Compounder	Mr Pradeep Kumar Nandi Mr Beda Prakash Sahoo

S.No.	Particulars	Information
17	*Name of the Operator	Government of Odisha, Forests Environment and Climate Change Department
18	Address of the Operator	Additional Chief Secretary to Govt, Forests Environment and Climate Change Dept, Odisha
19	Contact details/Phone number of Operator	0647-2536822
20	E-mail address of Operator	efsec.od@nic.in

** Rule 2(m) of the Recognition of Zoo Rules, 2009.*

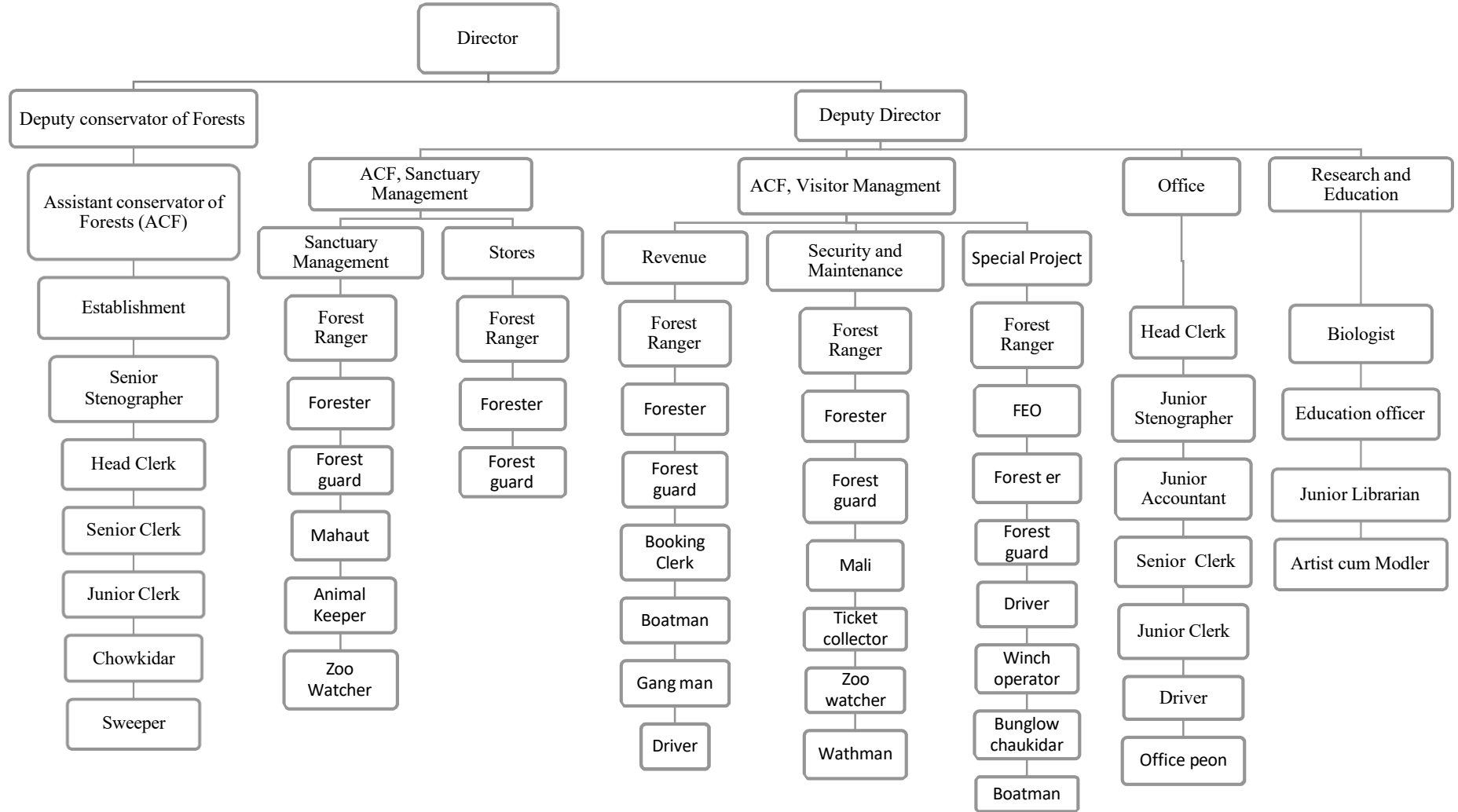
“Zoo Operator” means the person who has ultimate control over the affairs of the zoos provided that_____

I. in the case of a firm or other association of individuals, any one of the individual partners or members thereof; or

II. in the case of a company, any director, manager, secretary or other officer, who is in-charge of and responsible to the company for the affairs of the zoo; or

III. In case of zoo owned or controlled by the Central Government or any State Government or Union Territory Administration or any Trust or Society funded by the Central Government or a State Government or a Union Territory Administration, the Secretary of the concerned Department of that Government, or as the case may be the Union Territory Administration, shall be deemed to be the Zoo Operator.

7. Organizational Chart



8. Human Resources:

Manpower of the Zoo

(A) Director's office in Mayur Bhawan, Bhubaneswar

Sl.No.	Designation	Number of Sanctioned Posts	Number of the incumbent
1	Director	1	0
2	D.C.F.	1	0
3	Senior Steno	1	0
4	Senior Assistant	4	3
5	Junior Assistant	4	1
6	Driver	1	0
7	Office Chowkidar	1	0
8	Office Sweeper	1	0
9	Office Peon	1	1
10	Watchman	1	1
	TOTAL	16	06

(B) Deputy Director Office, Nandankanan Zoological Park

Sl. No.	Name of each category of post	Sanctioned strength	No. of staff in position
<u>Nandankanan Zoological Park</u>			
1	Deputy Director, NKZP	1	1
2	Sr Veterinary Officer	1	1
3	Assistant Conservator of Forests	3	2
4	Vet. Asst. Surgeon	1	1
5	Forest Ranger	8	6
6	Deputy Ranger	0	1
7	Forester	9	10
8	Forest Guard	25	17
9	Head Clerk	1	0
10	Biologist	1	1

11	Education Officer	1	1
12	Junior Accountant	5	4
13	Jr. Stenographer	1	1
14	Junior Clerk	4	2
15	Driver (L.V.)	4	2
16	Driver (H.V.)	3	2
17	Fitter-cum-Mechanic	1	0
18	Engine Driver	1	0
19	Livestock Inspector	3	2
20	Guide	1	0
21	Projector Operator	1	0
22	Booking Clerk	3	0
23	Artist-cum-Modeller	1	0
24	Junior Librarian	1	1
25	Khansama	1	0
26	Gangman	1	0
27	Sweeper	11	06
28	Animal Keeper	101	68
29	Office Peon/attendant	6	5
30	Mate	2	1
31	Mahout	3	2
32	Mali	5	3
33	Watchman	27	21
34	Boatman	2	0
35	Ticket Collector	10	7
36	Zoo Watcher	22	14
37	Bungalow Chowkidar	3	0
38	Winch Operator	1	1
39	Cook-cum-Animal feed Distributor	2	0
40	Welder-cum-Blacksmith	1	0
41	Assistant Mahout	8	0
Total		293	183

(C) State Botanical Garden

Sl. No.	Name of each category of post	Sanctioned strength	No. of staff in position
State Botanical Garden			
1	Curator	1	0
2	Junior Typist	1	0
3	Grafter	2	0
4	Pump Driver	1	0
5	Power Tiller Operator	1	0
6	Herbarium Attendant	1	0
7	Gardener	6	0
8	Attendant	6	0
9	Peon	3	1
10	Watchman	1	0
	TOTAL	23	1

9. Capacity Building of zoo personnel:

Sl.No	Name and designation of the zoo personnel	Subject matter of Training	Period of Training	Name of the Institution where the Training attended
1	Dr Rajesh Kumar Mohapatra, Biologist Nandankanan Zoological Park	Online course on “Facilitating Species Conservation Planning”	Six week from 24 th August to 2 nd October, 2020.	IUCN-SSC Conservation Planning Specialist Group
2	Dr Sarat Kumar Sahu, BVO, Nandankanan Zoological Park & Dr Santosh Kumar Gupta, RA, Nandankanan Zoological Park	Refresher Training on “Wildlife Management for Veterinary professional” by Virtual Mode	23.02.2021 to 25.02.2021	Central Zoo Authority, New Delhi

3	Sri Susant Kumar Nayak, Animal Keeper, Nandankanan Zoological Park	National Zoo Keeper Training on “Captive Management of Reptiles” by Virtual Mode	15.03.2021 to 17.03.2021	Indira Gandhi Zoological Park, Visakhapatnam
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10. Zoo Advisory Committee:

Date of constitution: A Technical Committee was constituted on 22.08.2000.

Members

- Dr S. K. Roy, Prof. & HOD, Dept. Of Medicine, Orissa, Veterinary college-
Chairman
- Dr J.N. Mohanty, Retd. Prof. Surgery, Orissa Veterinary College and Regd.
Director, Veterinary Services- Member
- Sri Sudhakar Mohapatra, IFS (Retd) (Former Chief Wildlife Warden, Odisha)-
Member
- Dr L.N. Acharjyo, Veterinarian (Retd), At- MIG-7, Bermuda Housing Board
Colony, Bhubaneswar- Member
- Conservator of Forests (WL) & Ex-Officio Director, Nandankanan Zoological Park,
Bhubaneswar –Convenor

Dates on which Meetings held during the year: Nil

11. Health Advisory Committee:

Date of constitution: 21.08.2008-MoU signed with CVSc & AH, OUAT

Members of Health Committee

1. Dr N. Sahoo, Prof. Preventive medicine, CVSc & AH, OUAT, Coordinator
2. Dr I. Nath, Prof. Surgery, CVSc & AH, OUAT, Co-coordinator
3. Dr S.K. Panda, Prof. Pathology, CVSc & AH, OUAT, Co-coordinator

Dates on which Meetings held during the year:

Health Committee visit to Nandankanan

23-05-2020, 29-05-2020, 24-06-2020, 18-07-2020, 17-09-2020, 19-12-2020, 28-01-2021,
25-02-2021, 11-03-2021, 15-03-2021

Health Committee meeting convened on following dates

27-04-2020 (VC), 01-05-2020 (VC), 09-06-2020, 04-03-2021

12. Statement of income and expenditure of the Zoo**Rs. In Lakhs**

Year	Expenditure & Allotment	Non-Plan	State-Plan	Central Plan	Centrally sponsored plan	CZA grant	CAMPA	Society Fund	Eco Tourism	Total
2020-21	Allotment	471.32	2295.30	-	16.41	-	414.94	997.25	1200.00	5395.22
	Expenditure	471.32	2295.30	-	16.41	-	414.95	696.67	1200.00	5094.65

13. Daily feed Schedule of animals

SL.NO	SPECIES	FOOD ITEM	Quantity		Day of fasting
			Winter	Summer	
1	BUDGERIGAR	MILLET MIX (COMMON,RED,WHITE) PADDY GREEN SAG EGG (BOILED) (FOR GROUP OF 50 BIRDS) CUTTLE FISH BONE (MONDAYS)	0.025 0.010 0.005 1 NO 0.005	0.025 0.010 0.005 1 NO 0.005	NO
2	CANARY	MILLET MIX (COMMON,RED,WHITE) PADDY GREEN SAG CUTTLE FISH BONE (MONDAYS)	0.010 0.010 0.005 0.002	0.010 0.010 0.005 0.002	NO
3	COCKATIEL, WHITE/ CINNAMON PEARS PIED	BENGAL GRAM (soaked) MILLET MIX (COMMON,RED,WHITE) PADDY GREEN SAG ONION SEED MIX (SUNFLOWER/SAFFLOWER) EGG BOILED (FOR THE GROUPOF 10) CUTTLE FISH BONE (MONDAYS)	0.010 0.020 0.010 0.025 0.010 0.010 1 NO 0.002	0.010 0.020 0.010 0.025 0.010 0.010 1 NO 0.002	NO

4	COCKATOO, LESSER/ SULPHUR CRESTED/ UMBRELLA	APPLE EGG (BOILED) GROUND NUT GRAPE RIPE BANANA BENGAL GRAM(SOAKED) SEED MIX (SUNFLOWER/SAFFLOWER) RIPE PAPAYA GREEN MAIZE WITH SPIKE (SEP-OCT) RIPE GUAVA (SEP-OCT)	0.030 ½ NO 0.030 0.030 0.030 0.015 0.020 0.050 0.050 0.050	0.030 ½ NO 0.030 0.030 0.030 0.015 0.020 0.050	NO
5	CONURE, BROWN THROATED/ JANDAYA / SUN/PINEAPPLE/ YELLOW SIDED	APPLE BENGAL GRAM(SOAKED) GROUND NUT GRAPE GREEN SAG RIPE PAPAYA SEED MIX (SUNFLOWER/SAFFLOWER) GREEN MAIZE WITH SPIKE (SEP-OCT) RIPE GUAVA (SEP-OCT) PINEAPPLE (MAY-JULY)	0.030 0.005 0.025 0.015 0.025 0.030 0.010 0.050 0.050	0.030 0.005 0.025 0.015 0.025 0.030 0.010 0.050 0.025	NO
6	CRANE, SARUS	KERANDI FISH PULSES & GRAIN FEED BENGAL GRAM (SOAKED)	0.250 0.150 0.050	0.250 0.150 0.050	NO
7	DOVE, BARBARY/ LAUGHING/RING NECKED	POULTRY FEED PULSES & GRAIN FEED GREEN SAG BOILED EGG	0.010 0.050 0.010 ½ NO	0.010 0.050 0.010 ½ NO	NO
8	DOVE, SPOTTED/EMRALD	POULTRY FEED PULSES & GRAIN FEED GREEN SAG BOILED EGG MUSTARD	0.010 0.030 0.010 ½ NO 0.005	0.010 0.030 0.010 ½ NO 0.005	NO

9	DOVE, DIAMOND	MILLET MIX (COMMON,RED,WHITE) PADDY PULSES & GRAIN FEED GREEN SAG CUTTLE FISH BONE (MONDAYS) BOILED EGG	0.010 0.005 0.030 0.005 0.002 1/2NO	0.010 0.005 0.030 0.005 0.002 1/2NO	NO
10	DUCK, MANDARIN	DUB GRASS GREEN SAG PADDY POULTRY FEED PULSES & GRAIN FEED WHEAT, SOAKED BENGAL GRAM, SOAKED	0.020 0.030 0.010 0.050 0.060 0.025 0.025	0.020 0.030 0.010 0.050 0.060 0.025 0.025	NO
11	EGRET, LITTLE/MEDIAN/ CATTLE/ LARGE	GADISHA FISH KERANDI FISH	0.200 0.100	0.200 0.100	NO
12	EMU	BENGAL GRAM CHHATU BENGAL GRAM,SOAKED EGG (BOILED) GARLIC GREEN SAG ONION RIPE BANANA GRAPES	0.200 0.300 1NO 0.010 0.250 0.050 0.200 0.050	0.200 0.300 1NO 0.010 0.250 0.050 0.200 0.050	NO
13	FINCH (BENGALESE / LONG TAILED /STAR/ZEBRA)	MILLET MIX (COMMON,RED,WHITE) PADDY GREEN SAG EGG (BOILED) (FOR GROUP OF 50 INDIVIDUALS) CUTTLE FISH BONE (MONDAYS)	0.010 0.010 0.005 1NO 0.002	0.010 0.010 0.005 1NO 0.002	NO
14	HORNBILL, GREY/ ORIENTAL PIED	RIPE BANANA GRAPE GOAT LIVER BENGAL GRAM CHHATU	0.100 0.050 0.050 0.050	0.100 0.050 0.050 0.050	NO

15	HERON, GREY/NIGHT	KERANDI FISH	0.100	0.100	NO
16	HILL MYNAH	BENGAL GRAM CHHATU RIPE BANANA APPLE GRAPE	0.025 0.050 0.025 0.025	0.025 0.050 0.025 0.025	NO
17	IBIS (BLACK/ WHITE)	KERANDI FISH	0.300	0.300	NO
18	JUNGLE FOWL, RED	BENGAL GRAM (SOAKED) POULTRY FEED PULSES AND GRAIN FEED PADDY GARLIC ONION MEAL WORM BOILED EGG (FOR THE GROUP)	0.050 0.050 0.030 0.020 0.005 0.010 5NO 1NO	0.050 0.050 0.030 0.020 0.005 0.010 5NO 1NO	NO
19	KITE, BRAHMINY	KERANDI FISH DAY OLD CHICKS/WHITE MICE	0.250 1NO	0.250 1NO	NO
20	KITE, BLACK	KERANDI FISH BUFFALO MEAT DAY OLD CHICK/WHITE MICE	0.050 0.200 1NO	0.050 0.200 1NO	NO
21	KOEL	GOAT MEAT KIMA BENGAL GRAM CHHATU RIPE BANANA GRAPE	0.025 0.025 0.050 0.025	0.025 0.025 0.050 0.025	NO
22	LOVE BIRD (FISCHERS/ PEACH-FACED/MASKED)	BENGAL GRAM,SOAKED MILLET MIX (COMMON,RED,WHITE) PADDY GROUND NUT GREEN SAG SEED MIX (SUNFLOWER/SAFFLOWER CUTTLE FISH BONE (MONDAYS)	0.010 0.020 0.010 0.010 0.030 0.010 0.002	0.010 0.020 0.010 0.010 0.030 0.010 0.002	NO
23	LORIKEET, BLUE FACED/ SWAINSON' S	APPLE BENGAL GRAM,SOAKED	0.050 0.010	0.050 0.010	NO

		RIPE PAPAYA GRAPE GREEN SAG RIPE BANANA RIPE GUAVA (SEPT-OCT) GREEN MAIZE WITH SPIKE (SEP-OCT)	0.050 0.025 0.030 0.050 0.050 0.050	0.050 0.025 0.030 0.050	
24	LORRY, YELLOW BACKED / RED CHATTERING	APPLE BENGAL GRAM,SOAKED GRAPE HONEY GREEN SAG RIPE BANANA RIPE PAPAYA RIPE GUAVA (SEPT-OCT) GREEN MAIZE WITH SPIKE (SEP-OCT)	0.050 0.010 0.025 0.005 0.030 0.050 0.050 0.050 0.050	0.050 0.010 0.025 0.005 0.030 0.050 0.050	NO
25	MACAW, GREEN WINGED/ BLUE & YELLOW	APPLE BENGAL GRAM (SOAKED) PISTACHIO WITH SHELL GRAPE SEED MIX (SUNFLOWER/SAFFLOWER) RIPE BANANA GREEN PEA POD (DEC-FEB) CUSTARD APPLE (SEPT-OCT) GREEN MAIZE WITH SPIKE (SEP-OCT) WATER MELON (APR-MAY) RIPE GUAVA (SEP-OCT)	0.050 0.015 0.010 0.030 0.015 0.050 0.100 0.050 0.050 0.050	0.050 0.015 0.010 0.030 0.015 0.050 0.050 0.050	NO
26	MUNIA (RED/BLACK HEAD/SPOTTED)	MILLET MIX (COMMON,RED,WHITE) CUTTLE FISH BONE (MONDAYS) PADDY GREEN SAG	0.010 0.002 0.010 0.010	0.010 0.002 0.010 0.010	NO
27	OWL (BARN/ ORIENTAL SCOPS)	DAY OLD CHICK WHITE MICE	1NO 1NO	1NO 1NO	NO

28	OWL, BROWN FISH	DAY OLD CHICK WHITE MICE KERANDI FISH	2NO 2NO 0.100	2NO 2NO 0.100	NO
29	PARAKEET, (MOUSTACHED/ ROSE RINGED/ BLOSSOM HEADED/ ALEXANDRINE/RING NECKED	BENGAL GRAM,SOAKED SEED MIX (SUNFLOWER/SAFFLOWER) GROUNDNUT APPLE GREEN SAG MAIZE RIPE BANANA RIPE PAPAYA GREEN MAIZE WITH SPIKE (SEP-OCT) RIPE GUAVA (SEPT-OCT) WATER MELON (APR-MAY) GREEN PEA POD (DEC-FEB)	0.010 0.010 0.010 0.020 0.020 0.010 0.015 0.025 0.025 0.025 0.010	0.010 0.010 0.010 0.020 0.020 0.010 0.015 0.025 0.025 0.025 0.010	NO
30	PEAFOWL, INDIAN	BENGAL GRAM,SOAKED GROUND NUT GARLIC GREEN SAG ONION POULTRY FEED PULSES & GRAIN FEED PADDY	0.050 0.050 0.005 0.100 0.050 0.040 0.040 0.050	0.050 0.050 0.005 0.100 0.050 0.040 0.040 0.050	NO
31	PELICAN, GREY/ROSY	GADISHA FISH	1.000	1.000	NO
32	PHEASANT, GOLDEN/ SILVER/ YELLOW GOLDEN/ LADY AMHERST'S /REEV'S / RING NECKED	GARLIC GREEN SAG ONION POULTRY FEED PULSES AND GRAIN FEED BOILED EGG CRICKET WORM/MEAL WORM	0.010 0.050 0.020 0.050 0.050 ½ NO 5NO	0.010 0.050 0.020 0.050 0.050 ½ NO 5NO	NO

33	ROSELLA, EASTERN	APPLE BENGALGRAM,SOAKED MILLET MIX (COMMON,RED,WHITE) OAT GREEN SAG GROUND NUT RIPE BANANA SEED MIX (SUNFLOWER/SAFFLOWER) RIPE PAPAYA GREEN MAIZE WITH SPIKE (SEP-OCT) RIPE GUAVA (SEPT-OCT) PINE-APPLE (MAY-JULY) WATER MELON (APR-MAY)	0.050 0.010 0.010 0.010 0.025 0.030 0.050 0.010 0.025 0.050 0.050	0.050 0.010 0.010 0.010 0.025 0.030 0.050 0.010 0.025 0.050 0.025 0.050	NO
34	SPARROW, JAVA	MILLET MIX (COMMON,RED,WHITE) PADDY GREEN SAG BOILED EGG (FOR 20 GROUP) CUTTLE FISH BONE (MONDAYS)	0.010 0.010 0.010 1NO 0.005	0.010 0.010 0.010 1NO 0.005	NO
35	SPOON BILLED, WHITE EURASIAN	GADISHA FISH	0.300	0.300	NO
36	STORK, OPEN BILLED	SNAIL SHELL KERANDI FISH	0.400 0.100	0.400 0.100	NO
37	STORK, PAINTED	GADISHA FISH	0.300	0.300	NO
38	STORK, WHITE NECK	GADISHA FISH	0.250	0.250	NO
39	STORK, LESSER ADJUTANT	GADISHA FISH DAY OLD CHICK	0.200 2NO	0.200 2NO	NO
40	SHIKRA	DAY OLD CHICKS WHITE MICE	1NO 1NO	1NO 1NO	NO
41	SWAN, BLACK	BLACK SWAN FEED GREEN SAG BENGAL GRAM (SOAKED) WHEAT (SOAKED)	0.250 0.250 0.100 0.100	0.250 0.250 0.100 0.100	NO
42	VULTURE, CINEREOUS	FRESHLY KILLED CHICKEN	1NO	1NO	NO

43	VULTURE, WHITE BACKED/ LONG BILLED	FRESHLY KILLED CHICKEN	½ NO	½ NO	NO
44	HIMALAYAN GRIFFON	FRESHLY KILLED CHICKEN	1 NO	1 NO	NO
45	OSTRICH	LUCERN GRASS/ DHANIA SAG OSTRICH FEED BOILED EGG (WITH SHELL)	1.000 1.500 2NO	1.000 1.500 2NO	NO
46	PARROT, AFRICAN GREY	APPLE BENGAL GRAM (SOAKED) GRAPE GROUND NUT SUNFLOWER SEED RIPE PUMPKIN RIPE PAPAYA RIPE SAPETA (APR-MAY) WATER MELON(APR-MAY)	0.030 0.015 0.030 0.030 0.010 0.050 0.050 0.050	0.030 0.015 0.030 0.030 0.010 0.050 0.050 0.050	NO
47	PARROT, MEYER'S/ RED BELLIED	APPLE BENGAL GRAM (SOAKED) BEANS GRAPES POMEGRANATE MILLET MIX SUNFLOWER SEED PADDY RIPE PAPAYA	0.030 0.015 0.030 0.020 0.020 0.020 0.010 0.010 0.050	0.030 0.015 0.030 0.020 0.020 0.020 0.010 0.010 0.050	NO
48	TURACO, VIOLET/ LIVINGSTONE	APPLE GRAPE TOMATO POMEGRANATE RIPE BANANA RIPE PAPAYA WATERMELON (APR-MAY) RIPE MANGO (APR-MAY)	0.025 0.025 0.050 0.025 0.050 0.050 0.050	0.025 0.025 0.050 0.025 0.050 0.050 0.050	NO

		RIPE PUMPKIN JHUDANGA	0.100 0.100	0.100 0.100	
53	BABOON, HAMADRYAS	GROUND NUT APPLE BRINJAL LADIES FINGER EGG (BOILED) BEAN MILK RICE (PAR BOILED) RIPE BANANA GRAPE CARROT (OCT-MARCH) KANKADA (JUNE-SEPT) AMLA (NOV-DEC) SWEET POTATO (OCT-MAR) GREEN MANGO (APR-MAY) PINE-APPLE (MAY-JUL) WATER MELON (APR-MAY)	0.050 0.200 0.100 0/050 1NO 0.050 0.010 0.050 0.250 0.100 0.200 0.025 0.050 0.150	0.050 0.200 0.100 0/050 1NO 0.050 0.010 0.050 0.250 0.100 0.100 0.050 0.100 0.150	NO
54	CAT, JUNGLE	CHICKEN DRESSED	0.400	0.400	NO
55	CAT, LEOPARD	CHICKEN DRESSED	0.300	0.300	NO
56	CAT, FISHING	CHICKEN DRESSED KERADI FISH	0.250 0.250	0.250 0.250	NO
57	CHIMPANZEE	APPLE BENGAL GRAM WHOLE CUCUMBER EGG (BOILED) BEAN GRAPE MILK TOMATO RICE (PAR BOILED) GREEN SAG	0.300 0.100 0.200 1 NO 0.050 0.200 0.150 0.100 0.200 0.200	0.300 0.100 0.200 1 NO 0.050 0.200 0.150 0.100 0.200 0.200	NO

		RIPE BANANA	0.300	0.300	
		BEDANA	0.200	0.200	
		HONEY	0.025	0.025	
		CARROT (OCT-MAR)	0.100		
		KHAJARA	0.050	0.050	
		PINE-APPLE (MAY-JUL)		0.100	
		WATER MELON (APR-MAY)		0.500	
		RIPE GUAVA (SEPT-OCT)	0.050		
		GREEN COCONUT (APR-JUN)		2NO	
		CUSTARD APPLE (SEPT-OCT)		0.400	
		RIPE PAPAYA	0.400	0.400	
		PALANGA SAG (DEC-FEB)	0.100		
		ORANGE (NOV-MAR)	0.150		
		AMLA (NOV-DEC)	0.100		
		GARLIC	0.010	0.010	
		ONION	0.030	0.030	
58	CIVET, COMMON PALM	RICE (PAR BOILED)	0.010	0.010	NO
		CHICKEN MEAT KIMA	0.100	0.100	
		MILK	0.005	0.005	
		KERANDI FISH	0.050	0.050	
		RIPE BANANA	0.250	0.250	
59	CIVET, SMALL INDIAN	RICE (PAR BOILED)	0.050	0.050	NO
		CHICKEN MEAT KIMA	0.050	0.050	
		MILK	0.005	0.005	
		KERANDI FISH	0.050	0.050	
		RIPE BANANA	0.200	0.200	
60	BAT, FRUIT	RIPE BANANA	0.150	0.150	NO
		APPLE	0.050	0.050	
		RIPE PAPAYA	0.100	0.100	
		GRAPE	0.025	0.025	
61	DEER, BARKING	COMMON GRASS	1.000	1.000	NO
		DEER MASH	0.500	0.500	
62	DEER, MOUSE	RIPE BANANA	0.250	0.250	NO

		GREEN SAG	0.050	0.050	
		RIPE PUMPKIN	0.050	0.050	
		LADIES FINGER	0.100	0.100	
		BEAN	0.125	0.125	
		KANKADA (JUNE-SEPT)		0.025	
		CARROT (OCT-MAR)	0.125		
		SWEET POTATO (OCT-MAR)	0.100		
63	DEER, SAMBAR ADULT, 1YR ABOVE	COMMON GRASS	12.000	12.000	NO
		DEER MASH	2.500	2.500	
		RIPE BANANA (FOR THE GROUP)	2.000	2.000	
		DEER FODDER	2.000	2.000	
	DEER, SAMBAR SUB-ADULT, 2MONTHS-1 YEAR	COMMON GRASS	8.000	8.000	NO
		DEER MASH	1.750	1.750	
		DEER FODDER	1.000	1.000	
64	DEER, SPOTTED ADULT, 1YR ABOVE	COMMON GRASS	2.000	2.000	NO
		DEER MASH	1.000	1.000	
		DEER FODDER	1.000	1.000	
	DEER, SPOTTED SUB-ADULT 2MONTHS- 1YEAR	DEER MASH	0.750	0.750	NO
		COMMON GRASS	1.000	1.000	
		DEER FODDER	1.000	1.000	
65	DEER, SWAMP ADULT, 1YR ABOVE	COMMON GRASS	10.000	10.000	NO
		DEER MASH	1.500	1.500	
		PARA GRASS	3.000	3.000	
		RIPE BANANA (FOR THE GROUP)	1.000	1.000	
	DEER, SWAMP SUB-ADULT 2MONTHS-1YR	COMMON GRASS	5.000	5.000	NO
		DEER MASH	1.000	1.000	
		PARA GRASS	1.500	1.500	
66	DEER, BROW ANTLERED, MANIPURI	BENGAL GRAM WHOLE	0.600	0.600	NO
		DEER FODDER	5.000	5.000	
		WHEAT BRAN (CHOKAD)	1.000	1.000	
		NB21	10.000	10.000	
		CARROT (OCT-MAR)	0.200	0.200	
		RIPE BANANA	0.200	0.200	

		BLACK SALT JHUDANGA	0.020 0.200	0.020 0.200	
67	DEER, HOG	WHEAT BRAN BENGAL GRAM (SOAKED) COMMON GRASS DEER FODDER	0.250 0.250 1.000 1.000	0.250 0.250 1.000 1.000	NO
68	ELEPHANT (ADULT)	WHEAT COMMON GRASS ELEPHANT FODDER NB21 PARA GRASS TURMERIC WHOLE MOLASES COMMON SALT COCONUT STRAW CASTOR OIL BAMBOO LEAVES (JULY-OCT) SUGARCANE (JAN-MARCH) WATER MELON (APR-MAY)	5.000 50.000 50.000 75.000 75.000 0.050 0.300 0.150 1NO 1.500 0.100 20.000	5.000 50.000 50.000 75.000 75.000 0.050 0.300 0.150 1NO 1.500 0.100 10.000 4.000	NO
	ELEPHANT, SUB-ADULT	WHEAT COMMON GRASS ELEPHANT FODDER NB21 PARA GRASS TURMERIC WHOLE MOLASES COMMON SALT COCONUT STRAW CASTOR OIL BAMBOO LEAVES (JULY-OCT) SUGARCANE (JAN-MARCH)	3.500 20.000 30.000 30.000 30.000 0.025 0.250 0.050 1NO 1.500 0.050 5.000	3.500 20.000 30.000 30.000 30.000 0.025 0.250 0.050 1NO 1.500 0.050 5.000	NO

		WATER MELON (APR-MAY)		4.000	
69	GIRAFFE	WHEAT, SOAKED	1.000	1.000	NO
		BENGAL GRAM, SOAKED	1.000	1.000	
		MUNG, SOAKED	1.000	1.000	
		DEER MASH	1.250	1.250	
		FRESH RIPE BANANA	5.000	5.000	
		CUCUMBER	6.000	6.000	
		TOMATO	0.500	0.500	
		ONION	0.250	0.250	
		COMMON SALT	0.050	0.050	
		TREE FODDER (OSTA/BARA)	30.000	30.000	
		NB21	5.000	5.000	
		GREEN SAG	2.000	2.000	
		JHUDANGA	1.500	1.500	
		RIPE PUMPKIN	2.000	2.000	
		GARLIC	0.025	0.025	
		SWEET POTATO (OCT-MAR)	1.000		
		CARROT (OCT-MAR)	2.000		
70	GAUR	BALCK GRAM, SOAKED	0.250	0.250	NO
		WHEAT BRAN	2.000	2.000	
		DEER MASH	5.000	5.000	
		MOLASSES	0.050	0.050	
		PARA GRASS	15.000	15.000	
		NB21	15.000	15.000	
		TREE FODDER (OSTA)	5.000	5.000	
		RIPE BANANA	0.500	0.500	
71	GIANT SUIRREL	BENGAL GRAM	0.050	0.050	NO
		APPLE	0.050	0.050	
		GRAPE	0.025	0.025	
		BREAD	0.100	0.100	
		RIPE BANANA	0.100	0.100	
		GREEN PEA POD (DEC-FEB)	0.050	0.050	
		RIPE GUAVA(SEP-OCT)	0.100	0.100	

72	HARE, INDIAN	DUBA GRASS GREEN SAG PUMPKIN BEAN CARROT (OCT-MAR) APPLE ORANGE (NOV-MAR) GRAPE BENGAL GRAM (SOAKED) SWEET POTATO (OCT-MAR) PALANGA (DEC-FEB)	0.100 0.100 0.050 0.050 0.050 0.050 0.050 0.025 0.025 0.100 0.100	0.100 0.100 0.050 0.050 0.050 0.025 0.025	NO
73	HIPPOPOTAMUS ADULT, 2 ½ YRS ABOVE	BENGAL GRAM WHOLE PUMPKIN CABBAGE GREEN SAG MINERAL MIXTURE CHOKAD (WHEATBRAN) COMMON SALT RIPE BANANA PARA GRASS	2.000 1.000 2.000 1.000 0.100 5.000 0.100 1.000 50.000	2.000 1.000 2.000 1.000 0.100 5.000 0.100 1.000 50.000	NO
	HIPPOPOTAMUS SUB-ADULT 6MONTHS-2 ½ YRS	BENGAL GRAM WHOLE PUMPKIN CABBAGE GREEN SAG MINERAL MIXTURE CHOKAD (WHEATBRAN) COMMON SALT RIPE BANANA PARA GRASS	1.000 0.500 1.000 0.500 0.050 2.500 0.100 0.500 20.000	1.000 0.500 1.000 0.500 0.050 2.500 0.100 0.500 20.000	NO
74	HYENA	BUFFALO MEAT	2.000	2.000	MONDAY
75	JACKAL	BUFFALO MEAT	1.000	1.000	MONDAY
76	LEOPARD, ADULT (ABOVE 1 ½ YEAR)	BUFFALO MEAT	4.000	4.000	MONDAY

	LEOPARD, SUB-ADULT (1-1½ YEARS)	BUFFALO MEAT	3.000	3.000	MONDAY
	LEOPARD, JUVENILE (6MONTHS-1 YEAR)	BUFFALO MEAT	1.000	1.000	NO
77	LION, ASIATIC/HYBRID/AFRICAN ADULT, ABOVE 2 ½ YR	BUFFALO MEAT	9.000	9.000	MONDAY
	LION, SUB ADULT (1 YEAR – 2 ½ YEARS)	BUFFALO MEAT	6.000	6.000	MONDAY
	LION, JUVENILE (6 MONTHS – 1 YEAR)	BUFFALO MEAT	3.000	3.000	MONDAY
	CUB (3 MONTHS TO 6 MONTHS)	CHICKEN (DRESSED, BONE LESS)	1 NO	1 NO	NO
78	LANGUR, COMMON	BENGAL GRAM WHOLE LADIES FINGER GROUND NUT BEAN MILK RICE (PAR BOILED) RIPE BANANA GREEN PEA POD (DEC-FEB) SWEET POTATO (OCT-MAR) GREEN MANGO (APR-MAY) GREEN MAIZE WITH SPIKE (SEP-OCT) WATER MELON (APR-MAY)	0.050 0.050 0.050 0.050 0.010 0.050 0.250 0.050 0.100	0.050 0.050 0.050 0.050 0.010 0.050 0.250 0.050 0.100 0.150	NO
79	MACAQUE, BONNET ADULT (1 ½ YEAR ABOVE)	BENGAL GRAM WHOLE BRINJAL LADIES FINGER BREAD GROUND NUT BEAN	0.050 0.100 0.050 0.030 0.050 0.050	0.050 0.100 0.050 0.030 0.050 0.050	NO

		MILK RICE (PAR BOILED) RIPE BANANA GREEN PEA POD (DEC-FEB) SWEET POTATO (OCT-MAR) GREEN MANGO (APR-MAY) GREEN MAIZE WITH SPIKE (SEP-OCT) PINE-APPLE (MAY-JUL) WATER MELON (APR-MAY)	0.010 0.050 0.250 0.050 0.100 0.050 0.100 0.100 0.150	0.010 0.050 0.250 0.050 0.100 0.100 0.150	
	MACAQUE, BONNET SUB-ADULT	BENGAL GRAM WHOLE BRINJAL LADIES FINGER BREAD GROUND NUT BEAN MILK RICE (PAR BOILED) RIPE BANANA GREEN PEA POD (DEC-FEB) SWEET POTATO (OCT-MAR) GREEN MANGO (APR-MAY) GREEN MAIZE WITH SPIKE (SEP-OCT) PINE-APPLE (MAY-JUL) WATER MELON (APR-MAY)	0.025 0.050 0.025 0.015 0.025 0.025 0.005 0.025 0.125 0.050 0.050 0.025 0.050 0.050 0.050 0.075	0.025 0.050 0.025 0.015 0.025 0.025 0.005 0.025 0.125 0.025 0.050 0.050 0.050 0.075	NO
80	MACAQUE, RHESUS	BENGAL GRAM WHOLE BRINJAL LADIES FINGER BREAD GROUND NUT BEAN MILK RICE (PAR BOILED) RIPE BANANA	0.050 0.100 0.050 0.030 0.050 0.050 0.010 0.050 0.250	0.050 0.100 0.050 0.030 0.050 0.050 0.010 0.050 0.250	NO

		SWEET POTATO (OCT-MAR) GREEN MAIZE WITH SPIKE (SEP-OCT) WATER MELON (APR-MAY) GREEN PEA POD (DEC-FEB)	0.100 0.050	0.100 0.150	
81	MONGOOSE COMMON	GADISHA FISH	0.150	0.150	NO
82	NILGAI ADULT, 1YR ABOVE	COMMON GRASS DEER MASH DEER FODDER RIPE BANANA (FOR THE GROUP)	15.000 2.500 3.000 4.000	15.000 2.500 3.000 4.000	NO
	SUB ADULT (6 MONTHS – 1 YEAR)	COMMON GRASS DEER MASH DEER FODDER	10.000 2.500 2.000	10.000 2.500 2.000	NO
83	ORANG UTAN	GREEN SAG TAMATO RIPE BANANA CUCUMBER APPLE BOILED EGG BEAN GRAPE AMUL SPRAY CARROT (OCT-MAR) PINE-APPLE (MAY-JUL) WATER MELON (APR-MAY) RIPE GUAVA (SEPT-OCT) GREEN COCOANUT (APR-JUN) CUSTARD APPLE (SEPT-OCT) RIPE PAPAYA PALANG SAG (DEC-FEB) ORANGE (NOV-MAR) KANKAD (JUNE-SEPT) AMLA (NOV-DEC) GARLIC	0.500 0.200 1.500 0.400 0.300 1NO 0.100 0.100 0.050 0.200 0.400 0.100 0.150 0.100 0.015	0.500 0.200 1.500 0.400 0.300 1NO 0.100 0.100 0.050 0.100 0.500 0.050 2NO 0.400 0.400 0.125 0.015	NO

		ONION	0.050	0.050	
84	PANGOLIN, INDIAN	RED WEAVER ANT EGGS BOILED EGG	0.600 ½ NO	0.600 ½ NO	NO
85	PORCUPINE	BENGAL GRAM WHOLE BRINJAL GROUND NUT BEAN MAIZE MILK RICE (PAR BOILED) RIPE BANANA RIPE PUMPKIN SWEET PATATO (OCT-MAR)	0.050 0.050 0.100 0.010 0.050 0.010 0.100 0.150 0.050 0.100	0.050 0.050 0.100 0.010 0.050 0.010 0.100 0.150 0.050	NO
86	RATEL	HONEY GOAT MEAT RIPE BANANA BUFFALO MEAT	0.020 0.100 0.200 0.400	0.020 0.100 0.200 0.400	NO
87	TIGER ADULT, 2 ½ YR ABOVE	BUFFALO MEAT	10.000	10.000	Monday
	TIGER, SUB ADULT 1YR-2 ½ YR	BUFFALO MEAT	6.000	6.000	Monday
	TIGER, JUVENILE 6MN- 1YR	BUFFALO MEAT	3.000	3.000	Monday
	TIGER, CUB 3MN-6MN	CHICKEN (DRESSED, BONELESS)	1NO	1NO	Monday
88	WILD BOAR	WILD BOAR MASH RIPE PUMPKIN SWEET POTATO (OCT-MAR)	1.000 0.500 0.250	1.000 0.500	NO
89	WHITE BUCK	TREEN FODDER DEER MASH	1.000 0.750	1.000 0.750	NO

		RIPE PUMPKIN	0.100	0.100	
		JHUDANGA	0.100	0.100	
		MOLASSES	0.050	0.050	
90	LANGUR, NILGIRI	APPLE	0.250	0.250	NO
		RICE (PAR BOILED)	0.030	0.030	
		RIPE BANANA	0.200	0.200	
		ORANGE(NOV-MAR)	0.100		
		RIPE GUAVA	0.100	0.100	
		BENGAL GRAM	0.015	0.015	
		CABAGGE	0.030	0.030	
		GREEN SAG	0.100	0.100	
		BOILED EGG	1NO	1NO	
		BEANS	0.050	0.050	
		CARROT (OCT-MAR)	0.050		
		GRAPE	0.050	0.050	
		HONEY	0.010	0.010	
		AMLA (NOV-DEC)	0.020		
		CUCUMBER	0.030	0.030	
		CUSTARD APPLE (SEP-OCT)		0.100	
		POMEGRANATE	0.125	0.125	
91	BOA RED SAND / BOA COMMON SAND	WHITE MICE /RAT (ON MONDAY)	2NO	2NO	Sunday to Saturday
92	CROCODILE, MORLETE	ROHI FISH BUFFALO MEAT	0.500 1.000	0.500 1.000	Monday
93	CROCODILE, SIAMEASE	ROHI FISH BUFFALO MEAT	0.500 1.000	0.500 1.000	Monday
94	CROCODILE, LONG SNOUTED/GHARIAL ADULT(5 YEARS ABOVE)	ROHI FISH	1.500	1.500	Monday
	SUB-ADULT (2- 5 YEARS)	ROHI FISH	1.000	1.000	Monday
	JUVENILE (1 MONTH – 2 YEARS)	GADISHA FISH	0.300	0.300	NO
95	CROCODILE, MUGGER	BUFFALO MEAT	1.000	1.000	Monday

96	CROCODILE, DWARF CAIMON	FISH FINGERLINGS (LIVE) (ON TUESDAY, THURSDAY, SATURDAY OF EVERY WEEK)	0.250	0.250	Monday, Wednesday, Thursday, Sunday
97	CROCODILE, SALT WATER	BUFFALO MEAT	1.000	1.000	Monday
98	COBRA, KING	RAT SNAKE (MONDAY)	1NO	1NO	NO
99	COBRA, MONOCELLATE/ BINOCELLATE	RAT (MONDAY) DAY OLD CHICK (MONDAY) GADISHA FISH	1NO 1NO 0.050	1NO 1NO 0.050	NO
100	INDIAN CHAMELION	GRASS HOPPER	10 NO.S	10 NO.S	NO
101	IGUANA	LEUTIA SAG PALANG SAG(DEC-FEB) FENUGREEK LEAVES DRUMDTICK LEAVES CORIANDER LEAVES APPLE BANANA RIPE PAPAYA POMEGRANATE RIDGE GOURD CAPSICUM CUCUMBER LADIES FINGER	0.020 0.020 0.020 0.020 0.020 0.010 0.010 0.010 0.010 0.010 0.005 0.005 0.010 0.010	0.020 0.020 0.020 0.020 0.010 0.010 0.010 0.010 0.005 0.005 0.010 0.010	NO
102	KRAIT, BANDED	RAT SNAKE OR RAT/MICE	1 NO. 2NO	1 NO. 2NO	NO
103	KRAIT, COMMON INDIAN	RAT/MICE	1NO	1NO	NO
104	MONITOR LIZARD, COMMON	KERANDI FISH/ROHI FISH RAT (MONDAY)	0.250 1NO	0.250 1NO	NO
105	MONITOR LIZARD, WATER	GADISHA FISH ROHI FISH	0.200 0.200	0.200 0.200	NO

106	PYTHON, INDIAN ROCK/ BURMESE ROCK , ADULT	CHICKEN (MONDAY)	1 NO	1 NO	NO
	SUB ADULT	GUINEA PIG/RAT (MONDAY)	2 NO	2 NO	NO
107	PYTHON, RETICULATED	CHICKEN (MONDAY)	2 NO	2 NO	NO
108	SNAKE, RAT	RAT (MONDAY)	1 NO	1 NO	NO
109	VIPER RUSSEL'S	RAT/DAY OLD CHICK (MONDAY)	2 NO	2 NO	NO
110	TORTOISE, STAR INDIAN	GREEN SAG RIPE BANANA LADIES FINGER JHUDANG/BEAN CUCUMBER PUMPKIN TAMATO PALANG SAG (DEC-FEB)	0.015 0.025 0.030 0.030 0.100 0.100 0.050 0.050	0.015 0.025 0.030 0.030 0.100 0.100 0.050	NO
111	TURTLE, FRESH WATER/ INDIAN FLAP-SHELLED/ GANGES SOFT-SHELLED/ INDIAN TENT	GREEN SAG KERANDI FISH CABBAGE	0.010 0.100 0.020	0.010 0.100 0.020	NO
112	CHITRA TURTLE	GREEN SAG PUMPKIN KERANDI FISH CABBAGE	0.025 0.050 0.100 0.025	0.025 0.050 0.100 0.025	NO

14. Vaccination Schedule of animals:

Sl. No.	Species	Disease vaccinated for	Name of the vaccine and dose/quantity used	Periodicity	Remarks
1	Tiger, lion, leopard, fishing cat, jungle cat, leopard cat	Feline panleukopenia, Calici disease, Rhinotracheitis, Rabies	Biofel- PCHR- 1 dose per animal	Annual	
2	Elephant	Haemorrhagic Septicemia	HS Alum adjuvant vaccine- 10ml/head	Six months	
		Foot and mouth disease	Rakhsa-Ovac- 5ml/head	Six monthly	
		Tetanus	Toxoid- 1ml/head	Six months	
		Rabies	Raksharab- 2vials/head	Annual	
		Anthrax	Anthrax spore vaccine- 3ml/head	Annual	
		Black Quarter	BQ bivalent vaccine- 10ml/ head	Six months	
3	Hyena/ Jackal	Leptospirosis, Parvo, CD, Parainfluenza, Hepatitis	Megavac-6- 1 dose each	Annual	
4	Four horned Antelope	Haemorrhagic Septicemia	HS alum adjuvant vaccine- 3ml/head	Six months	
5	Gaurs	Haemorrhagic Septicemia, Black Quarter, Foot and mouth disease	Raksha-Triovac- 3ml/head	Annual	

15. De-worming Schedule of animals

ROUTINE FECAL SAMPLE EXAMINATION & DEWORMING SCHEDULE OF CAPTIVE ANIMALS AT NKZP

Sl. No.	Type of animal	Enclosure number	Period (month)
1	CARNIVORES (at 4 months interval) Or whenever required	30,31,32,33 and tiger safari, lion safari (tiger section)	FEBRUARY
			JUNE
			OCTOBER
		18,19,20,21,22,23,24,25,26,27 28,29,90,91.(tigers, lions, Jackal, leopards) bear safari sloth and himalayan bears	FEBRUARY
			JUNE
			OCTOBER
		small cats, small mammal house, mouse deer, indian hare, giant squirrel, nocturnal house,	FEBRUARY
			JUNE
			OCTOBER
2	HERBIVORES (at 4 months interval) Or whenever required	Herbivore safari, spotted deer, Elephants	MARCH
			JULY
			NOVEMBER
		Rhinoceros, hippopotamus, giraffe, zebra Manipuri deer, barking deer	MARCH
			JULY
			NOVEMBER
		Sambar, swamp deer, spotted deer, nilgai, hog deer, black buck, white buck, four horned antelope, primates including chimp & orangutan	MARCH
			JULY
			NOVEMBER
3	BIRDS (at 4 months interval) Or whenever required	Enclosures 1 to 13, enclosures inside the children park	FEBRUARY
			JUNE
			OCTOBER
		emu, cassowary, aquatic bird peacock, lesser adjutant stork, open bill stork, saras crane, black swan, mandarin duck, r.r.parakeet, brahmin kite	FEBRUARY
			JUNE
			OCTOBER
4	REPTILES (at 4 months interval) Or whenever required	All snakes Star tortoise, monitor lizard	MARCH
			JULY
			NOVEMBER
5	Indian Pangolins (at 4 months interval) Or whenever required	At Pangolin conservation breeding centre	FEBRUARY
			JUNE
			OCTOBER

16. Disinfection Schedule:

Sl. No.	Species	Type of enclosure	Disinfectant used and method	Frequency of disinfection
1	Tiger, lion, leopard, Hyena, Jackal,	Open top enclosure	Kohrsolin-TH	Alternate month
			Deltamethrine/ Cypermethrine	Alternate month
2	All Deer Species	Open top enclosure	Lime Sprinkling	Alternate month
3	All Bird Species	Caged enclosure	Kohrsolin- TH	Alternate month
			Virkon-S	Alternate month
4	All Primates including Chimpanzee, Orangutan	Open top enclosure	Kohrsolin-TH	Alternate month

17. Health Check-up of employees for zoonotic diseases:

Due to COVID-19, there is thrice screening was done by both RT-PCR & Antigen method. All staff are vaccinated with COVAXIN & COVISHIELD.

No health check-up of employees for zoonotic diseases was carried out during the year 2020-21. The last Health Check-up of 173 employees was carried out on 26th and 27th March 2018.

18. Development Works carried out in the zoo during the year:

During the year, many enclosures and visitor amenities were renovated and supplemented with enclosure enrichments, standoff barrier, signage and landscaping where ever necessary. Out of which New zoo exit path, Visitor kiosk, New Safari bus stand, Nandankanan selfie point, Lake side beautification, Lion enclosure back kraal, 2 nos. of fountain with addition to it renovation of Water Monitor Lizard enclosure, Stump Tailed Macaque enclosure, Asian Brown Tortoise enclosure also done renovation of sit out spots, are worth mentioning.

19. Education and Awareness programmes during the year 2020-21:

DATE	PROGRAMME/EVENT	NO. PARTICIPANTS
05.06.2020	World Environment Day (Virtually)	>100
29.07.2020	International Tiger Day (Virtually)	>150
12.08.2020	World Elephant Day (Virtually)	>200
05.09.2020	International Vulture Awareness Day (Virtually)	>100
03.10.2020	Wildlife Week	>200
29.12.2020	Zoo Foundation Day	>200
03.01.2021	Field visit of B. Sc, 3 rd year Zoology students from D. R. Nayapally College, Bhubaneswar	25
02.02.2021	World Wetland Day	>100
20.02.2021	World Pangolin Day	>200
20.02.2021	Orientation Programme of 29 nos of Foresters from NFTS, Champua	29
03.03.2021	World Wildlife Day	>100
27.03.2021	Induction Training of FRO Batch 2019-20 from East India Tour	Virtually

20. Important Events and happenings:

1. 10-year Vision Plan for Nandankanan to make Global Standard

Nandankanan Biological Park has gradually evolved to a premier zoo of country and spearheaded many significant improvements to provide highest standards in housing, husbandry and health care to the animals as well as providing exiting visitor experience. Central Zoo Authority, New Delhi under the 10-year Vision Plan approach has selected 15 zoos of the country including Nandankanan Biological Park to make the zoo management practices as par global standards. The objectives include infrastructure enhancement, improved visitor experience, universal accessibility, efficient management, enablement of digital interventions and sister zoo concept- a platform for collaboration of an Indian zoo with an International zoo for mutual learning on zoo designing, revenue resources and capacity building. Under this initiative collaboration is being initiated between Nandankanan Biological Park and Tier park Berlin, Germany.

2. Safari Bus Service Stop

The facility has been constructed over an area of 450 sqm having ticket counter, waiting room and cafeteria. Bus track of 1060 sqm area has been constructed in the said premises with a provision of guard wall. Toilet facility has been provided for the visitors. The project was executed by BSNL with a cost of Rs 73.93 Lakhs. The facility was dedicated to visitors on 29th December, 2020 and will be used after process of outsourcing is complete

3. Zoo Exit Pathway

The facility has been constructed on a flat ground over an area of 679 sqm to facilitate visitors exit directly to parking area. In addition to that a visitor aid kiosk was constructed

near the exit path where three facilities are there i.e. cloak room, plastic bottle regulation centre and visitors' feedback. This kiosk constructed over an area of 1104 sqm. This project was executed departmentally from Nandankanan Society Fund with a cost of Rs 20.00 Lakhs. The facility was dedicated to visitors on 29th December, 2020.

4. Virtual Tour and On-line activities

With the changing time to cope with COVID-19 pandemic situations, we have progressed with our virtual presence and conducted several activities. Among which Virtual Tour of Nandankanan Zoo and State Botanical Garden, Online Animal Adoption programmes, online zoo education programmes like online quiz, painting, sharing memories of visitors of Nandankanan are worth mentioning. We had the privilege to organize Quiz Competition on behalf of State Wildlife Headquarter to celebrate Wildlife Week 2020.

5. Adopt-an-Animal Programme

The pandemic has made us to revive and pursue Adopt-an-Animal programme to mobilize resources for animal welfare. More than 270 individuals and organizations have adopted animals of Nandankanan pledging an amount of Rs. 75 lakhs. 02 BOVs (Feed Carrier & Zoo Veterinary Van) are also received from Infosys Foundation.

6. Species Recovery of Gharial in the river Mahanadi

Satkoshia gorge in the river Mahanadi is home of the fabled gharial in Odisha. After 20 years of release of 860 gharials into the river Mahanadi could not yield expected results of rehabilitation as 10/12 were found in the recent census. Therefore, an ambitious project "Species Recovery of Gharial (*Gavialis gangeticus*) in river Mahanadi" was conceptualized and commissioned during 2019. An updated assessment of gharials in the river Mahanadi was carried out with 15 month of pilot study and release of 7(2M:5F) transmitter tagged sub-adult gharials from 20th July 2019 to assess the river physiography and problems impacting non-survival of gharials. The revised strategy for recovery of gharials in Satkoshia Gorge was implemented with release of larger sized transmitter-tagged gharials from Nandankanan Biological Park consisting of 3 males and 3 females measuring 2.3m-3.3m on 5th January 2021. In addition some unprecedented steps were taken that included association of 10 Divisional Forest Officers on either side of the river Mahanadi from Hirakud Dam to Bay of Bengal for rigid protection, implementation of No Fishing Zone in 10km gharial habitat in the Satkoshia gorge of Mahanadi where present population of gharial exists, spreading awareness among local people, provision of compensation for the damaged fishing net and reward of Rs. 1000/- for live gharial caught in the net, study of river physiography, gharial ecology, monitoring of transmitter-tagged gharials for their dispersal and survival.

Proper protection measures and implementation of No Fishing Zone have made the habitat more conducive in the Satkoshia gorge for their breeding. Courtship behaviour was observed during November 2020 among one adult male and two adult females near Sunakhania sand-bars of the gorge. One of the above female gharial has bred on 22nd May, 2021 with 28 hatchlings at Baladamara in the No-Fishing Zone. With the present natural breeding, it is hoped that Gharials will be saved in the Satkoshia Gorge, if rigid protection and future releases to repopulate gharials in nature remain in place.

7. COVID-19 Management

Nandankanan Zoological Park is being properly managed during COVID-19 pandemic following Central Zoo Authority recommendations and government guidelines. The zoo was opened to public on 04.10.2020 following proper COVID-19 guidelines for safety of visitors, employees and animals.

21. Seasonal special arrangements for upkeep of animals:

The following winter and summer care arrangements are made at Nandankanan Zoological Park during the year.

Winter arrangement for captive animals at Nandankanan Zoological Park:

1. Birds housed in Enclosure no 1 to 13, 81 and inside Children Park:
 - Drapes of agro net or clean gunny bag hanged around the wire mesh from outside during night time.
 - Lighting with 40W electric bulbs protected with a metallic frame in each enclosure provided during night time for warmth.
2. Chimpanzee and Orangutan:
 - Two numbers of blankets provided to orangutan.
 - The windows are covered with drapes during night time at a distance so that it can't be pulled out or damaged. The existing window shutters are used during the night time.
 - Wooden platforms are provided to the orangutan during night time.
 - Medicines to improve immunity are supplemented in the diet.
 - Provision of room heater may be kept in readiness for use in extreme cold.
 - Straws are spread on the floor of the night shelter of chimpanzee in night hours.
3. Snakes:
 - Clean fresh straw are provided inside the den of each enclosure during the night time.
 - 40W electric bulbs are provided in the den to provide warmth.
 - Direct sunlight provision into the enclosure is made for basking.
4. Crocodiles:
 - To ensure day time basking overhead branches of shady trees are pruned and fresh sand bed are spread in the basking zone. In extreme cold thatched sheds

with underneath straws are provided in each enclosure to help crocs taking shelter in night.

5. Stagnant/ accumulated rain water in all wet moated enclosure is pumped out. Silt accumulated inside moat is removed and the moat be treated with lime and allowed to keep dry.
6. The top soil of tiger and lion enclosure back kraals are removed and replaced with fresh sand after sprinkling of lime.
7. All lake side herbivore enclosures are sprinkled with lime. Stagnant water and mud in enclosures are cleaned and replaced with fresh soil.

Summer arrangement for captive animals at Nandankanan Zoological Park:

1. Carnivore enclosures:
 - All the water pools available in the exhibit and back kraals are repaired and kept filled up with water alternatively.
 - Running water made available during peak hours of the day.
 - The shutter of feeding cell is made open throughout the day.
 - Moat water of all water moats is pumped out and the moats are cleaned and disinfected.
 - Provision of shed above the water pools to is made to prevent water from heating.
 - Feeding cells made straw thatched to keep the cells cool.
 - Provision of sprinklers is made in the enclosures 19 to 29-A.
 - Sprinklers available at enclosures 29-B to 33 are made functional and other carnivore enclosures.
2. Herbivore enclosures:
 - Sambar enclosure (Encl 39):
 - Wallowing tank are cleaned and provision of running water facility is made in wallowing tank.
 - Water accumulated near the feeding cell is cleaned.
 - Left over stems of fodders accumulated in the moat areas are cleaned regularly.
 - Top soil is removed and enclosure is cleaned.

- Sprinklers available at Manipuri deer, barking deer, swamp deer enclosures is made functional.
 - All sprinklers available at giraffe enclosure is made functional.
3. Primate enclosures:
- Chimpanzee and Orangutan enclosure
 - Provision of air coolers made available to Chimpanzee and orangutan.
 - 'Benachera' mat may be hanged at the windows of chimpanzee and orangutan feeding cell.
 - At chimpanzee enclosure roof thatching is made to make the room cooler.
 - At 'Nilgiri langur' enclosure bamboo tatti is covered at the exhibit area.
 - Chimpanzee, orangutan and 'nilgiri langur' not released to the exhibit area in case the temperature rises to more than 40°C.
4. Reptile park:
- In crocodile and turtle enclosures water in the pool is maintained in running condition during peak hours of the day.
 - Sheds is provided at all crocodile enclosures, turtle enclosures.
 - Snake enclosures are covered with bamboo tatti/mat.
 - At Iguana enclosure, provision of bamboo tatti/mat on roof top is made.
5. Bird enclosures:
- Provision of side wall curtains is made during day time (10 AM to 4 PM) to protect them from hot blowing wind.
 - Water is sprinkled on side wall curtains, floors and roof tops within 8 AM every day.
 - The grass lawn passage situated between bird enclosures (Enclosure 1 to 10) is flooded with water before 8AM every day.
 - Cinereous Vulture: Water tank remain filled up with water. Water is sprayed over the bird and inside the enclosure in case the temperature goes beyond 40°C.
 - Silver pheasant/ Golden pheasant /ring neck pheasant/lorikeet enclosures: gunny bags/ 'bena chera' is hanged up to half of the chain link mesh and water is sprinkled over it 2-3 times a day.

- Emu and ostrich is given bath by spraying water on them during early part of the day (i.e. before 10AM).
- Larger earthen water pots are provided in all the bird enclosures to keep the drinking water cool.

6. Bear Enclosures:

- All the bear enclosures (enclosure 15 and 16) is provided with two sheds each thatched with straw or bamboo. Bears to be kept confined in the feeding cell during 10AM to 4PM in days temp goes beyond 40°C.
- Mote is cleaned and refilled with fresh water at regular interval.

22. Research Work carried out and 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 includes inhouse staff/officer, and other collaborative work with 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. Some of the studies are published in national and international journals which are mentioned bellow.

Research papers

1. Sahu, S. K., Purohit, K. L., Mohapatra, R. K. and Panda, S. (2021) Chemical restraint and translocation of a bull Asian elephant that strayed into a zoo. *Gajah*. 53: 47-50.
2. Maharana S. and Mohapatra, R.K. (2021) Interspecific conflict between gharial (*Gavialis gangeticus*) and mugger (*Crocodilus palustris*) in the Mahanadi river, Odisha, India. *IUCN SSC Crocodile Specialist Group Newsletter*. 40(2):7-8.
3. Nath, I, Sahu, S. K., Panda, S. K. Sahoo, N., Das, A. K. (2021) Surgical management of bilateral epulides in a sloth bear (*Melursus ursinus*) at Nandankanan Zoological Park. *Indian journal of animal research*. B.4247: 1.4.

Books

1. Mishra, A. K., Mohapatra, R. K., Parida, S. P. and Mishra, S. (2021) Environmental enrichment: A prospective of captive felid management. Notion Press. India, Singapore, Malaysia. pp 1-172.
2. Mohapatra, R.K., Sahu, S. K., Joshi, A., Vanjari, C. D., Bhandari, B., Thakur, M., Perera, P., Mendis, A., Aditya, V., Sharma, G., Katdare, B., Chaudhuri, A. and Mahapatra, M. (2021) Field guide for rehabilitation of Indian pangolin. Nandankanan Biological Park, Bhubaneswar and Central Zoo Authority, New Delhi. pp : 1-39.

23. Conservation Breeding Programme of the Zoo:

(a) **Indian Pangolin Conservation Breeding Programme:** Nandankanan Zoological Park has the only Conservation Breeding Centre for Indian pangolins in the world. The research on conservation breeding of Indian pangolin is actively going on in the centre established in 2008. Monitoring through the infrared sensitive CCTV cameras unfolds the secrets of the life of the pangolins. Research at the centre has helped to develop proper housing, husbandry and conservation breeding protocols for this endangered species. The centre has successfully bred 10 Indian pangolins in captivity. Presently there are 26 (8M:17M:1US) pangolins. Initiatives are taken for collaboration with other pangolin facilities of South East Asia for mutual learning of best management practices including development of artificial diet, health care management, breeding and release protocols through Central Zoo Authority, New Delhi.

(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 through 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.

24. Animal acquisition / transfer / exchange during the year:

Serial No	Species Received	Sex (M:F:U)	Zoo /Farm Name	Date of arrival
1.	Asiatic Lion	0:2:0	Kamala Nehru Prani Sangrahalaya, Indore	20.12.2020
2.	Gharial	2:1:0	Kamala Nehru Prani Sangrahalaya, Indore	20.12.2020
3.	Indian Grey Wolf	2:0:0	Kamala Nehru Prani Sangrahalaya, Indore	20.12.2020
4.	Indian Fox	0:1:0	Kamala Nehru Prani Sangrahalaya, Indore	20.12.2020
5.	Himalayan Black Bear	1:1:0	Aizwal Zoological Park, Mizoram	07.02.2021
6.	Asiatic Wild Dog	1:1:0	Aizwal Zoological Park, Mizoram	07.02.2021
7.	Asian Brown Tortoise	3:3:0	Aizwal Zoological Park, Mizoram	07.02.2021
8.	Assamese Macaque	1:1:0	Aizwal Zoological Park, Mizoram	07.02.2021
9.	Stump Tailed Macaque	3:3:0	Aizwal Zoological Park, Mizoram	07.02.2021
Serial No	Species Given	Sex (M: F: U)	Zoo /Farm Name	Date of Disposal
1.	Hippopotamus	1:1:0	Kamala Nehru Prani Sangrahalaya, Indore	27.09.2020
2.	Hippopotamus	0:2:0	Kanan Pendari Zoological Garden, Bilaspur	19.02.2021
3.	Indian Tiger Wild Boar Zebra Finch Java Sparrow	1:1:0 1:0:0 15:15:0 15:15:0	Nahargarh Buiological Park, Jaipur	17.03.2021

25. Rescue and Rehabilitation of wild animals carried out by the Zoo:

Sl.No.	Date of Received at Nandankanan	Species with number of animals rescued with their sex (M: F:U:T)	Received from	Date of Submission of Report to the CWLW / CZA	Action taken	
					Date and Place of rehabilitation in their habitat	Reasons for housing in the zoo, if not released in their habitat
Mammals						
1	27.08.2020	Peacock 1:0:0	Bhadrak wildlife range, Bhadrak	Memo No. 2988 date 27.08.2020	Released to nature	To Nandankanan WL sanctuary vide Memo No. 3017 on 23.09.2020
2	23.12.2020	Indian pangolin 1:0:0	City Forest Division, Bhubaneswar	Memo No, 6278 dated 23.12.2020		Seized specimen, housed at zoo, for conservation breeding
Birds						
3	04.01.2021	Lesser Adjutant stork 0:0:1	Kanika wildilife Range, Rajnagar	Memo No. 20 dated 04.01.2021		Received in sick condition, prolonged human imprinting during treatment

26. Annual Inventory of animals:

ANNUAL ANIMAL INVENTORY (FROM 1ST APRIL - 2020 TO 31TH MARCH-2021)																										
SCH-I, II, III & IV (Wildlife Protection Act)							During the Year																			
			Stock as on 01.04.2020				Births			Acquisitions			Disposals			Deaths			Stock as on Dt- 31.03.2021							
Sl. No	Species	Scientific name	SCH	M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T			
SCH-I, SCH-II BIRDS																										
1	MYNAH HILL	<i>Gracula religiosa</i>	I	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1			
2	A. PEA FOWL, INDIAN	<i>Pavo cristatus</i>	I	5	5	5	15	0	0	4	0	0	0	2	2	0	0	0	0	3	3	9	15			
	B. PEA FOWL, INDIAN WHITE	<i>Pavo cristatus</i>	I	2	4	1	7	0	0	0	0	0	0	0	0	0	0	0	2	4	1	7				
3	SPOONBILL, WHITE EURASIAN	<i>Platalea leucorodia</i>	I	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1				
4	VULTURE, CINEREOUS	<i>Aegypius monachus</i>	I	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2				
5	VULTURE, LONG BILLED	<i>Gyps indicus</i>	I	2	3	8	13	0	0	0	0	0	0	0	0	0	0	2	3	8	13					
6	VULTURE, WHITE BACKED	<i>Gyps bengalensis</i>	I	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1				
7	KITE, BRAMHINY	<i>Haliastur indus</i>	I	1	0	1	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1				
8	KITE, BLACK	<i>Milvus migrans</i>	I	1	1	9	11	0	0	1	0	0	0	0	0	0	0	2	3	3	4	10				
9	SHIKRA	<i>Accipiter badius</i>	I	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2				
10	HORNBILL GREY	<i>Ocyrceros birostris</i>	I	1	0	1	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1				
SCH-I & II - TOTAL				12	14	31	57	0	0	5	0	0	0	2	2	0	0	4	12	14	28	54				
SCH-I, SCH-II MAMMALS																										
Sl. No	Species	Scientific name		M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T			
1	ANTELOPE, FOUR HORNED/CHOWSINGHA	<i>Tetracerus quadricornis</i>	I	1	1	2	4	0	0	0	0	0	0	0	0	0	1	1	1	1	1	3				
2	BEAR, HIMALAYAN BLACK	<i>Selenarctos thibetanus</i>	II	2	4	0	6	0	0	0	1	1	0	0	0	0	2	0	3	3	0	6				
3	BEAR, SLOTH	<i>Melursus ursinus</i>	I	1	2	0	3	0	0	1	0	0	0	0	0	1	0	1	1	1	1	3				
4	BLACKBUCK / KRISHNA MRIG	<i>Antelope cervicapra</i>	I	13	17	6	36	0	0	12	0	0	0	0	0	1	0	18	24	5	47					
5	CAT, JUNGLE	<i>Felis chaus</i>	II	3	2	1	6	0	0	1	0	0	0	0	0	0	0	3	2	2	7					
6	CIVET, COMMON PALM / CAT, TODDY	<i>Paradoxurus hermaphroditus</i>	II	4	4	15	23	0	0	0	0	0	0	0	3	5	0	3	3	9	15					
7	CIVET, SMALL INDIAN	<i>Viverricula indica</i>	II	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1					
8	DEER, BROW ANTLERED / SANGAI	<i>Cervus eldi</i>	I	6	5	2	13	0	0	4	0	0	0	0	0	0	0	6	5	6	17					
9	DEER, MOUSE	<i>Tragulus memmina</i>	I	5	6	1	12	0	0	13	0	0	0	0	0	1	0	6	6	12	24					
10	DEER, SWAMP / BRASINGHA	<i>Cervus duvauceli</i>	I	4	5	2	11	0	0	2	0	0	0	0	1	0	5	5	2	12						

11	ELEPHANT, INDIAN	<i>Elephas maximus</i>	I	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
12	GAUR	<i>Bos Gaurus</i>	I	2	2	0	4	1	0	0	0	0	0	0	0	0	0	0	0	3	2	0	5
13	JACKAL	<i>Canis aureus</i>	II	1	2	0	3	0	0	11	0	0	0	0	0	0	0	0	3	7	4	14	
14	LEOPARD / PANTHER	<i>Panthera pardus</i>	I	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	
15	LION ASIATIC	<i>Pantera leo persica</i>	I	4	1	0	5	0	0	0	0	2	0	0	0	0	0	0	4	3	0	7	
16	MACAQUE, BONNET	<i>Macaca radiata</i>	II	2	6	0	8	0	0	0	0	0	0	0	0	0	0	0	2	6	0	8	
17	MACAQUE, RHESUS	<i>Macaca mulatta</i>	II	4	4	0	8	0	0	0	0	0	0	0	0	0	0	0	4	4	0	8	
18	PANGOLIN, INDIAN	<i>Manis crassicaudata</i>	I	2	4	3	9	0	0	1	0	0	0	0	0	0	0	0	4	5	1	10	
19	RATEL	<i>Mellivora capensis</i>	I	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	
20	SQUIRREL, GIANT	<i>Ratufa indica</i>	II	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
21	MANGOSE COMMON	<i>Herpestes edwardsi</i>	II	1	1	2	4	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	
22	A. TIGER, BENGAL	<i>Panthera tigris tigris</i>	I	5	8	2	15	0	0	3	0	0	0	0	1	0	0	1	0	7	6	3	16
	B. TIGER, BENGAL (WHITE)	<i>Panthera tigris tigris</i>	I	3	5	0	8	0	0	0	0	0	0	1	0	0	0	0	2	5	0	7	
	C. TIGER, BENGAL (MELANISTIC)	<i>Panthera tigris tigris</i>	I	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	
23	WILD DOG, ASIATIC	<i>Cuon alpinus</i>	II	1	0	0	1	0	0	0	1	1	0	0	0	0	1	0	1	1	0	2	
24	MACAQUE, ASSAMESE	<i>Macaca assamensis</i>	II	1	1	1	3	0	0	1	1	1	0	0	0	0	0	0	2	3	1	6	
25	MACAQUE, STUMP TAILED	<i>Macaca arctoides</i>	II	0	0	0	0	0	0	1	3	3	0	0	0	0	0	0	3	3	1	7	
26	GREY WOLF, INDIAN	<i>Canis lupus pallipes</i>	I	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0	2	1	0	3	
27	FOX, INDIAN	<i>Vulpes bengalensis</i>	II	2	2	2	6	0	0	2	0	1	0	0	0	0	0	0	2	3	4	9	
SCH-I & II MAMMALS - TOTAL				75	90	39	204	1	0	52	8	9	0	1	1	0	6	10	1	95	108	52	255
SCH-I & SCH-II REPTILES				Stock as on 01.04.2020				Births			Acquisitions			Disposals			Deaths			Stock as on Dt- 31.03.2021			
	Species	Scientific name		M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T
1	COBRA, KING	<i>Ophiophagus hannah</i>	II	2	1	0	3	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	2
2	COBRA, MONOCELLATE	<i>Naja naja kouthia</i>	II	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	
3	COBRA, BINOCELLATE	<i>Naja naja</i>	II	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
4	CROCODILE, LONG SNOURED / GHARIAL	<i>Gavialis gangeticus</i>	I	22	85	9	116	0	0	0	2	1	0	3	3	0	0	0	21	83	9	113	
5	CROCODILE, MUGGER	<i>Crocodylus palustris</i>	I	4	6	11	21	0	0	0	0	0	0	0	0	0	0	4	6	11	21		
6	CROCODILE, SALT WATER	<i>Crocodylus porosus</i>	I	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
7	MONITOR LIZARD, COMMON INDIAN	<i>Varanus bengalensis</i>	I	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
8	MONITOR LIZARD, WATER	<i>Varanus salvator</i>	I	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	
9	PYTHON, BURMESE ROCK	<i>Python molurus bivistatus</i>	I	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
10	PYTHON, INDIAN ROCK	<i>Python molurus molurus</i>	I	1	1	0	2	0	0	4	0	0	0	0	0	0	0	0	1	1	4	6	
11	PYTHON, RETICULATED	<i>Python reticulatus</i>	I	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
12	SNAKE, RAT	<i>Ptyas mucosus</i>	II	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
13	TURTLE, FRESH WATER /	<i>Lissemys punctata</i>	I	28	36	0	64	0	0	0	0	0	0	0	0	0	0	28	36	0	64		

1	DEER, BARKING-MUNTJAC (KAKKAR)	<i>Muntiacus muntjak</i>	III	27	44	6	77	0	0	0	0	0	0	0	0	0	0	0	3	0	0	24	44	6	74
2	DEER, HOG	<i>Axis porcinus</i>	III	15	16	12	43	0	0	6	0	0	0	0	0	0	0	1	0	0	14	16	18	48	
3	DEER, SAMBAR	<i>Cervus unicolor</i>	III	6	12	1	19	0	0	2	0	0	0	0	0	0	0	2	0	7	12	0	19		
4	I.DEER, SPOTTED/ CHITAL(ZOO)	<i>Axis axis</i>	III	327	361	29	717	0	0	24	0	0	0	0	0	0	0	1	0	347	380	13	740		
	II.DEER, SPOTTED/CHITAL(RBD)	<i>Axis axis</i>	III	299	164	0	463	20	18	0	0	0	0	0	0	0	0	0	0	319	182	0	501		
5	HARE, INDIAN	<i>Lepus nigricollis</i>	IV	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3		
6	HYAENA, STRIPED	<i>Hyaena hyaena</i>	III	2	4	0	6	0	0	0	0	0	0	0	0	0	0	0	2	4	0	6			
7	BAT, GIANT FRUIT	<i>Pteropus giganteus</i>	IV	0	0	3	3	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	3		
8	NILGAI-BLUE BULL	<i>Boselaphus tragocamelus</i>	III	3	12	2	17	0	0	1	0	0	0	0	0	0	2	1	0	3	11	1	15		
9	PIG WILD/WILD BOAR	<i>Sus scrofa</i>	III	3	1	0	4	0	0	0	0	0	1	0	0	0	0	0	2	1	0	3			
10	A. PORCUPINE INDIAN	<i>Hystrix indica</i>	IV	2	0	2	4	0	0	0	0	0	0	0	0	0	0	0	2	1	1	4			
	TOTAL SCH-III & SCH-IV MAMMALS			685	615	56	1356	20	18	34	0	0	0	1	0	0	6	4	1	722	653	41	1416		
	SCH-III & SCH-IV REPTILES			Stock as on 01.04.2020				Births			Acquisitions			Disposals			Deaths			Stock as on Dt- 31.03.2021					
1	BOA, COMMON SAND	<i>Eryx johnii</i>	IV	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3			
2	BOA, RED SAND	<i>Eryx conicus</i>	IV	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2			
3	TURTLE, CHITRA	<i>Chitra indica</i>	IV	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3			
4	KRAIT, BANDED	<i>Bungarus fasciatus</i>	IV	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2			
5	KRAIT, COMMON INDIAN	<i>Bungarus caeruleus</i>	IV	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2			
6	TORTOISE, ASIAN BROWN	<i>Manouria emys</i>	IV	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3	3	0	6				
7	TORTOISE, STAR INDIAN	<i>Geochelone elegans</i>	IV	2	1	10	13	0	0	0	0	0	0	0	0	0	0	7	5	1	13				
	SCH-III & SCH-IV REPTILES TOTAL			4	4	17	25	0	0	0	3	3	0	0	0	0	0	0	12	11	8	31			
	EXOTIC BIRDS																								
1	BUDGERIGAR	<i>Melopsittacus undulatus</i>	E	138	242	156	536	0	0	15	0	0	0	0	0	0	0	188	292	71	551				
2	COCKATIEL, WHITE/ CINAMON PEARLS PIED	<i>Nymphicus hollandicus</i>	E	16	23	53	92	0	0	8	0	0	0	0	0	0	1	21	28	50	99				
3	COCKATOO, LESSER SULPHUR CRESTED	<i>Cacatua sphurea</i>	E	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1				
4	COCKATOO, UMBRELLA SULPHUR CRESTED	<i>Cacatua alba</i>	E	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1					
5	CONNURE, BROWN THROATED	<i>Eupsittula pertinax</i>	E	1	1	1	3	0	0	0	0	0	0	0	0	0	1	1	1	3					
6	CONNURE, JANDAYA	<i>Aratinga jandaya</i>	E	1	2	18	21	0	0	0	0	0	0	0	0	0	1	2	18	21					
7	CONURE, SUN	<i>Aratinga solstitialis</i>	E	4	4	35	43	0	0	0	0	0	0	0	0	8	4	4	27	35					
8	CONURE, PINE APPLE	<i>Pyrrhura molinae molinae</i>	E	11	11	0	22	0	0	0	0	0	0	0	1	2	0	10	9	0	19				
9	CONURE, YELLOW SIDED	<i>Pyrrhura molinae sordida</i>	E	14	14	0	28	0	0	0	0	0	0	0	0	0	14	14	0	28					
10	DOVE, BARBARY	<i>Streptopelia risoria</i>	E	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1					
11	DOVE, DIAMOND	<i>Geopelia cuneata</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	1	1	0	2					

12	DOVE, LAUGHING	<i>Spilopelia senegalensis</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
13	DOVE, RING NECKED	<i>Streptopelia capicola</i>	E	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	
14	DUCK, MANDARIN	<i>Aix galericulata</i>	E	5	4	2	11	0	0	4	0	0	0	0	0	1	2	0	5	6	1	12	
15	EMU	<i>Dromaius novaehollandiae</i>	E	2	3	6	11	0	0	0	0	0	0	0	0	0	0	0	2	3	6	11	
16	FINCH, BENGAL/ SOCIETY	<i>Lonchura striata</i>	E	6	11	4	21	0	0	3	0	0	0	0	0	0	0	0	6	11	7	24	
17	FINCH, LONG TAILED	<i>Poephila cincta</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
18	FINCH, STAR	<i>Poephila ruficauda</i>	E	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
19	FINCH, ZEBRA	<i>Poephila guttata</i>	E	51	79	82	212	0	0	21	0	0	0	15	15	0	0	0	66	76	61	203	
20	LORIKEET, BLUE FACED	<i>Trichoglossus haematodus enetermedius</i>	E	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	
21	LORIKEET, SWAINSON'S	<i>Trichoglossus haematodus moluccanus</i>	E	1	0	3	4	0	0	1	0	0	0	0	0	0	0	0	1	0	4	5	
22	LORRY, YELLOW BACKED	<i>Lorius garrulus flavopalliatu</i>	E	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
23	LOVE BIRD, FISCHERS	<i>Agapornis fischeri</i>	E	11	10	13	34	0	0	0	0	0	0	0	0	0	0	0	11	10	13	34	
24	LOVE BIRD, PEACH-FACED	<i>Agapornis roseicollis</i>	E	4	6	2	12	0	0	0	0	0	0	0	0	0	0	0	4	6	2	12	
25	LOVE BIRD, MASKED	<i>Agapornis personatus</i>	E	1	2	1	4	0	0	0	0	0	0	0	0	0	0	0	1	2	1	4	
26	MACAW, GREEN WINGED	<i>Ara chloroptera</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
27	OSTRICH	<i>Struthio camelus</i>	E	2	2	0	4	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	
28	PARROT, AFRICAN GREY	<i>Psittacus erithacus</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
29	PHEASANT, GOLDEN	<i>Chrysolophus pictus</i>	E	10	10	4	24	0	0	10	0	0	0	2	2	0	4	1	0	4	7	25	
30	PHEASANT, LADY AMHERST'S	<i>Chrysolophus amherstiae</i>	E	2	3	4	9	0	0	4	0	0	0	0	0	1	0	0	1	3	8	12	
31	PHEASANT, REEV'S	<i>Symaticus reevesii</i>	E	1	1	2	4	0	0	2	0	0	0	0	0	0	0	0	1	1	4	6	
32	PHEASANT, SILVER	<i>Lophura nycthemera</i>	E	15	21	2	38	0	0	2	0	0	0	2	2	0	2	1	0	11	18	33	
33	PHEASANT, YELLOW GOLDEN	<i>Chrysolophus pictus mut.</i>	E	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	2	
34	ROSELLA, EASTERN	<i>Platycercus eximius</i>	E	1	2	1	4	0	0	0	0	0	0	0	0	0	0	0	1	2	1	4	
35	SPARROW, JAVA	<i>Padda oryzivora</i>	E	18	30	49	97	0	0	9	0	0	0	7	7	0	0	0	11	23	58	92	
36	SWAN, BLACK	<i>Cygnus atratus</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
37	PARROT, MEYER'S	<i>Poicephalus meyeri</i>	E	2	2	0	4	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	
38	PARROT, RED BELLIED	<i>Pionus sordidus</i>	E	2	3	0	5	0	0	0	0	0	0	0	0	0	0	0	2	3	0	5	
39	PARAKEET, RINGED NECKED A -Lutino Mutation	<i>Psittacula krameri krameri</i>	E	0	0	5	5	0	0	3	0	0	0	0	0	0	0	1	2	2	3	7	
	B -Albino Mutation	<i>Psittacula krameri krameri</i>	E	0	0	4	4	0	0	4	0	0	0	0	0	0	0	1	2	2	3	7	
40	TURACO, VIOLET	<i>Musophaga violacca</i>	E	1	1	3	5	0	0	0	0	0	0	0	0	0	0	1	1	1	2	4	
41	TURACO, LIVING STONE'S	<i>Turaco livingstonii</i>	E	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
TOTAL EXOTIC BIRDS				331	498	453	1282	0	0	87	0	0	0	26	26	0	9	6	12	386	541	363	1290
EXOTIC MAMMALS																							

1	BABOON, HAMADRYAS	<i>Papio hamadryas</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
2	CHIMPANZEE	<i>Pan troglodytes</i>	E	1	5	0	6	0	0	1	0	0	0	0	0	0	0	0	1	5	1	7	
3	GIRAFFE	<i>Giraffa camelopardalis</i>	E	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
4	HIPPOPOTAMUS	<i>Hippopotamus amphibius</i>	E	2	5	7	14	0	0	1	0	0	1	3	0	0	0	1	2	8	11		
5	LION, HYBRID	<i>Panthera leo</i>	E	4	4	0	8	0	0	0	0	0	0	0	0	1	0	4	3	0	7		
6	LION, AFRICAN	<i>Panthera leo</i>	E	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	2		
7	MARMOSET, BLACK-TUFTED	<i>Callithrix penicillata</i>	E	1	1	2	4	0	0	4	0	0	0	0	0	1	0	2	3	1	5		
8	TAMARIN, RED-HANDED	<i>Saguinus midas</i>	E	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
9	TUFTED CAPUCHIN	<i>Sapajus apella</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	2		
10	COMMON SQUIRREL MONKEY	<i>Saimiri sciureus</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	2		
TOTAL EXOTIC MAMMALS				11	22	9	42	0	0	6	0	0	1	3	0	1	1	2	12	18	10	40	
EXOTIC REPTILES																							
1	CROCODILE, MORELET'S	<i>Crocodylus moreletii</i>	E	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	
2	CROCODILE, SIAMESE	<i>Crocodylus siamensis</i>	E	3	12	3	18	0	0	0	0	0	0	0	0	0	0	3	12	3	18		
3	CUVIERS DWARF CAIMAN	<i>Paleosuchus palpebrosus</i>	E	2	3	0	5	0	0	0	0	0	0	0	0	0	0	2	3	0	5		
4	I. GREEN IGUANA	<i>Iguana iguana</i>	E	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	2		
	II. RED IGUANA	<i>Iguana iguana</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	1	1	0	2			
5	NILE CROCODILE	<i>Crocodylus niloticus</i>	E	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	3	3		
6	ANACONDA, YELLOW	<i>Eunectes notaeus</i>	E	0	0	6	6	0	0	0	0	0	0	0	0	0	1	0	0	5	5		
TOTAL EXOTIC REPTILES				6	20	12	38	0	0	0	0	0	0	0	0	0	0	1	6	20	11	37	
AMPHIBIANS				Stock as on 01.04.2020				Births			Acquisitions			Disposals			Deaths			Stock as on Dt-31.03.2021			
1	FROG, INDIAN BULL	<i>Hoplobatrachus tigerinus</i>	IV	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	3	3		
2	FROG, GREEN POND	<i>Euphlyctis hexadactyla</i>	IV	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	3	3		
3	FROG, INDIAN SKIPPER	<i>Euphlyctis cyanophlyctis</i>	IV	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	5	5		
4	FROG, COMMON INDIAN TREE	<i>Polypedates maculatus</i>	IV	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	3	3		
5	TOAD, ASIAN COMMON	<i>Duttaphrynus melanostictus</i>	IV	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	5	5		
6	TOAD, MARBLED	<i>Bufo stamaticus</i>	IV	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2		
TOTAL AMPHIBIANS				0	0	21	21	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21	
				Stock as on 01.04.2020												Stock as on Dt-31.03.2021							
				M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T
Birds				414	621	721	1756	2	0	136	0	0	0	28	28	0	11	7	21	530	727	542	1799
Mammal				771	727	104	1602	21	18	92	8	9	0	3	4	0	13	15	4	829	779	103	1711
Reptiles				73	159	59	291	0	0	4	5	4	0	3	3	0	0	1	1	80	163	53	296
Amphibians				0	0	21	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21
TOTAL				1258	1507	905	3670	23	18	232	13	13	0	34	35	0	24	23	26	1439	1669	719	3827

		No. of Individuals				No. of species							No. of species	No. of Individuals			
BIRDS - SCH I&II		12	14	31	57	10						10	12	14	28	54	
	-SCH III & IV	71	109	237	417	26						26	132	172	151	455	
	-EXOTIC	331	498	453	1282	41						41	386	541	363	1290	
MAMMAL - SCH I & II		75	90	39	204	26						27	95	108	52	255	
	-SCH III & IV	685	615	56	1356	10						10	722	653	41	1416	
	-EXOTIC	11	22	9	42	10						10	12	18	10	40	
REPTILE - SCH I & II		63	135	30	228	17						17	62	132	34	228	
	-SCH III & IV	4	4	17	25	6						7	12	11	8	31	
	-EXOTIC	6	20	12	38	6						6	6	20	11	37	
	AMPHIBIANS SCH I & II	0	0	0	0	0						0	0	0	0	0	
	-SCH IV	0	0	21	21	6						6	0	0	21	21	
TOTAL		1258	1507	905	3670	158						160	1439	1669	719	3827	

27. Mortality of animals:**ANNUAL REPORT ON DEATH OF CAPTIVE ANIMALS AT NANDANKANAN
BIOLOGICAL PARK (FROM 01.04.2020 TO 31.03.2021)**

SL.NO.	DATE	ANIMAL	AGE	SEX	CAUSE OF DEATH
MAMMALS					
1	21.04.20	Common Palm Civet	Adult	M	Acute Pneumonia
2	21.04.20	Common Palm Civet	Adult	M	Acute Pneumonia
3	21.04.20	Common Palm Civet	Adult	F	Acute Pneumonia
4	26.04.20	Common Palm Civet	Adult	F	Acute Pneumonia
5	26.04.20	Common Palm Civet	Adult	F	Acute Pneumonia
6	04.05.20	Four horned Antelope	Adult	F	Pneumonia
7	05.05.20	Common Palm Civet	Adult	F	Acute Pneumonia
8	24.05.20	Common Palm Civet	Adult	F	Pneumonia
9	07.06.20	Barking deer	Adult	M	Infighting
10	23.06.20	Himalayan Black Bear	About 25 yr	F	Tuberculous pneumonia
11	24.06.20	Wild dog	Adult	M	Haemorrhagic gastro-enteritis with nephritis
12	21.07.20	Barking deer	Adult	M	Pneumonia
13	09.08.20	Swamp Deer	Adult	M	Nasal Tumor
14	15.08.20	Marmoset	1 day	M	Mother rejection
15	30.08.20	H. B. Bear	About 32 year	F	Collapsed lungs, deep seated abscess at the hip region, hind limb paralysis associated with old age
16	13.09.20	Sambar	Adult	F	Pneumonia with caseated nodules in lungs associated with old age
17	17.09.20	Sloth Bear	About 17 yrs	F	Haemorrhagic gastro-enteritis
18	24.09.20	Mouse deer	Adult	F	Dystocia
19	29.09.20	Hybrid lioness	About 26 yrs	F	Emaciation, aspiration pneumonia associated with old age
20	29.10.20	Common Palm Civet	Adult	M	Infighting
21	31.10.20	Nilgai	Adult	F	Multiple tumors in liver
22	29.11.20	Black buck	Adult	M	Internal haemorrhage & Shock
23	09.12.20	Sambar	Adult	F	Internal haemorrhages followed with shock

24	05.01.21	Normal Colour Tiger	6 ½ yr	F	Hepatic tumor
25	05.01.21	White buck	12 yr	M	Pneumonia associated with old age
26	20.01.21	Marmoset	3 days	M	Aspiration pneumonia
27	22.01.21	Nilgai	Adult	M	Hepatitis and nephritis
28	30.01.21	Giant Fruit Bat	About 1 yr	F	Predator bite
29	02.02.21	Barking deer	Adult	M	Infighting
30	09.02.21	Spotted deer	Adult	F	Pneumonia
31	04.03.21	Nilgai	Adult	M	Internal haemorrhage and shock
32	05.03.21	Hog deer	Adult	M	Shock
33	29.03.21	Black tufted marmoset	Adult	M	Catarrhal enteritis

BIRDS

1	06.04.20	Violet Turaco	Adult	M	Pneumo-enteritis
2	18.05.20	Lady Amherst's pheasant	Adult	M	Enteritis
3	21.05.20	Black Kite	About 4 mn	F	Avian Pox
4	22.05.20	Blossom headed Parakeet	Adult	M	Hepatitis associated with senility
5	28.05.20	Sun Conure	Adult	M	Hemorrhagic enteritis
6	28.05.20	Sun Conure	Adult	F	Hemorrhagic enteritis
7	30.05.20	Sun Conure	Adult	M	Hepatitis
8	31.05.20	Sun Conure	Adult	F	Cause of death couldn't be ascertained due to putrefaction of carcass
9	31.05.20	Indian Grey Hornbill	Adult	F	Pneumonia
10	03.06.20	Sun Conure	Adult	Carcass mutilated by predator
11	03.06.20	Sun Conure	Adult	Carcass mutilated by predator
12	17.06.20	Barn Owl	Adult	F	Infighting
13	23.06.20	Golden pheasant	About 2 yrs	M	Partially devoured by snake and regurgitated
14	04.07.20	Sun conure	Adult	M	Partially devoured by snake
15	04.07.20	Sun conure	Adult	F	Partially devoured by snake
16	06.07.20	Pineapple conure	Adult	F	Predator bite
17	19.07.20	Silver pheasant	About 2 yrs	M	Infighting
18	17.08.20	Brahmin Kite	About 17 yrs	F	Pneumonia associated with old age
19	26.08.20	Golden Pheasant	Adult	F	Salpingitis
20	05.09.20	Mandarin Duck	Adult	F	Tumor at lungs
21	19.09.20	Ring necked parakeet	Adult	F	Hepatitis
22	14.10.20	Barn owl	Adult	M	Hepatitis
23	20.10.20	Mandarin duck	Adult	M	Hemorrhagic Enteritis

24	20.10.20	Mandarin duck	Adult	F	Hemorrhagic Enteritis
25	13.11.20	Painted stork	Adult	F	Infighting with debility
26	30.11.20	Silver pheasant	Adult	M	Infighting
Sl.No.	Norm under RZR, 2009	Particulars of suggestion/recommendation		Time period to comply	Compliance report
27	06.12.20	Blossom headed Parakeet	Adult	M	Hepatitis, enteritis associated with old age
28	16.12.20	Pineapple Conure	Adult	F	Enteritis associated with hepatitis
29	18.12.20	Grey heron	Adult	F	Senility
30	31.12.20	Pineapple Conure	Adult	M	Hepatitis & Enteritis
31	15.01.21	Barn Owl	Adult	M	Hepatitis associated with pneumonia
32	20.02.21	Ring Necked Parakeet (Albino)	About 3yrs	F	Traumatic injury & Internal haemorrhages
33	21.02.21	Golden Pheasant	About 3 yrs	M	Infighting
34	24.02.21	Golden Pheasant	About 3 yrs	M	Infighting
35	26.02.21	Black Kite	Adult	F	Hepatitis and enteritis
36	26.02.21	Cockatiel	Adult	M	Enteritis
37	10.03.21	Silver Pheasant	About 3 yrs	F	Pneumonia
38	18.03.21	Golden Pheasant	About 3 yrs	M	Infighting
39	30.03.21	Red Jungle Fowl	About 4yrs	F	Hepatitis

REPTILES

1	28.08.20	Anaconda	About 6 yrs	F	Anaemia and haemorrhagic Enteritis
2	31.08.20	King Cobra	About 15 yrs	F	Acute septicemic infection

ABSTARCT

Mammals	Birds	Reptiles	Total
33	39	02	74

28. Compliance with conditions stipulated by the Central Zoo Authority:

The last evaluation of the zoo was carried out between 5th and 6th February 2020 by the Zoo Evaluation committee of CZA as per Recognition of Zoo Rules, 2009.

1. General requirements				
1.	10.1(4)& 10.1(9)	Security at gate required to be made more vigilant to check the entrance of stray dogs.	Immediately	Complied
2.	10.1(5)	a. There is a thoroughfare inside the zoo which connects two adjacent villages namely Raghunathpur and Daruthenga. This is a security hazard as the villagers entre the campus without ticket. This issue should be amicably settled. b. The road leading to State Botanical Garden is passing in front of the zoo gate and creating congestion and problem to visitor's entry into the zoo. Hence, It should be closed for the public use and alternate arrangement should be made for construction of separate approach road to State Botanical Garden.	Six months One year	Action is being taken for the above purpose An area of Ac. 0.673 is being acquired for a new approach road to State Botanical Garden from Bhubaneswar Trisulia Main Road
3.	10.1(7)	The solid wastes should be disposed off at the earmarked place within the campus. In order to dispose off liquid waste the authority should go for STP. The waste material (solid or liquid) should never be released in the Kanjia lake.	One year	Partly complied
2. Administrative & Staffing Pattern				
4.	10.2(1)	The Deputy Director should be delegated adequate financial and administrative power to run the zoo smoothly. The authority should expedite the proposal to construct the administrative building including the chamber of the Director inside the zoo campus.	Six months	Funds to the tune of Rs.2.00 Crores have been placed with BSNL Civil Constructions Wing. Attempts are on to remove the bottleneck and commence construction of building.
5.	10.2(2)	Full time Curator having Master's Degree in Wildlife Science/Zoology should be recruited.	One year	Under active consideration. Present Curator having a decade long association in Zoo Management is quite competent.
3. Development and Planning				
6.	10.3(1)	a. The duration of present Master Plan will end on 31.03.2020. New Master Plan must be prepared and submitted to CZA for	Three months	Master Plan already submitted to CZA Under progress, delayed due

		approval b. The incomplete service road to distribute food must be completed	Six months	to COVID related financial hardship will be over by 30.06.2021
7.	10.3(5)	The quarantine ward should be constructed at earliest.	Six months	Under progress, delayed due to COVID related financial hardship and will be completed by 31.03.2021.
	4. Animal Housing, Display of Animals & Animal Enclosures			
8.	10.4(2)	There are a number of enclosures where the space is still inadequate as per CZA norms e.g. cobras, banded krait, vipers, boa etc. The authority should take action to increase the size of the enclosure.	One year	One enclosure renovated. Others are under progress, delayed due to COVID related financial constraint
9.	10.4(2)	The enrichment of the enclosures of rhesus monkey and bonnet monkey and Hamadryads baboon should be increased.	Six months	Complied
10.	10.4(3),(4)&(5)	Renovation of EN 45 series of Reptile Park and bird enclosure EN 3ABC, 7ABC, 8ABC, 4 and 6 to provide appropriate space for movement and expression of natural behaviour and to maintain safe distance.	One year	Provision made in the new Master Plan, delayed due to COVID related financial hardship
11.	10.4(6)	A number of trees and plants have uprooted and fallen due to cyclone 'PHANI' in all the safaris. As a result they are hindering the animal sighting.	Six months	Complied. 1000 tall tree plantation carried out. Similar activities also continuing at suitable locations.
12.	10.4(8)	Extension of Bear Safari, Tiger safari and Herbivore safari need to be done as per CZA norms. The present area is 4.1ha.	One year	Provision made in the new Master Plan, delayed due to COVID related financial constraint. Timeline may be extended.
13.	10.4(9)	a. There are number of enclosures where height of stand-off barrier is not as per CZA norms. It should be reduced in phase manner. b. Damaged pillar of stand-off barrier must be repaired or replaced.	One year Immediately	Work under progress to replace the standoff barrier gradually, delayed due to COVID related financial hardship. Complied
14.	10.4(10)	The signage in nocturnal house should be fixed at appropriate place so that the visitor could see it well.	One month	Complied

5. Upkeep and Healthcare of Animals				
15.	10.5(1)	<p>Efforts must be made to make pair of Giraffe, Asiatic lion, African lion, hill mynah, spoonbill, Ganges soft shell turtle.</p> <p>The green dirty water of hippo enclosure should be treated through STP and re-circulate.</p>	<p>One year</p> <p>One year</p>	<p>Asiatic lion already paired, animal exchange proposal initiated for the remaining species.</p> <p>Plan estimate already made and tender process being initiated.</p>
16.	10.5(2)	<p>Keeping in view the large number of animals the storage facility for keeping required food is inadequate. Therefore, additional food storage godown is required.</p>	Six month	<p>Feed Godown of 2000 Sq. Feet is being contemplated</p>
6. Veterinary and Infrastructure Facilities				
17.	10.6(1)	<p>The zoo hospital should have one portable x-ray unit, gaseous anaesthesia apparatus, separate operation theatre, more number In-Patient Ward units and a mini conference hall to increase its efficiency.</p>	One and half year	<p>One movable x-ray unit procured. The existing quarantine ward will be shifted to new location away from animal exhibit area. This will be used as inpatient ward where 3 new kraals have been added. Construction of Air conditioned isolation room and an additional Operation theatre with modern facilities is in progress. Steps are being taken for procurement of gaseous anaesthesia and construction of mini conference hall.</p>
9. Acquisition and Breeding of animals				
18.	10.9(4)	<p>Efforts should be make pair of the species like Hill Myna, White Spoonbill, White Backed Vulture, Indian Small Civet, Salt Water Crocodile, two species of Python, Rat Snake, Ganges Soft-shelled Turtle, Russell's Viper, Sarus Crane, Large Egret, Median Egret, Black Headed Munia, Spotted Munia, Oriental Scoops Owl, Blossom Headed Parakeet, Adjutant Stork (lesser), White Neck Stork, Indian Porcupine, Lesser Sulphur Crested Cockatoo, White Cockatoo, Star Finch, Yellow Backed Lorry, Giraffe.</p>	One year	<p>Animal exchange proposal initiated and followed up for these species.</p>
19.	10.9(6)	<p>The CZA has assigned the conservation breeding of Indian pangolin since 2009. This zoo has shown good result by breeding this</p>		<p>The zoo has not reached surplus stock to release to wild. It will be released after proper evaluation of suitable release site. Financial</p>

		endangered species in captivity. This project should continue by financial assistance from CZA.		assistance from CZA is very much needed to continue the conservation breeding and species recovery programme.
20.	10.9(9)	The authorities now should try to send the excess Spotted deer, Sambar, Blackbuck, common palm civet, gharial, mugger population to different wildlife protected area in consultation with the concerned authorities	One year	169 spotted deer already translocated Chandaka-Dampara Sanctuary. Similar plans are prepared for other surplus species. Liaison with local forest divisions going on for release of stock.
21.	10.9(12)	Efforts should be made to phase out hybrid lion	One year	Under consideration
	12. Visitor Facilities			
22.	10.12(1)	The under construction parking must be completed so that the temporary parking which is inadequate may be discontinued	One year	Complied. Construction of new parking facility completed.
23.	10.12(1)	<p>The vendors in front of the Main gate give shabby look and create hazard for the vehicles as well as visitors, which should be translocated</p> <p>It is observed that the Safari Bus Stop is situated within the main zoo area near Reptile Park which is dangerous for the visitors as it intercepts visitor circulation path. The zoo has already taken steps to relocate the safari bus stop to outside main zoo area, which should be completed immediately to avoid plying of bus in zoo visitors route.</p> <p>It is observed that the BOVs are moving in zigzag manner though there are earmarked stoppages for the BOVs. Hence the zoo-in-charge should give attention that the BOVs must move in tracks dedicated for the purpose</p> <p>There should be separate exit path for the visitors to avoid congestion and rush. The zoo authorities have already taken steps to make separate exit path for the visitors. It</p>	<p>One year</p> <p>Three months</p> <p>Immediately</p> <p>Three months</p>	<p>Complied. Vendors in front of Main gate were evacuated, beautification work of the place in progress.</p> <p>Complied.</p> <p>Complied.</p> <p>Complied.</p>

		should be completed immediately		
24.	10.12(1)	<p>There is an eatery complex near reptile park where majority of the visitors congregate to take snacks, thereby polluting the space with leftover foods which attracts many free living animals like rodents, cats and crows which may lead to hazardous effect on captive animals. Therefore, this particular eatery complex should be relocated to the place far away from enclosures.</p> <p>The frontage gate of the restaurant run by OTDC (near FRH) should be shifted to outside the zoo premises.</p>	<p>Six months</p> <p>Six months</p>	<p>The eatery complex near reptile park will be shifted to Cafeteria of Safari Bus stand. Steps are being taken.</p> <p>Official communication initiated with OTDC for shifting of entry gate outside of Zoo premises.</p>

29. List of free living wild animals within the zoo premises:**MAMMALS OF NANDANKANAN**

Sl. No.	Common Name	Scientific name	Status
1	Wild Boar	<i>Sus scrofa</i>	R
2	Spotted Deer	<i>Axis axis</i>	VC
3	Ratel	<i>Mellivora capensis</i>	R
4	Common mongoose	<i>Herpestes edwardsi</i>	VC
5	Indian Poprcupine	<i>Hystrix indica</i>	R
6	Mouse Deer or Indian Chevrotain	<i>Tragulus meminna</i>	R
7	Common palm civet	<i>Paradoxurus hermaphrodites</i>	R
8	Jackal	<i>Canis aureus</i>	R
9	Indian fox	<i>Vulpes bengalensis</i>	VR
10	Common Langur	<i>Presbytis entellus</i>	VC
11	Rhesus Macaque	<i>Macaca mulatta</i>	VC
12	Jungle Cat	<i>Felis chaus</i>	R
13	Pangolin	<i>Manis crassicaudata</i>	VR
14	Indian hare	<i>Lepus nigricollis</i>	C
15	Small Indian civet	<i>Viverricula indica</i>	R
16	Striped hyena	<i>Hyaena hyaena</i>	R
17	Three striped palm squirrel	<i>Funambulus palmarium</i>	VC
18	Rat	<i>Rattus rattus</i>	VC
19	Indian flying fox	<i>Pteropus giganteus</i>	R
20	Horse shoe bat	<i>Rhinolophus lepidus</i>	VC

BIRDS OF NANDANKANAN

Sl. No.	Common Name	Scientific Name	Status
PHASIANIDAE			
1	Grey Partridge	<i>Francolinus pondicerianus</i>	C
2	Common Peafowl	<i>Pavo cristatus</i>	VC
3	Red Jungle fowl	<i>Gallus gallus murghi</i>	R
4	Red Spurfowl	<i>Galloperdix spadicea</i>	R
DENDROCYGNIDAE			
5	Lesser Whistling Teal	<i>Dendrocygna javanica</i>	VR
ANATIDAE			
6	Cotton pigmy goose	<i>Nettapus coromandelianus</i>	VR
7	Common Teal	<i>Anas crecca</i>	R
8	Spot-billed Duck	<i>Anas poecilorhyncha</i>	VR
9	Gadwall	<i>Anas strepera</i>	R
10	Northern Pintail	<i>Anas acuta</i>	R

11	Brahminy Duck	<i>Tadorna ferruginea</i>	VR
TURNICIDAE			
12	Barred Buttonquail	<i>Turnix suscitator</i>	R
PICIDAE			
13	Yellow fronted Pied or Mahratta Woodpecker	<i>Dendrocopos mahrattensis</i>	R
14	Larger Golden backed Woodpecker	<i>Chrysocolaptes lucidus</i>	C
15	Black-rumped flameback	<i>Dinopium benghalense</i>	VR
MEGALAIMIDAE			
16	Small Green Barbet	<i>Megalaima viridis</i>	R
17	Copper-smith Barbet	<i>Megalaima haemacephala</i>	R
18	Brown-headed Barbet	<i>Megalaima zeylanica</i>	R
UPUPIDAE			
19	Common Hoopoe	<i>Upupa epops</i>	R
CORACIIDAE			
20	Indian Roller or Blue Jay	<i>Coracias benghalensis</i>	C
ALCEDINIDAE			
21	Indian Small Blue Kingfisher	<i>Alcedo atthis bengalensis</i>	VR
DACEONIDAE			
22	White breasted Kingfisher	<i>Halcyon smyrnensis perpulchra</i>	C
CERYLIDAE			
23	Lesser Pied Kingfisher	<i>Ceryle rudis</i>	VR
MEROPIIDAE			
24	Indian Small Green Bee-eater	<i>Merops orientalis</i>	C
25	Blue Bee-eater	<i>Merops philippinus</i>	R
CUCULIDAE			
26	Indian Koel	<i>Eudynamys scolopacea</i>	VC
27	Pied Cuckoo	<i>Clamator jacobinus</i>	R
28	Common hawk Cuckoo	<i>Hierococcyx varius</i>	VR
29	Plaintive Cuckoo	<i>Cacomantis merulinus</i>	VR
30	Blue faced Malkoha	<i>Phaenicophaeus viridirostris</i>	VR
CENTROPODIDAE			
31	Crow-pheasant or Coucal	<i>Centropus sinensis</i>	VC
PSITTACIDAE			
32	Rose-ringed Parakeet	<i>Psittacula krameri</i>	VR
33	Alexandrine Parakeet	<i>Psittacula eupatria</i>	R
APODIDAE			
34	Asian palm swift	<i>Cypsiurus balasiensis</i>	C
TYTONIDAE			
35	Barn Owl	<i>Tyto alba</i>	VC

STRIGIDAE			
36	Eastern Spotted Scops Owl	<i>Otus spilocephalus</i>	VR
37	Spotted Owlet	<i>Athene brama</i>	C
CAPRIMULGIDAE			
38	Indian Jungle Nightjar	<i>Caprimulgus indicus</i>	C
COLUMBIDAE			
39	Indian Blue Rock Pigeon	<i>Columba livia intermedia</i>	C
40	Indian Spotted Dove	<i>Streptopelia chinensis</i>	VC
41	Emerald Dove	<i>Chalcophaps indica</i>	VR
RALLIDAE			
42	Purple Moorhen	<i>Porphyrio porphyrio</i>	R
43	Water cock	<i>Gallicrex cinerea</i>	R
44	Common moorhen	<i>Gallinula chloropus</i>	C
45	White breasted Waterhen	<i>Amaurornis phoenicurus boliocephalus</i>	C
SCOLOPACIDAE			
46	Eurasian Curlew	<i>Numenius arquata</i>	VR
47	Common snipe	<i>Gallinago gallinago</i>	R
48	Wood Sandpiper	<i>Tringa glareola</i>	R
49	Indian Stone Curlew	<i>Burhinus oedicnemus indicus</i>	VR
JACANIDAE			
50	Bronze winged Jacana	<i>Metopidius indicus</i>	C
51	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	R
CHARADRIIDAE			
52	Red-wattled Lapwing	<i>Vanellus indicus</i>	C
53	Yellow wattled Lapwing	<i>Vanellus malabaricus</i>	C
ACCIPITRIDAE			
54	Pariah Kite	<i>Milvus migrans govinda</i>	VR
55	Shikra	<i>Accipiter badius dussumderi</i>	R
56	Osprey	<i>Pandion haliaetus</i>	R
57	Crested Serpent eagle	<i>Spilornis cheela</i>	R
ANHINGIDAE			
58	Darter or Snake-bird	<i>Anhinga melanogaster</i>	C
PHALACROCORACIDAE			
59	Little Cormorant	<i>Phalacrocorax niger</i>	VC
ARDEIDAE			
60	Pond Heron	<i>Ardeola grayii</i>	C
61	Purple Heron	<i>Ardea purpurea</i>	VR
62	Grey Heron	<i>Ardea cinerea</i>	VR
63	Cattle Egret	<i>Bubulcus ibis coromandus</i>	VC
64	Little Egret	<i>Egretta garzetta</i>	VC
65	Median Egret	<i>Mesophoyx intermedia</i>	R

66	Great Egret	<i>Casmerodius albus</i>	R
67	Night Heron	<i>Nycticorax nycticorax</i>	C
68	Great Bittern	<i>Botaurus stellaris</i>	VR
69	Black Bittern	<i>Dupetor flavicollis</i>	VR
70	Yellow Bittern	<i>Ixobrychus sinensis</i>	VR
71	Cinnamon Bittern	<i>Ixobrychus cinnamomeus</i>	R
CICONIDAE			
72	Painted Stork	<i>Mycteria leucocephala</i>	VR
73	Openbill Stork	<i>Anastomus oscitans</i>	VC
74	Woolly-necked Stork	<i>Ciconia episcopus</i>	R
THRESKIORNITHIDAE			
75	Oriental White Ibis	<i>Threskiornis aethiopica melanocephala</i>	R
LANIDAE			
76	Large Cuckoo-shrike	<i>Coracina novaehollandiae</i>	R
77	Brown Shrike	<i>Lanius cristatus</i>	R
CORVIDAE			
78	Northeastern Tree Pie	<i>Dendrocitta vagabunda</i>	VC
79	Indian House Crow	<i>Corvus splendens</i>	VC
80	Indian Jungle Crow	<i>Corvus macrorhynchos culminates</i>	VR
81	Indian Paradise Flycatcher	<i>Terpsiphone paradisi</i>	R
82	Indian Black Drongo	<i>Dicrurus macrocercus</i>	VC
83	Indian white-bellied Drongo	<i>Dicrurus caerulescens</i>	R
84	Black-naped Monarch	<i>Hypothymis azurea</i>	VR
85	Indian Golden Oriole	<i>Oriolus oriolus kundoo</i>	C
86	Indian Black headed Oriole	<i>Oriolus xanthornus</i>	C
87	Black headed Cuckoo-shrike	<i>Coracina melanoptera</i>	VR
88	Common Iora	<i>Aegithina tiphia</i>	R
MUSCICAPIDAE			
89	Oriental Magpie Robin	<i>Copsychus saularis</i>	C
90	Indian Robin	<i>Saxicoloides fulicata</i>	C
91	Orange headed thrush	<i>Zoothera citrina</i>	VR
92	Red-throated flycatcher	<i>Ficedula parva</i>	R
STURNIDAE			
93	Indian Pied Myna	<i>Sturnus contra</i>	C
94	Common Myna	<i>Acridotheres tristis</i>	VC
95	Jungle Myna	<i>Acridotheres fuscus</i>	C
96	Brahminy Starling	<i>Sturnus pagodarum</i>	C
PYCNONOTIDAE			
97	Red whiskered Bulbul	<i>Pycnonotus jocosus</i>	R
98	Red vented Bulbul	<i>Pycnonotus cafer</i>	C

99	White-browed Bulbul	<i>Pycnonotus luteolus</i>	R
CISTICOLIDAE			
100	Plain Prinia	<i>Prinia inornata</i>	R
101	Streaked Fantail Warbler	<i>Cisticola juncidis</i>	VR
ZOSTEROPIDAE			
102	Oriental White-eye	<i>Zosterops palpebrosa</i>	R
SYLVIDAE			
103	Indian Rufous Babbler	<i>Turdoides subrufus</i>	R
104	Jungle Babbler	<i>Turdoides striatus</i>	VC
105	Puff-throated Babbler	<i>Pellorneum ruficeps</i>	R
106	Yellow Browed Warbler	<i>Phylloscopus inornatus</i>	R
107	Greenish Warbler	<i>Phylloscopus trochiloides</i>	R
108	Common Tailor Bird	<i>Orthotomus sutorius</i>	VR
ALAUDIDAE			
109	Red-winged Bush-lark	<i>Mirafra erythroptera</i>	VR
NECTARINIDAE			
110	Purple-rumped Sunbird	<i>Nectarinia zeylonica</i>	C
111	Purple Sunbird	<i>Nectarinia asiatica</i>	VC
112	Loten's Sunbird	<i>Nectarinia lotenia</i>	R
PASSERIDAE			
113	White Wagtail	<i>Motacilla alba</i>	R
114	White-browed Wagtail	<i>Motacilla maderaspatensis</i>	R
115	Forest Wagtail	<i>Dendronanthus indicus</i>	R
116	House Sparrow	<i>Passer domesticus</i>	R
117	Paddy field Pipit	<i>Anthus rufulus</i>	C
118	Indian Baya	<i>Ploceus philippinus</i>	VR
119	Black-headed Munia	<i>Lonchura malacca</i>	R
120	Red Avadavat	<i>Amandava amandava</i>	R
HALCYONIDAE			
121	Stork-billed kingfisher	<i>Pelargopsis capensis</i>	R

REPTILES OF NANDANKANAN

Sl.no.	Common Name	Scientific Name	Status
1	Land Monitor lizard	<i>Varanus bengalensis</i>	VC
2	Indian Python	<i>Python molurus</i>	VC
3	Yellow monitor lizard	<i>Varanus flavescens</i>	R
4	Russels Viper	<i>Daboia russelli</i>	C
5	Banded krait	<i>Bungarus fasciatus</i>	R
6	Common Indian Krait	<i>Bungarus caeruleus</i>	VC
7	Indian Cobra Binocellate	<i>Naja naja naja</i>	VC
8	Cobra Monocellate	<i>Naja naja kaouthia</i>	C
9	Rat Snake	<i>Ptyas mucosus</i>	VC
10	Common Indian Broze back or tree snake	<i>Dendrelaphis tristis</i>	C
11	Checkered keel back	<i>Xenochrophis piscator</i>	R
12	Chameleon	<i>Chameleon zeylanicus</i>	C
13	Common Green Whip Snake	<i>Ahaetulla nasuta</i>	R
14	Earth Boa	<i>Eryx johnii</i>	VR
15	Garden lizard	<i>Calotes verricolor</i>	VR

STATUS

VR- Very Rare, R- Rare, VC- Very Common, C- Common