

ANNUAL REPORT 2018-19



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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 157 species of amphibians, reptiles, birds and mammals. The natural forest areas of Nandankanan is home to a rich assemblage of free-living wild animals including 13 species of mammals, 15 species of reptiles, 179 species of birds, 20 species of amphibians, 96 species of butterflies and 51 species of spiders.

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

There are two important wetlands present in Nandankanan namely Kanjia lake (66 ha) and Kiakani lake (25 ha). The former is the main water source for Nandankanan Zoological Park and State Botanical Garden. It support rich diversity of flora and fauna & is a veritable lab for wetland education. Therefore, it has been listed as a Wetlands of National importance by the Ministry of Environment, Forests and Climate Change, Government of India in the year 2006. The Zoological Park together with the Kanjia lake and the Botanical Garden has been declared as Nandankanan Wildlife Sanctuary over an area of 4.37 sq.km on 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 3.3 million visitors during the year 2018-19. 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 awareness programmes including Celebration of World Wetlands Day, World Pangolin Day, World Wildlife Day, Wildlife Week, World Elephant Day, International Tiger Day, Foundation Day, World Veterinary Day etc. were organized during the year 2018-19. Many species of wild and exotic animals including Indian tiger, Sloth bear, Assamese macaque, Black tufted marmoset, Mouse deer, Fore-horned antelope, Barking deer, Hog deer, Blackbuck, Jungle cat, Gaur, Brow antlered deer,

Spotted deer, Hippopotamus, Long billed vulture, Violet Turaco, Swainson's lorikeet, Indian peafowl, White peafowl, Jandayaconure, Sun conure, Reeve's pheasant, Silver pheasant. Lady Amherst's pheasant, Grey pelican, Night Heron, Alexandrine parakeet, White Ibis, Emu, Budgerigar and Mugger 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 Vulture Conservation Breeding Centre at State Botanical Garden, addition of back kraals to quarantine, centre for rearing of animal babies & enclosure 18, construction of snake enclosures, workshop, animal keeper sheds, provision of CCTV cameras at different animal enclosures, extension of live feed rearing centre, addition of RO water kiosk at three different places of the zoo, renovation of toilets and sit out spots, are worth mentioning.

During the financial year 2018-19 we have welcomed 21 new animals of 6 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 tiger Manish- sire of melanistic tigers, Himalayan black bear Sambhu and the two African lions who were very popular among visitors. These animals are now a part of Nandankanan's history.

There has been a substantial improvement in the field of health care as reflected in reduced annual death rate during the year 2018-19. 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. Twelve publication on different aspects came out during the year in different national and international journals and periodicals 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 2018-19 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 net work 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, behavioural biology, physiology and enrichment in a semi-natural environment.

- Conservation breeding of the endangered species in captivity with least human imprints and to release them in nature to recoup their status in the wild.
- To facilitate research and scientific study on animal 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	nandankananzoo@yahoo.com
8	Website	www.nandankanan.org
9	Distance from nearest	Airport: 18Km Railway Station: 2Km Bus Stand: 1Km
10	Recognition Valid upto (Date)	22.03.2020
11	Category of zoo	Large
12	Area (in Hectares)	362.1 ha.
13	Number of Visitors (Financial Year)	Adult :2744181 (including 442 differently abled persons-free entry) Children : 449048 (including 632 free entry on wildlife week and children's day) Total Indian :3193229 Total Foreigners : 1135 Total Visitors: 3194364
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 center
15	Weekly Closure Day of the Zoo	Monday
Management Personnel of the zoo		
16	Name with designation of the Officer in-charge	Mr Shashi Paul, Director
	Name of the Veterinary Officer	Dr Alok K Das
	Name of the Curator	Mr Anjan Kumar Mohanty
	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
Owner / Operator of the Zoo		

S.No.	Particulars	Information
17	*Name of the Operator	Government of Odisha, Forests and Environment Department
18	Address of the Operator	Additional chief secretary to Govt, Forests and environment 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.

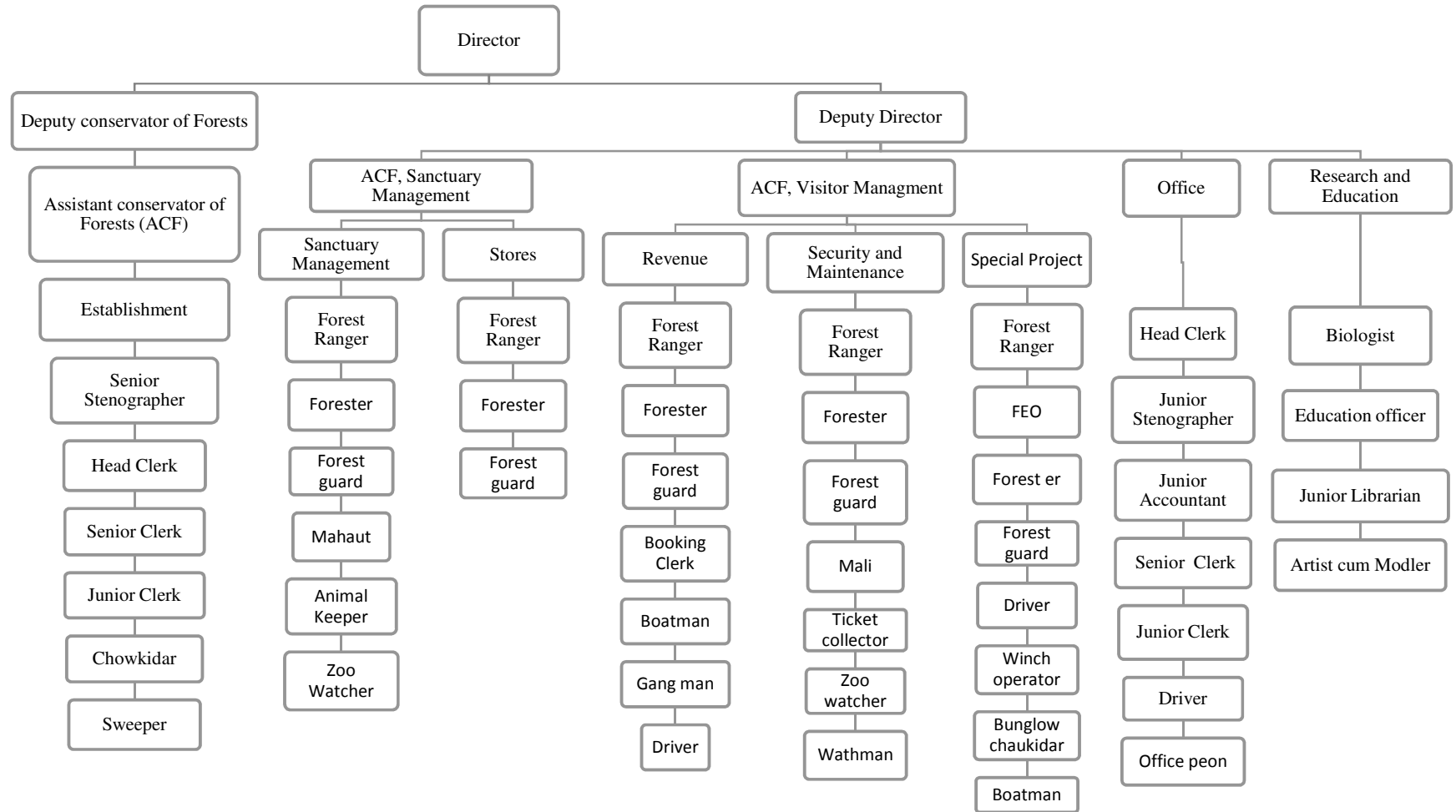
“Zoo Operator” means the person who has ultimate control over the affairs of the zoos provided that_____

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	-
2	D.C.F.	1	-
3	Forest Range Officer	1	-
4	Senior Steno	1	-
5	Senior Assistant	4	4
6	Junior Assistant	4	3
7	Driver	1	1
8	Office Chowkidar	1	1
9	Office Sweeper	1	-
10.	Office Peon	1	1
	TOTAL	16	10

(B) Deputy director Office, Nandankanan Zoological Park

Sl.No.	Designation	Number of Sanctioned Posts	Number of the incumbent
1	Deputy Director	1	1
2	Sr. Veterinary Officer	1	1
3	ACF	3	5
4	Vety. Assistant Surgeon.	1	1
5	Forest Ranger	8	4
6	F.E.S.	0	0
8	Head Clerk	1	1
9	Biologist	1	1
10	Education Officer	1	1
7	Dy.Ranger	0	1
11	Fitter-cum-Mechanic	1	0

12	Junior Accountant	5	4
13	Junior Stenographer.	1	1
14	Forester	9	7
15	Driver(H.V)	3	2
16	Driver (L.V.)	4	2
17	Livestock-Inspector.	3	2
18	Projector Operator	1	0
19	Junior Librarian	1	1
20	Artiste- cum- Modeler.	1	1
21	Guide...	1	0
22	Junior Clerk.	4	3
23	Booking Clerk	3	1
24	Engine Driver	1	0
25	Welder-cum-Blacksmith	1	0
26	Forest Guard	25	19
27	Mahout	8	0
28	Mali	5	3
29	Khansama	1	1
30	Mahout	3	2
31	Ass.Mahunta	8	0
32	Animal Keeper	101	72
33	Office Peon/Attendant	6	5
34	Sweeper	11	8
35	Bungalow Chowkidar	3	1
36	Winch Operator	1	1
37	Gangman	2	0
38	Ticket Collector	10	5
39	Mate	2	1
40	Boat Man	2	0
41	Zoo Watcher	22	17
42	Watchman	27	21
43	Cook-Cum-Animal feed Distributor	2	1
	GRAND TOTAL:	295	197

*Please give above mentioned information in respect of all zoo personnel, from the Officer in-charge upto the Animal Keeper.

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	25 numbers of Group C staff 85 numbers of Group D staff	Capacity Building programme of Group-C & Group-D staff	August, 2018	Nandankanan Zoological Park, Odisha
2.	Dr Sidharth Mohapatra, RA	15 days capsule course on “Wildlife Health Management & Conservation”	12 th to 26 th November, 2018	IVRI, Izatnagar, Bareilly, Uttar Pradesh
3	Sri Arjun Khamari, Animal Keeper Sri Dilip Moharana, Animal Keeper	Zoo Keeper training	17th to 21st December, 2018	Bhagwan Birsa Biological Park, Ranchi, Jharkhand
4.	Dr Sarat Kumar Sahu, VAS	workshop on theme “Recent trends in captive wild animal management”	7 th to 9 th January, 2019.	Mysore zoo, Mysore
5	Dr Alok Kumar Das, SVO	field course on “Interventions in Wild Animal Health”	27 th January, 2019 to 15 th February 2019	Sariska tiger reserve, Rajasthan conducted by WII, Dehradun.
6	80 numbers of Group D staff	Capacity Building programme of Group-D staffs	February, 2019	Nandankanan Zoological Park, Odisha
7	Sri Jayant Kumar Das, Deputy Director	workshop on Vulture Conservation & Reintroduction Programme	22nd to 24th February 2019.	West Bengal Forest Department at Chalsa, Jalpaiguri,

10. Zoo Advisory Committee:

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

b. Members

- Dr S. K. Roy, Prof. & HOD, Deptt. 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, Bermunda Housing Board Colony, Bhubaneswar- Member
- Conservator of Forests (WL) & Ex-Officio Director, Nandankanan Zoological Park, Bhubaneswar –Convenor

c. Dates on which Meetings held during the year: 26/06/2018, 27/11/2018 and 15/02/2019

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

d. Dates on which Meetings held during the year:

02/04/2018, 12/05/2018, 22/05/2018, 26/06/2018, 18/07/2018, 29/07/2018, 17/08/2018, 27/11/2018, 02/12/2018, 04/02/2019, 15/02/2019

12. Statement of income and expenditure of the Zoo

2017-18	NON-PLAN	STATE PLAN	CENTRAL PLAN	RCSP	CZA	CAMPA	Society Fund
Allotment	111.184	615.74	NIL	12.208	NIL	507.90	1820.19
Expenditure	110.327	615.74	NIL	12.208	NIL	504.60	1309.29

13. Daily feed Schedule of animals

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

		SEED MIX (SUNFLOWER/SAFFLOWER)			
		EGG BOILED			
		(FOR THE GROUPOF 10)			
		CUTTLE FISH BONE (MONDAYS)			
4	COCKATOO, LESSER/ SULPHUR CRESTED/ UMBRELLA	APPLE	0.030	0.030	NO
		EGG (BOILED)	½ NO	½ NO	
		GROUND NUT	0.030	0.030	
		GRAPE	0.015	0.015	
		RIPE BANANA	0.020	0.020	
		BENGAL GRAM(SOAKED)	0.050	0.050	
		SEED MIX (SUNFLOWER/SAFFLOWER)	0.050		
		RIPE PAPAYA			
		GREEN MAIZE WITH SPIKE (SEP-OCT)			
		RIPE GUAVA (SEP-OCT)			
5	CONURE, BROWN THROATED/ JANDAYA / SUN/PINEAPPLE/ YELLOW SIDED	APPLE	0.030	0.030	NO
		BENGAL GRAM(SOAKED)	0.005	0.005	
		GROUND NUT	0.025	0.025	
		GRAPE	0.015	0.015	
		GREEN SAG	0.025	0.025	
			0.030	0.030	
			0.010	0.010	
			0.050		

		RIPE PAPAYA	0.050		
		SEED MIX (SUNFLOWER/SAFFLOWER)		0.025	
		GREEN MAIZE WITH SPIKE (SEP-OCT)			
		RIPE GUAVA (SEP-OCT)			
		PINEAPPLE (MAY-JULY)			
6	CRANE, SARUS	KERANDI FISH	0.250	0.250	NO
		PULSES & GRAIN FEED	0.150	0.150	
		BENGAL GRAM (SOAKED)	0.050	0.050	
7	DOVE, BARBARY/ LAUGHING/RING NECKED	POULTRY FEED	0.010	0.010	NO
		PULSES & GRAIN FEED	0.050	0.050	
		GREEN SAG	½ NO	½ NO	
		BOILED EGG			
8	DOVE, SPOTTED/EMRALD	POULTRY FEED	0.010	0.010	NO
		PULSES & GRAIN FEED	0.030	0.030	
		GREEN SAG	0.010	0.010	
		BOILED EGG	½ NO	½ NO	
		MUSTARD	0.005	0.005	
9	DOVE, DIAMOND	MILLET MIX (COMMON,RED,WHITE)	0.010	0.010	NO
			0.005	0.005	

		PADDY	0.030	0.030	
			0.005	0.005	
		PULSES & GRAIN FEED	0.002	0.002	
		GREEN SAG	1/2NO	1/2NO	
		CUTTLE FISH BONE (MONDAYS)			
		BOILED EGG			
10	DUCK, MANDARIN	DUB GRASS	0.020	0.020	NO
			0.030	0.030	
		GREEN SAG	0.010	0.010	
		PADDY	0.050	0.050	
			0.060	0.060	
		POULTRY FEED	0.025	0.025	
		PULSES & GRAIN FEED	0.025	0.025	
		WHEAT, SOAKED			
		BENGAL GRAM, SOAKED			
11	EGRET, LITTLE/MEDIAN/ CATTLE/ LARGE	GADISHA FISH	0.200	0.200	NO
			0.100	0.100	
		KERANDI FISH			
12	EMU	BENGAL GRAM CHHATU	0.200	0.200	NO
			0.300	0.300	
		BENGAL GRAM,SOAKED	1NO	1NO	
		EGG (BOILED)	0.010	0.010	
			0.250	0.250	
			0.050	0.050	

		GARLIC	0.200	0.200	
		GREEN SAG	0.050	0.050	
		ONION			
		RIPE BANANA			
		GRAPES			
13	FINCH (BENGALESE / LONG TAILED /STAR/ZEBRA)	MILLET MIX (COMMON,RED,WHITE)	0.010	0.010	NO
		PADDY	0.010	0.010	
		GREEN SAG	0.005	0.005	
		EGG (BOILED)	1NO	1NO	
		(FOR GROUP OF 50 INDIVIDUALS)			
		CUTTLE FISH BONE (MONDAYS)			
14	HORNBILL, GREY/ ORIENTAL PIED	RIPE BANANA	0.100	0.100	NO
		GRAPE	0.050	0.050	
		GOAT LIVER	0.050	0.050	
		BENGAL GRAM CHHATU			
15	HERON, GREY/NIGHT	KERANDI FISH	0.100	0.100	NO

16	HILL MYNAH	BENGAL GRAM CHHATU	0.025	0.025	NO
			0.050	0.050	
		RIPE BANANA	0.025	0.025	
		APPLE	0.025	0.025	
		GRAPE			
17	IBIS (BLACK/ WHITE)	KERANDI FISH	0.300	0.300	NO
18	JUNGLE FOWL, RED	BENGAL GRAM (SOAKED)	0.050	0.050	NO
			0.050	0.050	
		POULTRY FEED	0.030	0.030	
		PULSES AND GRAIN FEED	0.020	0.020	
			0.005	0.005	
		PADDY	0.010	0.010	
		GARLIC	5NO	5NO	
			1NO	1NO	
		ONION			
	MEAL WORM				
	BOILED EGG (FOR THE GROUP)				
19	KITE, BRAHMINY	KERANDI FISH	0.250	0.250	NO
		DAY OLD CHICKS/WHITE MICE	1NO	1NO	
20	KITE, BLACK	KERANDI FISH	0.050	0.050	NO
			0.200	0.200	
		BUFFALO MEAT	1NO	1NO	
	DAY OLD CHICK/WHITE MICE				
21	KOEL	GOAT MEAT KIMA	0.025	0.025	NO
			0.025	0.025	

		BENGAL GRAM CHHATU	0.050	0.050	
		RIPE BANANA	0.025	0.025	
		GRAPE			
22	LOVE BIRD (FISCHERS/ PEACH-FACED/MASKED)	BENGAL GRAM,SOAKED	0.010	0.010	NO
		MILLET MIX (COMMON,RED,WHITE)	0.020	0.020	
		PADDY	0.010	0.010	
		GROUND NUT	0.030	0.030	
		GREEN SAG	0.010	0.010	
		SEED MIX (SUNFLOWER/SAFFLOWER CUTTLE FISH BONE (MONDAYS)	0.002	0.002	
23	LORIKEET, BLUE FACED/ SWAINSON' S	APPLE	0.050	0.050	NO
		BENGAL GRAM,SOAKED	0.010	0.010	
		RIPE PAPAYA	0.050	0.050	
		GRAPE	0.025	0.025	
		GREEN SAG	0.030	0.030	
		RIPE BANANA	0.050	0.050	
		RIPE GUAVA (SEPT-OCT)	0.050		
		GREEN MAIZE WITH SPIKE (SEP-OCT)	0.050		
24	LORRY, YELLOW BACKED / RED CHATTERING	APPLE	0.050	0.050	NO
		BENGAL GRAM,SOAKED	0.010	0.010	
			0.025	0.025	

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

		PADDY	0.010	0.010	
		GREEN SAG			
27	OWL (BARN/ ORIENTAL SCOPS)	DAY OLD CHICK	1NO	1NO	NO
		WHITE MICE	1NO	1NO	
28	OWL, BROWN FISH	DAY OLD CHICK	2NO	2NO	NO
		WHITE MICE	2NO	2NO	
		WHITE MICE	0.100	0.100	
		KERANDI FISH			
29	PARAKEET, (MOUSTACHED/ ROSE RINGED/ BLOSSOM HEADED/ ALEXANDRINE/RING NECKED	BENGAL GRAM,SOAKED	0.010	0.010	NO
		SEED MIX (SUNFLOWER/SAFFLOWER)	0.010	0.010	
		GROUNDNUT	0.010	0.010	
		GROUNDNUT	0.020	0.020	
		GROUNDNUT	0.020	0.020	
		APPLE	0.010	0.010	
		APPLE	0.015	0.015	
		GREEN SAG	0.025	0.025	
		MAIZE	0.025		
		MAIZE	0.025		
		RIPE BANANA		0.025	
		RIPE BANANA	0.010	0.010	
		RIPE PAPAYA			
		GREEN MAIZE WITH SPIKE (SEP-OCT)			
		RIPE GUAVA (SEPT-OCT)			
		WATER MELON (APR-MAY)			
		GREEN PEA POD (DEC-FEB)			
30	PEAFOWL, INDIAN	BENGAL GRAM,SOAKED	0.050	0.050	NO
			0.050	0.050	

		GROUND NUT	0.005	0.005	
			0.100	0.100	
		GARLIC	0.050	0.050	
		GREEN SAG	0.040	0.040	
			0.040	0.040	
		ONION	0.050	0.050	
		POULTRY FEED			
		PULSES & GRAIN FEED			
		PADDY			
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	0.010	0.010	NO
			0.050	0.050	
		GREEN SAG	0.020	0.020	
			0.050	0.050	
		ONION	0.050	0.050	
			½ NO	½ NO	
		POULTRY FEED	5NO	5NO	
		PULSES AND GRAIN FEED			
		BOILED EGG			
		CRICKET WORM/MEAL WORM			
33	ROSELLA, EASTERN	APPLE	0.050	0.050	NO
			0.010	0.010	
		BENGALGRAM,SOAKED	0.010	0.010	
			0.010	0.010	
		MILLET MIX (COMMON,RED,WHITE)	0.025	0.025	
			0.030	0.030	
		OAT	0.050	0.050	

		GREEN SAG	0.010	0.010	
			0.025	0.025	
		GROUND NUT	0.050		
		RIPE BANANA	0.050		
				0.025	
		SEED MIX (SUNFLOWER/SAFFLOWER)		0.050	
		RIPE PAPAYA			
		GREEN MAIZE WITH SPIKE (SEP-OCT)			
		RIPE GUAVA (SEPT-OCT)			
		PINE-APPLE (MAY-JULY)			
		WATER MELON (APR-MAY)			
34	SPARROW, JAVA	MILLET MIX (COMMON,RED,WHITE)	0.010	0.010	NO
			0.010	0.010	
		PADDY	0.010	0.010	
		GREEN SAG	1NO	1NO	
			0.005	0.005	
		BOILED EGG (FOR 20 GROUP)			
		CUTTLE FISH BONE (MONDAYS)			
35	SPOON BILLED, WHITE EURASIAN	GADISHA FISH	0.300	0.300	NO
36	STORK, OPEN BILLED	SNAIL SHELL	0.400	0.400	NO
			0.100	0.100	
		KERANDI FISH			
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	0.200	0.200	NO
		DAY OLD CHICK	2NO	2NO	
40	SIKRA	DAY OLD CHICKS	1NO	1NO	NO
		WHITE MICE	1NO	1NO	
41	SWAN, BLACK	BLACK SWAN FEED	0.250	0.250	NO
		GREEN SAG	0.250	0.250	
		BENGAL GRAM (SOAKED)	0.100	0.100	
		WHEAT (SOAKED)	0.100	0.100	
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	1.000	1.000	NO
		OSTRICH FEED	1.500	1.500	
		BOILED EGG (WITH SHELL)	2NO	2NO	
46	PARROT, AFRICAN GREY	APPLE	0.030	0.030	NO
		BENGAL GRAM (SOAKED)	0.015	0.015	
			0.030	0.030	

		GRAPE	0.030	0.030	
			0.010	0.010	
		GROUND NUT	0.050	0.050	
		SUNFLOWER SEED	0.050	0.050	
				0.050	
		RIPE PUMPKIN		0.050	
		RIPE PAPAYA			
		RIPE SAPETA (APR-MAY)			
		WATER MELON(APR-MAY)			
47	PARROT, MEYER'S/ RED BELLIED	APPLE	0.030	0.030	NO
			0.015	0.015	
		BENGAL GRAM (SOAKED)	0.030	0.030	
		BEANS	0.020	0.020	
			0.020	0.020	
		GRAPES	0.020	0.020	
			0.010	0.010	
		POMEGRANATE	0.010	0.010	
			0.050	0.050	
		MILLET MIX			
		SUNFLOWER SEED			
		PADDY			
		RIPE PAPAYA			

48	TURACO, VIOLET/ LIVINGSTONE	APPLE	0.025	0.025	NO
			0.025	0.025	
		GRAPE	0.050	0.050	
		TOMATO	0.025	0.025	
			0.050	0.050	
		POMEGRANATE	0.050	0.050	
				0.050	
		RIPE BANANA		0.025	
		RIPE PAPAYA			
		WATERMELON (APR-MAY)			
	RIPE MANGO (APR-MAY)				
49	ANTELOPE, FOUR HORNED	COMMON GRASS	1.000	1.000	NO
			0.500	0.500	
		DEER MASH	1.000	1.000	
		DEER FODDER	0.100	0.100	
			0.100	0.100	
		BENGAL GRAM SOAKED	0.100	0.100	
			0.100	0.100	
		BIRIDAL SOAKED	0.100	0.100	
		RIPE BANANA			
		RIPE PUMPKIN			
	JHUDANGA				
50	BEAR, HIMALAYAN BLACK	BIRIDAL	0.100	0.100	NO
			0.025	0.025	
			0.100	0.100	

		HONEY	0.800	0.800	
			0.350	0.350	
		MILK	0.350	0.350	
		RICE (PAR BOILED)		0.500	
			0.250		
		RIPE PUMPKIN	0.250		
			0.200		
		RIPE BANANA	2NO		
		WATER MELON (APR-MAY)			
		CARROT (OCT-MARCH)			
		SWEET POTATO (OCT-MAR)			
		GREEN MAIZE WITH SPIKE (SEP-OCT)			
		BOILED EGG (NOV-FEB) 2 NO.			
51	BEAR, SLOTH	BIRIDAL	0.100	0.100	NO
			0.025	0.025	
		HONEY	0.100	0.100	
		MILK	0.700	0.700	
			0.300	0.300	
		RICE (PAR BOILED)	0.300	0.300	
				0.500	
		RIPE PUMPKIN	0.250		
			0.200		
		RIPE BANANA	0.100		
		WATER MELON (APR-MAY)	2NO		
		SWEET POTATO (OCT-MAR)			
		GREEN MAIZE WITH SPIKE (SEP-OCT)			

		CARROT (OCT-MARCH)			
		BOILED EGG (NOV- FEB)			
52	BLACK BUCK	COMMON GRASS	1.000	1.000	NO
			0.500	0.500	
		DEER MASH	1.000	1.000	
		DEER FODDER	0.100	0.100	
			0.100	0.100	
		RIPE PUMPKIN			
		JHUDANGA			
53	BABOON, HAMADRYAS	GROUND NUT	0.050	0.050	NO
			0.200	0.200	
		APPLE	0.100	0.100	
		BRINJAL	0/050	0/050	
			1NO	1NO	
		LADIES FINGER	0.050	0.050	
			0.010	0.010	
		EGG (BOILED)	0.050	0.050	
		BEAN	0.250	0.250	
			0.100	0.100	
		MILK	0.200		
				0.100	
		RICE (PAR BOILED)	0.025		
			0.050		
		RIPE BANANA		0.050	
				0.100	
		GRAPE		0.150	
		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)			
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	0.250	0.250	NO
		KERADI FISH	0.250	0.250	
57	CHIMPANZEE	APPLE	0.300	0.300	NO
		BENGAL GRAM WHOLE	0.100	0.100	
		CUCUMBER	0.200	0.200	
		CUCUMBER	1 NO	1 NO	
		EGG (BOILED)	0.050	0.050	
		EGG (BOILED)	0.200	0.200	
		BEAN	0.150	0.150	
		BEAN	0.100	0.100	
		GRAPE	0.200	0.200	
		GRAPE	0.200	0.200	
		MILK	0.300	0.300	
		MILK	0.200	0.200	
		TOMATO	0.025	0.025	
		RICE (PAR BOILED)	0.100	0.100	
		RICE (PAR BOILED)	0.050	0.050	

		GREEN SAG		0.100	
				0.500	
		RIPE BANANA	0.050		
		BEDANA		2NO	
				0.400	
		HONEY	0.400	0.400	
			0.100		
		CARROT (OCT-MAR)	0.150		
			0.100		
		KHAJARA	0.010	0.010	
		PINE-APPLE (MAY-JUL)	0.030	0.030	
		WATER MELON (APR-MAY)			
		RIPE GUAVA (SEPT-OCT)			
		GREEN COCONUT (APR-JUN)			
		CUSTARD APPLE (SEPT-OCT)			
		RIPE PAPAYA			
		PALANGA SAG (DEC-FEB)			
		ORANGE (NOV-MAR)			
		AMLA (NOV-DEC)			
		GARLIC			
		ONION			
58	CIVET, COMMON PALM	RICE (PAR BOILED)	0.010	0.010	NO
			0.100	0.100	
		CHICKEN MEAT KIMA	0.005	0.005	
			0.050	0.050	
			0.250	0.250	

		MILK			
		KERANDI FISH			
		RIPE BANANA			
59	CIVET, SMALL INDIAN	RICE (PAR BOILED)	0.050	0.050	NO
		CHICKEN MEAT KIMA	0.050	0.050	
		MILK	0.005	0.005	
		MILK	0.050	0.050	
		KERANDI FISH	0.200	0.200	
		RIPE BANANA			
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	
		BEAN	0.125	0.025	

		KANKADA (JUNE-SEPT)	0.100		
		CARROT (OCT-MAR)			
		SWEET POTATO (OCT-MAR)			
63	DEER, SAMBAR	COMMON GRASS	12.000	12.000	NO
			2.500	2.500	
	ADULT, 1YR ABOVE	DEER MASH	2.000	2.000	
		RIPE BANANA (FOR THE GROUP)	2.000	2.000	
		DEER FODDER			
63	DEER, SAMBAR	COMMON GRASS	8.000	8.000	NO
			1.750	1.750	
	SUB-ADULT,	DEER MASH	1.000	1.000	
	2MONTHS-1 YEAR	DEER FODDER			
64	DEER, SPOTTED	COMMON GRASS	2.000	2.000	NO
			1.000	1.000	
	ADULT, 1YR ABOVE	DEER MASH	1.000	1.000	
		DEER FODDER			
	DEER, SPOTTED	DEER MASH	0.750	0.750	NO
			1.000	1.000	
SUB-ADULT	COMMON GRASS	1.000	1.000		
	2MONTHS- 1YEAR	DEER FODDER			
65	DEER,SWAMP	COMMON GRASS	10.000	10.000	NO
			1.500	1.500	
	ADULT, 1YR ABOVE	DEER MASH	3.000	3.000	
			1.000	1.000	

		PARA GRASS			
		RIPE BANANA (FOR THE GROUP)			
	DEER, SWAMP	COMMON GRASS	5.000	5.000	NO
	SUB-ADULT	DEER MASH	1.000	1.000	
	2MONTHS-1YR	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	
			1.000	1.000	
		WHEAT BRAN (CHOKAD)	10.000	10.000	
			0.200	0.200	
		NB21	0.200	0.200	
			0.020	0.020	
		CARROT (OCT-MAR)	0.200	0.200	
		RIPE BANANA			
		BLACK SALT			
		JHUDANGA			
67	DEER, HOG	WHEAT BRAN	0.250	0.250	NO
			0.250	0.250	
		BENGAL GRAM (SOAKED)	1.000	1.000	
		COMMON GRASS	1.000	1.000	
		DEER FODDER			

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

		PARA GRASS	0.050	0.050	
		TURMERIC WHOLE	1NO	1NO	
		MOLASES	0.050	0.050	
		COMMON SALT	5.000	5.000	
		COCONUT		4.000	
		STRAW			
		CASTOR OIL			
		BAMBOO LEAVES (JULY-OCT)			
		SUGARCANE (JAN-MARCH)			
		WATER MELON (APR-MAY)			
69	GIRAFFE	WHEAT, SOAKED	1.000	1.000	NO
		BENGAL GRAM, SOAKED	1.000	1.000	
		MUNG, SOAKED	1.250	1.250	
		DEER MASH	5.000	5.000	
		FRESH RIPE BANANA	6.000	6.000	
		CUCUMBER	0.500	0.500	
		TOMATO	0.250	0.250	
		ONION	0.050	0.050	
		COMMON SALT	30.000	30.000	
			5.000	5.000	
			2.000	2.000	
			1.500	1.500	
			2.000	2.000	
			0.025	0.025	

		TREE FODDER (OSTA/BARA)	1.000		
		NB21	2.000		
		GREEN SAG			
		JHUDANGA			
		RIPE PUMPKIN			
		GARLIC			
		SWEET POTATO (OCT-MAR)			
		CARROT (OCT-MAR)			
70	GAUR	BALCK GRAM, SOAKED	0.250	0.250	NO
			2.000	2.000	
		WHEAT BRAN	5.000	5.000	
		DEER MASH	0.050	0.050	
			15.000	15.000	
		MOLASSES	15.000	15.000	
		PARA GRASS	5.000	5.000	
			0.500	0.500	
		NB21			
		TREE FODDER (OSTA)			
		RIPE BANANA			
71	GIANT SUIRREL	BENGAL GRAM	0.050	0.050	NO
			0.050	0.050	
		APPLE	0.025	0.025	
			0.100	0.100	
		GRAPE	0.100	0.100	

		BREAD	0.050	0.050	
		RIPE BANANA	0.100	0.100	
		GREEN PEA POD (DEC-FEB)			
		RIPE GUAVA(SEP-OCT)			
72	HARE, INDIAN	DUBA GRASS	0.100	0.100	NO
		GREEN SAG	0.050	0.050	
		PUMPKIN	0.050	0.050	
		BEAN	0.050	0.050	
		CARROT (OCT-MAR)	0.025	0.025	
		APPLE	0.025	0.025	
		ORANGE (NOV-MAR)	0.100		
		GRAPE			
		BENGAL GRAM (SOAKED)			
		SWEET POTATO (OCT-MAR)			
		PALANGA (DEC-FEB)			
73	HIPPOPOTAMUS	BENGAL GRAM WHOLE	2.000	2.000	NO
	ADULT, 2 ½ YRS ABOVE	PUMPKIN	1.000	1.000	
		CABBAGE	2.000	2.000	
		GREEN SAG	1.000	1.000	
			0.100	0.100	
			5.000	5.000	
		MINERAL MIXTURE	0.100	0.100	
			1.000	1.000	

		CHOKAD (WHEATBRAN)	50.000	50.000	
		COMMON SALT			
		RIPE BANANA			
		PARA GRASS			
	HIPPOPOTAMUS	BENGAL GRAM WHOLE	1.000	1.000	NO
			0.500	0.500	
	SUB-ADULT	PUMPKIN	1.000	1.000	
		CABBAGE	0.500	0.500	
	6MONTHS-2 ½ YRS	GREEN SAG	0.050	0.050	
			2.500	2.500	
		MINERAL MIXTURE	0.100	0.100	
			0.500	0.500	
		CHOKAD (WHEATBRAN)	20.000	20.000	
		COMMON SALT			
		RIPE BANANA			
		PARA GRASS			
74	HYENA	BUFFALO MEAT	2.000	2.000	MONDAY
75	JACKAL	BUFFALO MEAT	1.000	1.000	MONDAY
76	LEOPARD, ADULT	BUFFALO MEAT	4.000	4.000	MONDAY
	(ABOVE 1 ½ YEAR)				
	LEOPARD, SUB-ADULT	BUFFALO MEAT	3.000	3.000	MONDAY
	(1-1½ YEARS)				
	LEOPARD, JUVENILE	BUFFALO MEAT	1.000	1.000	NO

	(6MONTHS-1 YEAR)				
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	0.050	0.050	NO
		LADIES FINGER	0.050	0.050	
		GROUND NUT	0.050	0.050	
		BEAN	0.050	0.050	
		MILK	0.250	0.250	
		RICE (PAR BOILED)	0.100		
		RIPE BANANA		0.050	
		GREEN PEA POD (DEC-FEB)		0.100	
		SWEET POTATO (OCT-MAR)		0.150	

GREEN MANGO (APR-MAY)

GREEN MAIZE WITH SPIKE (SEP-OCT)

WATER MELON (APR-MAY)

79	MACAQUE, BONNET	BENGAL GRAM WHOLE	0.050	0.050	NO
	ADULT (1 ½ YEAR ABOVE)		0.100	0.100	
		BRINJAL	0.050	0.050	
		LADIES FINGER	0.030	0.030	
			0.050	0.050	
		BREAD	0.050	0.050	
			0.010	0.010	
		GROUND NUT	0.050	0.050	
		BEAN	0.250	0.250	
			0.050		
		MILK	0.100		
				0.050	
		RICE (PAR BOILED)		0.100	
				0.100	
		RIPE BANANA		0.150	
		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)					
MACAQUE, BONNET	BENGAL GRAM WHOLE	0.025	0.025	NO	
		0.050	0.050		

	SUB-ADULT	BRINJAL	0.025	0.025	
			0.015	0.015	
		LADIES FINGER	0.025	0.025	
		BREAD	0.025	0.025	
			0.005	0.005	
		GROUND NUT	0.025	0.025	
		BEAN	0.125	0.125	
		MILK	0.050		
				0.025	
		RICE (PAR BOILED)		0.050	
				0.050	
		RIPE BANANA		0.075	
		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)			
80	MACAQUE, RHESUS	BENGAL GRAM WHOLE	0.050	0.050	NO
			0.100	0.100	
		BRINJAL	0.050	0.050	
		LADIES FINGER	0.030	0.030	
			0.050	0.050	
		BREAD	0.050	0.050	
			0.010	0.010	
		GROUND NUT	0.050	0.050	
			0.250	0.250	
			0.100		

		BEAN		0.100	
		MILK	0.050	0.150	
		RICE (PAR BOILED)			
		RIPE BANANA			
		SWEET POTATO (OCT-MAR)			
		GREEN MAIZE WITH SPIKE (SEP-OCT)			
		WATER MELON (APR-MAY)			
		GREEN PEA POD (DEC-FEB)			
81	MONGOOSE COMMON	GADISHA FISH	0.150	0.150	NO
82	NILGAI ADULT, 1YR ABOVE	COMMON GRASS	15.000	15.000	NO
		DEER MASH	2.500	2.500	
		DEER FODDER	3.000	3.000	
		DEER FODDER	4.000	4.000	
		RIPE BANANA (FOR THE GROUP)			
82	SUB ADULT (6 MONTHS – 1 YEAR)	COMMON GRASS	10.000	10.000	NO
		DEER MASH	2.500	2.500	
		DEER FODDER	2.000	2.000	
83	ORANG UTAN	GREEN SAG	0.500	0.500	NO
			0.200	0.200	
		TAMATO	1.500	1.500	
		RIPE BANANA	0.400	0.400	
			0.300	0.300	
		1NO	1NO		

CUCUMBER	0.100	0.100
	0.100	0.100
APPLE	0.050	0.050
BOILED EGG	0.200	
		0.100
BEAN		0.500
		0.050
GRAPE		2NO
AMUL SPRAY		0.400
	0.400	0.400
CARROT (OCT-MAR)	0.100	
	0.150	
PINE-APPLE (MAY-JUL)		0.125
	0.100	
WATER MELON (APR-MAY)	0.015	0.015
RIPE GUAVA (SEPT-OCT)	0.050	0.050
GREEN COCOANUT (APR-JUN)		
CUSTARD APPLE (SEPT-OCT)		
RIPE PAPAYA		
PALANG SAG (DEC-FEB)		
ORANGE (NOV-MAR)		
KANKAD (JUNE-SEPT)		
AMLA (NOV-DEC)		
GARLIC		
ONION		

84	PANGOLIN, INDIAN	RED WEAVER ANT EGGS	0.600	0.600	NO
		BOILED EGG	½ NO	½ NO	
85	PORCUPINE	BENGAL GRAM WHOLE	0.050	0.050	NO
		BRINJAL	0.050	0.050	
			0.100	0.100	
		GROUND NUT	0.010	0.010	
			0.050	0.050	
		BEAN	0.010	0.010	
			0.100	0.100	
		MAIZE	0.150	0.150	
			0.050	0.050	
		MILK	0.100		
		RICE (PAR BOILED)			
		RIPE BANANA			
		RIPE PUMPKIN			
		SWEET PATATO (OCT-MAR)			
86	RATEL	HONEY	0.020	0.020	NO
			0.100	0.100	
		GOAT MEAT	0.200	0.200	
			0.400	0.400	
		RIPE BANANA			
		BUFFALO MEAT			
87	TIGER	BUFFALO MEAT	10.000	10.000	Monday

	ADULT, 2 ½ YR ABOVE				
	TIGER, SUB ADULT	BUFFALO MEAT	6.000	6.000	Monday
	1YR-2 ½ YR				
	TIGER, JUVENILE	BUFFALO MEAT	3.000	3.000	Monday
	6MN- 1YR				
	TIGER, CUB	CHICKEN	1NO	1NO	Monday
	3MN-6MN (DRESSED, BONELESS)				
88	WILD BOAR	WILD BOAR MASH	1.000	1.000	NO
			0.500	0.500	
		RIPE PUMPKIN	0.250		
		SWEET POTATO (OCT-MAR)			
89	WHITE BUCK	TREEN FODDER	1.000	1.000	NO
			0.750	0.750	
		DEER MASH	0.100	0.100	
		RIPE PUMPKIN	0.100	0.100	
			0.050	0.050	
		JHUDANGA			
		MOLASSES			
90	LANGUR, NILGIRI	APPLE	0.250	0.250	NO
			0.030	0.030	
			0.200	0.200	

		RICE (PAR BOILED)	0.100		
			0.100		0.100
		RIPE BANANA	0.015		0.015
		ORANGE(NOV-MAR)	0.030		0.030
			0.100		0.100
		RIPE GUAVA	1NO		1NO
			0.050		0.050
		BENGAL GRAM	0.050		
			0.050		0.050
		CABAGGE	0.010		0.010
		GREEN SAG	0.020		
			0.030		0.030
		BOILED EGG			0.100
		BEANS	0.125		0.125
		CARROT (OCT-MAR)			
		GRAPE			
		HONEY			
		AMLA (NOV-DEC)			
		CUCUMBER			
		CUSTARD APPLE (SEP-OCT)			
		POMEGRANATE			
91	BOA RED SAND /	WHITE MICE /RAT	2NO	2NO	Sunday to Saturday
	BOA COMMON SAND	(ON MONDAY)			

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	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 0.010 0.005 0.005 0.010 0.010	NO

		CUCUMBER			
		LADIES FINGER			
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	0.015	0.015	NO
		RIPE BANANA	0.025	0.025	
			0.030	0.030	
		LADIES FINGER	0.030	0.030	
		JHUDANG/BEAN	0.100	0.100	
			0.100	0.100	
		CUCUMBER	0.050	0.050	
			0.050		
		PUMPKIN			
		TAMATO			
		PALANG SAG (DEC-FEB)			
111	TURTLE, FRESH WATER/ INDIAN FLAP-SHELLED/ GANGES SOFT-SHELLED/ INDIAN TENT	GREEN SAG	0.010	0.010	NO
		KERANDI FISH	0.100	0.100	
			0.020	0.020	
		CABBAGE			
112	CHITRA TURTLE	GREEN SAG	0.025	0.025	NO
			0.050	0.050	
		PUMPKIN	0.100	0.100	
		KERANDI FISH	0.025	0.025	
		CABBAGE			

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	Annual	
		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

Sl. No.	Species	Drug Used	Month
1	Tiger, Lion, Leopard, Hyena, Jackal,	Fenbendazole	June
		Ivermectin	October
		Albendazole	February
2	Indian Pangolins	Albendazole	June
		Albendazole	October
		Albendazole	February
3	Animals at Nocturnal House: Civet, Porcupine, Fishing cat, Ratel, jungle Cat, barn Owl, Brown Fish Owl	Albendazole	June,
		Albendazole	October
		Albendazole	March
4	Birds	Levamisole	June
		Levamisole	November
5	Gaur	Oxyclozanide and Levamisole	July
		Oxyclozanide and Levamisole	March
6	All deer Species and antelopes	Oxyclozanide and Levamisole	August
		Oxyclozanide and Levamisole	December
7	Sloth bears and Himalayan Black Bears	Albendazole	August
		Albendazole	February
8	Animals at Small Mammal House: Porcupine, Ratel, Jungle Cat, Indian Hare, Giant Squirrel, Mongoose, Wild Boar	Albendazole	August
		Albendazole	January
9	Hippopotamus	Albendazole	January
10	Elephants	Albendazole	February

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:

No health check-up of employees for zoonotic diseases was carried out during the year 2018-19. The last Health Check-up of 173 employees was carried out on 26th and 27th March 2018. The next health check-up was scheduled on 18th and 19th March, 2020.

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 Vulture Conservation Breeding Centre at State Botanical Garden, addition of back kraals to quarantine, centre for rearing of animal babies & enclosure 18, construction of snake enclosures, workshop, animal keeper sheds, provision of CCTV cameras at different animal enclosures, extension of live feed rearing centre, addition of RO water kiosk at three different places of the zoo, renovation of toilets and sit out spots, are worth mentioning.

19. Education and Awareness programmes during the year:

DATE	PROGRAMME/EVENT	NO. PARTICIPANTS
11.04.2018	Field visit of students of Sai International School, Bhubaneswar	80
24.04.2018	Study tour of B. V.Sc & AH final year students from O.U.A.T, Bhubaneswar	36
28.04.2018	Observation of World Veterinary Day	Officers & Staff
02.05.2018	Study tour of people from Committee of Welfare Backward class of Jharkhand State	15
03.05.2018	Orientation tour of FRO trainees from Angul, Odisha	32
05.05.2018	Study tour of B.V.Sc & A.H. students from O.U.A.T, Bhubaneswar	38
08.05.2018	Orientation tour of FRO trainees from Angul, Odisha	33
11.05.2018	Study tour of B.V.Sc & A.H. students from O.U.A.T, Bhubaneswar	45
05.06.2018	Celebration of World Environment Day	>200
19.06.2018	Orientation tour of Forest Guard from FTS, G.Udaygiri, Odisha	45
25.06.2018	Capacity Building of Frontline staff of Group-C of Nandankanan Zoological Park	40
07.07.2018	Study tour of B.V.Sc & A.H. students from O.U.A.T, Bhubaneswar	10
29.07.2018	Celebration of International Tiger Day	>180
08.08.2018	Senior IFS officers from Maharashtra state on study tour to Nandankanan Zoological Park	30
12.08.2018	Celebration of World Elephant Day	>200
17.08.2018 & 18.08.2018	Capacity Building of Group-D staff and T.S employees of Nandankanan Zoological Park	85
13.09.2018	Orientation tour of FRO trainees from Himachal Pradesh State Forest Academy, HP	31
19.09.2018	Field Visit of B.Sc Students of D. R. Nayapalli College, Bhubaneswar	25
20.09.2018	Field Visit of B.Sc Zoology Students, from S.C.S College, Puri	28
04.10.2018	5 officials from Telangana Forest officials visited Nandankanan Zoological Park	05
07.10.2018	Celebration of Wildlife Week	>200
10.10.2018	Orientation visit of Forest Guard from NFTS, Champua	55
14.10.2018	Census of Open bill stork	25
13.11.2018	Field visit of B.A Psychology students from Sailabala Women College, Cuttack	30
17.11.2018	Field Visit of B.Sc Zoology Students, from JKBK College, Cuttack	29
18.11.2018	Field Visit of M.Sc Zoology Students, from Goa University, Goa	30
29.11.2018	Field Visit of M.Sc Zoology Students, from Utkal University, Bhubaneswar	15
02.12.2018	Field visit of ITBP students from Khordha, Odisha	45
11.12.2018	Orientation visit of FRO trainees from Coimbatore, Karnataka	45
11.01.2019	Orientation visit of FRO trainees from Coimbatore, Karnataka	31
13.01.2019	Field Visit of B.Sc Zoology Students, from Kendrapada(A) College, Kendrapada	36
20.01.2019	Orientation tour of IFS probationers from IGNFA Group-A	46
26.01.2019	Orientation visit of Forest Guard from NFTS, Champua	47

01.02.2019	Orientation visit of Forest Guard from FTS, G.Udaygiri, Odisha	47
02.02.2019	Celebration of World Wetland Day	>150
09.02.2019	Orientation tour of IFS probationers from IGNFA Group-B	46
16.02.2019	Celebration of World Pangolin Day	>200
18.02.2019 & 19.02.2019	Capacity Building of Group-D staff of Nandankanan Zoological Park	90
21.02.2019	Orientation visit of Foresters from Ghatkhia, Bhubaneswar	43
03.03.2019	Celebration of World Wildlife Day	>100
07.03.2019	Study tour of B.V.Sc & A.H. students from O.U.A.T, Bhubaneswar	45
08.03.2019	Study tour of B.V.Sc & A.H. students from O.U.A.T, Bhubaneswar	45
15.03.2019	East India Tour of officer training of SFS Batch of CASFOS	35

20. Important Events and happenings:

Vulture Conservation Breeding Centre, Nandankanan

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

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 care 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 care 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 65 organization was given priority. The research teams are made up of Orissa Veterinary College, zoo vets, collaborating scientists and students of graduate, masters and PhD levels. Funding for research is provided by CZA. The research findings would further increase our expertise in the management of captive animals.

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

1. Das, S., Dehuri, M., Panda, M.R., Sahoo, N., Mohanty B.N. & Mahapatra, T. (2018). Gastro-intestinal Helminthic Infection in Herbivore Safari at Nandankanan Zoological Park. *Int.J.Curr.Microbiol.App.Sci.* 7(08): 1034-1039.
2. Mohanty, S.T., Patra, B.K., Barik, A.K., Mohanty, D.N., Sahoo, N., Sahu, S.K., Mohapatra, A.P.K. & Sahoo, S.S. (2018). Estimation of faecal estrogen and progesterone profile at estrous and post estrous period irrespective of mating in lioness. *International Journal of Chemical Studies.* 6(4):2508-2513.
3. Panda, S.K. & Sahu, S.K. (2018). Status of diseases in wild birds. In proceedings of National Symposium on 'Recent advances in Veterinary Pathology and Disease Diagnosis for Sustainable Livestock and Poultry Production. pp 393- 396.
4. Sahu, S. K., Mohapatra, S., & Mohapatra, R. K. (2018). Management of a compound carpometacarpal fracture in a lesser adjutant stork (*Leptoptilos javanicus*): a case report. *Int J Avian & Wildlife Biol*, 3(4), 315-317.
5. Mohapatra, R. K., Panda, S., & Sahu, S. K. (2018). On the gestation period of Indian pangolins (*Manis crassicaudata*) in captivity. *Biodiversity Int J*, 2(6), 559-560.

6. Mohapatra, R. K. (2018). Sighting of Indian grey hornbill and Rufous woodpecker at Nandankanan Wildlife Sanctuary, Odisha, India. *Int J Avian & Wildlife Biol*, 3(4), 307-308.
7. Mohapatra, R. K., Sahu, S. K., Panda, S., Das, J. K., & Upadhyay, H. S. (2019). Himalayan Griffon: rescue and treatment of *Gyps himalayensis* in Odisha, India. *ZOO'S PRINT*, 34(3), 24-27.
8. Mohapatra, R. K., Panda, B. P., & Panda, M. K. (2019). Colonial nesting of Asian openbill storks (*Anastomus oscitans*) in Nandankanan Wildlife Sanctuary, Odisha. *Int J Avian & Wildlife Biol*, 4(1), 14-17.
9. Challender, D.W., Ades, G.W., Chin, J.S., Sun, N.C.M., Chong, J.L., Connelly, E., Hywood, L., Luz, S., Mohapatra, R.K., de Ornellas, P. & Parker, K. (2019). Evaluating the feasibility of pangolin farming and its potential conservation impact. *Global Ecology and Conservation*, 20, p.e00714.
10. Mohapatra, R.K., Purohit ,S., Ray, S.S., Sahoo, A.A., Panda, M.K., Panda, B.P., Nanda, S., Sahoo, M., Padhee, B.K., Parmar, M., Biswal ,U., Parida, S.P., Das, J.K., Paul. S. (2019). Addition of some bird species to checklist of Nandankanan wildlife sanctuary, Odisha. *Int J Avian & Wildlife Biol*, 4(3), 80-85.
11. Mohapatra, R.K. and Panda, M.K. (2019). Pangolin Education Kit. Nandankanan Biological Park. Bhubaneswar, Odisha. pp 1-36.
12. Mohapatra, R.K., Bhatia, G. Das, J.K. and Paul, S. (2019) Birds of Nandankanan Wildlife Sanctuary-a pocket guide to 168 familiar birds. Nandankanan Biological Park, Forest and Environment Department, Government of Odisha.

23. Conservation Breeding Programme of the Zoo:

(a) **Indian Pangolin Conservation Breeding Programme:** The research on conservation breeding of Indian pangolin is actively going on in the established 'Indian pangolin conservation breeding centre'. Monitoring through the infrared sensitive CCTV cameras unfolds the secrets of the life of the pangolins. The centre has successfully bred Indian pangolins in captivity. Besides, the centre is also focusing to standardize the hormonal assay of fecal steroid metabolites to better understand reproductive aspect of these endangered species.

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

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

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

Serial No	Animal received	Enclosure	Sex (M:F:U)	Zoo name	Date of arrival
1.	A. Himalayan black bear	EN 15	0:1:0 1:1:0	Aizwal Zoological Park, Mizoram	21.06.2018
	B. Wild dog	EN 91	1:1:0		
	C. Assamese macaque	EN51			
2.	Indian Grey wolf	EN 27B	1:1:0	Sri Chamarajendra Zoological Garden, Mysore	29.09.2018
3.	Long billed vulture	VCBC	0:0:12	Gandhi Zoological Park, Gwalior	27.11.2018
4.	Black tufted marmoset	EN50	0:2:0	Purchased from AFAZ Farm, Madurai	15.02.2019
Serial No	Animal send	Enclosure	Sex (M:F:U)	Zoo name	Date of arrival
1.	Mouse deer	EN 37C	2:1:0	Sir Chamarajendra Zoological Garden, Mysore	29.09.2018
2.	Hippopotamus	EN63	1:1:0	Nandanvan Zoo and Jungle Safari, Naya Raipur, Chhattisgarh	10.10.2018

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 (Sch I & II)						
1	30.04.2018	Sloth bear (1:0:0)	DFO, Baragarh	Memo No, 4191 dated 30.04.2018		Kept in zoo for breeding and display as it is not fit for released to nature and under prolonged human care
2	09.12.2018	Indian pangolin (0:1:1)	Range officer Bhubaneswar	Memo No. 1282 dated 09.12.2018		For conservation breeding
3	26.12.2018	Indian pangolin (0:1:0)	DFO, Rayagada	Memo No.6144 dated 24.12.2018		For conservation breeding
4	17.03.2019	Indian pangolin (0:1:0)	DFO, Jeypore	Memo No. 1144/5F dated 16.03.2019		For conservation breeding
5	30.08.2019	Indian pangolin (0:1:0)	DFO, Athagarh	Memo No. 4571 dated 30.08.2019		For conservation breeding
6	02.10.2019	Indian pangolin (0:1:0)	DFO, Rayagada	Memo No. 1819 dated 02.10.2019		For conservation breeding
7	07.11.2019	Indian pangolin (0:1:0)	DFO, Baripada	Memo No. 6824 dated 07.11.2019		For conservation breeding
Reptile (Sch I & II)						
1	04.07.2018	Bermese python (1:0:0)	DFO, Keonjhar	Memo No. 5354 dated 02.02.2018		Kept in zoo for breeding and display as it is not fit for released to nature

26. Annual Inventory of animals:

ANNUAL ANIMAL INVENTORY (FROM 1ST APRIL- 2018 TO 31TH MARCH-2019)

Sl. No	Species	Scientific name	SCH	Stock as on 01.04.2018				Births			Acquisitions			Disposals			Deaths			Stock as on 31.03.2019				
				M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T	
	BIRDS																							
	SCH-I & SCH-II (Wildlife Protection Act)																							
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. PEAFAWL, INDIAN	<i>Pavo cristatus</i>	I	5	1	6	12	0	0	3	0	0	0	0	0	0	0	0	0	0	5	5	5	15
	B. PEAFAWL, INDIAN WHITE	<i>Pavo cristatus</i>	I	3	4	0	7	0	0	1	0	0	0	0	0	0	0	0	0	0	3	4	1	8
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	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	0	2	2	
5	VULTURE LONG BILLED	<i>Gyps indicus</i>	I	0	0	1	1	0	0	1	0	0	12	0	0	0	0	0	0	1	0	0	13	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	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	0	0	1	0	1	2	
8	KITE BLACK	<i>Milvus migrans</i>	I	1	1	9	11	0	0	0	0	0	0	0	0	0	0	0	0	1	1	9	11	
9	SHIKRA	<i>Accipiter badius</i>	I	0	0	2	2	0	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	0	0	1	0	1	2	
	SCH-I & II - TOTAL			11	7	24	42	0	0	5	0	0	12	0	0	0	0	0	1	11	11	36	58	
	OTHERS																							
11	BUDGERIGAR	<i>Melopsittacus undulatus</i>	E	138	242	134	514	0	0	22	0	0	0	0	0	0	0	0	0	138	242	156	536	
12	COCKATIEL, WHITE/	<i>Nymphicus</i>	E	16	23	53	92	0	0	0	0	0	0	0	0	0	0	0	0	16	23	53	92	

	CINAMON PEARS PIED	<i>hollandicus</i>																					
13	COCKATOO, LESSER SULPHUR CRESTED	<i>Cacatua sphurea</i>	E	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
14	COCKATOO, UMBRELLA SULPHUR CRESTED	<i>Cacatua sphurea</i>	E	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
15	CONNURE BROWN THROATED	<i>Eupsittula pertinax</i>	E	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3
16	CONNURE JANDAYA	<i>Aratinga jandaya</i>	E	1	2	16	19	0	0	6	0	0	0	0	0	0	0	0	1	1	2	21	24
17	CONURE SUN	<i>Aratinga solstitialis</i>	E	0	0	38	38	0	0	10	0	0	0	0	0	0	0	0	1	0	0	47	47
18	CONURE PINE APPLE	<i>Pyrrhura molinae molinae</i>	E	2	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4
19	CONURE YELLOW SIDED	<i>Pyrrhura molinae sordida</i>	E	4	5	0	9	0	0	0	0	0	0	0	0	0	0	0	0	4	5	0	9
20	CRANE SARUS	<i>Grus antigone</i>	IV	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
21	DOVE, EMERALD	<i>Chalcophaps indica</i>	IV	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4
22	DOVE, SPOTTED	<i>Spilopelia chinesis</i>	E	1	1	6	8	0	0	0	0	0	0	0	0	0	0	0	0	1	1	6	8
23	DOVE BARBARY	<i>Streptopelia risoria</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
24	DOVE, DIAMOND	<i>Geopelia cuneata</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
25	DOVE LAUGHING	<i>Spilopelia senegalnesis</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
26	DOVE, RING NECKED	<i>Streptopelia capicola</i>	E	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3
27	DUCK, MANDARIN	<i>Aix galericulata</i>	E	11	9	2	22	0	0	0	0	0	0	0	0	4	2	0	7	7	2	16	
28	EGRET CATTEL	<i>Bubulcus ibis</i>	IV	1	0	5	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	6
29	EGRET LARGE	<i>Cosmerodius albus</i>	IV	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
30	EGRET, LITTLE	<i>Egretta</i>	IV	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6

31	EGRET, MEDIAN	<i>garzetta</i> <i>Egretta intermedia</i>	IV	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
32	EMU	<i>Dromaius novaehollandiae</i>	E	2	3	0	5	0	0	2	0	0	0	0	0	0	0	0	0	2	3	2	7
33	FINCH, BENGALESE/ SOCIETY	<i>Lonchura striata</i>	IV	6	11	4	21	0	0	0	0	0	0	0	0	0	0	0	0	6	11	4	21
34	FINCH, LONG TAILED	<i>Poephila cincta</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
35	FINCH, STAR	<i>Poephila ruficauda</i>	E	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
36	FINCH, ZEBRA	<i>Poephila guttata</i>	E	51	79	82	212	0	0	0	0	0	0	0	0	0	0	0	0	51	79	82	212
37	HERON GREY	<i>Ardea cinerea</i>	IV	3	7	3	13	0	0	0	0	0	0	0	0	0	0	0	0	3	7	3	13
38	HERON, NIGHT	<i>Nycticorax nycticorax</i>	IV	8	11	53	72	0	0	11	0	0	0	0	0	0	0	0	0	8	11	64	83
39	IBIS, WHITE	<i>Threskiornis aethiopica</i>	IV	25	56	78	159	0	0	10	0	0	0	0	0	0	0	0	0	25	56	88	169
40	KOEL	<i>Eudynamys scolopacea</i>	IV	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
41	LORIKEET, BLUE FACED	<i>Trichoglossus haematodus enetermedius</i>	E	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3
42	LORIKEET, SWAINSON'S	<i>Trichoglossus haematodus moluccanus</i>	E	1	1	3	5	0	0	1	0	0	0	0	0	0	0	0	0	1	1	4	6
43	LORRY YELLOW BACKED	<i>Lorius garrulus flavopalliatus</i>	E	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
44	LOVE BIRD, FISCHERS	<i>Agapornis fischeri</i>	E	11	10	15	36	0	0	0	0	0	0	0	0	0	0	0	0	11	10	15	36
45	LOVE BIRD, PEACH-FACED	<i>Agapornis roseicollis</i>	E	4	6	2	12	0	0	0	0	0	0	0	0	0	0	0	0	4	6	2	12
46	LOVE BIRD, MASKED	<i>Agapornis personatus</i>	E	1	2	1	4	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	4
47	MACAW, BLUE & YELLOW	<i>Ara ararauna</i>	E	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

48	MACAW, GREEN WINGED	<i>Ara chloroptera</i>	IV	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
49	MUNIA RED	<i>Estrilda amandava</i>	IV	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
50	MUNIA, BLACKHEADED	<i>Lonchura malacca</i>	IV	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
51	MUNIA, SPOTTED / NUTMEG MANNIKIN	<i>Lonchura punctulata</i>	IV	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
52	OSTRICH	<i>Struthio camelus</i>	IV	2	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4
53	OWL, BARN	<i>Tyto alba</i>	IV	1	1	15	17	0	0	0	0	0	0	0	0	0	0	0	1	1	1	14	16
54	OWL, BROWN FISH	<i>Bubo zeylonesis</i>	E	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
55	OWL, ORIENTAL SCOPS	<i>Otus sunia</i>	E	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
56	PARAKEET, ALEXANDRINE	<i>Psittacula eupatria</i>	IV	4	3	7	14	0	0	2	0	0	0	0	0	0	0	0	0	4	3	9	16
57	PARAKEET, BLOSSOM HEADED	<i>Psittacula cyanocephala</i>	IV	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4
58	PARAKEET, ROSE RING	<i>Psittacula krameri</i>	IV	8	15	2	25	0	0	0	0	0	0	0	0	0	0	0	0	8	15	2	25
59	PARROT AFRICAN GREY	<i>Psittacus erithacus</i>	IV	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
60	PELICAN GREY/SPOT BILLED	<i>Pelecanus philippensis</i>	IV	1	2	11	14	0	0	1	0	0	0	0	0	0	1	0	0	2	2	10	14
61	PELICAN ROSY/WHITE	<i>Pelecanus onocrotalus</i>	IV	1	1	3	5	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	5
62	PHEASANT, GOLDEN	<i>Chrysolophus pictus</i>	E	4	5	6	15	0	0	10	0	0	0	0	0	0	0	0	0	4	5	16	25
63	PHEASANT, LADY AMHERST'S	<i>Chrysolophus amherstiae</i>	E	4	2	2	8	0	0	5	0	0	0	0	0	0	1	2	0	3	3	4	10
64	PHEASANT, RING NECKED	<i>Phasianus colchicus</i>	E	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
65	PHEASANT, REEV'S	<i>Syrnaticus reevesii</i>	E	2	2	0	4	0	0	2	0	0	0	0	0	0	0	1	0	2	1	2	5
66	PHEASANT SILVER	<i>Lophura nycthemera</i>	E	4	2	17	23	0	0	11	0	0	0	0	0	0	1	0	0	4	11	18	33
67	PHEASANT YELLOW	<i>Chrysolophus</i>	E	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1

	GOLDEN	<i>pictus mut.</i>																					
68	ROSELLA, EASTERN	<i>Platycercus eximius</i>	E	2	2	1	5	0	0	0	0	0	0	0	0	0	1	0	0	1	2	1	4
69	SPARROW JAVA	<i>Padda oryzivora</i>	IV	18	30	49	97	0	0	0	0	0	0	0	0	0	0	0	0	18	30	49	97
70	STORK LESSER ADJUTANT	<i>Leptoptilos javanicus</i>	IV	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
71	STORK PAINTED	<i>Mycteria leucocephala</i>	IV	4	4	11	19	0	0	0	0	0	0	0	0	0	0	0	0	4	4	11	19
72	STORK OPEN BILLED	<i>Anastomus oscitans</i>	IV	0	0	11	11	0	0	0	0	0	0	0	0	0	0	0	1	0	0	10	10
73	STORK, WHITE NECKED/WOOLY NECKED	<i>Ciconia episcopus</i>	IV	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
74	SWAN BLACK	<i>Cygnus atratus</i>	E	2	2	0	4	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	3
75	MEYER'S PARROT	<i>Poicephalus meyeri</i>	E	2	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4
76	RED BELLIED PARROT	<i>Pionus sordidus</i>	E	3	3	0	6	0	0	0	0	0	0	0	0	0	1	0	0	2	3	0	5
77	TURACO, VIOLET	<i>Musophaga violacca</i>	E	0	1	3	4	0	0	2	0	0	0	0	0	0	0	0	1	1	1	3	5
78	TURACO, LIVING STONE'S	<i>Turaco livingstonii</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1
79	RINGED NECKED PARAKEET	<i>I-Lutino Mutation</i>	IV	0	0	11	11	0	0	0	0	0	0	0	0	0	0	0	1	0	0	10	10
		<i>II-Albino Mutation</i>	IV	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
80	RED JUNGLE FOWL	<i>Gallus gallus</i>	IV	1	3	3	7	0	0	2	0	0	0	0	0	0	0	2	0	1	1	5	7
	OTHERS _ TOTAL			369	568	674	1611	0	0	97	0	0	0	0	0	0	11	9	6	364	573	745	1682
	GRAND TOTAL BIRDS			380	575	698	1653	0	0	102	0	0	12	0	0	0	11	9	7	375	584	781	1740
	SCH-I & SCH-II (Wildlife Protection Act)																						
	MAMMALS			Stock as on 01.04.2018				Births		Acquisitions			Disposals		Deaths		Stock as on 31.03.2019						

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>Tetraceros quadricomis</i>	I	2	1	1	4	0	0	1	0	0	0	0	0	0	0	1	0	2	1	1	4
2	BEAR, HIMALAYAN BLACK	<i>Selenarctos thibetanus</i>	II	3	3	0	6	0	0	0	0	1	0	0	0	0	1	0	0	2	4	0	6
3	BEAR, SLOTH	<i>Melursus ursinus</i>	I	1	2	1	4	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	3
4	A. BLACK BUCK / KRISHNA MRIG	<i>Antilope cervicapra</i>	I	4	6	7	17	0	0	10	0	0	0	0	0	0	0	0	0	6	10	11	27
	B. WHITE BUCK	<i>Antilope cervicapra</i>	I	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5	CAT, JUNGLE	<i>Felis chaus</i>	II	3	1	1	5	0	0	2	0	0	0	0	0	0	0	1	0	3	2	1	6
6	CAT, LEOPARD	<i>Prionailurus bengalensis</i>	I	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7	CIVET, COMMON PALM / CAT TODDY	<i>Paradoxurus hermaphroditus</i>	II	3	3	17	23	0	0	0	0	0	0	0	0	0	0	0	0	3	3	17	23
8	CIVET, SMALL INDIAN	<i>Viverricula indica</i>	II	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
9	DEER, BROW ANTLERED / SANGAI	<i>Cervus eldi</i>	I	3	5	2	10	0	0	2	0	0	0	0	0	0	0	1	0	4	6	1	11
10	DEER, MOUSE	<i>Tragulus memmina</i>	I	5	1	1	7	0	0	4	0	0	0	2	1	0	1	0	0	2	3	2	7
11	DEER- SWAMP / BRASINGHA	<i>Cervus duvauceli</i>	I	4	7	0	11	0	0	0	0	0	0	0	0	0	0	0	0	4	7	0	11
12	ELEPHANT, INDIAN	<i>Elephas maximus</i>	I	1	4	0	5	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5
13	GAUR	<i>Bos Gaurus</i>	I	2	2	0	4	0	1	0	0	0	0	0	0	0	0	1	0	2	2	0	4
14	LEOPARD / PANTHER	<i>Panthera pardus</i>	I	2	3	0	5	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	5
15	LION ASIATIC	<i>Panthera leo persica</i>	I	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
16	MACAQUE, BONNET	<i>Macaca radiata</i>	II	4	6	0	10	0	0	0	0	0	0	0	0	0	1	0	0	3	6	0	9
17	MACAQUE, RHESUS	<i>Macaca</i>	II	4	4	0	8	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	8

		<i>mulatta</i>																					
18	PANGOLIN	<i>Manis crassicaudata</i>	I	2	4	1	7	0	0	0	0	0	0	0	0	0	0	0	2	4	1	7	
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	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
21	MANGOSE COMMON	<i>Herpestes edwardsi</i>	II	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	
22	A. TIGER, BENGAL	<i>Panthera tigris tigris</i>	I	6	9	0	15	1	0	0	0	0	0	0	0	2	0	0	5	9	0	14	
	B. TIGER, BENGAL (WHITE)	<i>Panthera tigris tigris</i>	I	4	4	0	8	0	1	0	0	0	0	0	0	0	0	0	4	5	0	9	
	C. TIGER, BENGAL (MELANISTIC)	<i>Panthera tigris tigris</i>	I	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	0	2	4	
23	NILGIRI LANGURE	<i>Trachypithecus johnii</i>	I	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	
24	ASIATIC WILD DOG	<i>Cuon alpinus</i>	II	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	2	
25	ASSAM MACAQUE	<i>Macaca assamensis</i>	II	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	3	
26	INDIAN GREY WOLF	<i>Canis lupus pallipes</i>	I	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	1	0	0	1	
	SCH-I & II - TOTAL			63	71	32	166	1	2	22	3	4	0	2	1	0	6	5	0	63	83	38	184
	OTHERS																						
24	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	
25	CHIMPANZEE	<i>Pan troglodytes</i>	E	1	5	0	6	0	0	0	0	0	0	0	0	0	0	0	1	5	0	6	
26	DEER, BARKING-MUNTJAC (KAKKAR)	<i>Muntiacus muntjak</i>	III	25	41	12	78	0	0	3	0	0	0	0	0	1	2	0	24	39	15	78	
27	DEER, HOG	<i>Axis porcinus</i>	III	7	17	11	35	0	0	6	0	0	0	0	0	1	0	0	6	17	17	40	
28	DEER, SAMBAR	<i>Cervus unicolor</i>	III	6	14	0	20	0	0	0	0	0	0	0	0	0	1	0	6	13	0	19	
29	I.DEER, SPOTTED/CHITAL(ZOO)	<i>Axis axis</i>	III	213	208	53	474	4	5	18	0	0	0	0	0	3	0	0	288	334	71	693	
	II.DEER, SPOTTED/CHITAL(RB D)	<i>Axis axis</i>	III	273	204	0	477	4	8	37	0	0	0	0	0	3	1	0	244	119	0	363	
30	GIRAFFE	<i>Giraffa</i>	E	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	

		<i>camelopardalis</i>																							
31	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		
32	HIPPOPOTAMUS	<i>Hippopotamus amphibius</i>	E	6	7	3	16	0	0	1	0	0	0	0	0	0	3	0	0	3	7	4	14		
33	HYAENA, STRIPED	<i>Hyaena hyaena</i>	III	3	4	0	7	0	0	0	0	0	0	0	0	0	0	0	0	3	4	0	7		
34	GIANT FRUIT BAT	<i>Pteropus giganteus</i>	V	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3		
35	JACKAL	<i>Canis aureus</i>	IV	1	2	2	5	0	0	0	0	0	0	0	0	0	1	0	0	1	2	1	4		
36	LION HYBRID	<i>Panthera leo</i>	E	4	4	0	8	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	8		
37	LION AFRICAN	<i>Panthera leo</i>	E	2	2	0	4	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	2		
38	NILGAI-BLUE BULL	<i>Boselaphus tragocamelus</i>	III	6	16	0	22	0	0	2	0	0	0	0	0	0	2	1	0	4	15	2	21		
39	ORANG UTAN	<i>Pongo pygmaeus</i>	E	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
40	PIG WILD/WILD BOAR	<i>Sus scrofa</i>	III	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4		
41	A. PORCUPINE INDIAN	<i>Hystrix indica</i>	IV	2	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4		
42	BLACK-TUFTED MARMOSET	<i>Callithrix penicillata</i>	E	1	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	1	3	0	4		
43	RED-HANDED TAMARIN	<i>Saguinus midas</i>	E	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2		
OTHERS - TOTAL																									
GRAND TOTAL MAMMALS																									
SCH-I & SCH-II (Wildlife Protection Act)																									
REPTILES				-	Stock as on 01.04.2018				Births			Acquisitions			Disposals			Deaths			Stock as on 31.03.2019				
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	0	0	2	1	0	3		

2	COBRA, MONOCELLATE	<i>Naja naja kouthia</i>	II	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3
3	COBRA, BINOCELLATE	<i>Naja naja</i>	II	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
4	CROCODILE, LONG SNOUTED / GHARIAL	<i>Gavialis gangeticus</i>	I	4	79	40	123	0	0	0	0	0	0	0	0	0	0	0	0	24	90	9	123
5	CROCODILE, MUGGER	<i>Crocodylus palustris</i>	I	4	6	4	14	0	0	7	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	0	0	1	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	0	1	1	0	2
8	MONITOR LIZARD, WATER	<i>Varanus salvator</i>	I	1	3	2	6	0	0	0	0	0	0	0	0	0	0	0	0	1	3	2	6
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	0	1	1
10	PYTHON, INDIAN ROCK	<i>Python molurus molurus</i>	I	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
11	PYTHON, RETICULATED	<i>Python reticulatus</i>	I	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
12	SNAKE, RAT	<i>Pryas mucosus</i>	II	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
13	TURTLE, FRESH WATER / INDIAN FLAP -SHELL	<i>Lissemys punctata punctata</i>	I	6	10	48	64	0	0	0	0	0	0	0	0	0	0	0	0	28	36	0	64
14	TURTLE, GANGES SOFT SHELL	<i>Trionyx gangeticus</i>	I	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
15	VIPER, RUSSEL'S	<i>Vipera ruselli</i>	II	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
16	INDIAN CHAMELEON	<i>Chameleon zeylanicus</i>	II	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
SCH-I & II - TOTAL				22	104	10 2	228	0	0	7	0	0	0	0	0	0	0	0	0	65	142	28	235
OTHERS																							
17	BOA, COMMON SAND	<i>Eryx johnii</i>	IV	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3
18	BOA, RED SAND	<i>Eryx conicus</i>	IV	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
19	CROCODILE, MORELET'S	<i>Crocodylus moreletii</i>	E	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2

20	CROCODILE, SIAMESE	<i>Crocodylus siamensis</i>	E	3	13	3	19	0	0	0	0	0	0	0	0	0	0	0	0	3	13	3	19			
21	CHITRA TURTLE	<i>Chitra indica</i>	IV	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3			
22	KRAIT BANDED	<i>Bungarus fasciatus</i>	IV	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2			
23	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	0	2	2			
24	TORTOISE STAR INDIAN	<i>Geochelone elegans</i>	IV	2	1	10	13	0	0	0	0	0	0	0	0	0	0	0	0	2	1	10	13			
25	CUVIERS DWARF CAIMAN	<i>Paleosuchus Palpebrosus</i>	E	2	3	0	5	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	5			
26	TURTEL INDIAN TENT	<i>Pangshura tentoria</i>	I	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3			
27	I.GREEN IGUANA	<i>Iguana iguana</i>	E	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3			
	II. RED IGUANA	<i>Iguana iguana</i>	E	2	2	0	4	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	3			
OTHERS TOTAL																										
GRAND TOTAL - REPTILES				-	-	12	26	23	61	0	0	0	0	0	0	0	1	0	0	11	26	23	60			
				Stock as on 01.04.2017				Births			Acquisitions			Disposals			Deaths			Stock as on 31.03.2019						
S L	Species			M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T			
AMPHIBIANS																										
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	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	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	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	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	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	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 01.04.2018																			Stock as on 31.03.2019			
				M	F	U	T	M	F	U	M	F	U	M	F	U	M	F	U	M	F	U	T			

Birds			380	575	69 8	165 3	0	0	10 2	0	0	12	0	0	0	1 1	9	7	375	584	781	174 0	
Mammal			619	602	11 9	134 0	5 3	44	52	3	6	0	2	1	0	2 2	10	0	656	653	154	146 3	
Reptiles			34	130	12 5	289	0	0	7	0	0	0	0	0	0	1	0	0	76	168	51	295	
Amphibians			0	0	21	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21	
TOTAL			103 3	130 7	96 3	330 3	5 3	44	16 1	3	6	12	2	1	0	3 4	19	7	110 7	140 5	100 7	351 9	
			No. of Individuals				No. of species				No. of species				No. of Individuals								
BIRDS - SCH I&II			11	7	24	42		10										10		11	11	36	58
-OTHERS			369	568	67 4	161 1		70										68		364	573	745	168 2
MAMMAL - SCH I&II			63	71	32	166		23										26		63	83	38	184
-OTHERS			556	531	87	117 4		20										20		593	570	116	127 9
REPTILE - SCH I & II			22	104	10 2	228		16										16		65	142	28	235
-OTHERS			12	26	23	61		11										11		11	26	23	60
AMPHIBIANS SCH I & II			0	0	0	0		0										0		0	0	0	0
OTHERS			0	0	21	21		6										6		0	0	21	21
TOTAL			103 3	130 7	96 3	330 3		15 6										15 7		110 7	140 5	100 7	351 9

27. Mortality of animals:

Sl. No. Animal Name (with individual identification mark, if any) Scientific Name Sex Date of Death Reason of Death as per the Post-mortem report

MAMMALS

1	Himalayan black bear	<i>Selenarctos thibetanus</i>	M	01.04.18	Tumors in the abdomen associated with old age
2	Hippopotamus	<i>Hippopotamus amphibius</i>	M	05.04.18	Infighting
3	Barking deer	<i>Muntiacus muntjak</i>	M	07.04.18	Pneumonia
4	Spotted deer	<i>Axis axis</i>	M	15.04.18	Infighting
5	Nilgai	<i>Boselaphus tragocamelus</i>	M	24.04.18	Shock
6	Spotted deer	<i>Axis axis</i>	M	25.04.18	Infighting & internal haemorrhage
7	Manipuri deer	<i>Cervus eldi</i>	F	20.05.18	Shock
8	Spotted deer	<i>Axis axis</i>	M	24.05.18	Old age
9	Spotted deer	<i>Axis axis</i>	M	06.06.18	Hepatitis & Enteritis
10	Barking deer	<i>Muntiacus muntjak</i>	F	08.06.18	Infighting
11	Jackal	<i>Canis aureus</i>	M	18.06.18	Anaemia
12	Hog deer	<i>Axis porcinus</i>	M	21.07.18	Impaction of rumen
13	Hippopotamus	<i>Hippopotamus amphibius</i>	M	30.07.18	Septicemia associated with infighting injuries
14	Nilgai	<i>Boselaphus tragocamelus</i>	F	31.07.18	Internal haemorrhage and shock
15	Barking deer	<i>Muntiacus muntjak</i>	F	31.07.18	Pneumonia
16	Hippopotamus	<i>Hippopotamus amphibius</i>	M	07.08.18	Infighting
17	African lion	<i>Panthera leo</i>	M	10.08.18	Acute haemorrhagic gastro-enteritis
18	African lion	<i>Panthera leo</i>	M	29.08.18	Acute diffuse haemorrhagic gastro-enteritis
19	Tiger	<i>Panthera tigris</i>	M	02.09.18	Necrotic hepatitis, ascites and pneumonia suggestive of <i>Cytauxzoon felis</i> infection
20	Sloth Bear	<i>Melursus ursinus</i>	M	02.09.18	Tuberculosis
21	Spotted deer	<i>Axis axis</i>	M	20.09.18	Tuberculosis
22	Bonnet macaque	<i>Macaca radiata</i>	M	02.10.18	Debility and old age,

23	Spotted deer	<i>Axis axis</i>	M	01.11.18	Pneumonia with caseated nodules
24	Sambar	<i>Cervus unicolor</i>	F	04.11.18	Necrotic hepatitis
25	Mouse deer	<i>Tragulus memmina</i>	M	13.11.18	Enteritis
26	Jungle cat	<i>Felis chaus</i>	F	28.12.18	Anaemia
27	Tiger	<i>Panthera tigris</i>	M	21.02.19	Necrotic hepatitis & pulmonary collapse associated with recumbency & old age.
28	Gaur	<i>Bos gaurus</i>	F	21.02.19	Trampling by the herd resulting to internal haemorrhage and shock
29	Indian grey wolf	<i>Cervus unicolor</i>	F	07.03.19	Cardiac failure
30	Four horned antelope	<i>Tetraceros quadricomis</i>	F	19.03.19	Traumatic injury and shock
31	Spotted deer	<i>Axis axis</i>	F	25.03.19	Old age
32	Nilgai	<i>Boselaphus tragocamelus</i>	M	29.03.19	Old age associated with hepatic tumor
	BIRDS				
1	Red jungle fowl	<i>Gallus gallus</i>	F	13.04.18	Anaemia & Enteritis
2	Lady Amherst's pheasant	<i>Chrysolophus amherstiae</i>	M	13.04.18	Infighting
3	Blue & yellow macaw	<i>Ara ararauna</i>	M	19.04.18	Hepatitis & Enteritis
4	Ring necked parakeet (Lutino)	<i>Psittacula krameri</i>	F	25.04.18	Enteritis
5	Mandarin duck	<i>Aix galericulata</i>	M	26.04.18	Tumor in the liver
6	Ring necked pheasant	<i>Phasianus colchicus</i>	F	02.05.18	Shock
7	Mandarin duck	<i>Aix galericulata</i>	F	10.05.18	Tumor in the lungs
8	Mandarin duck	<i>Aix galericulata</i>	F	19.05.18	Tumor in the lungs
9	Mandarin duck	<i>Aix galericulata</i>	M	24.05.18	Tumor in airsac with adhesion to pericardium
10	Black swan	<i>Cygnus atratus</i>	M	31.05.18	Enteritis & visceral gout
11	Mandarin duck	<i>Aix galericulata</i>	M	11.06.18	Ascites, hydropericardium syndrome & tumor in lungs & spleen.
12	Lady Amherst's pheasant	<i>Chrysolophus amherstiae</i>	F	14.06.18	Enteritis
13	Violet turaco	<i>Musophaga violacca</i>	F	08.08.18	Haemorrhagic enteritis
14	Reev's pheasant	<i>Syrmaticus</i>	F	16.09.18	Salpingitis

		<i>reevesii</i>			
15	Barn owl	<i>Tyto alba</i>	F	17.09.18	Infighting
16	Red jungle fowl	<i>Gallus gallus</i>	F	25.10.18	Hepatitis
17	Mandarin duck	<i>Aix galericulata</i>	M	29.10.18	Hemorrhagic liver & hemorrhagic enteritis
18	Sun conure	<i>Aratinga solstitialis</i>	F	14.11.18	Weakness and debility
19	Silver pheasant	<i>Lophura nycthemera</i>	M	11.12.18	Infighting
20	Red bellied parrot	<i>Pionus sordidus</i>	M	25.01.19	Hepatitis
21	Eastern rosella	<i>Platycercus eximius</i>	M	29.01.19	Cystic liver & enteritis
22	Livingstone's turaco	<i>Turaco livingstonii</i>	F	01.02.19	Chronic muscular dystrophy
23	Jandaya conure	<i>Aratinga jandaya</i>	M	25.02.19	Enteritis
24	Open billed stork		F	05.03.19	Gizzard impaction
25	Lady Amherst's pheasant	<i>Chrysolophus amherstiae</i>	F	05.03.19	Traumatic injury and shock
26	Long billed vulture	<i>Gyps indicus</i>	M	11.03.19	Necrotic hepatitis
27	Grey pelican	<i>Pelecanus philippensis</i>	M	20.03.19	Senility associated with nephritis
	REPTILES				
	Red Iguana	<i>Iguana iguana</i>	M	05.03.19	Impaction

ABSTRACT

Mammals	Birds	Reptiles	Total
32	27	01	60

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

2018 EVALUATION COMPLIED SECTION						
Sl.No.	Norm No	Condition stipulated	Time period to comply	Since when pending	Remarks	
					Status with regard to compliance of the conditions as submitted by the Officer-in-charge the zoo	Status with regard to compliance as noted physically by the evaluator during the visit.
1	2	3	4	5	6	7
General requirement						
1.	10.1(2)	The zoo operator should plant endemic trees in various animal enclosures to provide shade and shelter to the animals	One year	13.04.2018	Complied. Mass plantation drive after cyclone 'Phani' carried out.	Complied.
2.	10.1(3)	The herbivore enclosures where the visitors move in the front as well as back of the enclosure towards the lake side should have visitors access stopped/ blocked/ restrained from the lake side.	One year	13.04.2018	Complied	Complied.
3. Development and Planning						
4.	10.3(3)	The <i>pucca</i> buildings including the visitor facilities needs to be properly camouflaged and located in such a manner that the natural landscape of the zoo have not been masked and the cleanliness and hygiene of the zoo is not affected due to such animal enclosures/structures.	Immediately	13.04.2018	Complied	Complied
5.	10.3(8)	The zoo has been acquiring the rescued animals since around 20 years but they never informed the CZA in this regard. What they do is, they prepare a list of the rescued animals housed in the zoo for around 5 years and	Immediately	13.04.2018	Complied, List of rescue animals already communicated till January, 2020.	Complied

		submit proposal to the CZA for their regularization. It should be stopped and statutory provisions in this regard be followed. It has happened three times in the past around 20 years. It should be stopped and statutory provisions <i>in</i> this regard be followed.				
6.	10.3(8)	The zoo should submit information to the CZA about the rescued animal that pertains to an endangered species.	Immediately	13.04.2018	Complied	Complied
7.	10.4(2)	The old aviary near the rest house should be demolished and appropriately designed aviaries supporting the natural conditions of the birds should be constructed	One year	13.04.2018	Complied	Complied
8.	10.4(3)	The elephant should not be kept tethered at the zoo. The elephant should be left out for foraging in the enclosure during early hours and late hours for natural exercising, beside the controlled exercise as at present by Mahouts	One year	13.04.2018	Complied	Complied
9.	10.4(6)	The zoo should endeavor to simulate the conditions of the natural habitat of the animal in the enclosures as closely as possible. Appropriate species of plants, shrubs should be planted inside animal enclosure. The animal enclosures should also be provided various artefacts for enriching the environment of animal enclosures. The aviaries should be provided appropriate wooden logs for perching and roosting and nesting material to nest.	One year	13.04.2018	Complied and being updated periodically	Complied

10.	10.4(9)	All the animal enclosure should be provided with appropriate Stand-off barriers and adequate warning signs should be provided for keeping the visitors at a safe distance from the animals.	One year	13.04.2018	Complied	Complied.
11.	10.4(9)	Green hedge needs to be replanted inside standoff barrier wherever destroyed! damaged.	One year	13.04.2018	Complied	Complied
12.	10.4(10)	The signages are not being looked after and maintained properly after wear and tear due to natural process or visitor vandalism.	One year	13.04.2018	Complied	Complied
13.	Upkeep and health care of Animals					
14.	10.5(3)	The meat house should be made effectively fly proof.	Immediately	13.04.2018	Complied, provided with air curtain and mosquito nets	Complied
15.	10.5(3)	Zoo should have a sufficient size functioning freezer for storage of meat and to keep it cold until it is fed to the animals.	Immediately	13.04.2018	Stored meat is not supplied to our animals. However freezer is available to store other feed item other than meat.	Complied
16.	10.5(3)	The Store house for food should be made rodent proof and storage conditions of feed items need improvement to make it damp proof,.	Immediately	13.04.2018	Complied	Complied
17.	10.5(2)(3)	The zoo should have proper drainage system for Meat House Complex.	Immediately	13.04.2018	Complied	Complied
18.	10.5(10)	Animal Herd Sheets should be prepared for species housed at the zoo.	One year	13.04.2018	Herd sheet format is not available. Same is maintained using CZA prescribed studbook format to keep relevant information about the	Complied

					herd animals	
19.	Veterinary and infrastructure facilities.					
20.	10.6(5)	The Zoo should have one qualified Lab Assistant to assist the veterinarian in healthcare of the Zoo animals.	Immediately	13.04.2018	Complied	Complied
21.	Research Activities					
22.	10.10	The zoo should implement a research plan and conduct research on the prioritized species and specific areas of concern.	One year	13.04.2018	Research plan in Master plan is implemented. Detailed Research plan will also be included in the new Master Plan of the zoo.	Complied
23.	Visitors' Facilities					
24.	10.12(1)	The zoo should provide neat and clean civic facilities for visitors. They should be made available to the physically disadvantaged person also at all existing places.	Immediately	13.04.2018	Complied	Complied
25.	10.12(3)	Appropriate arrangements should be made to provide access within the Zoo to physically disadvantaged visitors including those in the wheel chair at all enclosures and civic facilities.	Immediately	13.04.2018	Complied	Complied

Details of non-compliance of the conditions of the evaluation year 2009, 2013 and 2018

Sl.No.	Norm No	Condition stipulated	Time period to comply	Since when pending	Remarks	
					Status with regard to compliance of the conditions as submitted by the Officer-in-charge the zoo	Status with regard to compliance as noted physically by the evaluator during the visit.

1	2	3	4	5	6	7
Yet to be complied- 2009 Evaluation						
26.	36	The zoo has excess number of spotted deer in its collection. The zoo operator shall be responsible for ensuring that the number of animals of any species does not go beyond the holding capacity of the enclosures available in the zoo and housing standards are not compromise for keeping the excessive numbers.	With immediate effect	22.09.2009	Population control measures are being adopted to keep the population under control. Vasectomy and segregation of breeding males are carried out periodically.	The authorities now should try to send this population to different wildlife protected area in consultation with the concerned authorities
Yet to be complied-2013 Evaluation						
27.	10.4(3)	(i) Chain-link erected outside moat barrier on viewers side needs to be removed.	Within three months	11.9.2013	Complied for many enclosure except the enclosure housing carnivore considering visitor safety.	The chain-link mesh beyond the standup barrier in carnivore enclosures are provided as extra safety measures for small children
28.	10.9(9)	Excess number of spotted deer, sambar and hippopotamus need to be either exchanged or shifted out of display area.	Within 6 months	11.09.2013	Hippopotamus were given in exchange and donation. Population control measure carried out for deer species.	Efforts must be made to send the sambar, spotted deer to different wildlife protected area in consultation with the concerned authorities. Efforts should be made to send hippos (14 nos. as on 06.02.20020) to other zoos.
Yet to be complied of 2018 Evaluation						
29.	10.1(4)	The boundary wall is not effective since the stray dogs have entered in the zoo.	Immediately	13.04.2018	Boundary wall of zoo is intact.	Security persons need to more vigilant to prevent entry of stray dogs through gate.
30.	10.1(7)	The Zoo should provide a proper waste disposal system as per natural gradient of the area for treating both the solid and liquid wastes generated in the Zoo. There should be waste disposal system having no adverse impact on	Immediately	13.04.2018	Solid wastes are disposed properly. Waste disposal vehicle, bottle crusher, twig shredder, food material composting unit and	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

		the environment. The present system is not effective and out flow is not proper.			vermicompost unit are operational in the zoo. Steps are being taken for liquid waste treatment plant.	STP. The waste material (solid or liquid) should never be released in the Kanjia lake.
31.	1.	Administrative and Staffing Pattern				
32.	10.2(1)	The Zoo Director's Office should be located within the premises of the zoo to make the daily attendance of the Director more visible and beneficial for the day to day management of the zoo.	One year	13.04.2018	It is not situated within the premises of the zoo, However, office of the Deputy Director is situated inside the zoo premises. Already Rs 7.00 crore is kept in the budget of Society for construction of Administrative Building	The authority should expedite the proposal to construct the administrative building including the chamber of the Director.
33.	10.2(2)	The zoo should post an official with Master's Degree in Wildlife Science/Zoology as full time Curator solely responsible for looking after the upkeep of animals and maintenance of animal enclosure.	One year	13.04.2018	Assistant Conservator of Forest of Sanctuary Management is declared as Curator by Government of Odisha.	Full time curator having Master's Degree in Wildlife Science/Zoology should be recruited.
34.	2.	Development and Planning				
35.	10.4.(2)	Some reptiles in Reptile park have inadequate space with respect to prescribed CZA dimensions.	One year	13.04.2018	Five enclosures are renovated following the suggestion. Work is under progress for other reptile enclosure	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.
36.	10.4(2)	Appropriately designed natural enclosure should be provided for all the primate species being	One year	13.04.2018	Three new naturalistic enclosures have been constructed to	The enrichment of the enclosures of rhesus monkey and bonnet

		displayed by the zoo.			house three species of primates. Enclosure enrichments added to other primate enclosures	monkey and Hamadryas baboon should be increased.
37.	10.4(3)	(i) Chain-link erected outside moat barrier on viewers side needs to be removed.	One year	13.04.2018	Complied for many enclosure except the enclosure housing carnivore considering visitor safety.	The chain-link mesh beyond the standup barrier in carnivore enclosures are provided as extra safety measures for small children
38.	10.4(6)	The artificial shelters provided on the macaque islands should be made naturalistic so that it merges with the overall environment /landscape of the enclosure.	One year	13.04.2018	Work in progress	The speed of work should be enhanced to provide naturalness.
39.	10.4(8)	The zoo has constructed a Bear Safari which is not as per the laid down norms of the CZA.	One year	13.04.2018	Extension of Bear Safari is in progress. The plan and estimate will be submitted to CZA soon.	Extension of Bear Safari needs to be done as per CZA norms. The present area is 4.1ha.
40.	10.4(9)	The height of the stand-off barriers is not as per the CZA norms. Further, a chain-link mesh has been erected between the stand-off barriers and the moat wall obstructing visitors viewing area. It should be removed.	Immediately	13.04.2018	Provided considering visitors safety	There are number of enclosures where height of stand-off barrier is not as per CZA norms. It should be reduced in phase manner.
41.	9.Acquisition and breeding of animals					
42.	10.9(4)	The zoo should acquire mates for all single animals such as (Hill Myna, White Spoonbill, Long Billed Vulture, White Backed Vulture, Black Buck (Albino). Leopard Cat, 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,	Immediately	13.04.2018	Pairing done for Reticulated python, Painted Stork, Long Billed Vulture, Pairing made for Giraffe, but male received form Alipore zoo died. Exchange proposal for a pair of giraffe with Mysore zoo was	Efforts should be made for pairing for animals such as Giraffe, Sarus crane, leopard cat, Asiatic lion, African lion, spoon bill, hill mynah.

		Black Headed Munia, Spotted Oriental Scops Owl, Blossom Headed Parakeet, Adjutant Stork (lesser), Painted Stork, White Neck Stork, Indian Porcupine, Lesser Sulphur Crested Cockatoo, White Cockatoo, Star Finch, Yellow Backed Lorry, Blue & Yellow Macaw, Yellow Golden Pheasant, Mute Swan, Giraffe, Orangutan) etc. on priority basis.			approved by CZA, but the zoo denied for the same later. Procurement procedure continuing for other animals.	
43.	10.9(12)	The hybrid lions need to be phased out of the zoo and replaced with pure breed of Asiatic lions.	Immediately	13.04.2018	No zoo is willing to take the hybrid lions and give Asiatic lion.	Efforts should be made to phase out this species

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 Popcupine	<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
DACELOPIDAE			
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>Eudynamis 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 oedicephalus 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 dussumperi</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	Wooly-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