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# **GHARIAL RESEARCH AND CONSERVATION UNIT, TIKARPADA**

**Annual Report for the year - 2018-19**

A background image of a river or lake with forested hills in the distance. The image is faded and serves as a backdrop for the text.

**Satkosia Wildlife Division, Angul**

## CONTENTS

S.No	Section	Page Number
1.	Report of the Officer-in-charge	
2.	History of the Zoo	
3.	Vision	
4.	Mission	
5.	Objective	
6.	About us	
7.	Organizational Chart	
8.	Human Resources	
9.	Capacity Building of the zoo personnel	
10.	Zoo Advisory Committee	
11.	Health Advisory Committee	
12.	Statement of income and expenditure of the Zoo	
13.	Daily feeding Schedule of animals	
14.	Vaccination Schedule of animals	
15.	De-worming Schedule of animals	

<b>S.No</b>	<b>Section</b>	<b>Page Number</b>
16.	Disinfection Schedule	
17.	Health Check-up of employees for zoonotic diseases	
18.	Development Works carried out in the zoo during the year	
19.	Education and Awareness programmes during the year	
20.	Important Events and happenings in the zoo	
21.	Seasonal special arrangements for upkeep of animals	
22.	Research Work carried out and publications	
23.	Conservation Breeding Programme of the Zoo	
24.	Animal acquisition / transfer / exchange during the year	
25.	Rescue and Rehabilitation of the wild animals carried out by the zoo	
26.	Annual Inventory of animals	
27.	Mortality of animals.	
28.	Status of the Compliance with conditions stipulated by the Central Zoo Authority	
29.	List of free living wild animals within the zoo premises	

## 1. Report of the Officer-in-charge

Gharial Research And Conservation Unit (GRACU), Tikarpada was established in the year 1975 and successfully managed by the Satkosia Wildlife Division. The GRACU has been recognized by the Central Zoo Authority as Mini Zoo during 2006. Gharials procured from Nandankanan Biological Park are kept in the rearing pools, made them acclimatized with fresh river water and subsequently released in to Mahanadi river system. Every year during winter the Gharial & Mugger population estimation is carried in the Zoo along with the Mahanadi River System of this Division to ascertain their number and population trend. The Mini Zoo (GRACU), Tikarpada is the main attraction for tourists and catering their needs.

## 2. History of the Zoo

The Satkosia Gorge along the river Mahanadi, in Odisha has been a natural habitat for the fresh water crocodilian species especially the Gharial (*Gavialis gangeticus*) and the Mugger (*Crocodilus palustris*). During 1974, the Food and Agricultural Organization (FAO) of the United Nations had recommended a crocodile conservation initiative in the area in view of the dwindling population of the Gharial crocodiles and their recovery in the wild habitat.

The conservation unit started during March 1975 as a joint conservation initiative by the State Government with technical support from the UNDP and FAO. Dr.H.R.Bustard from the FAO worked as the Chief Technical Adviser of the project till 1980 and Dr L A K Singh was the Senior Research Officer of the project till 1987. The GRACU was recognized by the Central Zoo Authority during the year 2006 as '**mini zoo**' located in the heart of the Satkosia Tiger Reserve which declared by the Govt. of Odisha during December, 2007.

## 3. Vision

Conservation breeding and species recovery of endangered Gharials and other fresh water reptilian species in their natural habitat e.g. Mahanadi River System.

#### 4. Mission

The mission of Gharial Research and Conservation Unit, Tikarpada is “Conservation and revival of Gharial population and other fresh water reptilian species in Mahanadi River Ecosystem”.

#### 5. Objective

- (i) Conservation breeding and rehabilitation of Gharial, water monitor lizard, turtles (*Trionix gangeticus* and *Chitra indica*) and other amphibians.
- (ii) Conservation education and Awareness.
- (iii) Conservation, breeding of different species particularly those endangered species belonging to the region for preservation of biodiversity
- (iv) To promote education and awareness amongst visitors towards conservation of wildlife
- (v) Promote nature education and interpretation for communicating the younger generation in particular for appreciating the need of wildlife conservation.
- (vi) Research and scientific study on animal behaviour, diseases and their control, feed and nutrition and reproductive biology. The knowledge so gained can be made use in management of wildlife in the wild.
- (vii) Exchange with other zoological parks and rehabilitation of suitable endangered species in the wild with strict adherence to the guidelines framed for the purpose.

#### 6. About us

S.No.	Particulars	Information
<b>Basic Information about the Zoo</b>		
1	Name of the Zoo	Gharial Research And Conservation Unit (GRACU)

S.No.	Particulars	Information
2	Year of Establishment	1975
3	Address of the Zoo	At/Po- Tikarpada Via-Hulurusingha P.S-Purunakote Dist-Angul
4	State	Odisha
5	Telephone Number	06764-236218
6	Fax Number	06764-236218
7	E-mail address	<a href="mailto:dfosatkosiawl@yahoo.co.in">dfosatkosiawl@yahoo.co.in</a> <a href="mailto:dfosatkosiawl@gmail.com">dfosatkosiawl@gmail.com</a>
8	Website	<a href="http://www.satkosia.org">www.satkosia.org</a>
9	Distance from nearest	Airport:190
		Railway Station:65
		Bus Stand:60
10	Recognition Valid up to (Date)	28.09.2019
11	Category of zoo	Mini Zoo
12	Area (in Hectares)	7.00
13	Number of Visitors (Financial Year)	Adult :13650
		Children :
		Total Indian :13650
		Total Foreigners :66

S.No.	Particulars	Information
		Total Visitors:13716
14	Visitors' Facilities Available in Zoo	Crocodile Conservation awareness centre, Drinking water, toilet, play equipment for children, cloak room, rest room, souvenir shop, sit out, rain shelter,
15	Weekly Closure Day of the Zoo	Monday
<b>Management Personnel of the zoo</b>		
16	Name with designation of the Officer in-charge	Sri Ramasamy P., IFS Deputy Conservator of Forests, Divisional Forest Officer, Satkosia Wildlife Division, Angul
	Name of the Veterinary Officer	Dr. Kishor Kumar Sahu
	Name of the Curator	-
	Name of the Biologist	-
	Name of the Education Officer	-
	Name of the Compounder/ Lab Assistant	-

<b>Owner / Operator of the Zoo</b>		
17	*Name of the Operator	Sri Ramasamy P., IFS
18	Address of the Operator	At/Po-Hakimpada, Dist-Angul, Pin-759143
19	Contact details/Phone number of Operator	Mob:- 8280146664 Phone :- 06764-236218
20	E-mail address of Operator	<a href="mailto:dfosatkosiaawl@yahoo.co.in">dfosatkosiaawl@yahoo.co.in</a> <a href="mailto:dfosatkosiaawl@gmail.com">dfosatkosiaawl@gmail.com</a>

## 7. Organizational Chart



## 8. Human Resources

At present the GRACU is being managed by the Range Officer, Tikarpada, Forester, Tikarpada Section and Forest Guard Tikarpada 'A' Beat. There are 4 Gharial watchers, 1 Temporary Status and 1 daily wage animal keepers to manage the daily activities at the centre. These staff presently looks after the maintenance, sanitation and security of the conservation unit.

### Manpower of the Zoo

Sl.No.	Designation	Number of Sanctioned Posts	Names of the incumbent
1	Sr. Vet. Officer	01	01
2	Jr. Vet. Officer	01	Nil
3	Forester	Nil	Nil
4	Forest Guard	Nil	Nil
5	Gharial Watcher	06	06
6	Pool Attendant	01	01
7	Pumpman	01	01
8	Security personnel (Contractual)	Nil	Nil
9	Research Fellow (Contractual)	Nil	Nil

\*Please give abovementioned information in respect of all zoo personnel, from the Officer in-charge up to 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	Sri Kulesh Chandra Sahu, Forester Sri Purusottam Nayak, T.S	Zoo Keeper Training	20 <sup>th</sup> to 25 <sup>th</sup> March, 2018	Nandankanan Zoological Park, Bhubaneswar, Odisha
2	Sri Purusottam Nayak, T.S	Zoo Keeper Training	17 <sup>th</sup> to 21 <sup>st</sup> December, 2018	Bhagawan Birsa Biological Park, Ormanjhi, Ranchi, Jharkand

## 10. Zoo Advisory Committee –

- a. Date of constitution -
- b. Members -
- c. Dates on which Meetings held during the year

Action is being taken for formation Committee immediately.

## Health Advisory Committee–

- d. Date of constitution
- e. Members
- f. Dates on which Meetings held during the year

Action is being taken for formation Committee immediately.

## 11. Statement of income and expenditure of the Zoo

During the year 2018-19 an amount of Rs. 773545 has been collected from the Entry gate Pampasar as entry fee. Also the allotment and expenditure details of the Zoo as provided by the P.C.C.F (HoFF) & P.C.C.F (WL) & C.W.L.W is as follows :-

**2018-19**

Scheme	Name of the work	Allotment (Rs. in lakh)	Expenditure (Rs. in lakh)
CAMPA APO Forest Wing	Feeding, POL for water pump and maintenance of the Zoo	3.50	3.50
CAMPA APO Wildlife Wing	Developing and improving parking place, outskirts of GRACU, purchase of DG Set 30 KVA 1 phase, 2 HP water pump, Stabiliser, supply of steel nipple, NRU, sort pic, suction pipe, HDPE pipe 600 mtr, installation of water cooler with storage tank fitting, Godrej AC in Interpretation Centre, construction of Hatchling pool-I & II, construction of grill gate, maintenance of souvenir shop at GRACU, foot path, fitting and fixing of chequered tiles in steps, decorative wall at GRACU etc.	33.50	23.50
<b>Total</b>		<b>37.00</b>	<b>27.00</b>

## 12. Daily feed Schedule of animals

Sl.No.	Species	Feed item	Quantity		Day of fasting
			Winter	Summer	
1	Mugger ( <i>Crocodylus palustris</i> ) (Adult 5 years and above)	Meat or Fish	1 Kg	1 Kg	Monday
2	Mugger ( <i>Crocodylus palustris</i> ) (Sub-Adult 2 to 5 years)	Fish (Fingerling about 6 inch)	205 g	250 g	Monday
3	Gharial ( <i>Gavialis gangeticus</i> ) (Adult 5 years and above)	River Fish	1 Kg	1 Kg	Monday
4	Gharial ( <i>Gavialis gangeticus</i> ) (Sub-Adult 2 to 5 years)	Fish (Fingerling about 6 inch)	150 g	150 g	Monday

5	Terrapin	Green Sag	10 g	10 g	Nil
		Fingerling fish	50 g	50 g	
		Cabbage	20 g	20 g	

### 13. Vaccination Schedule of animals

Mostly the animals kept in the Zoo are reptiles. So it is not necessary for vaccination the animals.

Sl.No.	Species	Disease vaccinated for	Name of the Vaccine and dosage/ quantity used	Periodicity	Remarks
Not Applicable					

### 14. De-worming Schedule of animals

Mostly the animals kept in the Zoo are reptiles. So it is not necessary for de-worming the animals. However, antifungal treatment is going on regularly in the mini Zoo.

Sl.No.	Species	Drug used	Month
Not Applicable			

### 15. Disinfection Schedule

Sl.No.	Species	Type of enclosure	Disinfectant used and method	Frequency of disinfection
1	Mugger, Gharial & Turtle	Iron Mesh with concrete pole	Bleaching Powder – dusting Pottasium permanganate – foot dip, concrete pole disinfection	Premises disinfection - weekly Foot dip – daily pool Disinfection –

				monthly
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#### **16. Health Check-up of employees for zoonotic diseases**

Arrangements are made for collection of blood samples from Zoo attendants.

#### **17. Development Works carried out in the zoo during the year**

Developing and improving parking place, outskirts of GRACU, purchase of DG Set 30 KVA, 2 HP water pump, Stabiliser, supply of steel nipple, NRU, sort pic, suction pipe, HDPE pipe 600 mtr, installation of water cooler with storage tank, Up gradation of Interpretation Centre with provision of AC in Interpretation Centre, renovation of Hatchling pool-I & maintenance of hatchling pool- II, Gharial pool, Mugger Pool, Fish Pond – I & II, Quarntine Pool construction of grill gate, maintenance of souvenir shop at GRACU, upgradation of foot path, fitting and fixing of chequered tiles in steps, decorative wall at GRACU etc.

#### **18. Education and Awareness programmes during the year**

Training programmes for Bird census, Phase –IV monitoring of Tigers and its co predators and Crocodile Census has been conducted.

#### **19. Important Events and happenings**

Mass awareness programme by Save Elephant Foundation conducted in GRACU Meeting Hall.

#### **20. Seasonal special arrangements for upkeep of animals**

During summer season shade nets and temporary sheds were used to protect reptiles from harsh sun rays.

#### **21. Research Work carried out and publications**

No research carried out during the year.







## 22. Conservation Breeding Programme of the Zoo

No Conservation Breeding Programme carried out during the year.

## 23. Animal acquisition / transfer / exchange during the year

A.	Animals arriving in the Zoo				
	H.NO.	Species	Number (M:F)	From which Zoo	Date of arrival in the zoo
	NIL				
B.	Animals going from the zoo				
	H.NO.	Species	Number (M:F)	Going to which Zoo	Date of deposition from the zoo
	NIL				

## 24. Rescue and Rehabilitation of wild animals carried out by the Zoo

Sl.No.	Date of	Species	Received	Date of	Action taken
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	Rescue	with number of animals rescued with their sex (M: F:U:T)	from	Submission of Report to the CWLW / CZA	Date and Place of rehabilitation in their habitat	Reasons for housing in the zoo, if not released in their habitat
NIL						

## 25. Annual Inventory of animals

Form – II  
[See rule 11 (1)]

### PART - A Annual Inventory Report

Inventory Report for the Year : 2018-19

#### Endangered Species \*

S. No.	Animal Name	Scientific Name	Opening Stock as on 01.04.2018				Births				Acquisition				Disposals				Deaths				Closing stock as on 31.03.2019			
			M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
Reptile	Gharial	Gavialis gangeticus	1	5	-	6	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	1	4	-	5	
Total Reptile			1	5	-	6	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	1	4	-	5	
Total Animals			1	5	-	6	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	1	4	-	5	



\*Animals under Sch- I and Sch- II of Wild Life (Protection) Act, 1972

## PART - B

### Other than endangered Species

S. No.	Animal Name	Scientific Name	Opening Stock as on 01.04.2018				Births				Acquisition				Disposals				Deaths				Closing stock as on 31.03.2019			
			M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
1.	Mugger	<i>Crocodylus palustris</i>	3	2	1	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	1	6
2.	Turtle	<i>Kachuga kachuga</i>	-	5	-	5	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-	-	5	3	8
Total Reptiles			3	7	1	11	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-	3	7	4	14
Total Animals			3	7	1	11	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-	3	7	4	14







## 26. 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
NIL					

## 27. Compliance with conditions stipulated by the Central Zoo Authority

Sr. No	Norm No. under RZR, 2009	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 of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
1.General requirements						
1	10.1(5)	Existing fence on the perimeter of the Zoo is found ineffective. It should be strengthened and height should be raised to two meter from ground level	Six months	16.07.2018 and also pending since 17.04.2015 & 22.09.2009	New fencing above 2meter height has already been erected all around the zoo with MS angle posts and nine strand of barbed wire.	

Sr. No	Norm No. under RZR, 2009	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 of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
		on both sides.				
2	10.1(6)	Zoo personnel observed residing within the Zoo premises. No residence is permitted within the Zoo premises. It should be stopped henceforth. Else, the residential area should be separated from the Zoo by a two meter high wall with independent entry / exit.	Immediately	16.07.2018 & also pending since 16.06.2017	Nobody is residing within the Zoo premises. The animal enclosures are safeguarded and separated by 2 meter height masonry wall with independent entry and exit.	
3	10.1(7)	Solid waste generated from the zoo is being burnt of the zoo campus behind the animal enclosures. It should be stopped and efficient practices of waste management should be adopted with least environment impact.	Immediately	16.07.2018 & also pending since 16.06.2017	Very negligible quantity of solid waste generated from the zoo is disposed off far away from the zoo with safe disposal procedure.	
4	10.1(9)	Stray dog found entering the Zoo premises. The Zoo Operator should prevent entry of stray animals in to the zoo.	Immediately	16.07.2018	Barbed wire fencing done all around the zoo premises with 6" gaps (4 strands) at base level up to 2 feet height to prevent the entry of stray animals into the Zoo.	
2.Administrative and staffing pattern						

Sr. No	Norm No. under RZR, 2009	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 of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
5	10.2(1)	The zoo should post an officer of appropriate rank as "whole time in-charge" of the zoo with adequate administrative and financial powers to take decision and ensure that adequate infrastructural support is made available to such officer for proper housing, upkeep and healthcare of the zoo animals and managing the zoo in a planned manner so as to fulfill the goals and objectives.	Six months	16.07.2018 & also pending since 16.06.2017 & 17.04.2015	Action has been taken for posting of regular Zoo in-charge and the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha has been moved for the purpose.	
6	10.2(2)	Presently, the Range Officer, Forester, Forest Guard are managing the GRACU, Tikarpada in addition to their other duties assigned by the Division with the support of 1 Animal Keeper and 10 Gharial Watchers. The veterinarian providing services in the GRACU, Tikarpada is on deputation from the AHD common for the Satkosia	Six months	16.07.2018 & also pending since 16.06.2017 & 17.04.2015	The Range Officer, Forester, Forest Guard are giving much importance to the management of GRACU as it is situated at their Head quarter. The animal keeper and the Gharial watchers are deployed exclusively for the management of the GRACU. The VAS posted on deputation from	

Sr. No	Norm No. under RZR, 2009	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 of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
		<p>Tiger Reserve and the GRACU, Tikarpada. Action be initiated to appoint full time Biologist, Veterinary Officer and curatorial staff exclusively for the Gharial Research and Conservation Unit, Tikarpada for day today monitoring of the reptiles and to support the officer-in-charge of the zoo in carrying out the responsibilities of housing, upkeep and healthcare of zoo animals, research and visitors education. It is to be noted that the GRACU, Tikarpada has Zoo, Rescue Centre and Conservation Breeding Centre housing endangered species. The recruitment rules for above posts should provide for their career progression including the benefit of flexible complementing schemes for their promotions.</p>			<p>Animal Husbandry Department is against the existing vacancy on the cadre for GRACU only. He is posted mainly to look after GRACU and in addition he is meeting the exigencies if any concerning to Tiger Reserve. However action is being initiated for posting of full time staff for the Zoo and Principal Chief Conservator of Forests (Wildlife) &amp; Chief Wildlife Warden, Odisha has been moved for the purpose.</p>	

Sr. No	Norm No. under RZR, 2009	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 of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
3.Development and Planning						
7	10.3(1)	During evaluation and on interaction with the Assistant Conservator of Forests, it is observed that the Gharial Research and Conservation Unit, Tikarpada is operating as a Mini Zoo, Rescue Centre and Conservation Breeding Facility. However, except one pool designated as Quarantine Pool housing two Gharials under treatment, rest all facilities are on display to visitors. On perusal of records produced, the wild animals acquired by way of rescue are put on display to visitors. The Operator of the facility should finalise the mode of operation and submit a detailed Master Plan for approval of the Central Zoo Authority.	Three months	16.07.2018 & also pending since 16.06.2017 , 21.02.2013 & 22.09.2009	Normally the GRACU is not dealing with rescue of wild animal. No rescued animal was displayed to the visitors as the rescue and quarantine area is separated from display area with barricades. No visitors are allowed beyond the display area. The detail facilities will be finalized soon and submitted for approval of CZA.	
8	10.3(3)	It is observed that the construction of new enclosures for endangered	Three months	16.07.2018	The new enclosures with breeding pool are constructed	

Sr. No	Norm No. under RZR, 2009	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 of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
		species is under progress adjacent to the Gharial Research and Conservation Unit, Tikarpada within the Satkosia Tiger Reserve. Infrastructure should be created in a zoo only after approval of Master Plan by the Central Zoo Authority. As a first step, the Zoo Operator should finalise the Master (Layout) Plan and submit for approval of the Central Zoo Authority.			for conservation breeding of Gharials and in the designated location as given in the Master Plan. The detailed Master layout Plan has already been submitted to Regional Chief Conservator of Forests, Angul vide this office Letter No. 1037 Dt. 09.03.2017 (Copy enclosed as Annexure-IV) and the next memo of the even date to the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha. In the meantime the CZA has raised some objections and asked for submission of revised master plan. The same will be submitted soon after some minor revision in the earlier submitted master plan.	
9	10.3(3)	The zoo operator should clearly allocate separated area for display of	Three months	16.07.2018 & also pending since	The display area and the area for conservation breeding has	

Sr. No	Norm No. under RZR, 2009	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 of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
		animals to visitors and area for purpose of conservation breeding. The conservation breeding zone may not be kept open and accessible to visitor. Accordingly, display enclosures of dimension prescribed under the rules should be designed for turtles, Gharials and Mugger. The enclosure should be safe and secure for the animals, animal keeper and the visitors and has requisite space for free movement, exercise and expression of natural behavior by the animals. It should be clearly earmarked in the Master (Layout) Plan of the Zoo.		16.06.2017	been allocated separately in the Zoo. No visitors are allowed to enter into the conservation breeding zone of GRACU. During the process of renovation and up gradation the existing enclosures for turtles, Gharials and Muggers will be designed and upgraded to the prescribed dimensions as per rule.	
10	10.3(6)	The zoo operator should, in consultation with the Central Zoo Authority, prepare Animal Collection Plan as part of the Master Plan.	Three months	16.07.2018 & also pending since 16.06.2017 & 22.09.2009	Presently there is no proposal for animal collection to the mini Zoo. It will be prepare after consultation with the CZA and higher authorities.	



Sr. No	Norm No. under RZR, 2009	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 of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
11	10.3(7)	The zoo should not accept any rescued animal unless appropriately designed enclosure and upkeep facilities for the animal as well as the facilities for keeping it in isolation during quarantine period exists.	Immediately	16.07.2018 & also pending since 16.06.2017	Noted for reference.	
12	10.3(8)	On perusal of the Animal Stock Register, it is observed that the GRACU, Tikarpada not reported the rescue of Gharial 1 female on 26.08.2015, 1 female in April, 2015 and 10 female in December 2014, one unsexed Mugger in March, 2017, to the Chief Wildlife Warden of the State and the Central Zoo Authority, as mandatory under the Recognition of Zoo Rules. The Zoo Operator should ensure compliance with the Rules.	Immediately	16.07.2018	On 26.08.2015 one female Gharial which was released into Mahandi River on 07.03.2015 has re entered in to the Pool and that has been reflected in the QPR and communicated to Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha vide this office letter No. 3475 Dt. 28.09.2015 (Copy enclosed as Annexure-V). On 01.04.2015 one female Gharial rescued from Phulnakhara in the downstream of Mahanadi	



Sr. No	Norm No. under RZR, 2009	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 of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
					and its tributary which was released into Mahandi River on 07.03.2015. The same has been reflected in the QPR communicated to CZA vide this office letter No. 2847 Dt. 05.08.2015 (Copy enclosed as Annexure-VI). During December 10 female Gharials acquisitioned from Nandankanan Zoological Park vide F. No. 23-1/2014-CZA (M) / 4645 Dt. 11.04.2014 (Copy enclosed as Annexure-VII) & subsequently released in Mahanadi River under intimation to all concerned. The Mugger rescued from forest floor with minor injury during March, 2017 and kept in the old pool for necessary treatment. But after recovery that has succeeded to escape from the	

Sr. No	Norm No. under RZR, 2009	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 of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
					pool damaging by wire mesh fencing in the same month which was not reported.	
4. Animal housing, display of animals and animal enclosures						
13	10.4(3)	Tree fell into the Quarantine pool should be removed at the earliest and should ensure that no stray animal enters the zoo from adjoining villages of Tikarpada.	Immediately	16.07.2018	The felled tree has been removed from the quarantine pool forthwith and it has been taken care of accordingly.	
14	10.4(7)	Adequate screening should be provided between adjacent enclosures to safeguard against the animals getting unduly excited or stressed due to visibility of animals housed in adjacent enclosures. This may be done by means of plantation.	Six months	16.07.2018 & also pending since 16.06.2017	As suggested adequate screening already provided between the enclosures.	
15	10.4(8)	The Operator of the GRACU, Tikarpada after approval of the Master Layout Plan, should submit design of enclosures for endangered	Six months	16.07.2018	The design of the enclosures constructed will be submitted soon for post-facto approval of CZA.	

Sr. No	Norm No. under RZR, 2009	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 of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
		species for approval of the Central Zoo Authority. The design of enclosures for endangered species presently under construction should be submitted for post-facto approval. The work in the initial stages should be stopped till approval is obtained from the CZA.				
16	10.4(9)	The stand-off barriers erected in the Zoo should be strengthened as per specification of the CZA (75 cm height and 150 cm width) and hedge plantation should be raised between the iron railing and the enclosure barrier.	Three months	16.07.2018 & also pending since 16.06.2017 & 22.09.2009	During the process of renovation and up gradation the discrepancy with stand -off barriers will be rectified as per specifications and raising hedge plantation is under progress.	
5.Upkeep and healthcare of animals						
17	10.5(2)	Diet schedule of animals housed in the Zoo should be prepared and implemented in consultation with the consultant Veterinarian as per the recommended guidelines titled	Immediately	16.07.2018	Diet schedule has been prepared in consultation with the Zoo Veterinarian and already implemented.	

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					Status with regard to compliance of the conditions as submitted by the Officer-in-charge of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
		'Standardization of Diet for Indian Zoo Animals' and the same should be implemented.				
18	10.5(5)	Polythene bags leftover near the Gharial pools should be removed and the animal enclosures should be cleaned and disinfected regularly by preparing a Disinfection Schedule.	Immediately	16.07.2018	The surrounding of the pool premises are cleaned regularly and disinfected as per prepared schedule.	
19	10.5(6)	It is observed that observation of the consultant Veterinarian is recorded once in few months. The Zoo Operator should ensure that a fulltime Veterinary Officer is deputed in the GRACU, Tikarpada as the facility has Zoo, Rescue Centre and Conservation Breeding Centre housing endangered species.	Six months	16.07.2018	Presently the Zoo Veterinarian is visiting the GRACU regularly once in a week and in exigency.	
20	10.5(8)	The zoo animals should be screened for parasitic loads as per written	Immediately	16.07.2018 & also pending since 16.06.2017 &	The Zoo Veterinarian is screening the Zoo animals for parasitic load as per written	

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					Status with regard to compliance of the conditions as submitted by the Officer-in-charge of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
		schedule prepared by the zoo in consultation with the consultant Veterinarian.		22.09.2009	schedule prepared by the Zoo.	
21	10.5(8)	Schedule for vaccination, de-worming and other prophylactic measures for animals housed in the Zoo should be prepared in consultation with the Veterinarian and should be implemented.	Immediately	16.07.2018	Mostly the animals kept in the Zoo are reptiles. So it is not necessary for de-worming the animals. However, antifungal treatment is going on regularly in the mini Zoo.	
22	10.5(9)	None of the Zoo personnel involved in upkeep and healthcare of captive wild animals are screened against zoonotic diseases. The screening should be carried out.	Immediately and subsequently once a year	16.07.2018 & also pending since 22.09.2009	Screening and health checkup of the Zoo personnel has been done in the nearest hospital and organized health camps regularly against zoonotic diseases.	
23	10.5(10)	It is observed that the Keeper's Diary, Daily Reports, Animal History Cards and Treatment Cards are not being maintained in the GRACU, Tikarpada. The zoo should maintain detailed records of observations of biological and	Immediately	16.07.2018 & also pending since 16.06.2017	All the registers such as Keeper's Diary, Daily Reports, Animal History Cards and Treatment Cards are maintained as per standards specified by the Central Zoo Authority. The blood samples of the staff working in the	

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					Status with regard to compliance of the conditions as submitted by the Officer-in-charge of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
		social behavior and health status of the animals including feed intake, medication and treatment provided, as per standards specified by the Central Zoo Authority.			zoo have been collected and sent to the District Head quarter Hospital, Angul for necessary pathological examination.	
6.Veterinary and infrastructure facilities						
24	10.6(1)(c) & 10.6(3)	Presently, the zoo does not have a Treatment Room. Also adequate animal restraint equipment is not available. A Treatment Room with basic facility to treat captive animals should be developed in the Zoo.	Three months	16.07.2018 & also pending since 16.06.2017 & 22.09.2009	Action is being initiated for construction of treatment room. Animal restraint equipments have been procured and kept in use.	
25	10.6(3)	The Range Office has four wooden cages meant for transport of crocodiles. Appropriate arrangement should be made to transport and release the animals as per the protocol published by the Central Zoo Authority and the IUCN.	Three months	16.07.2018	Action is being initiated for procurement of modern cages as per the protocol on receipt of funds.	
7.Post-mortem and disposal of carcasses of animals						

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					Status with regard to compliance of the conditions as submitted by the Officer-in-charge of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
26	10.7(3)	It is observed that the reason for death of Gharial on 25.04.2017 was inconclusive. Reason for death is recorded 'May be due to Tuberculosis'. However, no further diagnosis is carried out. The Zoo Operator should ensure that diagnosis is done in case of inconclusive report on post-mortem examination.	Immediately	16.07.2018	For further confirmation the samples have been sent to College of Veterinary Science, OUAT, Bhubaneswar.	
9. Acquisition and breeding of animals						
27	10.9(8)	The zoo should maintain the Animal History Cards & Stud Book for all endangered species housed in the zoo and put appropriate identification marks in order to prevent inbreeding and the loss of heterozygosity, and to transfer of exchange animals with other zoos.	Six months	16.07.2018 & also pending since 16.06.2017	All necessary records and registers are maintained properly in the Zoo.	
28	10.9(10)	From Records produced during evaluation, it is observed that a Mugger escaped from the Zoo in	Immediately	16.07.2018 & also pending since 16.06.2017	The fencing around the Mugger pool has been strengthened and safeguarded to	

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					Status with regard to compliance of the conditions as submitted by the Officer-in-charge of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
		March 2017. The Zoo should put in place effective measures to safeguard against escape of the zoo animals from the premises of the Zoo.			prevent any such escape in future.	
11.Education and outreach activities:						
29	10.11(1)	The zoo should prepare Annual Calendar of educational activities and document the same.	Six months	16.07.2018	Annual Calendar is prepared and implemented in the Zoo accordingly.	
12.Visitors facilities						
30	10.12(1)	The zoo should provide adequate civic facilities for visitors at appropriate and convenient place in the zoo, including for physically disadvantaged persons and such facilities should be so located that they do not mask or impact the view of enclosures.	Six months	16.07.2018 & also pending since 16.06.2017	Civic facilities like provision of drinking water, toilet, play equipment for children, cloak room and rest room, souvenir shop, sit out have been provided for visitors.	
31	10.12(2)	The life saving drugs including Snake anti-venom should be made available within the Zoo premises. On the day of evaluation, one of	Immediate ly	16.07.2018	First aid facility has been provided in the Zoo. Anti Snake Venom is available in the nearest PHC at Purunakote at a distance of 10	



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					Status with regard to compliance of the conditions as submitted by the Officer-in-charge of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
		the worker involved in construction activity was bitten by a snake and has to be rushed to Hospital far way. Besides, fulfillment of statutory provision in the Recognition of Zoo Rules, presence of anti-venom serum will equip the Zoo to deal with the emergency. Also, the Zoo can cater to the needs to adjoining village inside the Tiger Reserve.			Km from the Zoo.	
32	10.12(3)	The zoo should make arrangements for providing access to the handicapped persons for viewing wild animals at various animal enclosures by providing ramps.	Six months	16.07.2018 & also pending since 16.06.2017	Ramps will be provided during the process of renovation and up gradation on receipt of fund.	
Rule 11. Maintenance of Records and submission of inventory						
33	11(1)	The zoo though housing endangered species, is not submitting Quarterly Inventory of animals to the Central Zoo Authority. It should	Within 15 days of end of quarter	16.07.2018	The Quarterly inventory report of on animals in GRACU are submitted to the CZA regularly.	

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					Status with regard to compliance of the conditions as submitted by the Officer-in-charge of the Zoo	Status with regard to compliance as noted physically by the evaluator during the visit
		be submitted promptly.				
34	11(2)	The zoo operator did not submit the Annual Report in prescribed form to the Central Zoo Authority for year 2017-18. It should be submitted.	Immediately for 2017-18 and subsequently by 30 <sup>th</sup> June every year.	16.07.2018 & also pending since 16.06.2017	The Annual Report of the Zoo for the year 2017-18 has already been submitted to the CZA vide this office Memo No. 3406 Dt. 29.06.2018 (Copy enclosed as Annexure-VIII).	

## 28. List of free living wild animals within the zoo premises

- Mammals - NIL
- Birds - NIL
- Reptiles as follows

Animal Name	Sex			Total
	Male	Female	Un-identified	
1	2	3	4	5
Gharial (Gavialis Gangeticus)	1	3	0	4
Mugger (Crocodylus Palustris)	3	2	1	6
Terrapin	0	5	3	8

