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Wild life conservation in Odisha with special reference Asiatic Elephants: A Review

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Abstract- Odisha is situated in East Central region of India, rich in faunal diversity exhibits 131 species of reptiles, 29 species of Amphibians, 537 species of birds and 114 species of mammals. Odisha lies in the eastern region of elephant habitat of India. According to the elephant census (2017), about 1,976 elephants are found in Odisha. Due to Fragmentation of habitats and destruction of elephant corridors, mining, railways, establishment of industries are main causes of man-elephant interface. Deaths of elephants are reported mostly due to poaching, electrocutions, railways and road accidents. New approaches like improvement of habitat, creation of Gajabandhu and solar light programme and use of advanced technological devices like drone for tracking the elephant movement and Bamboo seed ball plantation are adopted by Govt. of Odisha for conservation of this country's heritage animal from extinction.

Key words: Wildlife diversity, Elephants, conservation in Odisha

INTRODUCTION

Odisha is situated in East Central region of India bounded by Bay of Bengal in the east, by the states of Jharkhand and West Bengal to the north and northeast, Andhra Pradesh and Telengana to the south and Chhattisgarh to the west. Odisha is favoured with an extremely rich and unique assemblage of wild life. The state is home to wild life species such as Elephant, Tiger, Leopard, Black Panther, Hyena, Wolf, Fishing cat, Leopard cat, Jungle cat, Gour, Sambar, Spotted deer, Wild bear, Giant squirrels, Pea fowl, Hill myna, Marsh crocodile, Gharial, Salt water crocodile, King cobra, Sea turtles and Monitor lizard etc. The state has distinction of home to Melanistic Tigers. Odisha's rich faunal diversity exhibits

131 species of reptiles, 29 species of Amphibians, 537 species of birds and 114 species of mammals this includes 54 endangered species (17 species of reptiles, 15 species of birds and 22 species of mammals) as per IUCN Red date Book (Table-1) Odisha is an important state with respect to elephant population. According to 2017 census 1,976 elephants are present which is 7% of the total Indian population.¹ The elephant habitat of Odisha extends over 10,000 Kms. Connecting to the neighbouring states of Jharkhand, Bihar and West Bengal. Three elephant reserves namely Mayurbhanj, Mahanadi and Sambalpur are founded here.² The most important factor which has made situation very alarming is destruction, degradation and fragmentation of habitat. Elephant is a long ranging animal. It needs large forest full areas to fulfil its dietary requirements and cover large areas every day.³ These three elephant reserve area

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taken together accommodate about 50% populations of elephants of the state. Due to habitat shortage the other 50% population strays out to now and human dominated areas resulting in increased conflict and develop high level of intolerance towards elephants.⁴ Human elephant conflict is among the biggest emerging challenges to effective wildlife conservation globally. Due to fast growing development projects the elephants are in constant search for new habitats and corridors for movement.⁵ The presence of elephant is now seen in places where elephants have never been seen in recent past, resulting in recent increasing trends of human-animal conflict.⁶ The continuous growth of the human populations and shrinking of forest area have brought wild life and human together which further generates these conflicts.⁷ It is found worst where people live hood directly depends on the forest products, agricultural activities and other land uses in the

buffer zones. The frequently and severity of human wild life conflict has continually increased over the years in the state resulting in human kill, Human injury, house damage, crops damage and livestock depredation.⁸ Compassionate payment is one of the most important mitigational measure in the field of animal depredation.⁹ To alter animal behaviours with the goal of minimise human-wildlife conflict is the use of repellents like bee sound as repellents to elephant.¹⁰ It was implemented in Keonjhar district on trial basis. Use of chilli extract that cause irritation to the elephant is also being tried. Radio collaring of elephants has been planned in Sundergarh forest by wildlife institute of India for monitoring movement of elephants. Improvement of habitat like creation of new water bodies and bamboo seed ball plantation found to be successful in some places to minimise man and elephant conflict.

Table 1- Number of Vertebrate species in Odisha

Taxa	World	India	Odisha	Percentage of Odisha to India
Mammals	5416	427	114	27%
Birds	9026	1340	537	40%
Reptiles	9232	584	131	22%
Amphibians	6776	414	29	07%
Fishes	32156	3361	>800	24%

Source: MoEF report, ZSI-2018, National Biodiversity Action plan 2019 & Odisha Biodiversity Board report, 2019

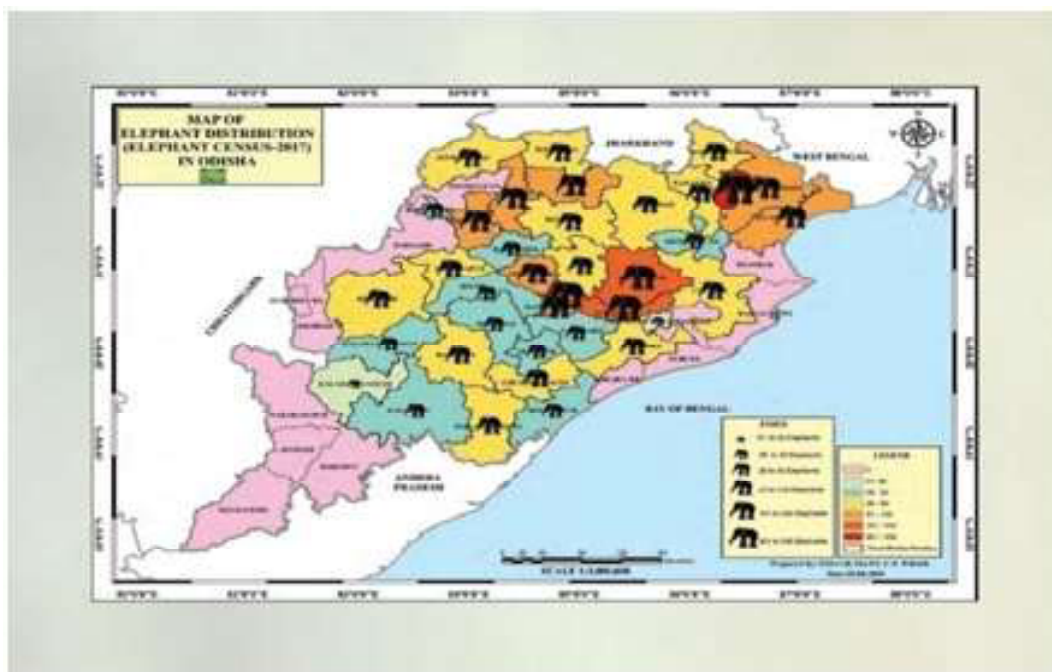


Fig. 1- Map of Elephant Distribution (Elephant Census 2020) in Odisha

MATERIALS & METHOD

Data utilized in this investigation were collected from various locations degraded by elephants, Odisha Forest department reports, newspaper high lights and interactions with affected people. Types of crop of grown, crops most affected and crops that were partially or not affected at all were at all were ascertained causality of human beings as well as death of elephants due to different reasons were recorded from the official record and also information collected from the villagers in different years.

FINDINGS

Odisha constitute the 70% of elephant population of eastern region of elephant habitat. The state has a geographical area of 1,55,707 Sq. km. and Recorded Forest Area (RFA) 61,204 Sq. Km. which is 39.31% of its geographical area, 6,967.71 Sq. Km under Very Dense Forest (VDF) 21,551.93 Sq. Km., under Moderately Dense Forest (MDF) and 23,096.87 Sq.Km. under open forest. The elephant population of Odisha in 2017 is 1,976 (Fig.1). Due to first growing developmental activities, habitat of

elephants became fragmented forest need linking through management of corridors for providing passage to make connectivity between two or more viable elephant population for ensuring their long term survival. The state has indentified fourteen corridors in 2011 which cover inter-state and inter-district and intra-distinct which were used by elephants to more different habitats. It is was founded that since last five years elephants herds from neighbouring states like Jharkhand and West Bengal continuously migrating to Odisha and causing the crop damage, injury people and human death. It was observed that death of elephant due to poaching has decreased while death by electrocution, road and train accident has been increased. Road network passing through the elephant habitats is creating obstructions for free movement of mega animals in their own home, sometimes leading to painful accidents of elephants. Anthrax and Herpes are the common disease of death of elephant. It was reported that there are about 411 nos. of elephants death occur in last 5 year (Table-2).

Table 2- Death of Elephants for various reasons in odisha from 2015 to 2020

Sl No	Year	Poaching	Poisoning	Electrocution	Accident (Train/ Road & Others) (#)	Disease	Natural	RNK (*)	Total
1	2015-16	2	0	14	13	29	11	16	85
2	2016-17	2	0	6	14	33	5	15	75
3	2017-18	2	1	9	21	27	4	14	78
4	2018-19	2	0	24	26	30	4	7	93
5	2019-20	4	0	8	20	26	3	19	80
Total		12	1	61	94	145	27	71	411

Source: Forest and Environment Department, Govt. of Odisha.

Other accident (Infighting, stampede, falling from hill, falling in well, muddy tank & nala, lightning, heart stroke, etc.)

* RNK (Reason Not Known / inconclusive post mortem)

CONCLUSION

The major cause of man-elephant conflict has been observed to be deforestation destruction of elephant’s habitat encroachment of forest land and increased human activities in the forest and scarcity of food and water in the summer season. To overcome such conflicts habitat improvement is most important activity for conservation and management of wild animals. Fodder plantations are being raised in the wildlife habitats in order to supplement the requirement particularly in poor areas. In addition to

this Bamboo seed ball planting has been taken up in elephant habitat areas by Department of Forest & Environment, Govt. of Odisha to increase food availability. Rejuvenation of wildlife corridor is essential for long ranging animal through habitat improvement for ensuring minimal human-elephant conflict and to conserve the gene pool of the pachyderms. Radio collaring has been planned in Sundergarh forest by wildlife institute of India for monitoring movement of elephants. Gajabandhu programme is a new approach for involvement of people

in anti-depredation work, driving elephants and minimising elephant-man conflict. To facilitate quick payment of compassionate grant to the victims of wildlife depredation, wildlife organisation initiated “Anukampa App” for online disposal of application and payment, creating awareness among masses can save elephant and create tolerance for co-existence of man and elephant.

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