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ENDANGERED SPECIES OF ODISHA: AN OVERVIEW

Omkar Abadhesh Mishra[*1], N T Pramathesh Mishra[*2]

[*1]Department of biotechnology, Siksha 'O' Anusandhan University, Bhubaneswar, Odisha, India

[*2]Department of biochemistry, MGIP, Dr. APJ Abdul Kalam Technical University, Lucknow, Uttar Pradesh, India.

ABSTRACT

Endangered means threatened or endangered when a species or organism is extinct, they are rapidly disappearing, or there are too few populations to survive. Extinction means the end of the existence of a species. According to the International Union for Conservation of Nature (IUCN), an endangered species is at risk of extinction due to an organism or population of an organism, its habitats, high mortality or changes in the environment and food-predators. Parameters.

These are areas designated to expand and conserve plant species to ensure continued survival. The endangered plant species are planted in the wild and planted in gardens under human care to protect them from extinction. Other advanced methods of ex situ conservation where reproductive portions of future endangered species are stored are seed bank, gene bank, germplasm bank and in vitro storage (IUCN, 2010). There are basically five ways to determine if there is a high likelihood of wild extinction. Indian elephant, Bengal tiger, Indian lion, Indian rhinoceros, Gaur, Lion tail macaque, Tibetan deer, Ganga river dolphin, Nilgiris, Snow leopard, Drum, Black buck, Great Indian bustard, Forest owl, White winged duck and more animals. Some of the endangered species in India are the forest owl (Athenblavitti), the steppe eagle (Aquila nipalensis), the Great Knot (Caliridentinorostris), the green turtle (Cheloniamatus).

Many plant and animal species are endangered by habitat loss due to climate degradation and climate change, and both endangered species need adequate protection and conservation to promote their endangered species.

KEYWORDS: endangered, threatened, extinct, predator, habitats, IUCN, species, ex-situ, germ plasm, invitro, gene bank.

I. INTRODUCTION

An endangered species is a species that is likely to become extinct. The second most severe conservation condition for wild populations in the IUCN Schema is after the Endangered (EN) and Critically Endangered (CR) classified by the International Union for Conservation of Nature (IUCN) Red List In 2012, the IUCN Red List listed 3079 animals and 2655 plant species as endangered (EN) worldwide. [1] The 1998 figures are 1102 and 1197, respectively. Many countries have laws protecting conservation-based species: for example, banning hunting, restricting or protecting land development. Population numbers, trends and status of species conservation can be found in the list of organisms according to population. Although labeled in the list, the IUCN Red List is a global conservation assessment system for species that contain "data deficiency" (DD) species - more data is needed before their status can be determined and evaluated - and the IUCN species are widely assessed through the species assessment process. Species of "Near Threatened" (NT) and "List Concern" (LC) status were assessed and found to have a relatively strong and healthy population, although declining. In contrast to their common uses elsewhere, the list specifically uses "endangered species" and "threatened species": "endangered" (EN) species between "vulnerable" (VU) and "endangered" (CR) species. If "threatened" species, those species are determined to be endangered, endangered, or critically endangered.

II. BACKGROUND

Criteria for 'Endangered (EN)'

A) Reduction in population size based on any of the following:

1. Over the last 10 years or three generations, a 70% decrease in the size of the estimated, estimated or suspected population, whichever is greater, is where the deficiency is clearly reversed, understood and eliminated, (and specified):

- Direct observation
- Sufficient abundance index for taxon
- Decrease in occupancy area, extent of occurrence or quality of habitat
- The actual or potential level of exploitation
- Taxes introduced hybridization, pathogens, pollutants, competitors or parasitic effects.

2. Reduction in the last 10 years or three generations 2. A 50% reduction in the estimated, estimated or estimated population size, whichever is greater, may not eliminate or understand the cause of the defect or its cause. Anything under alternator A1 depends (and is referred to) on (A) to (E).

3. Population size 50%, estimated or suspected, in the next 10 years or three generations, whichever is greater (up to a maximum of 100 years), (and specified) on any (b) basis (e) under A1.

4. 50% reduction over any 10-year or three-generation period. 4. Decrease in estimated, estimated, estimated, or estimated population size, whichever is greater (up to a maximum of 100 years in the future), where time periods should be included in the past. And the future of both, and its defect or cause thereof shall not be withheld or restrained or reversed on the basis of any (or specified) of (a) to (e) under A1.

B) Geographic range B1 (incidence range) or B2 (occupancy area) or both:

1. The number of incidents is estimated to be less than 5,000 km, and there are at least two C-signs:

A. Severely broken or found to be in more than five places.

B. Continuous collapse, estimation, observation or inference of the following:

- Event Limit
- Occupancy area
- Residence area, range or quality
- Number or sub-population of locations
- Number of mature people

C. High jumps in any of the following:

- Event Limit
- Occupancy area
- Number or sub-population of locations
- Number of mature people

2. The occupancy area is estimated to be less than 500 km, and at least two-C signs:

A. Severely broken or found to be in more than five places.

B. Continuous collapse, estimation, observation or inference of the following:

- Event Limit
- Occupancy area
- Residence area, range or quality
- Number or sub-population of locations

- Number of mature people

3. Severe fluctuations in any of the following:

- Event Limit
- Occupancy area
- Number or sub-population of locations
- Number of mature people

C) The population is estimated to be less than 2,500 mature individuals:

1. A continuous decline of at least 20% in five years or two, whichever is greater (up to a maximum of 100 years in the future) or

2. Continuous decline in the number of mature individuals who have seen, ated or ntic, and at least one follow (A-B):

- Population structure as one of the following:
- Any subtype estimated to contain more than 250 mature individuals, or
- At least 95% of the subset are mature individuals
- Severe fluctuations in the number of mature peopleD) Population size estimated to number fewer than 250 mature individuals.

E) Quantitative analysis showing the probability of extinction in the wild is at least 20% within 20 years or five generations, whichever is the longer (up to a maximum of 100 years).

1. ^ Near-critically endangered.
2. ^ Particularly sensitive to poaching levels.
3. ^ Near-endangered due to poaching.
4. ^ May vary according to levels of tourism.

Examples of Endangered Species of Odisha

- **BIRDS**

1. The Forest Owlet: (Heteroglaux blewitti)

SYSTEMATIC POSITION

Kingdom:	**Animalia**
Phylum:	**Chordata**
Class:	**Aves**
Order:	**Strigiformes**
Family:	**Strigidae**
Genus:	**Athene**
Species:	**A. blewitti**

Distribution and Status: It has lost more than a century. It has an interesting history. After decades of not seeing it, posters have been printed and a prominent ornithologist in India, Salim Ali, has made a public appeal

to see the bird. After 113 years, the owl was rediscovered in 1997 and reappeared on the list of Indian birds.

Habitat: Dry deciduous forest.

Distribution: South Madhya Pradesh, North-West Maharashtra and North-Central Maharashtra, Orissa

Threats: Logging operation, burning and pruning of trees can cause damage to forest owl trees and nests.

2. The Spoon Billed Sandpiper (Eurynorhynchus pygmeus)

SYSTEMATIC POSITION:

Kingdom:	Animalia
Phylum:	Chordata
Class:	Aves
Order:	Charadriiformes
Family:	Scolopacidae
Genus:	Calidris
Species:	**C. pygmaea**

DISTRIBUTION AND STATUS: It requires highly specialized breeding habitat, a constraint that has always kept its population scarce. India is home to some of the last existing wintering grounds of this species (estimated at only 150-320 breeding pairs worldwide).

Habitat: Coastal areas with sparse vegetation. No breeding records further inland than 7 km from the seashore.

Distribution: Has been recorded in West Bengal, Orissa, Kerala and Tamil Nadu.

Threats: Habitat degradation and land reclamation. Human disturbance also leads to high incidence of nest desertion.

- **ANIMALS**

1. Bengal tiger

SYSTEMATIC POSITION:

Kingdom:	Animalia
Phylum:	Chordata
Class:	Mammalia
Order:	Carnivora
Genus:	Panthera
Species:	Tigris

DISTRIBUTION AND STATUS

The Bengal tiger is a Panthera tigris tigris population in the Indian subcontinent. It is listed as Endangered on the IUCN Red List since 2008, and was estimated at comprising fewer than 2,500 individuals by 2011. It is threatened by poaching, loss and fragmentation of habitat.

Scientific name: Panthera Tigris

Height: 90 – 110 cm (At Shoulder)

Conservation status: Endangered

Mass: Male: 220 kg, Female: 140 kg

Did you know: There are six subspecies of P. Tigris: Amur or Siberian, Sumatran, Malayan, North Indochinese, Bengal, and South China.

2. Black Buck in Odisha: (Local Oriya names: 'Krushnasar mriga', 'Bali Harina', 'Kala bahutia')

SYSTEMATIC POSITION:

Kingdom:	Animalia
Phylum:	Chordata
Class:	Mammalia
Order:	Artiodactyla
Family:	Bovidae
Subfamily:	Antilopinae
Genus:	Antilope
Species:	**A. cervicapra**

DISTRIBUTION AND STATUS

In India the species is wide spread in Rajasthan, Gujarat, Madhya Pradesh, Tamilnadu and other areas throughout peninsular India. In 1982, the estimated population of Blackbuck in India was between 22,500 to24, 500. According to 1993 estimation The population of Blackbuck in India was between 10,000 and is stable or increasing.

Distribution in Odisha:
Blackbucks are confined to Balukhand-Konark coastal plain / wildlife sanctuary in Puri District; Balipadar-Bhetnoi and adjacent areas in Ganjam District. In Odisha the estimated population of Blackbuck is about 800 to 900.

REHABILITATION
Steps were taken to rehabilitate Blackbucks into Bhitarkanika Wildlife Sanctuary during 1985-87 by introducing 14 (9M+5F) zoo bred specimens of Nanadanakanan Zoological Park stock. They could not adjust to the new surrounding and perished within a couple of months.

CONSERVATION:

In India, hunting of blackbuck is prohibited under Schedule I of the Wildlife Protection Act of 1972

3. Hawksbill Turtle

The Hawksbill Turtle (Eretmochelys imbricata)

SYSTEMATIC POSITION

Kingdom:	Animalia
Phylum:	Chordata
Class:	Reptilia
Order:	Testudines
Family:	Cheloniidae
Genus:	Eretmochelys
Species:	**E. imbricate**

DISTRIBUTION AND STATUS

It is a heavily exploited species. The species is migratory in nature and nesting occurs in about 70 countries across the world. Maturation is slow and is estimated between 25 – 40 years.

Habitat: Nesting occurs on insular, sandy beaches.

Distribution: In India they are found in the Andaman and Nicobar Islands, the coast of Tamil Nadu and Orissa.

Threats: Turtle shell trade, egg collection, and slaughter for meat, oil pollution and destruction of nesting and foraging habitats.

4. Gharial (Gavialis gangeticus)

SYSTEMATIC POSITION:

Kingdom:	Animalia
Phylum:	Chordata
Class:	Reptilia
Order:	Crocodilia
Family:	Gavialidae
Genus:	Gavialis
Species:	**G. gangeticus**

DISTRIBUTION AND STATUS: It is the most uniquely evolved crocodilian in the world, a specialized, river-dwelling, fish eater. The dire condition of the gharial reflects the tragedy of our rivers; where we stand to not only lose other endangered taxa such as the Ganges River Dolphin (Platanista gangetica) but also the use of their waters for human consumption and other needs.

Habitat: clean Rivers with sand banks.

Distribution: Only viable population

In the National Chambal Sanctuary, spread across three states of Uttar Pradesh, Rajasthan and Madhya Pradesh in India Small non-breeding populations exist in Son, Orissa, Gandak, Hoogly and Ghagra rivers. Now extinct in Myanmar, Pakistan, Bhutan and Bangladesh

Threats: The combined effects of dams, barrages, artificial embankments, change in river course, pollution, sand-mining, riparian agriculture and ingress of domestic and feral livestock caused irreversible loss of riverine habitat and consequently of the gharial.

III. ENDANGERED SPECIES CONSERVATION

- The Endangered Species Act (ESA) is enforced through a number of regulations, policies and protocols. Like all laws, the ESA is only effective in its enforcement. The Endangered Species Conservation Program improves the effectiveness and efficiency of implementation, helps conserve limited conservation dollars and makes it easier for people to comply with the ESA.
- We focus on innovative and practical approaches. For example, we use satellite imagery to determine if people are subject to their ESA permits. And how we evaluate large datasets on the status of endangered species and develop recommendations on how best to conserve them. Some of our other projects include:
- Prioritize how federal wildlife agencies use and allocate their recovery funds so that they can increase protected wildlife diversity for the ESA
- Assessing how federal agencies conduct activities that affect endangered species
- How they can invest more time and money to strategically and endangered species recovery with federal land management agencies such as the Bureau of Land Management and the Department of Defense
- Using geospatial and remote sensing data evaluate the real-world impacts of ESA decisions

Endangered Species Act

Under the Endangered Species Act of 1973 in the United States, the species can be listed as "endangered" or "threatened". The Salt Creek Tiger Beetle (Cicindella nevadica Lincolnoliana) is an example of endangered species protected under the ESA. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service are responsible for classifying and protecting endangered species, and listing a specific species is a long, controversial process.

Listing as an endangered species has negative effects, as it makes a species more desirable to both collectors and predators. [10] This effect is repeated, such as China, which reduces the pressure of endangered species of commercially harvested turtles.

Currently, 1,556 species known in the world are listed as endangered or endangered and are protected under government law. However, this estimate does not take into account the number of threatened species not included in the protection of laws such as the Endangered Species Act. According to Nature's World Conservation Status, thirteen percent of vertebrates (excluding marine fish), seventeen percent vascular plants, and six to eighteen percent fungi are considered incomplete.

Endangered Species Act of India

The Endangered Species Act (ESA) establishes a program for the conservation of endangered and threatened species and their habitats.

When an activity is authorized, funded, or operated by the EPA, the ESA provides that the federal agency should consult with the US Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS) to ensure that the agency is not subject to action. Endangered species listed or their designated critical habitats

The federal policy allows tribes to negotiate between federal agencies and the FWS or NMFS, and ensure that tribal conservation plans are listed in relation to operations on Indian lands, for consultations required by the ESA to pose any threat.

IV. CONCLUSION

As several plants and animals species continued to go extinct due to loss of habitat, occasioned by environmental degradation and climate change, there is every need for adequate protection and conservation of both the endangered species in their natural habitat to be encouraged.

V. REFERENCES

[1] Das, S., Dehuri, M., Panda, M. R., Sahu, N., Mohanty B.N. And Mahapatra, t. (2018). Gastro-intestinal helminthic infection on herbivore safari at Nandankanan Zoological Park. Int.J.Curr.Microbiol.App.Sci. 7 (08): 1034-1039.

[2] Mohanty, S., Pat, BK, Barrick, AK, Mohanty, d. N., Sahu, n., Sahu, s. K., Mahapatra, epike And Sahu, S.S. (2018). Estimation of fecal estrogen and progesterone profiles during the estrous and post-estrogen periods despite mating in lions. International Journal of Chemical Studies. 6 (4): 2508–2513.

[3] Panda, s. And Sahu, S.. (2018). Disease status in wild birds. Proceedings of the National Symposium on Recent Progress in Veterinary Pathology and Diagnosis for Sustainable Livestock and Poultry Production. Pp. 393– 396.

[4] Sahu, s. K., Mohapatra, S., And Mohapatra, R. K. (2018). Management of compound carpometacarpal fracture in low accessory cranes (Leptoptilos javanicus): a case report. Int J Avian & Wildlife Biol, 3 (4), 315-317.

[5] Mahapatra, r. K., Panda, S., & Sahu, S .. K. (2018). During the gestation period of the Indian Pangolin (Manis sicicadata) in captivity. Biodiversity Int J, 2 (6), 559–560.

[6] Mahapatra, r. K. (2018). Indian Gray Hornbill and Rufus Woodpecker at Nandakanan Wildlife Sanctuary, Odisha, India. Int J Avian & Wildlife Biol, 3 (4), 307-308.

[7] Mahapatra, r. K., Sahu, SS. K., Panda, S., Das, J. K., And a teacher, h. (2019). Himalayan Griffon: Rescue and Treatment of Gypsy Hellenesis in Odisha, India. Zoo Print, 34 (3), 24–27.

[8] Mahapatra, r. K., Panda, b. P., And Panda, M .., K. (2019). Colonial nest of the Asian openbill cranes (Anastomus oitans) at the Nandankanan Wildlife Sanctuary in Odisha. Int J Avian & Wildlife Biol, 4 (1), 14–17.

[9] Challenger, DW, eds., GW, Chin, JS, Sun, NCM, chong, JL, konli, E., Heywood, L. K. (2019). Evaluation of feasibility of pangolin cultivation and its potential conservation impacts. Global Ecology and Conservation, 20, p.00714.

[10] Mahapatra, R.K., Purohit, S., Ray, S.S., Sahu, A.A., Panda, M.K., Panda, B.P., Nanda, S., Sahu, M., Paday, B.K., Parmar, M., Biswal, U.S. Parida, SP, Das, JK, Paul. S. (2019). Inclusion of some bird species for observation of the Nandamkanan Wildlife Sanctuary in Odisha. Int J Avian & Wildlife Biol, 4 (3), 80-85.

[11] Mohapatra, RK And Panda, M.K. (2019). Pangolin Education Kit. Nandankanan Biological Park. Bhubaneswar, Odisha. Pp. 1-36.

[12] Mohapatra, RK, Bhatia, G. Das, J. K. And Paul, S .. (2019), Birds of the birds known paksulu nandankanan -1 Pocket Guide to the wildlife sanctuary. Nandankanan Biological Parks, Department of Forests and Environment, Government of Odisha.