

## Depletion of Biodiversity of Jharkhand State of India

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### INTRODUCTION:

The term biodiversity was coined by Walter and Rosen in 1985, which is the abbreviated word of Biological Diversity. The biosphere constitutes a vital life support system for man and its existence of human race. The newly formed state Jharkhand of India is very rich in biodiversity due to its diverse physiographic and climatic conditions. The Jharkhand state is situated between

21°58'10" to 25°18' N Latitude and 83°22' to 87°57' E Longitude. Jharkhand forms part of the Chotanagpur plateau province of the Deccan Peninsula Biogeographic Zone. As the name of the state suggests, it is having a good covering of forests (reserved forest 4,387.20 sq km, protected forest 19,184.78 sq km and unclassified forest 33.49 sq km). The forest of the state includes tropical dry deciduous, moist deciduous, dry peninsular and dry mixed deciduous forest. The forests form catchments of the three main rivers - Koel, Damodar and Subernekha. The forest covering is 23605.47 sq km, which is 29.6% of the total geographical area of the state, i.e. 79714 sq km. The landscape of the state has wild, semi-wild and cultivated habitats.

The state is also very rich in natural resources. Nearly 50 % of the country's minerals are located in the state - iron and coal being important among the main, but the mineral map and the forests overlap for the major minerals (Anonymous 2009). The state possesses a wide variety of wildlife. The floristic diversity includes 97 species of trees, 46 varieties of shrubs and herbs, 25 types of climbers, parasites and orchids and 17 types of grasses. The major trees of the state are Shorea robusta (Sal), Delbergia sissioo (Sesum), Madhuca indica (Mahua), Acasia nilotica (babool), Azadirachta indica (Neem), Terminalia arjuna (Arjun), bombax ceiba (Semul) and Butea monosperma (Palas). 39 species of mammals, 170 avian species, 12 reptilian species including 8 snake species and 4 lizard species and about 21 insect species were reported from the forest of Jharkhand. The major mammalian fauna include tiger, leopard, sloth bear, elephant, wild boar, Indian bison, hyena, wild monkey and langur, deer and antelopes, wolf etc.

### METHODOLOGY:

For the present investigation, a survey was conducted from Jamshedpur in May - June 2010 by the author with the help of Department of Forest of Jharkhand and the data were collected. The study area was divided into seven zones, viz. Uduwa lake wildlife sanctuary (WLS), Topchanchi wildlife sanctuary, Koderma wildlife sanctuary, Hazaribagh wildlife sanctuary, Lawalong wildlife sanctuary, Simdega forest and Dalma wildlife sanctuary. The observation were made through the watch towers and data collected by actual observation as well as by gathering information from the local tribes and villagers by showing photographs of animals. The collected data were analyzed and compared to the previous data.

### RESULT AND DISCUSSION:


The survey revealed the following animal diversity from the study areas.

In year 2000, 45 mammalian species, 205 avian species, 15 reptilian species and 45 invertebrate species were recorded, whereas in 2005, the species diversity declined as 41 mammalian species, 201 avian, 14 reptilian and 43 invertebrate species. In year 2010, the diversity found were 35 mammalian species with 168 avian and 11 reptilian species. The invertebrate species diversity showed an incline in number as 48.

From the above data, it is obvious that the species diversity of the state is continuously declining. The mammalian and avian fauna is declined gradually up to 2010, with a slight increase in 2008, might be due to conservation strategies, undertaken by the state government. As far the reptilian diversity is concerned, it has declined continuously. The insect diversity has shown a trend of increase.

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Biodiversity of the state is under constant pressure due to unsustainable harvests of living resources, habitat destruction and fragmentation, impacts of pollutants, and competition with colonizing, often exotic, invasive species. The biodiversity is also having threat from various other factors like industrialization, urbanization, agricultural activities, stone quarrying, unrestricted grazing by free range cattle, mining activities, construction of railway tracks, roads, dams, other developmental activities and even ethnic customs of tribes.

Some of the reported threatened wildlife of Jharkhand are Asiatic elephant *Elephas maximus* (Endangered), sloth bear *Melursus ursinus* (Vulnerable) and Indian giant squirrel *Ratufa indica* (Least Concern). Races of two species of birds, green-billed malkoha *Phaenicophaeus tristis tristis*, and pin-striped tit babbler *Macronous gularis rubicapilla* recorded here are isolated populations lying at the southern most edge of their distribution range in central-west India. Prominent amongst the reptiles was the Indian chameleon *Chamaeleo zeylanicus* which is listed in Schedule II of the Indian Wildlife (Protection) Act 1972.

Understanding the biodiversity profile of the area can provide data for better mining practices, mitigation plans, and suggesting biodiversity offsets for the conservation of threatened biodiversity. Habitat loss not only precipitates species extinctions, it also represents a loss of biodiversity in its own right. The dramatic loss of species and ecosystem obscure equally large and important threats to genetic diversity. Loss of genetic diversity could imperil agriculture. How much the genetic base has already eroded is hard to say, but since the 1950s the spread of modern "Green Revolution" varieties of corn, wheat, rice and other crops has rapidly squeezed out native landraces (Jharensis 2008). The present survey suggests that there is a serious need of wildlife conservation in the state.

#### ACKNOWLEDGEMENT:

The authors take the opportunity to express their gratitude to Mr. M. S. Jain, former Director of Tata Steel Zoological Park, Jamshedpur for providing the necessary facilities and to arrange the surveys. They are also grateful to the forest officials for providing support. They are also thankful to the local tribes and villagers for helping in the survey.

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The newly formed state Jharkhand is rich in biodiversity because of its diverse physiographic and climatic conditions. The Biodiversity includes species of 39 mammals, 12 reptiles and about 15 insect species, which is under serious threat from various developmental activities. In the present study, survey of mammalian diversity was carried out and has been found that it is continuously declining indicating a need of conservation.

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