

## STATUS AND MANAGEMENT OF WILDLIFE IN TRIPURA

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### Introduction

Tripura is a small (10,470 km<sup>2</sup>) State located in the North-Eastern part of India. This small geographical area, however, does not deprive this State in being one of the richest areas with regards to the bio-diversity and biological resources therein. Tripura owes this rich bio-diversity and copious wealth of biological resources to her unique Bio-geographical (8B Assam Hills) and Zoogeographical (Indian sub-region of Oriental Zoogeographical Region) location and position. Although, by virtue of her location in Assam Hills, Tripura is a part of Indian Sub-region of Oriental Zoogeographical Region, yet, the flora and fauna in this State bear a very close affinity and resemblance with the floral and faunal components of Indo-Malayan and Indo-Chinese sub-regions of Oriental Region. In addition to this, the flora and fauna in Tripura also has a close affinity with Ethiopian and Palaeartic Zoogeographical Regions.

Assam and the adjoining areas (Tripura inclusive) hold a pivotal place in the historic process of progressive evolution of present day fauna of India as these served as effective gateways to floristic and faunal influx. This region served as a great faunal gateway through which not only the Indo-Chinese and Indo-Malayan elements of the Oriental fauna, but also of Ethiopian and Palaeartic Regions could enter India and

colonize the country. In more recent times, a geographical and climate discontinuity has developed between Assam and the rest of India in the region of Garo-Rajmahal Gap visible as distinctive dispersal breaks. These breaks have since acted as filters and barriers in the effective dispersal of mammals either way. As a result of this, the Assam region, which also includes Tripura, has remained the westernmost boundary of the distribution range of many of the Indo-Chinese and Indo-Malayan mammals (certain squirrels), and the easternmost limit of the distribution of many Peninsular species (e.g. Spotted Deer).

In present day context the uniqueness in the floral and faunal elements of Tripura is not very obvious and distinctly visible. Within a very short span of about 3 to 4 decades only, Tripura has experienced drastic changes in its demographic patterns. These changes have taken a heavy toll on the bio-diversity and bio-resources of the State. Consequently, many of the wildlife species have either become locally extinct, or have lost their viable population status leading to their ranking as 'endangered' species.

In absence of any well defined scientific documentation of varied wildlife resources in Tripura, this paper provides some very basic information on wildlife in Tripura in general and on few highly endangered species in particular. The documentation is

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based on surveys conducted by the author on different occasions during his incumbency as the Wildlife Warden of three Wildlife Sanctuaries and some of the territorial Forest Divisions; and on the findings of research projects on wildlife conservation vis-a-vis human impact (Gupta, 1996).

### Status of Wildlife in Tripura

As stated in the preceding paragraph, there are not many scientific records on wildlife resources in Tripura to ascertain the authenticated descriptions on the status of different wildlife species in Tripura with a fair degree of accuracy. Whatever little information on wildlife status in the State is available, it is mostly based either on personal casual observations of scientists, naturalists, forest officers, or available as passing references in the literary works of contemporary writers.

The first few scientific records on the faunal diversity in Tripura are available from the descriptions of Blyth (1844, 1847), Sterndale (1884), Singh (1896), Pocock (1939) and Khajuria (1954, 1956). These descriptions are mostly on large mammalian species, e.g., large population of *Rhinoceros* (*Rhinoceros unicornis*) [a place in Dhalai District in Tripura is called 'Gandachhara', because large population of Rhinos (locally called as 'Ganda') existed there in the past], Elephants, Tigers, Leopard, Bear, Langurs, and Monkeys. Prater (1948) has mentioned presence of Slow Loris in Tripura. In 1970, a report on wildlife of Tripura by the Forest Department recorded presence of 6 Tigers in the State. The census report on Manu Forest Division in 1972 confirms the presence of many wildlife species including Elephant, Sloth Bear, Indian Bison, Leopard, Hoolock Gibbon, Sambar, Hog

Deer, Barking Deer, Wild Dog, etc. In 1974, the Tiger census report of Tripura confirmed presence of 7 Tigers in Longtharai RF (North Tripura). Menon (1975) has noted in the *Tripura District Gazetteers* that "fauna of Tripura bear a close resemblance to that of Chittagong Hill Tracts of Bangladesh and Hills of Southern Assam in India, thus, exhibiting a mixture of fauna peculiar to these two regions".

The first scientific information on the wildlife status of Tripura comes from Agarwal and Bhattacharjee (1977), both of whom described 31 species and sub-species of mammalian fauna based on the survey in Tripura conducted during 1969-73. This list included one species of Bat (*Rousettus amplexi caudatus*) and one sub-species of Mongoose (*Herpestes auropunctatus birmanicus*) new to the Indian Region. They had also noted that several species, for example, Short Nosed Fruit Bat (*Cynopterus sphinx*), Rhesus Macaque (*Macaca mulatta*), and the Irrawadi Squirrel (*Calloscisurus pygerythrus*) etc. are widely distributed throughout the State, whereas some other species, e.g., Slow Loris, Elephant, Leopard, Clouded Leopard, Golden Cat, and so on, which were said to be very common throughout the State, are now confined/localized in the South-Eastern portion (foot hills of Longtharai, Sakhan, Atharamura-Kalajhari belts) of the State. The large populations of Elephants have reportedly shifted to the adjoining Bangladesh areas. In 1984, Bhattacharjee and Chakraborty further updated this list of mammalian fauna to 56 Mammalian species belonging to 9 Orders and 20 Families. In 1989-90, based on a thorough survey all over the State, this list was further updated and 90 land-mammal species from 65 Genera and 10 Orders were identified (Gupta and Mukherjee, 1994). These make up about

19%, 48% and 100% of total land-mammal species, genera, and orders respectively, in India. Main extant land-mammal species include Elephant (*Elephas maximus*), Bear (*Melursus ursinus*), Binturong (*Arctitis binturong*), Wild Dog (*Cuon alpinus*), Porcupine (*Artherurus assamensis*), Barking Deer (*Muntiacus muntajak*), Sambar (*Cervus unicolor*), Wild Boar (*Sus scrofa*), Gaur (*Bos gaurus*), Leopard (*Panthera pardus*), Clouded Leopard (*Neofelis nebulosa*), and many species of small Cats and Primates.

**Primates :** Tripura has amazingly high density of primates all over the State, including some highly endangered species. Different survey teams from Zoological Survey of India, Eastern Region, Calcutta had conducted primate survey in the State in the past. Their reports have confirmed that out of a total of 15 free-ranging primate species in India, 7 (46.7%) species are found in Tripura, which is highest recording in any one Indian State. In 1989, based on the primate survey conducted by the author all over the State, a total of 287 groups of all 7-primate species were located in Tripura (Gupta, 1996). In 1994, primate survey in Sepahijala Wildlife Sanctuary revealed presence of 5 species in very high density (17 groups of Phayre's Langur, 18 groups of Capped Langur, 11 of Pig-tailed Macaque, 30-35 groups of Rhesus Macaque and 3-4 individuals of Slow Loris). In 1988, one more primate species was added to the list of 7 free-ranging primates in the State, when two groups of Golden Langur (*Trachypithecus geei*) were released in the wild at Sepahijala and Trishna Wildlife Sanctuary (one group in each area). Of these two groups, the one in Sepahijala has survived well and with suitable increase in its population size has further split into two sub-groups (Gupta and Mukherjee, 1994).

**Avifauna :** Tripura is also very rich in its avifauna. According to various estimates and also as per the mid-winter waterfowl census results (Gupta, 1989, 1990) about 400 different species of both land and water birds are identified in Tripura. These also include many migratory species (e.g., Large and Small Whistling Teals) that occupy many water bodies across the State in large numbers all over the State for wintering.

**Reptiles and Amphibians :** Definite information on various reptilian and amphibian species and their population status is also not known in Tripura. Based on the available habitat conditions, however, it can safely be concluded that Tripura must be rich in those. This is very well reflected in presence of 21 species of Aquatic Terrapines and Soft Shelled Turtles [including 7 endangered species according to Wildlife (Protection) Act, 1972], and other endangered poisonous (Pit Viper, Viper, Krait, Cobra, etc.) and non-poisonous (Python) snakes.

#### **Endangered Status of Wild Fauna of Tripura**

In current habitat conditions, most of the wildlife species are facing extinction pressure in the State. Of the total 65 genera and 90 species of mammalian fauna in the State, about 14 genera and 18 species are included in Schedule I of Wildlife (Protection) Amendment Act, 1991 as highly 'endangered' species. Similarly, 10 genera and 14 species are included in the Appendix I of CITES (Convention in International Trade in Endangered Species of Flora and Fauna).

Three land mammal species, namely, Tiger (*Panthera tigris*), Rhinoceros

(*Rhinoceros unicornis*), and Wild Buffalo (*Bubalus bubalis*) have already become extinct from Tripura. Some highly endangered wildlife species are as follows :

- (a) *In Part I of Schedule I of WL(P) Act* : Phayre's Langur (*Trachypithecus phayrei*), Capped Langur (*T. pileatus*), Gibbon (*Hylobates hoolock*), Slow Loris (*Nycticebus coucang*), Pig-tailed Macaque (*Macaca nemestrina*), Stump-tailed Macaque (*M. arctoides*), Leopard (*Panthera pardus*), Clouded Leopard (*Neofelis nebulosa*), Wild Boar (*Sus scrofa*), Mouse Deer (*Muntiacus muntjak*), Gaur (*Bos gaurus*), Serow (*Capricornis sumatraensis*), Giant Squirrel (*Petaurista petaurista*), Chinese Pangolin (*Manis pentadactyla*), Mouse Deer (*Tragulus meminna*), Common Otter (*Lutra lutra*), Elephant (*Elephas maximus*), Bear (*Ursus arctos*), Binturong (*Arctitis binturong*), Caracal (*Felis caracal*), Fishing Cat (*Felis viverrina*), Golden Cat (*Felis temmincki*), Sloth Bear (*Melursus ursinus*).
- (b) *In Part II of WL (P) Act* : Python and 7 species of Turtles and Tortoises (*Lissamus punctata*, *Kechuga tectie tecta*, *Trionyx gangeticus*, *Trionyx hurum*, *Kechuga kechuga*, *Geoclemys hamiltoni*, *Betagus baska*).
- (c) *Part III of WL(P) Act* : Bamboo Partridge, Black Necked Crane, Great Indian Hornbill, Indian Pied Hornbill, Hawks, Large Whistling Teals, etc.
- (d) *In Schedule II of WL (P) Act* : Pig-tailed Macaque (*Macaca nemestrina*), Stump-tailed Macaque (*M. arctoides*), Rhesus Macaque (*M. mulatta*), Wild Dog (*Cuon alpinus*).
- (e) *In Appendix I of CITES* : All species included in Appendix I of CITES are

already covered under different Schedules of WL(P)Act.

### **Reason for Depletion of Wildlife Resources in Tripura**

One of the main reasons for the depletion of wildlife resources in Tripura has been the loss in their natural habitat conditions. The survival of wildlife is totally dependent on its habitat, that is, the natural home for a given species and the external environment to which the species has adapted itself in the course of evolution. Habitat loss is directly related to the loss of different ecosystems with which different groups of animals were directly or indirectly related.

Various direct and indirect factors have contributed to the habitat loss. Among major factors are: Population explosion; Deforestation; Reduction in forest cover due to encroachment and diversion of forest land for various non-forestry activities; Denotification of forest areas; Irregular and illegal allotment of forest land to various user groups (Gupta and Mukherjee, 1994); non-traditional shifting cultivation (jhooming) (Gupta and Kumar, 1994); Hunting and poaching; Unawareness and apathy towards wildlife; Fire; Grazing; etc.

### **Management of Wildlife Resources in Tripura**

The history of wildlife management in Tripura is not very old. Forest Department alone is responsible for wildlife management. Wildlife management, which is an integral part of forestry in the State, had been started by default as a part of forestry management in the year 1939 AD, in which year rules were framed to organize the Forest Department followed by the

constitution of some Reserved Forests. Specific attention towards wildlife management was in the form of assessment of the provisions of Indian Forest Act, 1927 and the Wildlife Elephant Preservation Act, 1879. In 1979, first ever wildlife sanctuary was notified covering Central Catchment area in the North District, which unfortunately had to be cancelled immediately owing to the mounting pressure from the local human population fearing their dislocation from the sanctuary area.

In 1988-89, a total of four wildlife sanctuaries had been notified in Tripura, covering a total of about 603 km<sup>2</sup> area. The total area covered by wildlife Protected Areas (sanctuaries) in the State make up for more than 8% of the total forest cover and about 6% of the total geographical area of the State. Rowa Wildlife Sanctuary (North District) with an area of about 0.859 km<sup>2</sup> is the smallest, and Gumti Sanctuary (South-Dhalai District) with an area of 387.94 km<sup>2</sup> is the largest. Trishna (South-West Districts) sanctuary with an area of about 194.64 km<sup>2</sup> and Sepahijala Wildlife Sanctuary (West District) with an area of about 18.53 km<sup>2</sup> are other two sanctuaries in the State. Apart from these *in-situ* wildlife conservation attempts, *ex-situ* conservation attempts are taken by successful captive breeding inside the only zoo in the State - the Sepahijala Zoo. This State zoo has also remained a primary centre for creating awareness among people in the State about the needs and importance of wildlife conservation.

Wildlife management inputs in the past, which were basically as a fallout of forestry management practices, might have had proved just sufficient to attain the goal of wildlife conservation. Availability of

resources to different user groups were in plenty to meeting their sustenance needs, and their activities at that point of time hardly had adverse impacts on the wildlife habitats. But at present, due to tremendous shrinkage in the available habitat resources for different user groups, whose number have grown disproportionately over the past few years, the resources for sustenance are available only in limited measure. What is therefore required is that a very judicious allotment of available resources among different user groups for sustainable development of one and all is made.

As described earlier, the State hardly has database on various aspects related to wildlife resources/bio-diversity, needs (both qualitative and quantitative) for forestry and wildlife resources for sustainable growth of key human population directly in competition with animal form of wildlife and available wildlife habitat resources all over the State. The first and foremost priority towards wildlife conservation and management in the State lies in creating database on some very basic information without which it may not be possible to judiciously and justifiably distribute limited available resources among major user groups (Gupta, 1996). Wildlife research needs full time attention to address all these and other relevant questions pertaining to the endangerment of wildlife species. Research topics may vary from pure taxonomic studies (Gupta, 1998) to ecological and behavioral studies of key indicator wildlife species and impact assessment of human habitations in and around wildlife protected areas on wildlife conservation (Gupta and Mukherjee, 1989; Gupta, 1996); judicious use of native and exotic forestry species (Gupta, 1997), and so on. Local university and colleges can play a very important role in this aspect by

undertaking area and species-specific research in collaboration with Forest Department, Zoological Survey of India, Wildlife Institute of India, and possible with some major International Institutions

involved in wildlife research. A separate Wildlife Wing in the State Forest Department may prove to be a suitable habitat to conserve and protect rich biodiversity and wildlife resources in the State.

### SUMMARY

**Tripura is smallest of the seven North-Eastern States, but because of her unique Bio-geographical and Zoo-geographical position, is very rich in bio-diversity and biological resources. Over the past few decades, however, various factors have adversely contributed towards wildlife conservation and management in the State. The paper records some of the unique faunal components of wildlife in the State and discusses about likely steps for sustainable wildlife conservation vis-a-vis meeting varied needs from diverse user groups.**

### त्रिपुरा में वन्य प्राणियों की स्थिति और उनका प्रबंध

ए०के० गुप्त

सारांश

त्रिपुरा, उत्तर-पूर्वी सात राज्यों में सबसे छोटा राज्य है परन्तु अपनी जैव भौगोलिक और प्राणि भौगोलिक विशिष्ट स्थिति के कारण जैवविविधता और जैविकीय संसाधनों में यह बहुत सम्पन्न है। विगत कुछ दशकों में, किन्तु कुछ कारणों ने इस राज्य में वन्य प्राणि संरक्षण और उनके प्रबन्ध पर कुप्रभाव डाला है। इस अभिपत्र में राज्य के कुछ विलक्षण प्राणिजात संघटकों को अभिलिखित किया गया है और उन कुछ संभाव्य पगों का विमर्श किया गया है जिन्हें विभिन्न उपयोग कर्ता वर्गों की विभिन्न जरूरतें पूरी करने के साथ-साथ वन्य प्राणियों के सतत् संरक्षण के लिए उठाया जा सकता है।

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