

## TRIPURA



Photo: Arwaruddin Choudhary

Tripura forests harbour good populations of Phayre's Leaf Monkeys.

Tripura (22° 57' - 24° 33' North , 91° 10' - 92° 20' East) is surrounded by Bangladesh on three sides, except for east, where it is bounded Assam and Mizoram. The total geographical area of the State is 10,486,00 ha (0.3% of the country's geographical area). The major rivers draining the State are the Khowai, the Dhalai, the Manu and the Deo. Tripura was a princely state and was not directly under the rule of British. It was annexed to the Indian Union in 1948. The State consist of low hills and river valleys

In Tripura, handloom weaving is the single largest industry. It is essentially a tribal household industry. The sericulture industry is developing fast. Tripura is also abundant in natural gas and a number of gas-based industries have sprung up (Mathew 2003).

In Tripura the climate is moist and humid. The temperatures in summer range from 21 °C to 38 °C and in winter from 7 °C to 33 °C. The average annual rainfall is about 2,500 mm.

The total human population of Tripura is 3.2 million, which is 0.3% of the country's population (2001 Census). The average population density of Tripura is 304 persons per sq. km. As per the 2001 Census, the tribal constitutes 31%. The total livestock population in the State is 1.6 million, which is 0.3% of country's livestock population (Ministry of Environment and Forests 2001).

### Vegetation

As per the Forest Survey of India report of 2001, the main forest types found in the State are Tropical Moist Deciduous and Semi-evergreen. Tripura ranks eighth amongst States in terms of recorded forest area as percentage of the State's geographical area (Ministry of Environment and Forests 2001). The recorded forest area is 0.63 million ha, which constitutes 60% of the total geographical area. According to legal status, Reserved, Protected and Unclassed Forest constitute 57%, 8% and 35% of the forest area respectively.

As per the Forest Survey of India report of 1999, there has been an overall increase of 40,900 ha of dense forest. This is the result of an improvement of 43,900 ha of open forest, 3900 ha of scrub and 13,700 ha of non-forest, which is partly offset by the degradation of 20,600 ha of dense forest to open forest (Ministry of Environment and Forests 1999). The gain in forest cover is mainly due to re-growth in the abandoned shifting cultivation areas (Ministry of Environment and Forests 1999). The decrease of 21,000 ha of open forest is on account of the conversion of 43,900 ha of open forest to dense forest. The decrease is also associated with the conversion of 20,600 ha of dense forest, 1,700 ha of scrub and 600 ha of non-forest to Open forest (Ministry of Environment and Forests 1999).

According to the Forest Survey of India report of 1999, there are 855 villages in the State of which 644 have forest as a land use. The total forest area in such villages is 0.57 million ha. The villages having less than 100 ha, between 100-500 ha and more than 500 ha forest each constitute 13%, 40 % and 47% of the total villages, respectively.

#### IBAS AND PROTECTED AREAS

The State has four wildlife sanctuaries, namely Gumti, Trishna, Sipahijala and Roa. The total area under the protected area network is 60,362 ha constituting 5.76% of the geographical area (Rodgers *et al.* 2000). Only two protected areas are identified as IBAs, Gumti and Trishna.

#### IBAs of Tripura

IBA site code	IBA site names	IBA criteria
IN-TR-01	Gumti Wildlife Sanctuary	A1, A4i
IN-TR-02	Trishna Wildlife Sanctuary	Data Deficient

#### AVIFAUNA

Tripura is one of the states of India where very little is known about birds. It is a completely Data Deficient State. However, looking at the forest cover, the bird life would be quite rich. Both the IBAs fall in the Eastern Himalayas Endemic Bird Area (EBA 130) (Stattersfield, *et al.* 1998). Twenty one birds are listed in this EBA as restricted range species. Many species are likely to occur in Gumti and Trishna wildlife sanctuaries. A few surveys were carried out by Anwaruddin Choudhury (IBCN Northeast Coordinator) in the State and he proposed the two IBAs. He has reported only the Lesser Adjutant *Leptoptilos javanicus* from Gumti Wildlife Sanctuary. In the Trishna Wildlife Sanctuary, small wetlands created as water sources for wildlife now attract many species of waterfowl.

Vulnerable		
Lesser Adjutant	<i>Leptoptilos javanicus</i>	IN-TR-01
Near Threatened		
Darter	<i>Anhinga melanogaster</i>	IN-TR-01
Great Pied Hornbill	<i>Buceros bicornis</i>	IN-TR-01

Some of the areas in Tripura have nesting colonies of Lesser Adjutant *Leptoptilos javanicus*.



Photo: Aasad R. Rahmani

#### Endemic Bird Areas

Very little is known about the bird diversity in Tripura but it lies in the Endemic Bird Areas of Eastern Himalayas (EBA 130), where Subtropical hill forest and Temperate forest species could be found if proper surveys are conducted. The key threats to these areas and species are moderate habitat loss (e.g. due to logging, agriculture, overgrazing) and hunting (Stattersfield *et al.* 1998).

#### Biomes

The IBAs of Tripura fall in one biome: Biome-9 (Indo-Chinese Tropical Moist Forest) which has Lowland Evergreen Rain Forest, Semi-evergreen Rain Forest and Moist Deciduous Forest. As bird information is insufficient, we do not know how many biome species are found in Tripura.

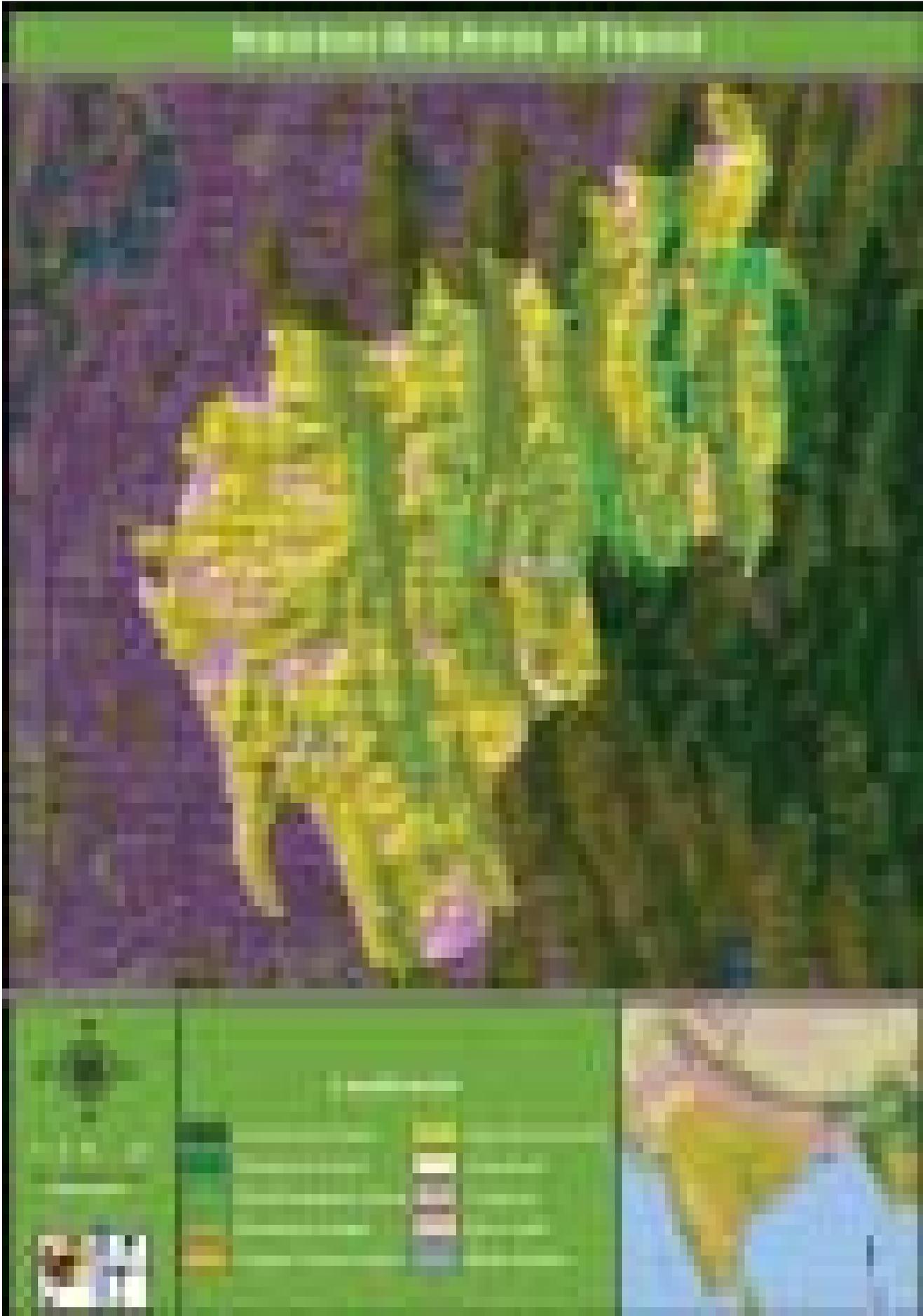
#### THREATS AND CONSERVATION ISSUES

Like other states of the northeast, Tripura also suffers from the problems of shifting cultivation (*jhum*), deforestation and unsustainable hunting. Most of the large mammals and birds, especially galliforms, have already disappeared or have become extremely rare. Two threatened birds, the White Winged Duck *Cairina scutulata* and the Green Peafowl *Pavo muticus* were reportedly present in the part, however, there is no recent report

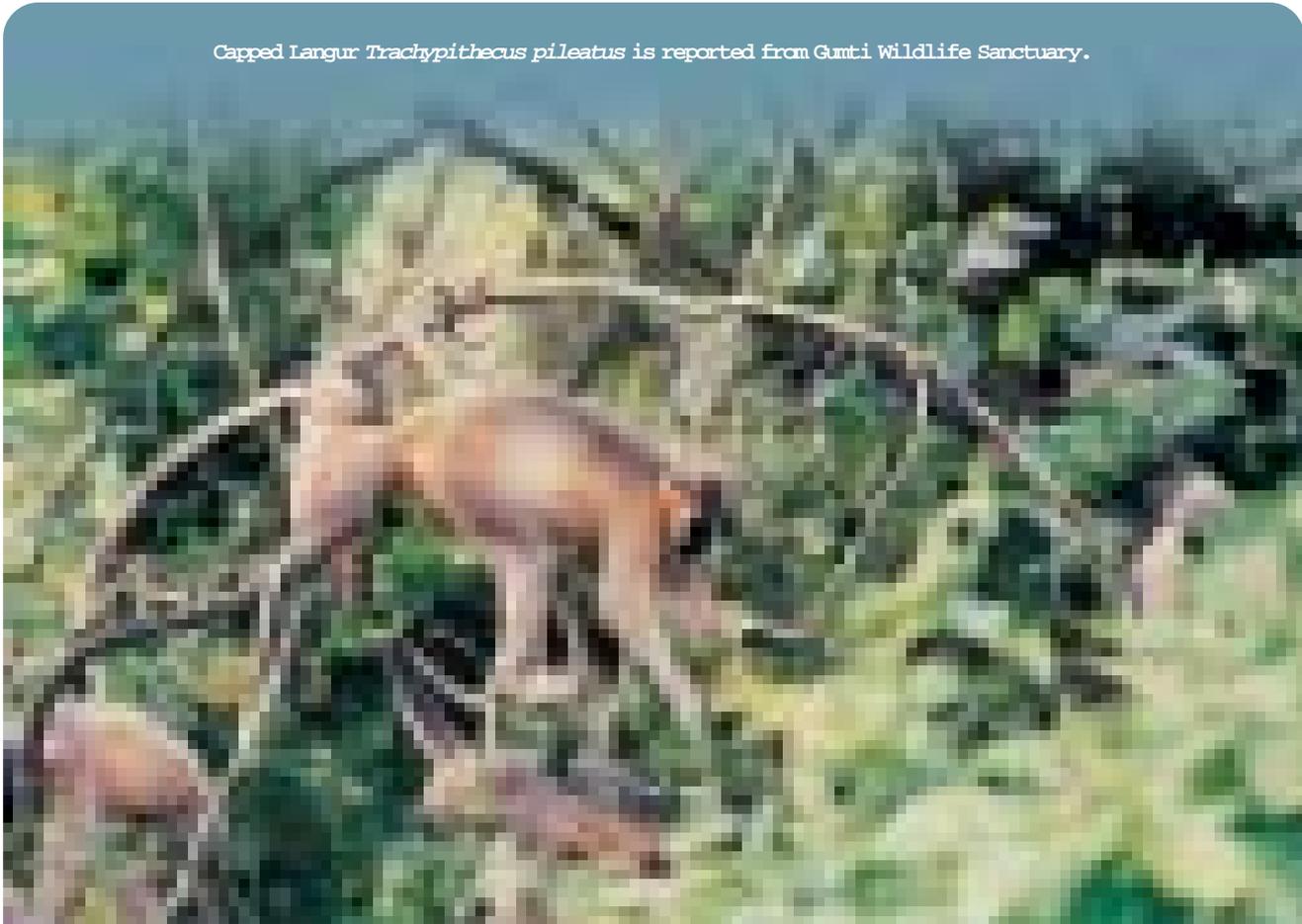
(A. U. Choudhury *pers. comm.* 2004). Among larger mammals, Asian Elephant *Elephas maximus*, Gaur *Bos frontalis* and Clouded Leopard *Neofelis nebulosa* (Choudhury 2003) are still found in small numbers. One of the IBAs, Gumti, has a unique problem. This wetland sanctuary was created when a dam and barrage were built for a hydroelectric project in 1974 across the Gumti river, near the confluence of the Raima and Sarma rivers. Large-scale displacement of people took place when their agricultural fields and villages were submerged. The villagers were settled on the nearby hills, leading to forest clearance and conflict with local inhabitants. After the discovery of huge gas reserves in Tripura, the importance of the Gumti hydroelectric dam as a source of energy has decreased. Therefore, there is a proposal to de-commission the power plant, dismantle the dam and revert the submerged areas to the villagers. If this happens, Gumti wetlands IBA would also disappear. But, at the same time, the forest which was cleared for displaced people would also remain with them.

In the Trishna Wildlife Sanctuary, a 500 MW thermal power plant is planned by the Northeast Electric Power Corporation (NEEPCO). The foundation stone for the 25 million dollar power plant that is to come up at Morakchak was laid in March 2002. NEEPCO had approached the Oil and Natural Gas Commission (ONGC) for a commitment to provide uninterrupted natural gas for 15 years. A Supreme Court order preventing drilling or construction within or near a protected area, however, disallowed ONGC from committing to such an

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Capped Langur *Trachypithecus pileatus* is reported from Gumti Wildlife Sanctuary.



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undertaking. It is reported that NEEPCO has approached foreign agencies for funding. In case this plan is allowed due to its strategic importance to the nation, a proper environmental impact analysis should be done by an independent agency and its recommendations strictly followed to minimize danger to the Sanctuary.

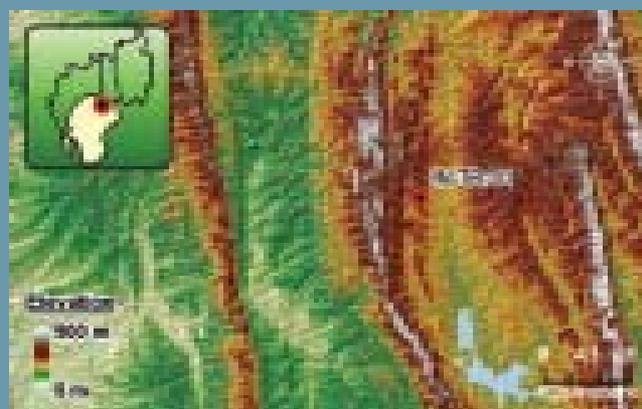
#### Threats to IBAs

A=Agriculture intensification/expansion; B=Dams/Dykes; C=Disturbance to Birds; D=Firewood Collection;  
E=Industrialisation/Urbanisation; F=Unsustainable exploitation; G=Others; H=Natural Events

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## GUMTI WILDLIFE SANCTUARY



<b>IBA Site Code</b>	: IN-TR-01
<b>State</b>	: Tripura
<b>District</b>	: Dhalai and South Tripura
<b>Coordinates</b>	: 23° 38' 46" N, 91° 46' 53" E
<b>Ownership</b>	: State
<b>Area</b>	: 38,954 ha
<b>Altitude</b>	: Not available
<b>Rainfall</b>	: >1,600 mm
<b>Temperature</b>	: 7 °C to 35 °C
<b>Biogeographic Zone</b>	: North-East
<b>Habitats</b>	: Reservoir, Tropical Semi-evergreen Forest

**IBA CRITERIA:** A1 (Threatened Species), A4i (> 1% biogeographic population)  
**PROTECTION STATUS:** Wildlife Sanctuary, established in 1988

### GENERAL DESCRIPTION

Tripura is a small state in northeast India, mostly hilly. Gumti is the largest wildlife sanctuary of the state, covering an area of 38,954 ha which includes about 4,200 ha of wetland. The state has three categories of lakes: oxbow lakes, tectonic/landslide lakes, and artificial reservoirs. The oxbow lakes, locally called *beels*, are mostly small and scattered in the plains. The largest artificial lake in the State is the Dumbur lake or Gumti Reservoir, which was formed due to the construction of a hydroelectric dam in 1974 across the Gumti river, near the confluence of the Raima and Sarma rivers. There are about 48 islands in the Reservoir (Choudhury, 2002), many of them are rich in wildlife, including primates (Ranjitsinh, 1989) and birds (A. U. Choudhury, *pers. comm.* 2003)

### AVIFAUNA

Not much information is available on the bird life of Gumti Reservoir. Since its establishment, the Reservoir has started attracting waterfowl. Owing to deforestation in the catchment, about half of the reservoir has silted up, creating shallow zones, which are very attractive for waders and ducks.

The site has more than 51 avian species (Choudhury 2002). According to Choudhury (*pers. comm.* 2003), this site would qualify for A1 and A4 criteria. Lesser Adjutant *Leptoptilos javanicus*, a Vulnerable species, and Darter *Anhinga melanogaster*, a Near Threatened species (BirdLife International 2001), are likely to be present in good numbers.

Vulnerable	
Lesser Adjutant	<i>Leptoptilos javanicus</i>
Near Threatened	
Darter	<i>Anhinga melanogaster</i>

### OTHER KEY FAUNA

The forested part of this Sanctuary, which also serves as the catchment area of the Reservoir and the Gumti river, is rich in non-human primates. The species are: Phayre's Langur or Leaf Monkey *Trachypithecus phayrei*, Capped Langur *Trachypithecus pileatus*, Hoolock Gibbon *Hylobates hoolock*, Pig-tailed Macaque *Macaca nemestrina*, Rhesus Macaque *Macaca mulatta*, Slow Loris *Nycticebus coucang* (Gupta 2001, Ranjitsinh 1989, A. U. Choudhury *pers. comm.* 2003). Leopard *Panthera pardus* is the

largest predator. Barking Deer *Muntiacus muntjak* is known to occur. The Asiatic Elephant *Elephas maximus* is an occasional visitor.

### LAND USE

- ☐ Forestry
- ☐ Fishing
- ☐ Agriculture
- ☐ Power production

### THREATS AND CONSERVATION ISSUES

- ☐ Deforestation of catchment area
- ☐ Poaching
- ☐ Siltation of the wetland

During and after the construction of the hydroelectric dam and creation of a large reservoir, large-scale displacement of local people occurred when their agricultural fields and villages were submerged. The villagers were resettled on the nearby hills, leading to forest clearance and conflict with the local inhabitants. After the discovery of huge reserves of natural gas in Tripura, the importance of Gumti hydroelectric dam as a source of energy has decreased. Another issue is the silting of almost 2,000 ha, mainly due to deforestation in the catchment areas. Due to these various factors, there is a proposal by National Hydro Power Corporation (NHPC) and North Eastern Electric Power Corporation (NEEPCO) (Bhaumik 2003) to de-commission the power plant, dismantle the dam and revert the submerged areas to the villagers. As a consequence this wetland IBA will also disappear.

### KEY CONTRIBUTOR

Anwaruddin Choudhury

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## TRISHNA WILDLIFE SANCTUARY



<b>IBA Site Code</b>	: IN-TR-02
<b>State</b>	: Tripura
<b>District</b>	: South Tripura
<b>Coordinates</b>	: 23° 19' 33" N, 91° 23' 21" E
<b>Ownership</b>	: State
<b>Area</b>	: 19,470 ha
<b>Altitude</b>	: 50-200 m
<b>Rainfall</b>	: 1,600 mm
<b>Temperature</b>	: 7 °C to 35 °C
<b>Biogeographic Zone</b>	: North-East
<b>Habitats</b>	: Tropical Semi-evergreen Forest

**IBA CRITERIA:** Data Deficient  
**PROTECTION STATUS:** Wildlife Sanctuary, established in February 1988

### GENERAL DESCRIPTION

The Trishna Wildlife Sanctuary is under southern Forestry Circle of Tripura in South and West Tripura districts. About half of its boundary is common with Bangladesh. The Sanctuary lies in Belonia, Udaipur and Sonamura in South Tripura district.

Apart from the forest, the Sanctuary has a number of perennial water rivulets, waterbodies and grasslands. The Sanctuary is famous for Gaur *Bos frontalis* locally called as "Gaba" and is home to several species of primates.

Trishna Wildlife Sanctuary was created for the protection of a relatively large population of Gaur that was surviving here, having been hunted out from the surrounding areas. After the establishment of the Sanctuary, poaching incidents have decreased and wildlife is slowly being restored.

Three types of forests are found in the Sanctuary: Tropical Semi-evergreen Forest, Moist Mixed Deciduous Forest and Savanah woodland.

One species of Bamboo *Oxytenanthera nigrociliata* locally known as *Kaillai* is common here, leaves of which are liked by Gaur.

### AVIFAUNA

Practically nothing is known about the bird life of this Data Deficient site. However, judging from the forest cover, the bird life would be quite rich. The Sanctuary is included in the Eastern Himalayas Endemic Bird Area (EBA) (Stattersfield *et al.* 1998). BirdLife International (undated) has identified 21 Restricted Range or endemic birds in this EBA. Many species are likely to occur in Trishna. There are small wetlands that were created as water sources for wildlife and now they attract many species of waterfowl.

As not much is known about bird life of Trishna, this site is considered Data Deficient.

### OTHER KEY FAUNA

Phayre's Langur or Leaf Monkey *Trachypithecus phayrei* is the State Animal of Tripura. It is confined to the three states of the Northeast, but the largest population survives in Tripura in the Trishna Wildlife Sanctuary as one of its strongholds (Gupta 2001).

Binturong *Arctictis binturong*, a highly endangered and rarely encountered carnivore belonging to family Viverridae is found in this IBA. Not much is known about the other fauna of this site.

### LAND USE

- ☐ Forestry
- ☐ Nature conservation

### THREATS AND CONSERVATION ISSUES

- ☐ Poaching
- ☐ Illegal timber cutting
- ☐ Construction of thermal power plant

A 500 MW thermal power plant is likely to be set up at Morakchak near the Trishna Wildlife Sanctuary by the Northeast Electric Power Corporation (NEEPCO). The foundation stone for the Rs. 2500 crore power plant at Morakchak was laid in March 2002. NEEPCO had approached the Oil and Natural Gas Commission (ONGC) for a commitment to provide a steady supply of natural gas for 15 years. A Supreme Court order preventing drilling or construction within or near a protected area, however, disallowed ONGC from committing to such an undertaking. It is reported that NEEPCO has approached foreign agencies for funding. In case this plan is allowed due to its strategic importance to the nation, the environmental impact analysis should be done by an independent agency and its recommendations strictly followed to minimize danger to the Sanctuary.

### KEY CONTRIBUTOR

Anwaruddin Choudhury

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