

NAGALAND



Photo: Arwaruddin Choudhury

Ghosu Bird Sanctuary in Zunheboto district. This was among the pioneering efforts of community conserved areas in Northeast India.

Nagaland (25° 10' - 27° 01' North and 93° 17' - 95° 15' East) is located in the extreme northeast of India and has a geographical area of 16,579,00 ha (0.5% of the India's geographical area). The State consists of a narrow strip of hilly area running from the northeast to the southwest, which is located in the northern extension of the Arakan Yoma ranges of Myanmar. It is bounded on the south by Manipur, by Assam on the west and north, and on the northeast by Arunachal Pradesh. The altitude varies from 194 m to 3,841 m. Saramati, the highest peak is 3,841 m high and Kohima, the capital, is 1,444 m above sea level.

About 90% of the population of Nagaland is tribal. There are many tribes and sub-tribes among the Nagas with their own languages and cultural features. Kohima district is the home of the Angamis, Zeliangs, Rengmas, Kukis, Semas and other minor groups. Mokokchung is the home of Aos, Wokha district of the Semas. The Chang, the Sangtam, the Khemnungan, the Yimchunger and the Phom are found in the Tuensang district. Nagaland is sometimes described as a conglomeration of 'Village Republics'.

The Nagaland State comprises the former Naga Hills district of Assam and the former Tuensang frontier division of the North East Frontier Agency. Nagaland was declared as a State on 1st December 1963.

The climate of Nagaland is tropical 'monsoon' type with a hot wet summer and a cool dry winter (Choudhury 2001). Winter rains are not uncommon. The annual rainfall varies from 1,000 mm in the southwest to 6,000 mm in the north. The temperature generally ranges from less than 0 °C to 35 °C.

The total human population of Nagaland is 2 million which is 0.2 of the country's population (2001 Census). The rural population is 82.3% and 17.7% is urban. The tribal population constitutes 88% of the total population. As per the 2001 Census, the average population density of the State is 120 persons per sq. km. The livestock population of Nagaland is 1.07 million (1992 livestock census).

Vegetation

As per the Forest Survey of India report of 1999, the forest types in the State are Tropical Wet Evergreen, Tropical Moist Deciduous, Montane Wet Temperate, and Subtropical Pine Forests (Ministry of Environment and Forest 1999). The recorded forest area in Nagaland is 8,629,00 ha, which is 52% of the geographical area of the State and 1.1% of India's forest area (Ministry of Environment and Forest 2001). An area of 88.36% of the recorded forest area is under private control and the rest under State Government. Reserved, Protected and unclassified forests constitute 3.6%, 5.9% and 90% of the forest area respectively (Ministry of Environment and Forest 2001).

As per the Forest Survey of India report of 1999, there has been an overall increase of 1,650,00 ha of dense forest because of improvement of 1,475,00 ha of open forest, 400 ha of scrub and 17,500 ha of nonforest, which has been partly offset by degradation of 400 ha of dense forest to open forest.

Tropical Wet Evergreen forest occurs in patches in the lower and middle elevations all over the State, except in the southwest where Tropical Moist Deciduous and Semi-evergreen forests dominate. Many of the river valleys and gorges are covered with Evergreen forest. The Tropical Semi-evergreen forest also occurs in many of the once Evergreen pockets (Choudhury 2001). In the higher hills, especially on the Barails, in Satoi, Mount Japfu and on the slopes of Mount Saramati, Subtropical Broadleaf forest occurs with small areas of Conifers in the eastern parts. Further, higher up on Saramati, Temperate Broadleaf forest is found, while on Mount Saramati, the vegetation is subalpine (Choudhury 2001). There is no large grassland in Nagaland; however, small patches occur in sheltered valleys and along the rivers. In the abandoned *jhum* (shifting cultivation), grasses appear till they are replaced by shrubs and trees.

IBAs AND PROTECTED AREAS

Nagaland has one national park and three wildlife sanctuaries. The total geographical area under the protected area network is 22,643 ha, constituting only 1.37% of the geographical area. Nine IBAs have been recognized in Nagaland, many in reserve and community forests.

Number of IBAs and IBA Criteria

A1= Threatened species; A2 = Restricted Range species; A3= Biome species; A4=Congregatory species

IBAs of Nagaland

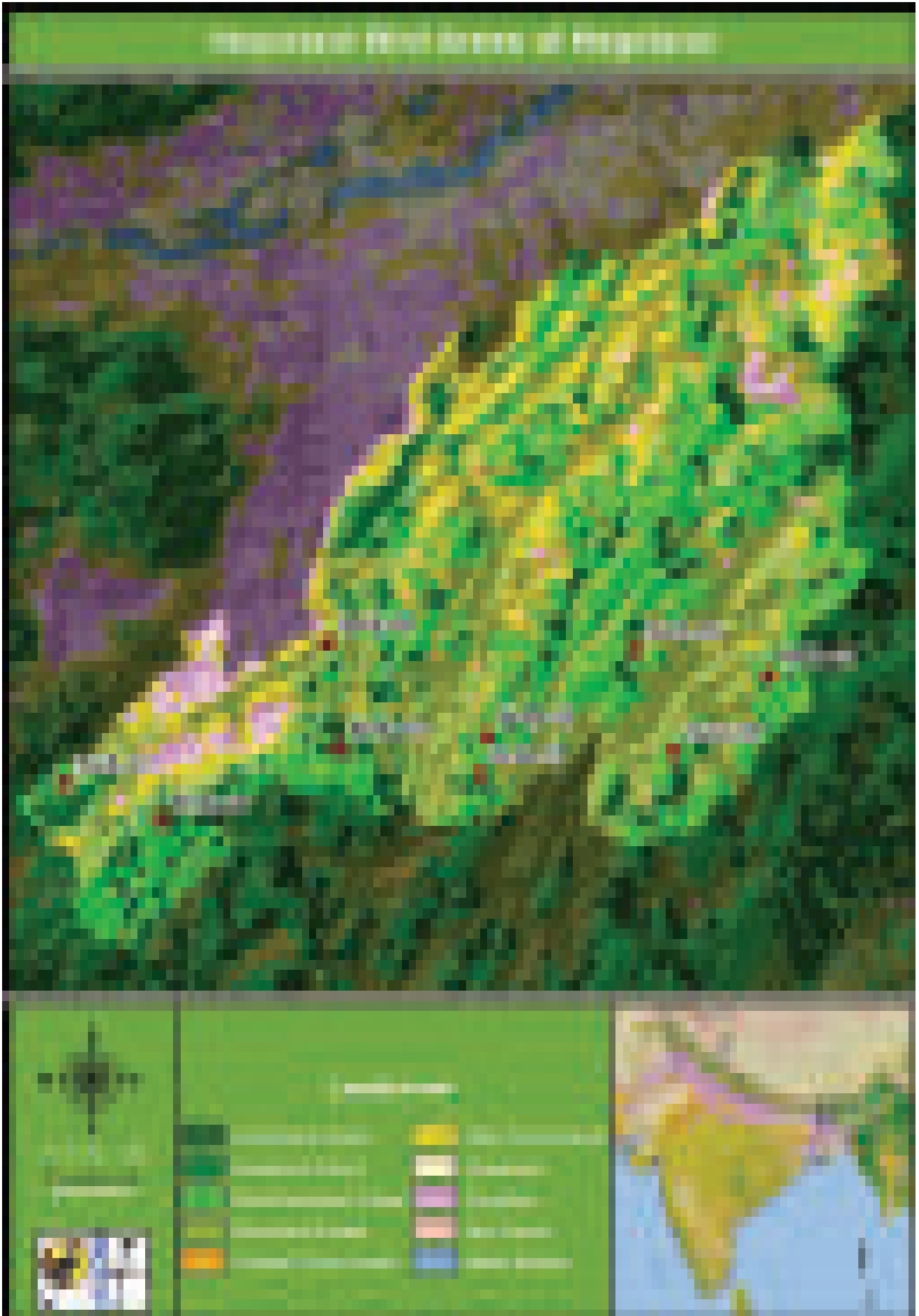
IBA site codes	IBA Site names	IBA criteria
IN-NL-01	Fakim Wildlife Sanctuary and Saramati Area	A1, A2
IN-NL-02	Intanki National Park	A1, A3
IN-NL-03	Khonoma Nature Conservation and Tragopan Sanctuary	A1, A2
IN-NL-04	Mount Paona	A1, A2
IN-NL-05	Mount Zanibu	A1, A2
IN-NL-06	Mount Ziphu	A1, A2
IN-NL-07	Pfutsero-Chizami	A1, A2
IN-NL-08	Puliebadze Wildlife Sanctuary	A1, A2
IN-NL-09	Satoi Range	A1, A2

AVIFAUNA

Nagaland has potential habitats for some of the globally threatened species. An annotated checklist of the birds of Nagaland prepared by Choudhury (2001) records 487 species but more than 500 species are likely to occur in this small state. The first published study on birds of Nagaland is by Godwin-Austen (1872-1878), followed by Coltart (1902), McCann (1931, 1933) and Hutchinson (1946). Koelz (1951, 1952, 1953, 1954) and Ripley (1951, 1952, 1953) simultaneously published their ornithological works on Nagaland. More recently, Choudhury (1996, 1997b, 2001, 2003) has published some interesting records. His annotated list includes nine threatened species, five Near Threatened and eight restricted range species. Of the total of 487 species recorded in Nagaland, 133 have been reported for the first time by Choudhury (2001).

Nagaland is very important for the survival of the Blyth's Tragopan and perhaps also for the Dark-rumped or Khasi Hills Swift.

Among the Near Threatened species, Nagaland still has habitat for the Lesser Grey-headed Fish Eagle *Ichthyophaga humilis*, the Brown Hornbill *Anorrhinus tickelli* (extensively hunted) and the Yellow-rumped Honeyguide *Indicator xanthonotus*.



List of threatened birds with IBA site codes

Endangered		
White-winged Duck	<i>Cairina scutulata</i>	IN-NL-02
Vulnerable		
Blyth's Tragopan	<i>Tragopan blythii</i>	IN-NL-01, 03, 04, 05, 06, 07, 08, 09
Mrs. Hume's Pheasant	<i>Symaticus humiae</i>	IN-NL-01, 05, 06, 07, 09
Wood Snipe	<i>Gallinago nemoricola</i>	IN-NL-06
Purple Wood-Pigeon	<i>Columba punicea</i>	IN-NL-05
Dark-rumped Swift	<i>Apus acuticauda</i>	IN-NL-03, 08
Rufous-necked Hornbill	<i>Aceros nipalensis</i>	IN-NL-01, 02, 04, 05, 06, 09
Near Threatened		
Great Pied Hornbill	<i>Buceros bicornis</i>	IN-NL-02, 04, 05
Brown Hornbill	<i>Anorrhinus tickelli</i>	IN-NL-02, 04

THREATENED SPECIES RECORDED IN NAGALAND

White-bellied Heron *Ardea insignis* **Endangered**

A specimen was collected, perhaps from Dikhou River (Abdulali 1968) but Choudhury (2001) could not find any recent evidence of its occurrence in Nagaland.

White-winged Duck *Cairina scutulata* **Endangered**

Hume and Oates (1889-90) and Hutchinson (1946) have reported it from the Rangapahar Reserve Forest and adjacent lowland forests near Dimapur. Recently, Choudhury (2001) got evidence of its continued existence from the Intanki National Park. It could be surviving in Phek and Tuensang districts also.

Manipur Bush Quail *Perdica manipurensis* **Vulnerable**

Nagaland was included in its distribution but there is no recent record (Choudhury 2001).

Blyth's Tragopan *Tragopan blythii* **Vulnerable**

This state bird of Nagaland, is a bird of higher elevation, usually above 1,800 m. This species qualifies as Vulnerable because its total population is believed to be small and declining, and is scattered in small subpopulations within a severely fragmented range. Widespread high levels of hunting and continuing habitat destruction will inevitably exacerbate this situation (BirdLife International 2001). In Nagaland, it has been reported from the Fakim Wildlife Sanctuary (Zeliang 1980, Choudhury 1997b); Khonoma, Barail Range (Ripley 1952a); Puliebadze Wildlife Sanctuary, (Zeliang 1980, Choudhury 1997b) and Pftusero (Choudhury 1997b). It is still not uncommon in some areas such as Satoi, Mount Japfu, Dzuko Valley, Fakim Sanctuary, Puliebadze Sanctuary, Mount Paona, Noklak and Saramati areas of Tuensang district, and the entire range of the Barails of Kohima district (Choudhury 2001).

Mrs. Hume's Pheasant *Symaticus humiae* **Vulnerable**

Baker (1922-1930) reported it from Nagaland but recently Choudhury (2001) could not find evidence of its occurrence in the Barail Range. The only potential areas are the Phek and Tuensang districts.

Wood Snipe *Gallinago nemoricola* **Vulnerable**

This species has been reported from Mount Ziphu (= Zefu) (Choudhury 2003).

Purple Wood-Pigeon or Pale-capped Pigeon *Columba punicea* **Vulnerable**

Choudhury (2001) could not see any or record any dead bird in the Kohima market where wild meat is still being sold, but recorded earlier by Ripley (1952).

Dark-rumped or Khasi Hills Swift *Apus acuticauda* **Vulnerable**

During a survey sponsored by the IBA, this swift was reported for the first time in Nagaland from the Puliebadze and Khonoma areas (Ahmed *et al.* 2003).

Rufous-necked Hornbill *Aceros nipalensis* **Vulnerable**

Like other hornbill species, this species is also extensively hunted in Nagaland for its casque so it has become extremely rare, if not already extinct in the state. It is surviving in the Barail Range, Saramati - Fakim area and in the southern parts of the Intanki National Park (Choudhury 2001).

Restricted Range species

Nagaland has very important habitats for many restricted range species of Endemic Bird Area of the Eastern Himalayas (EBA 130), which are Subtropical Hill forest, Temperate forest, and Sub-alpine forest. The following species are distributed in the IBAs of Nagaland. 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).

Endemic Bird Area 130: Eastern Himalayas

Blyth's Tragopan	<i>Tragopan blythii</i>	IN-NL-01, 03, 04, 05, 06, 07, 08, 09
Striped Laughingthrush	<i>Garrulax virgatus</i>	IN-NL-08,
Brown-capped Laughingthrush	<i>Garrulax austeni</i>	IN-NL-08,
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>	IN-NL-06, 08
Dark-rumped Swift	<i>Apus acuticauda</i>	IN-NL-03,
Austen's Barwing	<i>Actinodura waldeni</i>	IN-NL-04, 05, 06, 08,
White-naped Yuhina	<i>Yuhina bakeri</i>	IN-NL-03, 04, 05, 06, 07, 08
Beautiful Sibia	<i>Heterophasia pulchella</i>	IN-NL-04, 06, 07,
Grey Sibia	<i>Heterophasia gracilis</i>	IN-NL-01, 02, 03, 04, 05, 06, 07, 08, 09

Biomes

Nagaland shows vegetation, rainfall, habitat and altitudinal variations so it encompasses three biomes. Below c. 1,000 m, Biome-9 (Indo-Chinese Tropical Moist Forest) is found, with its lowland Evergreen Rain Forest, Semi-evergreen Rain Forest and Moist Deciduous Forest. In this biome, BirdLife International (undated) has listed 19 species that are representative. Many are found in Nagaland. Above 1,000 and below 2,000 m, Biome-8 (Sino-Himalayan Subtropical Forest) is found, with its 95 bird species. The Pine forest, Hill Evergreen Forest and Lower Montane Rain Forests are found in this Biome. Biome-7 (Sino-Himalayan Temperate Forest) between 1,800 m and 3,600 m, has Broadleaf Evergreen Forest, Broadleaf Deciduous, Mixed Broadleaf-coniferous and Coniferous Forest and Montane Grassland. This biome has 112 species, many found in Nagaland. A total of 226 species are present in these three biomes, according to the BirdLife International (undated) bird lists of the different biomes of the world. Based on the preliminary lists available to IBCN, till now 114 biome species have been identified in Nagaland. Forty-four out of 112 of Biome-7, 63 out of 95 species of Biome-8, and seven out of 19 species of Biome-9 have been sighted.

THREATS AND CONSERVATION ISSUES

There are many areas in Nagaland which are not yet properly explored for birds and other biodiversity, especially areas which border Myanmar. For example, Fakim-Saramati, within the Saramati Hill range, is a large tract of forest bordering Myanmar. The entire range has not been fully explored yet and it is a likely habitat for many important species of Indo-Malayan origin, including the Sumatran Rhinoceros. The area is not accessible by road, so it is protected naturally.

Many areas are not yet explored because they are not easily accessible and also due to the presence of extremists. For example, Intanki National Park is adjacent to the Dhansiri Reserve Forest in Assam. While Dhansiri has already become an Elephant Reserve, Intanki is still at the proposed stage. There has been some encroachment and illegal logging activity in the Park. Due to the alleged presence of extremists in the Park, the movement of government officials is restricted. There is now an urgent need to collect baseline information in areas such as Satoi, Saramati, Intanki, Fakim and Dzukou Valley (Choudhury 2001). The current status of the globally threatened species such as Manipur Bush Quail, White-bellied Heron, White-winged Duck and Pale-capped Pigeon in Nagaland is not known.

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

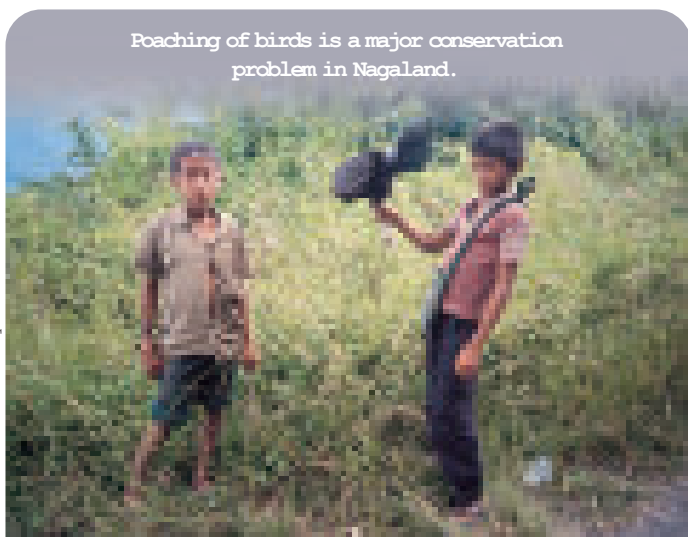
Jhum cultivation, felling of trees and poaching, including trapping of galliformes, are the main conservation issues in most of the IBAs. However, Blyth's Tragopan, the state bird of Nagaland, is not killed deliberately in most cases.

As per the Forest Survey of India report of 1999, there are 1,216 villages in the Nagaland, of which 669 villages have forest as land use. The total forest area in these villages is 0.49 million ha and the population of these villages is 0.53 million. The villages having less than 100 ha, between 100-500 ha and more than 500 ha forest in each village constitute 53 %, 27% and 20% of the total villages, respectively (Ministry of Environment and Forest 1999).

According to Choudhury (2001), the main threats faced by the forest birds are the destruction of forest through the felling of trees and *jhum* cultivation, while all species are threatened by poaching for food and also by local trade. All species are considered edible by the tribal groups and they are regularly shot by guns, snared or killed by slingshot. The commercial sale of birds in the local markets is the most serious threat. However, for small cryptic and nocturnal birds, hunting does not represent a serious threat as the habitat is still intact in many parts of Nagaland.

Poaching of birds is a major conservation problem in Nagaland.

Photo: Anwaruddin Choudhury

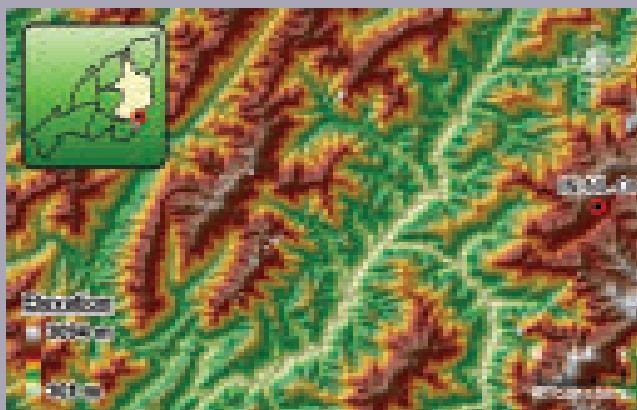


The existing protected area network in Nagaland is inadequate for the long-term protection of all wildlife, including birds. The protected area covers only 1.37% of the geographical area of the State. Moreover, protection measures are not in place. Formation of new and larger protected areas such as Saramati-Fakim (50000 ha), Satoi (10000 ha), Barails (20000 ha) and Mount Ziphu (5000 ha) and adequate protection of the existing areas, and development of community conservation reserves are recommended. For a start, all the IBAs should be given legal protection. Establishment of NGOs such as the People's Group of Nagaland, with emphasis on environmental protection is a positive development. As 93% of the forest belongs to the village council, nothing can be achieved without the cooperation of the villagers. As Christianity is the major religion in Nagaland, Jesuit schools can play a major role in environment education. With 71% literacy, spreading the message of environment protection is not difficult.

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FAKIM WILDLIFE SANCTUARY AND SARAMATI AREA



IBA Site Code	: IN-NL-01
State	: Nagaland
District	: Tuensang (Kiphire)
Coordinates	: 25° 48' 50" N, 94° 57' 21" E
Ownership	: Community and State
Area	: 30,000 ha
Altitude	: 2,000 - 3,842 m
Rainfall	: >2,000 mm
Temperature	: 0 °C to 25 °C
Biogeographic Zone	: North-East
Habitats	: Montane Wet Temperate Forest sub-alpine Surub

IBA CRITERIA: A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)
PROTECTION STATUS: Wildlife Sanctuary, established in 1980

GENERAL DESCRIPTION

The Fakim Wildlife Sanctuary (642 ha) is on the slopes of Saramati Mountain. Fakim-Saramati is c. 30 km from the nearest township Pungro, which lies in Kiphire sub division of Tuensang district. The Sanctuary was constituted for the protection of Blyth's Tragopan *Tragopan blythii*. The topography of the whole Sanctuary is montane, with undisturbed pristine forest. Several nullahs and streams intersect the area. Saramati Mountain is on the Indo-Myanmar international boundary and is an extensive wilderness with excellent subtropical and temperate forest (Choudhury 2002).

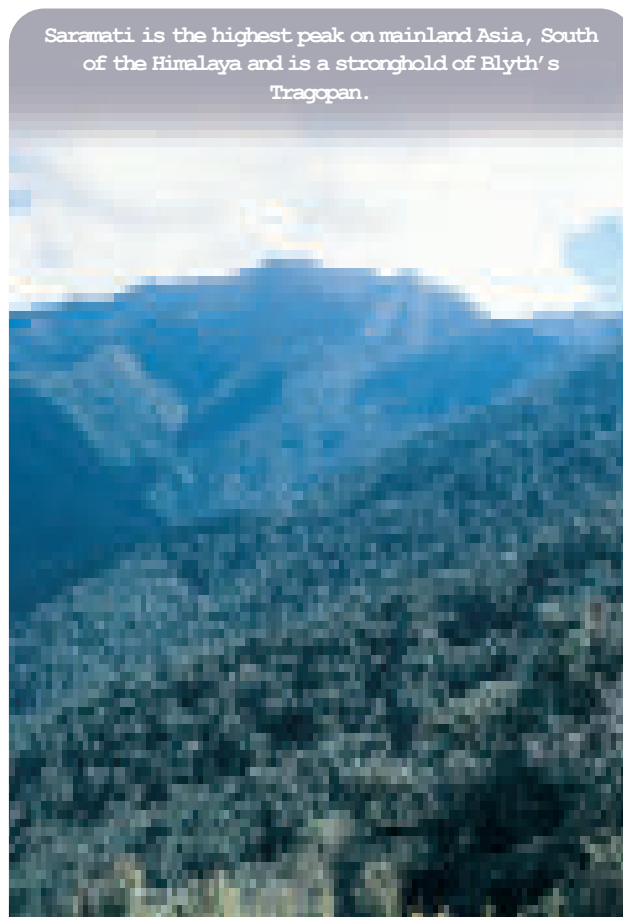
AVIFAUNA

Fakim Wildlife Sanctuary and the Saramati Mountains bear some of the remnant pristine forests of Nagaland. Being remote and inaccessible, these areas have not been explored by many scientists, and very little information is available on the avifauna. This is one of the IBA sites where Mrs. Hume's Pheasant *Syrmaticus humiae* is found in India, probably in low numbers due to dense primary forest (Choudhury 2001, 2002). It is widely distributed in the hills of southern and eastern Nagaland (Choudhury 2002). Blyth's Tragopan is common in this IBA (Choudhury 2001). Rufous-necked Hornbill *Aceros nipalensis*, a globally threatened species considered as Vulnerable by BirdLife International (2001), is also found in small numbers (A. Choudhury pers. comm. 2003).

Fakim-Saramati comes under the Eastern Himalayas Endemic Bird Area. Analysis by BirdLife International has shown that a very high proportion of the world's endemic birds occur in a small proportion of the land area. EBAs are important hotspots for the conservation of bird diversity. Fakim-Saramati and other IBAs in the northeast are such hotspots. Choudhury (2001) has identified 487 species of birds from the whole of Nagaland.

Due to the altitudinal variation from 2,000 m to 3,842 m, Fakim-Saramati falls in two biomes - Biome-7 (Sino-Himalayan Temperate Forest, from c. 1,800-3,600 m) and Biome-8 (Sino-Himalayan Subtropical Forest, 1,000-2,000 m). About 207 species of birds are listed in these biomes. Many of these are listed by Choudhury (2001) in his Nagaland checklist, but we do not know how many occur in Fakim Wildlife Sanctuary and Saramati area. This site has been included as a potential IBA, and further studies on the bird life are required.

Vulnerable	
Blyth's Tragopan	<i>Tragopan blythii</i>
Mrs. Hume's Pheasant	<i>Syrmaticus humiae</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Endemic Bird Area 130: Eastern Himalayas	
Blyth's Tragopan	<i>Tragopan blythii</i>
Grey Sibia	<i>Heterophasia gracilis</i>



Saramati is the highest peak on mainland Asia, South of the Himalaya and is a stronghold of Blyth's Tragopan.

Photo: Anwaruddin Choudhury

OTHER KEY FAUNA

Sumatran Rhinoceros *Dicerorhinus sumatrensis* was recorded in the past (Choudhury 1997). Presently Tiger *Panthera tigris*, Leopard *P. pardus*, Clouded Leopard *Neofelis nebulosa*, Golden Cat *Catopuma temmincki*, are the felines recorded. Primates are represented by the Assamese Macaque *Macaca assamensis*, Rhesus Macaque *Macaca mulatta*, Stump-tailed macaque *Macaca arctoides*, Pig-tailed macaque *Macaca nemestrina*, Capped Langur *Trachypithecus pileata*, Hoolock Gibbon *Hylobates hoolock*, and Slow Loris *Nycticebus coucang*. Wild Dog *Cuon alpinus* and Asiatic Black Bear *Ursus thibetanus* are also reported. Wild Boar *Sus scrofa*, Sambar *Cervus unicolor*, Barking Deer *Muntiacus muntjak*, Gaur *Bos frontalis*, Goral *Nemorhaedus goral* and Serow *Nemorhaedus sumatraensis* are the major ungulates. There are no published record of the reptile and amphibian fauna of this area.

LAND USE

- q Forest
- q *Jhum* cultivation

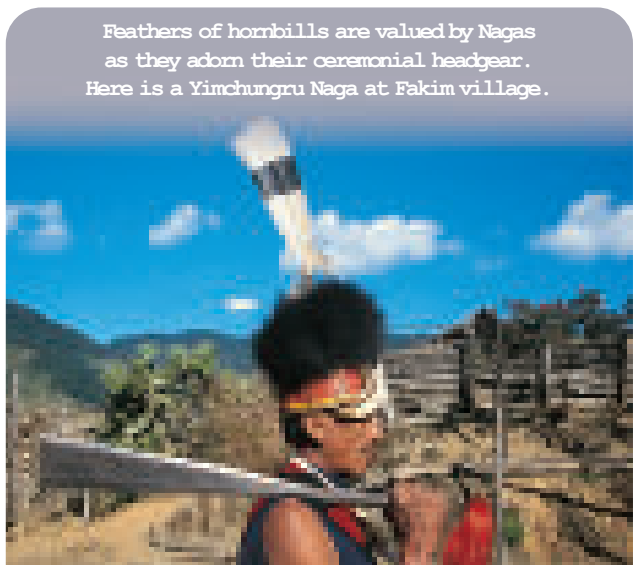
THREATS AND CONSERVATION ISSUES

- q Hunting

Fakim-Saramati, within the Saramati Mountain range, is a large tract of forest bordering Myanmar. The entire range has not been fully explored yet and it is a likely habitat for many important species of Indo-Malayan origin, including the Sumatran Rhino. The area is not accessible by road, so it is protected naturally. Hunting by tribals is the main threat.

KEY CONTRIBUTORS

Anwaruddin Choudhury, Khekiho Shohe and Thomas Kent



Feathers of hornbills are valued by Nagas as they adorn their ceremonial headgear. Here is a Yimchungru Naga at Fakim village.

Photo: Anwaruddin Choudhury

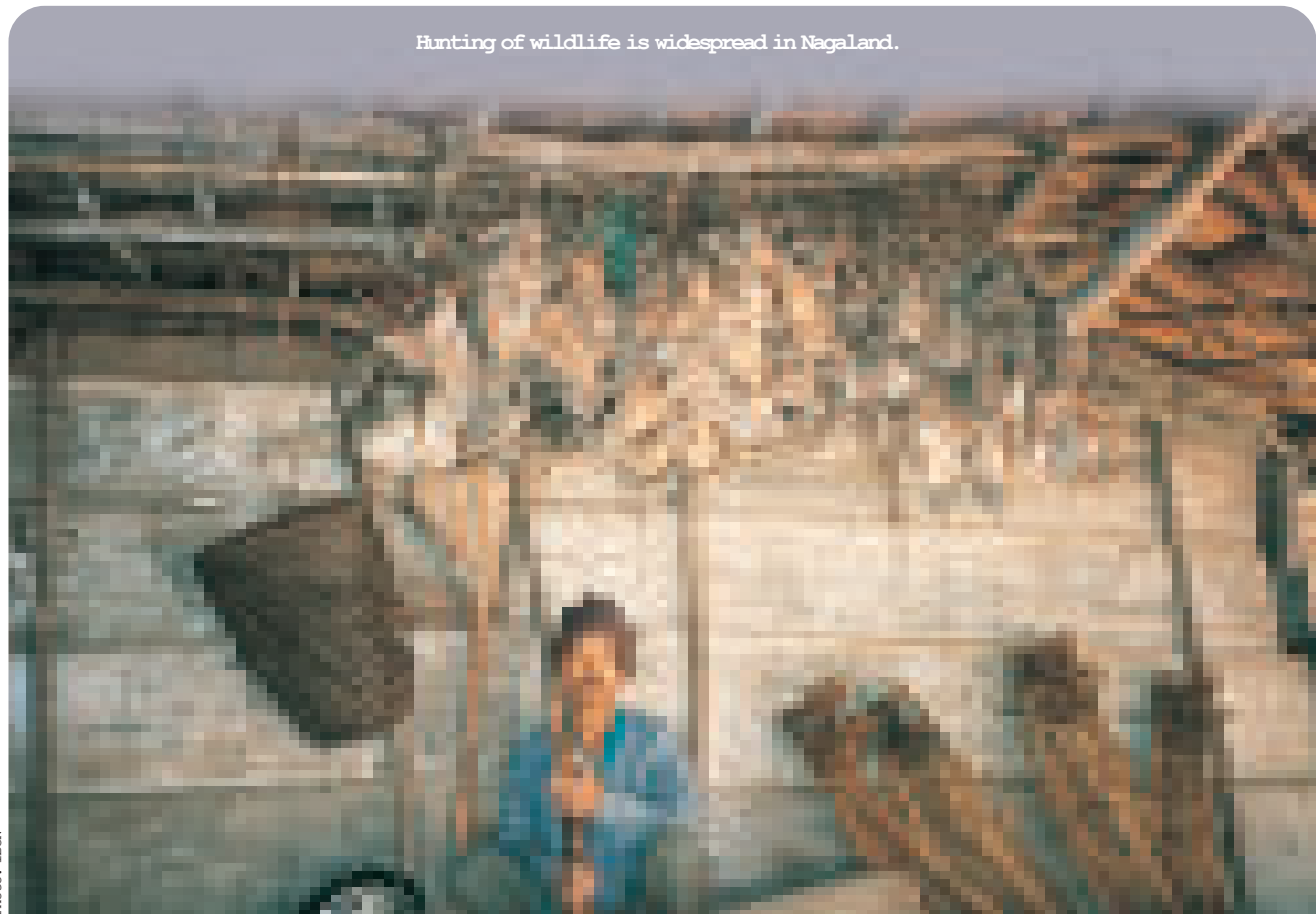
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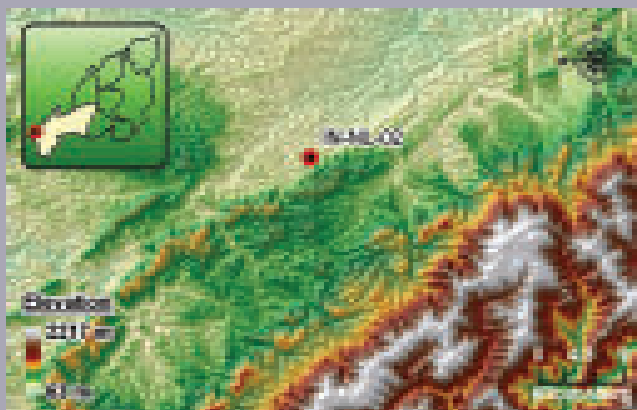
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Hunting of wildlife is widespread in Nagaland.

Photo: IECN

INTANKI NATIONAL PARK



IBA Site Code	: IN-NL-02
State	: Nagaland
Districts	: Peren
Coordinates	: 25° 34' 57" N, 93° 26' 29" E
Ownership	: State
Area	: 20,202 ha
Altitude	: 100 - 1,000 m
Rainfall	: 900 - 1,700 mm
Temperature	: 6 °C to 32 °C
Biogeographic Zone	: North-East
Habitat	: Tropical Semi-evergreen Forest, Tropical Moist Deciduous Forest

IBA CRITERIA: A1 (Threatened Species), A3 (Biome-8: Sino-Himalayan Subtropical Forest; Biome-9: Indo-Chinese Tropical Moist Forest)

PROTECTION STATUS: National Park, established in 1995

GENERAL DESCRIPTION

Intanki was declared as a Reserve Forest in May 7, 1923, and later adjoining forest patches were added in July 18, 1927. However, the first working plan was implemented during 1963-64. Earlier, selective felling was carried out between Monglu and Intanki rivers. But in 1975, when the area was declared a sanctuary, this was stopped. Thereafter, more forest roads, artificial salt licks and camps for protection were created. In 1995, the Government of Nagaland upgraded it to a National Park.

The northern part of Intanki is a low rainfall zone of the northeast. Intanki is contiguous with Dhansiri Reserve Forest of Assam (Karbi Anglong) to the north. The Dhansiri River marks the boundary between these two areas. Many rivers and streams intersect the Park, among them Monglu, Intanki and Duilong are the major tributaries of Dhansiri river. The terrain is undulating and hilly, with bamboo groves. The Range Office is located about 40 km from Dimapur.

The forest is tropical semi-evergreen and tropical moist deciduous type.

AVIFAUNA

Very little is known about the avifauna of the Intanki area, but many biome species were recorded from the adjacent Dhansiri reserve forest (Choudhury 1998). These species are likely to be present in Intanki area also. Among the threatened species, White-winged Duck *Cairina scutulata* is found here. Choudhury (2001) mentions that local hunters claim to have seen it two or three times in jungle pools in 1990-1991. There are past records from Rangapahar Reserve Forest and adjacent lowland forests near Dimapur (Hume 1890, Hutchinson 1946).

The Rufous-necked Hornbill *Aceros nipalensis* is also found, but its population density is unknown (Choudhury 2001). The Oriental Pied Hornbill *Anthracoceros albirostris*, once common all over Nagaland, now survives in protected areas such as Intanki. Similarly, Brown Hornbill *Anorrhinus tickelli*, a Near Threatened species (BirdLife International 2001) also survives in Intanki Sanctuary and Dhansiri Reserve Forest (Choudhury 2001). Perhaps the worst fate is that of the Great Pied Hornbill *Buceros bicornis*. Once not uncommon all over Nagaland, it is now extremely rare, mostly due to persecution for food as well as feathers (primaries and tail), which are in great demand for

use in traditional headdresses. It is locally extinct in most places, and the only notable population is found in Intanki NP (Choudhury 2001).

Intanki lies in the Eastern Himalayas Endemic Bird Area. Among the restricted range species, Grey Sibia *Heterophasia gracilis* is identified but more species are likely to be found.

Intanki is located in Biome-9 (Indo-Chinese Tropical Moist Forest), but some species of Biome-7 (Sino-Himalayan Temperate Forest) and Biome-8 (Sino-Himalayan Subtropical Forest) are also found, especially in winter. For example, Rufous-bellied Niltava *Niltava sundara* of Biome-7 is reported from this IBA (A. U. Choudhury *pers. comm.* 2003).

Endangered	
White-winged Duck	<i>Cairina scutulata</i>
Vulnerable	
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Near Threatened	
Great Pied Hornbill	<i>Buceros bicornis</i>
Brown Hornbill	<i>Anorrhinus tickelli</i>
Endemic Bird Area 130: Eastern Himalayas	
Grey Sibia	<i>Heterophasia gracilis</i>
Biome-8: Sino-Himalayan Subtropical Forest	
Brown Hornbill	<i>Anorrhinus tickelli</i>
Golden-throated Barbet	<i>Megalaima franklinii</i>
Blue-throated Barbet	<i>Megalaima asiatica</i>
Bay Woodpecker	<i>Blythipicus pyrrhotis</i>
White-throated Bulbul	<i>Alophoixus flaveolus</i>
Maroon Oriole	<i>Oriolus traillii</i>
Himalayan Treepie	<i>Dendrocitta formosae</i>
Biome-9: Indo-Chinese Tropical Moist Forest	
Grey Peacock Pheasant	<i>Polyplectron bicalcaratum</i>
Pale-headed Woodpecker	<i>Gecimulus grantia</i>

Intanki is one of the hotspots of bird conservation in northeast India, but detailed work has not been done here, therefore, we

The river Dhansiri debouching on to the plains. The flat plains towards left and the hills seen in the horizon form the Intanki National Park, home of many threatened species.



Photo: Anwaruddin Choudhury

consider it as Data Deficient. Choudhury (2001) has identified 487 species of birds from Nagaland. A bird checklist of Intanki is not available, but many of the species listed by Choudhury are likely to occur, especially those of Biome-8 and Biome-9.

OTHER KEY FAUNA

Intanki NP has almost all the large mammals of Nagaland, such as the Asian Elephant *Elephas maximus*, Tiger *Panthera tigris*, Leopard *P. pardus*, Wild Dog *Cuon alpinus*, Asiatic Black Bear *Ursus thibetanus*, Clouded Leopard *Neofelis nebulosa*, Golden Cat *Catopuma temmincki*, Marbled Cat *Pardofelis marmorata*, Gaur *Bos frontalis*, Wild Boar *Sus scrofa*, Sambar *Cervus unicolor*, Barking Deer *Muntiacus muntjak*, and Serow *Nemorhaedus sumatraensis*. It is very rich in primate species (A. U. Choudhury pers. comm. 2003), namely Assamese Macaque *Macaca assamensis*, Rhesus Macaque *M. mulatta*, Stump-tailed macaque *M. arctoides*, Pig-tailed macaque *M. nemestrina*, Capped Langur *Trachypithecus pileata* and Hoolock Gibbon *Hylobates hoolock*, and the Slow Loris *Nycticebus coucang*.

LAND USE

- q Nature Reserve
- q Agriculture
- q Forestry

THREATS AND CONSERVATION ISSUES

- q Encroachment
- q Poaching
- q Tree Felling

Intanki NP is adjacent to the Dhansiri RF in Assam. While Dhansiri has already become an Elephant Reserve, Intanki is still at the proposed stage. The elephants move between the two forests. There has been some encroachment and illegal logging activity in the Park. Due to the alleged presence of extremists in the Park, movement of government officials is restricted.

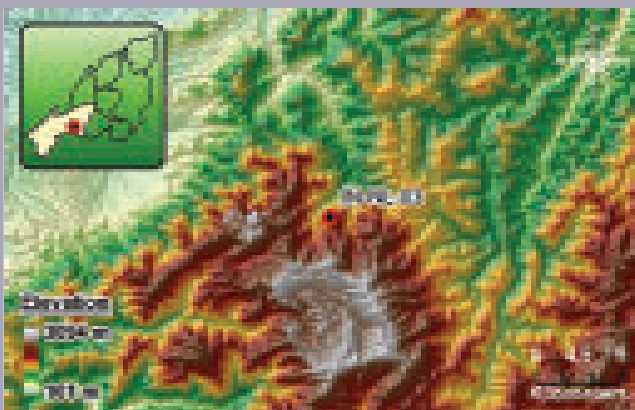
KEY CONTRIBUTOR

Anwaruddin Choudhury

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KHONOMA NATURE CONSERVATION AND TRAGOPAN SANCTUARY



IBA Site Code	: IN-NL-03
State	: Nagaland
District	: Kohima
Coordinates	: 25° 39' 32" N, 94 ° 02' 01" E
Ownership	: Village Community
Area	: 2,500 ha
Altitude	: 1,900-2,750 m
Rainfall	: >2,000mm
Temperature	: 2 °C to 25 °C
Biogeographic Zone	: North-East
Habitats	: Sub Tropical and Temperate Broadleaf Forest

IBA CRITERIA: A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)
PROTECTION STATUS: Community Conservation Area, established in December 1998

GENERAL DESCRIPTION

The Angami tribe of South Nagaland has been traditionally conserving forests even within agricultural areas. In 1989, the Village Council agreed to protect the forest of the Khonoma watershed, an important source of water to the village and its wet paddy cultivation. They constituted an independent body, the Khonoma Nature Conservation and Tragopan Sanctuary (KNCTS) Trust. The Sanctuary is located 16 km south-west of Kohima city, bordering Manipur to the south. There is a self-imposed complete ban on hunting in Khonoma village.

The KNCTS includes part of the Dzukou valley through which Dzukou, a tributary of the river Barak, flows down forming a small valley. A well preserved patch of subtropical broadleaf forest is present in KNCTS. In the higher reaches, temperate broadleaf forest is found, with oak dominant in both the forest types. The temperate broadleaf forest supports good numbers of Blyth's Tragopan *Tragopan blythii*.

During a survey sponsored by the IBA project, Dark-rumped or Khasi Hills Swift *Apus acuticauda* was reported for the first time in Nagaland state (Ahmed *et al.* 2003).

AVIFAUNA

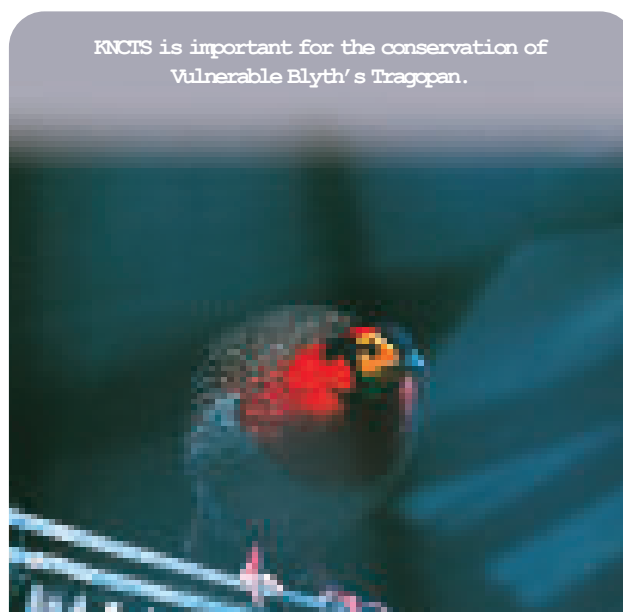
Not much information is available on the avifauna of this IBA, except that a new locality of Dark-rumped or Khasi Hills Swift has been recorded (Ahmed *et al.* 2003). Other species recorded are the Grey Sibia *Heterophasia gracilis*, Rufous-breasted Accentor *Prunella strophciata*, Red-throated Flycatcher *Ficedula parva*, Large Niltava *Niltava grandis*, Golden Babbler *Stachyris chrysaea*, Silver-backed Needletail *Hirundapus cochinchinensis* and Rufous-winged Fulvetta *Alcippe castaniceps*. A good population of Blyth's Tragopan (Choudhury 1997) is also recorded.

This site falls under the Eastern Himalayas Endemic Bird Area (EBA), in which 21 restricted range species are included. Many of these are likely to occur in Khonoma. Choudhury (2001) has seen many restricted range species being sold for meat in the market of the state capital. Khonoma adjoins Kohima town, so it likely that many restricted range species are caught from this site also. Striped Laughingthrush *Garrulax virgatus*, Wedge-billed Wren Babbler *Sphenocichla humei* (Near Threatened), Streak-throated Barwing *Actinodura waldeni*, and White-naped Yuhina *Yuhina bakeri* were among the birds being sold.

Vulnerable	
Blyth's Tragopan	<i>Tragopan blythii</i>
Dark-rumped Swift	<i>Apus acuticauda</i>
Endemic Bird Area 130: Eastern Himalayas	
Blyth's Tragopan	<i>Tragopan blythii</i>
Dark-rumped Swift	<i>Apus acuticauda</i>
Grey Sibia	<i>Heterophasia gracilis</i>
White-naped Yuhina	<i>Yuhina bakeri</i>

OTHER KEY FAUNA

No detailed work has been done on the mammalian fauna, but the following species have been recorded: Clouded leopard *Neofelis nebulosa*, Leopard *Panthera pardus*, Serow *Nemorhaedus sumatraensis*, Barking Deer *Muntiacus muntjak*, Wild Boar *Sus scrofa*, Stump-tailed macaque *Macaca arctoides*, Slow Loris *Nycticebus coucang* and Hoolock Gibbon *Hylobates hoolock* (A. Choudhury *pers. comm.* 2003).

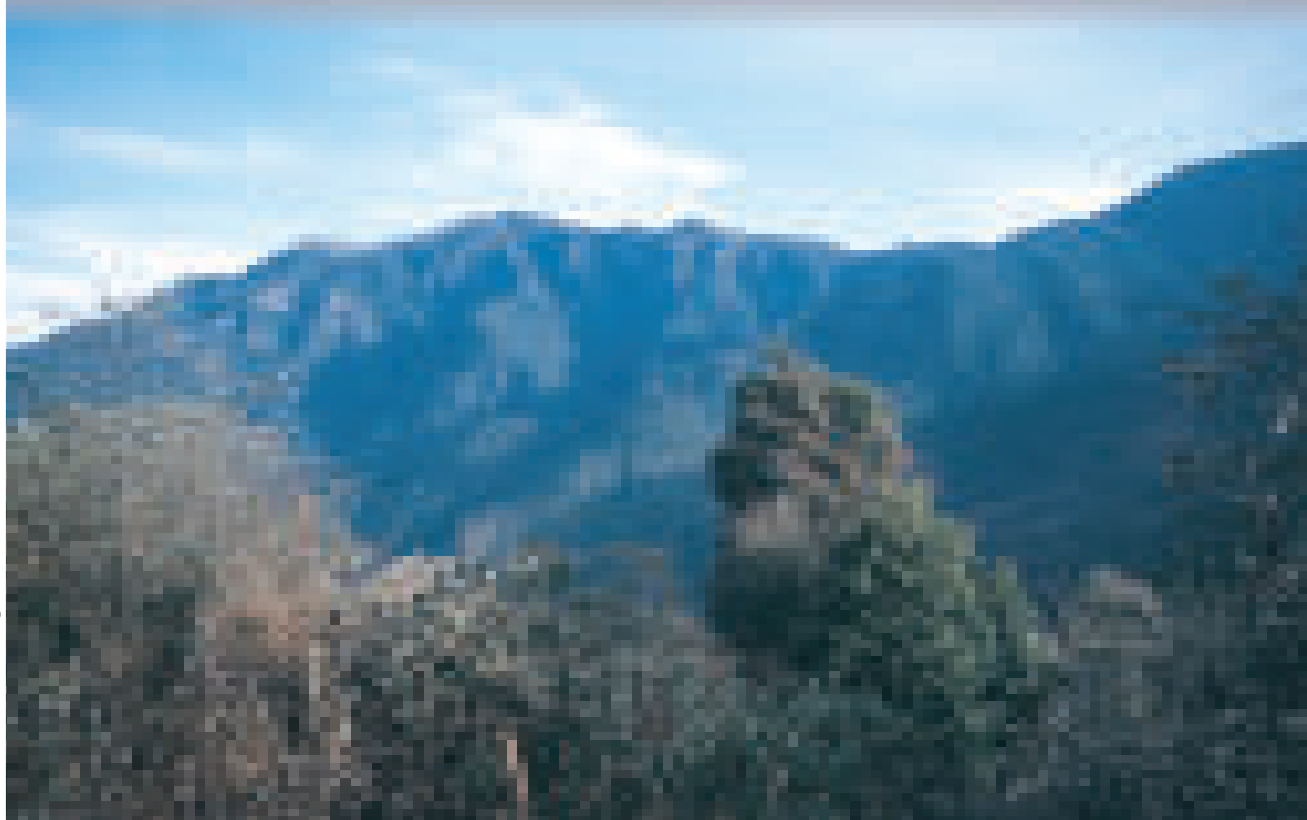


KNCTS is important for the conservation of Vulnerable Blyth's Tragopan.

Photo: Anwaruddin Choudhury

KNCTS is a successful community conservation area where hunting has come down drastically. It contains some fine primary forests of the Barail range.

Photo: Anwaruddin Choudhury



LAND USE

- ☐ Nature conservation
- ☐ Tourism and Recreation

THREATS AND CONSERVATION ISSUES

The KNCTS Trust is one of the pioneering community conservation efforts in northeast India. The Sanctuary covers an important watershed for terrace cultivation and watershed management for the valley of Dimapur. The area of KNCTS was reduced from 7500 ha to 2500 ha, just before its declaration as a Tragopan Sanctuary by the Village Council. They should be encouraged to revert to the earlier status and to restore the area to 7500 ha. The State Forest Department must also play a major role in protecting this area with the help of the villagers.

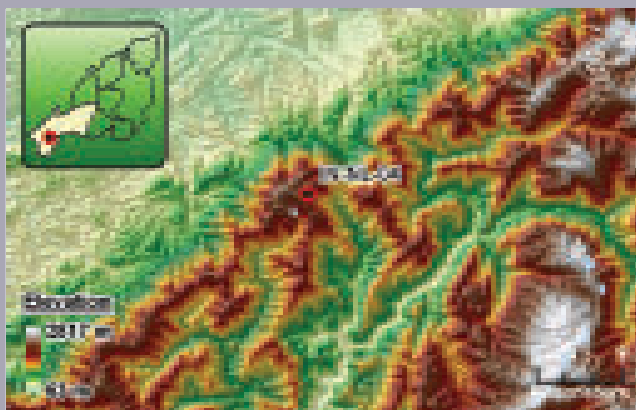
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Tsilie Sakrie, Khrie Kho Tuo, K Shohe, Thomas Kent, M. Firoz Ahmed, Kulojyoti Lahkar and Anwaruddin Choudhury

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MOUNT PAONA



IBA Site Code	: IN-NL-04
State	: Nagaland
District	: Parem
Coordinates	: 25° 30' 00" N, 93° 39' 00" E
Ownership	: Community
Area	: c. 3,000 ha
Altitude	: 1,400 – 2,062 m
Rainfall	: > 1,800 mm
Temperature	: 2 °C to 25 °C
Biogeographic Zone	: North-East
Habitat	: Sub-tropical Broadleaf Forest

IBA CRITERIA:A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

PROTECTION STATUS: Not officially protected

GENERAL DESCRIPTION

Mount Paona is in the Barail Range, a part of the Eastern Himalayas Endemic Bird Area (EBA) in Parem district in southwestern Nagaland. The highest peak in this montane IBA is 2,062 m above msl. The hilltop and adjacent areas have good tree cover. The nearest town is Parem, district headquarter.

AVIFAUNA

This IBA is known for its population of Blyth's Tragopan *Tragopan blythii* (Choudhury 2001). The other globally threatened species recorded is the Rufous-necked Hornbill *Aceros nipalensis*, though it is very rare. Four more hornbill species occur here, including the Near Threatened Great Pied *Buceros bicornis* and Brown *Anorrhinus tickelli*. All hornbills are rare because of hunting for meat and feathers. The latter is in great demand for use in ceremonial headdresses.

Galliformes such as the Kaleej Pheasant *Lophura leucomelanos*, Red Junglefowl *Gallus gallus*, Mountain Bamboo Partridge *Bambusicola fytchii*, Rufous-throated Hill Partridge *Arborophila rufogularis* and Common Hill Partridge *Arborophila torqueola* occur widely.

Vulnerable	
Blyth's Tragopan	<i>Tragopan blythii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Near Threatened	
Great Pied Hornbill	<i>Buceros bicornis</i>
Brown Hornbill	<i>Anorrhinus tickelli</i>
Endemic Bird Area 130: Eastern Himalayas	
Blyth's Tragopan	<i>Tragopan blythii</i>
Austen's Barwing	<i>Actinodura waldeni</i>
Grey Sibia	<i>Heterophasia gracilis</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>

OTHER KEY FAUNA

The Slow Loris *Nycticebus coucang*, Hoolock Gibbon *Hylobates hoolock*, Stump-tailed Macaque *Macaca arctoides*, Barking Deer *Muntiacus muntjak*, Serow *Nemorhaedus sumatraensis*, Leopard

Panthera pardus and Asiatic Black Bear *Ursus thibetanus* are some noteworthy mammals (A. U. Choudhury pers. comm. 2003).

LAND USE

- ☐ Forests
- ☐ Agriculture

THREATS AND CONSERVATION ISSUES

- ☐ Felling of trees
- ☐ *Jhum* cultivation on the slopes
- ☐ Poaching

Jhum cultivation, felling of trees and poaching, including trapping of galliformes are the main conservation issues. However, Blyth's Tragopan, the state bird of Nagaland, is not killed deliberately in most cases.

KEY CONTRIBUTORS

Anwaruddin Choudhury and Khekiho Sohe

KEY REFERENCE

Choudhury, A. U. (2001) Some bird records from Nagaland, north-east India. *Forktail* 17: 91-103.



Photo: Anwaruddin Choudhury

MOUNT ZANIBU



IBA Site Code	: IN-NL-05
State	: Nagaland
District	: Phek
Coordinates	: 25° 40' 60" N, 94° 20' 60" E
Ownership	: Community
Area	: c. 4,000 ha
Altitude	: 1,600 – 2,426 m
Rainfall	: > 2,000 mm
Temperature	: 2 °C to 25 °C
Biogeographic Zone	: North-East
Habitats	: Subtropical Broadleaf Forest, Montane Wet Temperate Forest

IBA CRITERIA: A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

PROTECTION STATUS: Not officially protected

GENERAL DESCRIPTION

Located in Phek district in southern Nagaland, Mount Zanibu IBA is known for its lake, rich forest and for the presence of Blyth's Tragopan *Tragopan blythii* and Rufous-necked Hornbill *Aceros nipalensis*. The lake is known as Dzudu and is surrounded by dense forest (Choudhury 2002a). This IBA is hilly, with Mount Zanibu being the highest point at 2,426 m above msl. The area is covered with primary Subtropical Broadleaf forest, with small areas of Temperate Broadleaf forest on the hill tops.

AVIFAUNA

Besides the Rufous-necked Hornbill and Blyth's Tragopan, Mrs Hume's Pheasant *Syrnaticus humiae* has been reported, especially from the border, which is covered with secondary forest, trees and grass (Choudhury 2002b). There is an old record of another globally threatened species, the Purple Wood or Pale-capped Pigeon *Columba punicea* from near Phek (Ripley 1952), which is not far from this IBA. Except for a brief survey by Choudhury (2002a) there has been no detailed study in the area. The Purple Wood Pigeon has not been re-sighted by any one else recently.

Vulnerable	
Blyth's Tragopan	<i>Tragopan blythii</i>
Mrs Hume's Pheasant	<i>Syrnaticus humiae</i>
Purple Wood-Pigeon	<i>Columba punicea</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Near Threatened	
Great Pied Hornbill	<i>Buceros bicornis</i>
Endemic Bird Area 130: Eastern Himalayas	
Blyth's Tragopan	<i>Tragopan blythii</i>
Grey Sibia	<i>Heterophasia gracilis</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Austen's Barwing	<i>Actinodura waldeni</i>

OTHER KEY FAUNA

Hoolock Gibbon *Hylobates hoolock*, Stump-tailed Macaque *Macaca arctoides*, Asiatic Black Bear *Ursus thibetanus*, Dhole or Wild Dog *Cuon alpinus*, Leopard *Panthera pardus*, Barking Deer *Muntiacus muntjak* and Serow *Nemorhaedus sumatraensis* are the noteworthy mammals (A. U. Choudhury pers. comm. 2003).

LAND USE

- ☐ Agriculture
- ☐ Forestry

THREATS AND CONSERVATION ISSUES

- ☐ Felling of trees
- ☐ *Jhum* cultivation on the slopes
- ☐ Poaching

The major problems in this IBA are tree felling for timber, and *jhum* cultivation. Poaching including trapping of mammals and birds, which are common practices in the IBA, should be stopped with the help of involvement of local people and the Forest Department.

KEY CONTRIBUTORS

Anwaruddin Choudhury, Khekiho Sohe and Thomas Kent

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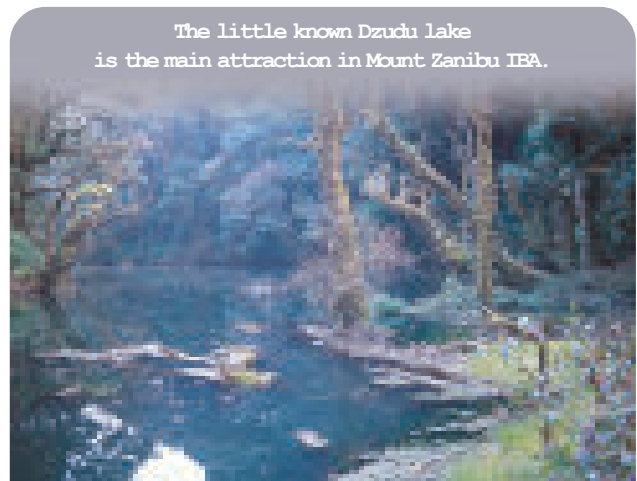
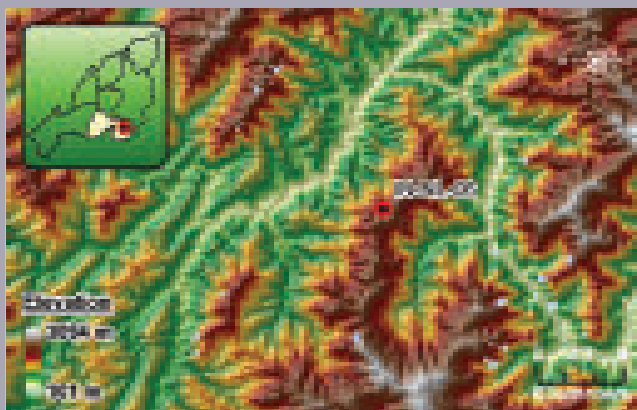


Photo: Anwaruddin Choudhury

MOUNT ZIPHU



IBA Site Code	: IN-NL-06
State	: Nagaland
District	: Phek
Coordinates	: 25° 38' 60" N, 94° 45' 00" E
Ownership	: Community
Area	: c. 5,000 ha
Altitude	: 1,500 – 2,500 m
Rainfall	: > 2,000 mm
Temperature	: 2 °C to 25 °C
Biogeographic Zone	: North-East
Habitat	: Subtropical Broadleaf Forest, Temperate Broadleaf Forest

IBA CRITERIA:A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

PROTECTION STATUS:Not officially protected

GENERAL DESCRIPTION

Mount Ziphu is located in the south-eastern part of Nagaland in Phek district, within the catchment area of the Chindwin river of Myanmar. This IBA is hilly, Mount Ziphu being the highest peak with an elevation of 2500 m above msl. The hilltop and adjacent slopes have some fine stands of primary subtropical and temperate broadleaf forest, with small areas of temperate broadleaf forest on the hilltop.

AVIFAUNA

This IBA was first surveyed in 1950 by S. Dillon Ripley (1952). A number of globally threatened species have been recorded, including the Rufous-necked Hornbill *Aceros nipalensis* and Blyth's Tragopan *Tragopan blythii*. However both the species are rare (A.U. Choudhury *pers. comm.* 2003). Mrs. Hume's Pheasant *Syrnaticus humiae* occurs at the grassy forest edge in secondary forest (Choudhury 2002), while the only record of the rare Wood Snipe *Gallinago nemoricola* in Nagaland was from this IBA (Choudhury 2003). Although Ripley (1952) obtained specimens of many species from Ziphu, he did not mention any of the threatened species.

Vulnerable	
Blyth's Tragopan	<i>Tragopan blythii</i>
Mrs Hume's Pheasant	<i>Syrnaticus humiae</i>
Wood Snipe	<i>Gallinago nemoricola</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Endemic Bird Area 130: Eastern Himalayas	
Blyth's Tragopan	<i>Tragopan blythii</i>
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>
Austen's Barwing	<i>Actinodura waldeni</i>
Grey Sibia	<i>Heterophasia gracilis</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>

OTHER KEY FAUNA

Primates such as the Hoolock Gibbon *Hylobates hoolock* and Stump-tailed Macaque *Macaca arctoides* have become extremely rare, but they still occur. Barking Deer *Muntiacus muntjak*, Serow *Nemorhaedus sumatraensis*, Leopard *Panthera pardus* and Asiatic Black Bear *Ursus thibetanus* are some other noteworthy mammals (A.U.Choudhury *pers. comm.* 2003).

LAND USE

- ☐ Forests
- ☐ Agriculture (*Jhum*)

THREATS AND CONSERVATION ISSUES

- ☐ Felling of trees
- ☐ *Jhum* cultivation on the slopes
- ☐ Poaching

A cement plant is located at Waziho near this IBA. As in any other site in Nagaland, felling of trees, *jhum* cultivation and poaching, including trapping, are the main conservation issues.

KEY CONTRIBUTORS

Anwaruddin Choudhury, Khekiho Sohe, Thomas Kent and Hakim

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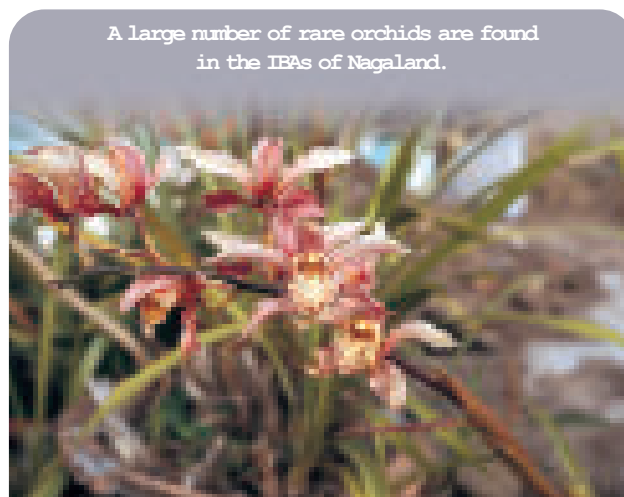


Photo: Anwaruddin Choudhury

PFUTSERO-CHIZAMI



IBA Site Code	: IN-NL-07
State	: Nagaland
District	: Phek
Coordinates	: 25° 36' 00" N, 94° 19' 60" E
Ownership	: Community
Area	: c. 7,000 ha
Altitude	: 1,400 – 2,300 m
Rainfall	: > 2,000 mm
Temperature	: 2 °C to 25 °C
Biogeographic Zone	: North-East
Habitats	: Sub-tropical Broadleaf Hill Forest, Tropical Secondary Scrub

IBA CRITERIA:A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

PROTECTION STATUS: Not officially protected

GENERAL DESCRIPTION

Pftusero-Chizami IBA is located in Phek district in southern Nagaland, bordering Manipur. Ripley (1952) has referred to Pftusero in his paper. Blyth's Tragopan *Tragopan blythii* and Mrs Hume's Pheasant *Syrnaticus humiae* are the main threatened species found in the area. A part of this IBA forms the catchment area of the Chindwin river of Myanmar.

This IBA is hilly with good forest cover, particularly the ridges and tops of the hills. Near Chizami, secondary forest with shrubs, scrub and grass dominates. This is mainly due to anthropogenic factors (A. U. Choudhury *pers. comm.* 2003).

AVIFAUNA

More than 80 bird species have been recorded in the area during brief surveys, but there may actually be more than 200 species. While the subtropical forest near Pftusero is a stronghold of Blyth's Tragopan (Choudhury 2001), the secondary forest near Chizami is known for Mrs Hume's Pheasant (Choudhury 2002a). Besides these two globally threatened species, four restricted range species (including Blyth's Tragopan) have been recorded in the area. There is no recent record of the Rufous-necked Hornbill *Aceros nipalensis*, as all hornbills are under heavy poaching pressure for their meat and feathers. The feathers are in great demand for use in ceremonial headdresses.

Among the so-called game birds, Kaleej Pheasant *Lophura leucomelanos*, Red Junglefowl *Gallus gallus*, Rufous-throated Hill Partridge *Arborophila rufogularis* and Mountain Bamboo Partridge *Bambusicola fytchii* are found.

Vulnerable	
Blyth's Tragopan	<i>Tragopan blythii</i>
Mrs Hume's Pheasant	<i>Syrnaticus humiae</i>
Endemic Bird Areas 130: Eastern Himalayas	
Blyth's Tragopan	<i>Tragopan blythii</i>
Grey Sibia	<i>Heterophasia gracilis</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>

OTHER KEY FAUNA

The Stump-tailed Macaque *Macaca arctoides*, Asiatic Black Bear *Ursus thibetanus*, Dhole *Cuon alpinus*, Leopard *Panthera pardus* Barking Deer *Muntiacus muntjak* and Serow *Nemorhaedus sumatraensis* are noteworthy mammals (A. U. Choudhury *pers. comm.* 2003). There is a recent record of the rare and elusive Spotted Linsang *Prionodon pardicolor* from Chizami, where it is reportedly not uncommon (Choudhury 2002b).

LAND USE

- ☐ Forestry
- ☐ Agriculture

THREATS AND CONSERVATION ISSUES

- ☐ Felling of trees
- ☐ *Jhum* cultivation on the slopes
- ☐ Domestic Firewood
- ☐ Poaching

Felling of trees, *jhum* cultivation, hunting and wildlife trapping are the main conservation issues. In Pftusero township, the highest urban settlement in Nagaland at 2100 m, there is a great demand for wood in winter for domestic fuel. Since the site is a major habitat of Mrs. Hume's Pheasant, a 'community reserve' may be established like that of Khonoma.

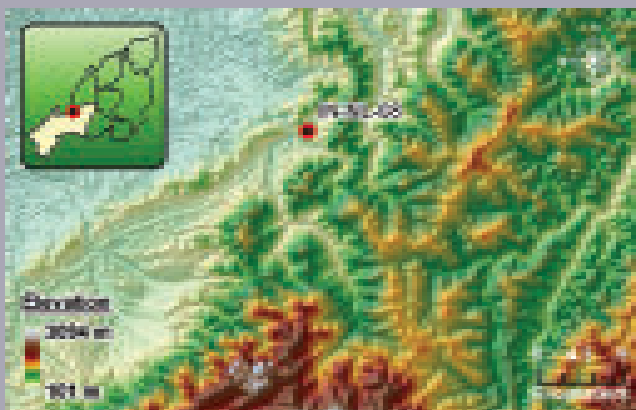
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Anwaruddin Choudhury, Khekiho Sohe, Thomas Kent and Thozhupu Mekrisu

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PULIEBADZE-DZUKOU-JAPFU



IBA Site Code	: IN-NL-08
State	: Nagaland
District	: Kohima
Coordinates	: 25° 52' 55" N, 94° 00' 27"E
Ownership	: State/Community
Area	: 10,923 ha
Altitude	: 1,600 – 3,048 m
Rainfall	: >2,000mm
Temperature	: 0 °C to 25 °C
Biogeographic Zone	: North-East
Habitats	: Sub Tropical Broadleaf Hill and Montane Wet Temperate Forest

IBA CRITERIA: A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

PROTECTION STATUS: Wildlife Sanctuary, established in January 1980

GENERAL DESCRIPTION

Pulie Badze Wildlife Sanctuary (923 ha) is an important catchment area of Kohima town. The high hills of the Sanctuary overlook Kohima. Dzukou valley (10,000 ha) and Japfu peak, two important features in the area are located adjacent to the Sanctuary, and have been included in this IBA. The Japfu (Japvo) peak rises to about 3,048 m and is the second highest peak after the Saramati at 3,826 m. The Khonoma Nature Conservation and Tragopan Sanctuary, another important community protected area (also on IBA), is adjacent to this IBA. All these four sites form a single large continuous area of 20,000 ha or more, and are very important for avifauna conservation in southern Nagaland.

Being close to the state capital, Pulie Badze is witness to extensive anthropogenic pressure in the form of land grabbing, grazing cattle, firewood collection and hunting. Dzukou valley is covered with bamboo and other grass species. The valley harbours many species of flowering plants including the endemic Dzukou Lily *Lilium chitrangadae*. The valley receives a tremendous influx of local tourists during the flowering season. Unfortunately, the valley is a source of conflict for ownership between local tribes and the state governments of Manipur/Nagaland.

The lower reaches of the hills in these environs still hold good subtropical broadleaf forest and a good population of Blyth's Tragopan *Tragopan blythii*. Dark-rumped or Khasi Hills Swift *Apus acuticauda* is an important discovery (Ahmed *et al.* 2003). Khonoma and other areas in this valley are likely to hold some populations of this Swift.

AVIFAUNA

The bird diversity of the area has not been evaluated yet. Pulie Badze Wildlife Sanctuary, Dzukou-Japfu Area, and Khonoma Nature Conservation and Tragopan Sanctuary, share the same habitat and environment, therefore the avifauna is similar (A. U. Choudhury *pers. comm.* 2003).

Blyth's Tragopan, a globally threatened species, is found here (A. U. Choudhury *pers. comm.* 2003), along with the Dark-rumped Swift.

The Eastern Himalayas Endemic Bird Area is one of the major hotspots for bird diversity. In this EBA, 21 restricted range species have been identified, of which 7 have been found at

Pulie Badze and nearby areas. However, once detailed studies are conducted, more restricted range species are likely to be found.

This IBA appears to be important for biome restricted species also. Due to its high altitudinal variation from 1600 m to more than 3,000 m, two biomes occur in this site: Sino-Himalayan Temperate Forest (Biome-7), and Sino-Himalayan Subtropical Forest (Biome-8). About 207 species of birds are listed in these two biomes. Many of these are listed by Choudhury (2001) in his Nagaland checklist, but we do not know how many occur in Pulie Badze WLS, Dzukou and Japfu area.

The Biome species recorded from nearby Khonoma Nature Conservation and Tragopan Sanctuary are: Rufous-breasted Accentor *Prunella strophiata*, Stripe-throated Yuhina *Yuhina gularis*, Rufous-bellied Niltava *Niltava sundara*, Mountain Bamboo Partridge *Bambusicola fytchii*, Blue-throated Barbet *Megalaima asiatica*, Mountain Bulbul *Hypsipetes mccllellandii*, Maroon Oriole *Oriolus traillii*, Small Minivet *Pericrocotus cinnamomeus*, and Fire-tailed Sunbird *Aethopyga ignicauda*.

Vulnerable	
Blyth's Tragopan	<i>Tragopan blythii</i>
Dark-rumped Swift	<i>Apus acuticauda</i>
Endemic Bird Area 130: Eastern Himalayas	
Blyth's Tragopan	<i>Tragopan blythii</i>
Striped Laughingthrush	<i>Garrulax virgatus</i>
Brown-capped Laughingthrush	<i>Garrulax austeni</i>
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>
Austen's Barwing	<i>Actinodura waldeni</i>
Grey Sibia	<i>Heterophasia gracilis</i>
White-naped Yuhina	<i>Yuhina bakeri</i>

OTHER KEY FAUNA

No detailed work has been done on the mammalian fauna but the following have been recorded: Clouded leopard *Neofelis nebulosa*, Leopard *Panthera pardus*, Serow *Nemorhaedus sumatraensis*, Barking Deer *Muntiacus muntjak*, Wild Boar *Sus scrofa*, Stump-tailed macaque *Macaca arctoides*, Slow Loris *Nycticebus coucang*,

The picturesque Dzukou valley is an important birding and trekking destination in Nagaland.

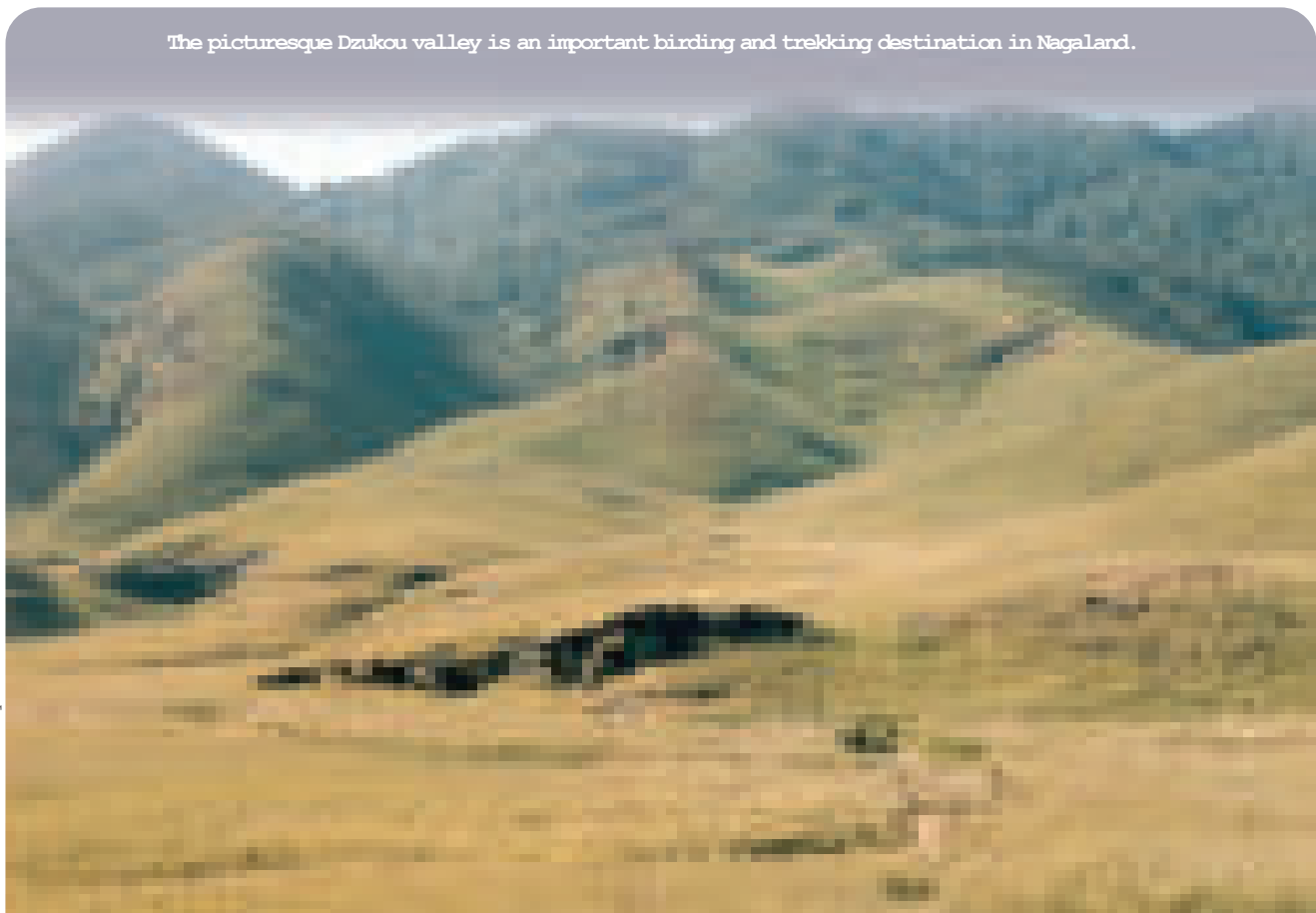


Photo: Anwaruddin Choudhury

and Hoolock Gibbon *Hylobates hoolock* (A. Choudhury pers. comm. 2003). The wild Asian Elephant *Elephas maximus* used to visit Dzukou valley at 2400 m every summer, but now this movement has become occasional (Choudhury 1999).

LAND USE

- ☐ Nature reserve
- ☐ Recreation
- ☐ Forestry

THREATS AND CONSERVATION ISSUES

- ☐ Hunting
- ☐ Unregulated tourism
- ☐ Encroachment

The Pulie Badze WLS adjoins Kohima town and is protected as a catchment area. Conservation of the forest in this hill area ensures sustained water supply to the thickly populated town, which is currently facing a severe water crisis. Moreover, Dzukou Valley is an important tourist spot. The government plans to pump out water for the town, which needs careful examination. The conflict between communities living around Dzukou seems very high and is a delicate issue. The needs and interests of the local communities must be taken into account before implementing development or conservation programmes in the area. It would

be wise to motivate the local community to declare the entire area as a biosphere reserve, which would serve as an important place for bird diversity conservation in southern Nagaland.

Dzukou Valley is visited by a large number of tourists, resulting in the accumulation of huge amounts of non-degradable garbage. Many tourists often collect the endemic Dzukou Lily *Lilium* sp. which is confined to this small valley. They should be strictly prohibited. Like Khonoma, the rest of Dzukou as well as Japfu can also be declared as a 'Community Reserve'.

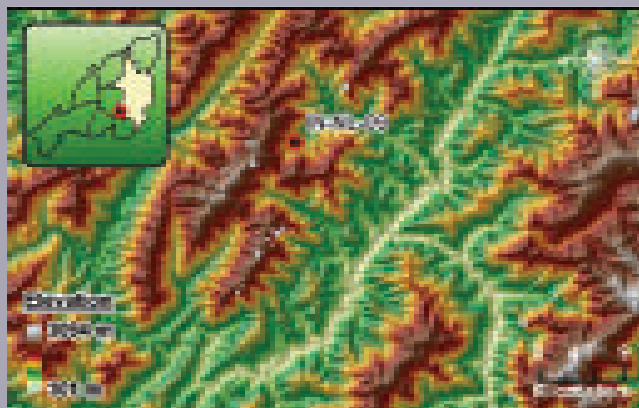
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Khekiho Shohe, Thomas Kent, Kulojyoti Lahkar, Firoz Ahmed and Anwaruddin Choudhury

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SATOI RANGE



IBA Site Code	: IN-NL-09
State	: Nagaland
Districts	: Zunheboto and Phek
Coordinates	: 25° 52' 00" N, 94° 40' 00" E
Ownership	: Community
Area	: c. 5,000 ha
Altitude	: 1,800 – 2,400 m
Rainfall	: >2,000 mm
Temperature	: 2 °C to 30 °C
Biogeographic Zone	: North-East
Habitats	: Montane Wet Temperate Forest, Sub-tropical Broadleaf Hill Forest

IBA CRITERIA: A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

PROTECTION STATUS: Not officially protected

GENERAL DESCRIPTION

Satoi is located the middle of the Naga Hill ranges. It has intact prime forests and deep wooded valleys. This Data Deficient site is perhaps extremely rich in avifauna. It harbours temperate and subtropical broadleaf (evergreen) forests. The temperate forest is found mostly above 2,000 m. So far the only ornithological survey in the area was carried out in June 1996 (Choudhury 1997).

The state bird of Nagaland, Blyth's Tragopan *Tragopan blythii*, occurs here in good numbers, especially above 2,000 m. This species features in tourist brochures, posters, hotel publicity material, and government offices. In Satoi range, it is less persecuted than in other areas, due to which a good population is still found there.

AVIFAUNA

Choudhury (2001) has reported 487 species of birds from Nagaland, including 9 globally threatened, 5 near threatened and 8 restricted range species. Many of these species are likely to occur in Satoi Range.

The most important species, for which this site is designated as an IBA, is Blyth's Tragopan. It is locally known as *Ayigah* by the Sema Nagas and *Mu* by Angami Nagas. According to Choudhury (1997), Satoi is undoubtedly one of the best areas for this species in Nagaland. It usually occurs above 2,000 m in broadleaf forest. Although the tragopan usually occurs above 1800 m, due to disturbance and clearance of forest between 1800 m and 2000 m, it is not seen around these elevations.

Although Mrs. Hume's Pheasant *Syrnaticus humei* could not be recorded during a recent survey (Choudhury 2002), this rare species is likely to be present in the lower slopes.

Satoi Range lies in the Eastern Himalayas Endemic Bird Area (EBA) (Stattersfield *et al.* 1998). Among the six major EBAs of India, this EBA has the maximum number of species (21 compared to 16 in Western Ghats EBA and 11 in Western Himalayas EBA). However, only Grey Sibia *Heterophasia gracilis*, a restricted range species, has been reported from Satoi, mainly because no detailed study on birds has been conducted here. Similarly, this site has two important biomes, with a total of 207 biome species, as listed by BirdLife International (undated), but it is not known how many biome species occur in Satoi. Some other species recorded in the

area are the Black Eagle *Ictinaetus malayensis* and Black-winged Kite *Elanus caeruleus*. Latter was recorded at 2020 m which was the second highest elevation record for the species (Choudhury 1996).

Vulnerable

Blyth's Tragopan	<i>Tragopan blythii</i>
Mrs. Hume's Pheasant?	<i>Syrnaticus humei</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>

Endemic Bird Area 130: Eastern Himalayas

Blyth's Tragopan	<i>Tragopan blythii</i>
Grey Sibia	<i>Heterophasia gracilis</i>

OTHER KEY FAUNA

Despite the hunting pressure, the following species still survive: Asiatic Black Bear *Ursus thibetanus*, Leopard *Panthera pardus*, Serow *Nemorhaedus sumatraensis*, Barking Deer *Muntiacus muntjak*, Stump-tailed Macaque *Macaca arctoides* and Hoolock Gibbon *Hylobates hoolock*.

LAND USE

- ☐ Forestry
- ☐ *Jhumming* in the lower reaches

THREATS AND CONSERVATION ISSUES

- ☐ Poaching
- ☐ Tree felling
- ☐ Building of roads

As the area is not under the control of the State Forest Department, there is no check on felling of trees, which occurs near villages. However, the main threat to the almost intact forests of Satoi comes from building of roads, which will open up vast areas for the timber mafia. Before major harm is done to this biodiversity hotspot, some measure of protection, either through community participation or through the State Forest Department, should be provided.

Detailed investigation of the biodiversity, especially avifauna, should be conducted to assess the true wealth of this site.

Satoi IBA has excellent primary forest harbouring many threatened species.

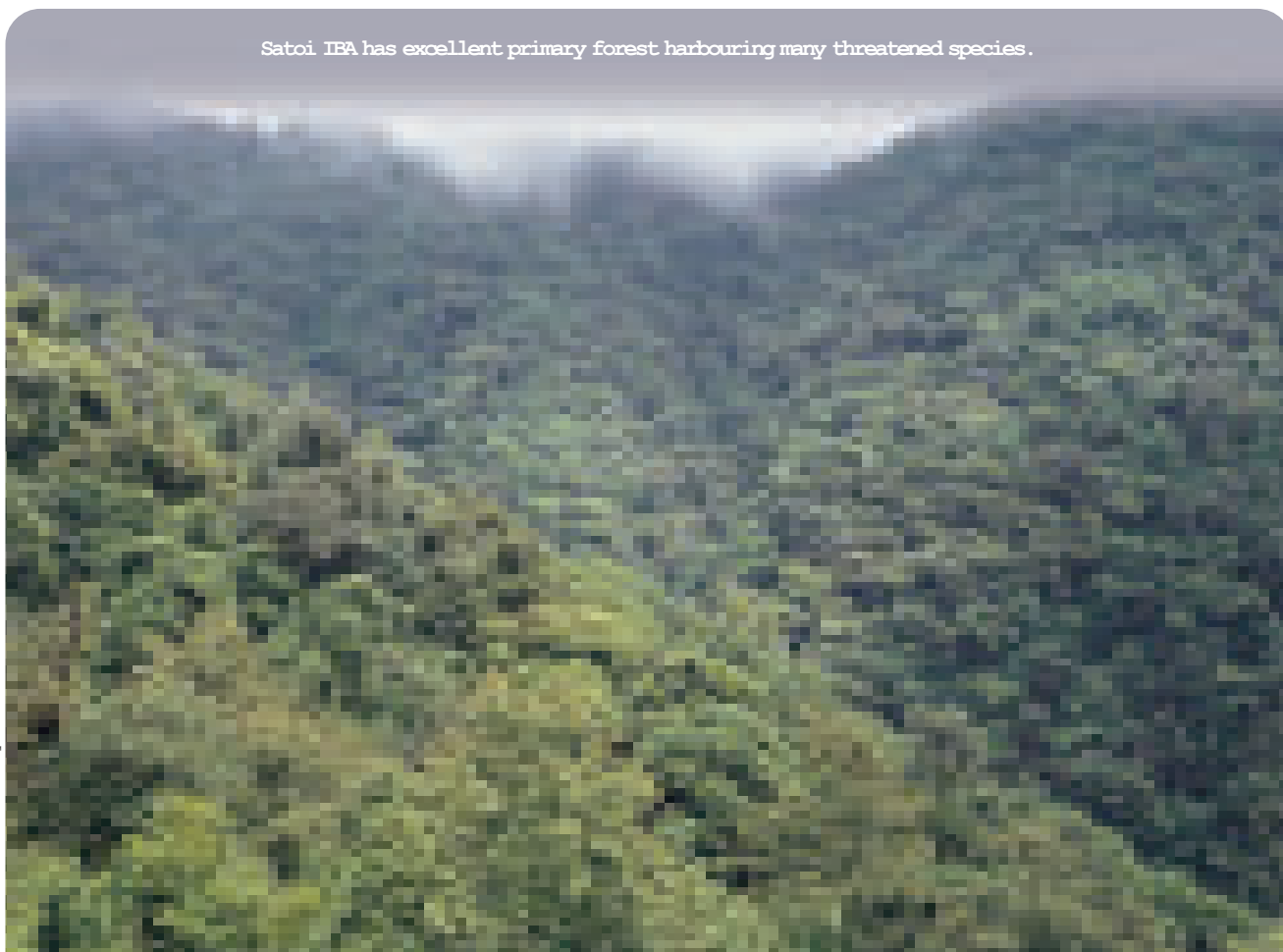


Photo: Anwaruddin Choudhury

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