

“Population Status, Ecology and threats of one of the least known primate species: Bengal Slow Loris (*N. bengalensis*) in the Protected Areas of Assam, India”

Progress Report



Submitted By

Nabajit Das

Primate Research Centre NE India
Guwahati, Assam, INDIA.
Email: nabajit_das@sify.com

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PROJECT BACKGROUND

Slow Loris (*N. bengalensis*) is a small nocturnal solitary primate species previously categorized as Data Deficient in IUCN Red Data Book due to limited information and presently categorized as 'Vulnerable' as per *IUCN SSC/Primate Specialist Group, Asian Primate Red List Workshop Sep. 2006, Cambodia (A2acd+3cd+4acd)*. *N. bengalensis*, the Bengal slow Loris is reportedly distributed throughout NE India, Bangladesh, China and Thailand. Virtually no detail study has been conducted on the status and ecology of this species in India; hence no conservation action plan has been formulated in this region. Preliminary survey has indicated the presence of Slow Loris in the NE States of India. Such studies have also indicated that the existence of the species is seriously threatened by hunting and deforestation. However, no conservation strategy or management plan can be developed in the almost complete absence of specific and detailed information on population, densities and habitat variables of this species in these areas. The proposed project will conceived to fulfill precisely this lacuna. Conservation of a species is only possible with information on its demography, ecology and behaviour; it is therefore essential to obtain such data before embarking on any long-term management strategy for this nocturnal primate species.

But despite being unexplored and unattended, the survival threat of Slow Loris becomes more real in Assam due to present habitat crisis and the hunting. In such scenario a comprehensive study on the population status, feeding ecology and conservation perspectives of Slow Loris is ardently require filling up the gaps of knowledge and formulating the species-specific conservation action plan.

OBJECTIVES:

A) Survey population status:

- I. To know the present distribution and population status as well as demography of Slow Loris in the PAs of Assam.

B) Habitat assessment:

- II. To survey the habitat status of Slow loris in the PAs of Assam.

III. To identify and compare the habitats of the Slow Loris in term of quantitative vegetation structure, density, and species composition.

C) Study general ecology:

IV. To find out food plants used by Slow Loris in different habitat type

V. To obtain home range and habitat utilization pattern of Slow Loris.

D) Threat analysis:

VI. To evaluate the threats from various angle viz., (a) population, (b) demography, (c) quality of habitat, (d) behavioural ecology to prioritize its conservation intervention.

VII. To provide data for the preparation of a Slow Loris Conservation Action Plan and for contributions to protected area management plans.

METHODOLOGY

A) Survey:

Due to some security reasons for field works in night and areas to be covered constrained the use of formal Fixed-point line transects (Burnham et al. 1980) methods as previously proposed for this project. Instead we employed an encounter rate survey, the 'recce' (reconnaissance) survey (Walsh and White, 1999) in conjunction with line transects (Burnham *et al.*, 1980) methods, the Recce-Survey Transects (MIKE, 2006). We considered individuals/km as an index of the relative abundance of slow lorises in the surveyed areas.

B) Habitat assessment:

We used the Strip transects method (Strushsaker, 1975 and Williamson, 1993) during daytime in the loris surveyed area.

C) Study general ecology:

Adopted Scan animal, focal animal and Ad libitum sampling method as per Altmann (1974) for studying the general ecology of Slow loris.

D) Threat analysis:

We are using Questioner method, interviewed the nearer villagers of the study areas for accessing the various ongoing threats for Slow loris.

PROPOSED STUDY SITE:

This project will cover the following 11 Protected Areas of Assam:

1. Kaziranga NP (471.71 km²) Brahmaputra Valley (9A)
2. Manas NP 500 (km²) Brahmaputra Valley (9A)
3. Nameri NP 200 (km²) Brahmaputra Valley (9A)
4. Chakrasila WLS 45.56 (km²) Brahmaputra Valley (9A)
5. Garampani WLS 6.05 (km²) Brahmaputra Valley (9A)
6. Gibbon WLS 20.98 (km²) Brahmaputra Valley (9A)
7. Padumani -Bherjan -Borajan WLS 7.21 (km²) – Brahmaputra Valley (9A)
8. Karbi-Anglong WLS 96.00(km²)
9. Nambar-Doigrung WLS 97.15 (km²)
10. Dhing Patkai WLS 111.00 (km²)
11. Amchang WLS 79.00 (km²)

ACTIVITIES UNDERTAKEN:

During the first five months we surveyed 5 protected areas partially or fully (Manas NP, Chakrasilla WLS, Burachapori WLS, Laokhowa WLS and Gibbon WLS) which fall the probable distribution area of Slow loris in Assam. We include Burachapori WLS and Laokhowa WLS as our survey site instead of Karbi-Anglong WLS, Nambar-Doigrung WLS and Garampani WLS because this three site is heavily disturbed by insurgent outfit organization and permission for Night survey in these areas is on under considerations. We have conducted full survey in Laokhowa WLS, Burachapori WLS and Gibbon WLS during the past months. We are forced to temporarily stopped the survey in Manas NP and Chakrasilla WLS due to heavy pre-monsoon rain in Assam. It was not an easy task specially in night, since the access to the fragments were often difficult due to bad rainy conditions or even to the absence of existing forest trails to get to specific parts of the forests. So we partially surveyed in these protected areas and survey will be start in the remaining site after the monsoon season is over. In addition to forest reserves, we also

surveyed tea estates (in Gibbon WLS), and areas bordering forests and villages (In Manas NP & Chakrasilla WLS). The forest types in the surveyed areas included primarily evergreen, semi-evergreen forests along the upper Brahmaputra River. Moreover, some Tea garden owners did not permit us to survey during night in the adjoining areas of Gibbon WLS.



SLOW LORIS SIGHTINGS

As it is a totally a night survey we are forced to use a 4 X 4 wheel car for dropping the survey team in the survey site due to the threats of Elephants in Manas NP and Gibbon WLS. We covered 83 km during the survey, of which we walked 56 km. About 8% of the distance was along forest edges, in tea estates and areas bordering forests and villages; 92% of the distance covered was in the interior areas of the forests.

We sighted 4 slow lorises in only one protected areas of Assam within the presently surveyed 5 protected areas of Assam (3 fully surveyed sites & 2 partially surveyed site). Local villagers and forest staff concurred that sightings of slow lorises had become very rare in recent years or that the species was no longer in areas that they had previously inhabited.

<i>Surveyed Areas</i>	<i>Night survey done</i>	<i>Slow loris Sightings</i>	<i>Suitable habitat for loris</i>
Manas NP	6 full night & 7 partial survey (due to rain)	Nil	Yes.
Chakrasilla WLS	4 full night & 6 partial survey (due to rain)	Nil	Partially yes.
Laokhowa WLS	7 full night & 3 partial night surveys.	Nil	No. (a partly woodland & grassland area)
Burachapori WLS	5 full night & 3 partial night surveys.	Nil	No. Total grassland area.
Gibbon WLS	7 full night & 3 partial night surveys.	4 individual.	Yes. An ideal habitat for loris.

All sightings occurred in the Gibbon WLS (20 sq km²) on the edge of beat paths or clearings in the forest or in the outer edges, 700 m–2.5 km from the boundary of the forest. In Gibbon WLS 7 primate species are found and we sighted 5 primate species in there (except the assamese macaque and stamp tailed macaque) during the day survey where we have carried out the habitat study of slow loris. We observed all the 4 loris individuals at an average height of 10 m, between 10.30 pm to 2 am. We have a plan to survey the innermost area of this protected area in near future, but the major and most dangerous threats for the survey team in this area is the wild elephant. The elephant almost cover all the area of this protected areas as the area is too small (20 sq km²)

In Manas NP and Chakrasilla WLS we could not carry out complete survey due to heavy pre monsoon rain. We are forced to stop our survey effort in both the sites, as this is a spending of energy and resources. We will start our survey in both this site again from the month of August 2008. We have completed only 25% of the total area of both these sites.

We have completely surveyed the Burachapori and Laokhowa WLS of Sonitpur & Nagaon District. The Laokhowa WLS is partly woodland and partly grassland area, and according to the forest staff there is a sighting record of Slow loris in Laokhowa WLS about 5 years ago. Our survey did not find any sign of presence of slow loris in that area presently. In Burachapori WLS, a completely dry grassland and shrub area, no sign of loris are found till the survey date.

The remaining survey will be done from the month of August 2008. The monsoon season starts in NE India, and it will be very difficult to enter some parts of some protected areas where existing roads are completely blocked by the rainwater. So the next phase (Survey, behaviour and habitat study) of our works will start from the month of August 2008.

PROBLEMS ENCOUNTERED:

1. Due to some technical problem related to money transaction, the project was actually started from mid March 2008 instead of February 2008.
2. Due to heavy pre monsoon rain we aborted the survey in Manas NP and Chakrasilla WLS.
3. Civil administration did not allow us to do any night survey at Garampani WLS and Nambar WLS due to security reasons.

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Appendix-I

Other mammals encountered during the survey

Sighted Mammals	Survey sites
Capped langur <i>Trachypithecus pileatus</i>	Gibbon Wildlife Sanctuary Manas National Park.
Hoolock gibbon <i>Hylobates hoolock</i>	Gibbon Wildlife Sanctuary
Golden Langur <i>Trachypithecus gee</i>	Manas National Park Chakrasilla Wildlife Sanctuary
Rhesus macaque <i>Macaca mulatta</i>	Gibbon Wildlife Sanctuary Manas National Park. Laokhowa Wildlife Sanctuary Burachapori Wildlife Sanctuary
Pig tailed macaque <i>Macaca nemestrina</i>	Gibbon Wildlife Sanctuary
Flying Squirrel (Species not known)	Manas National Park Chakrasilla Wildlife Sanctuary
Small Indian Civet <i>Viverricula indica</i>	Gibbon Wildlife Sanctuary Laokhowa Wildlife Sanctuary Burachapori Wildlife Sanctuary Manas National Park

Large Indian Civet <i>Viverra zibetha</i>	Burachapori Wildlife Sanctuary
Common Palm Civet <i>Paradoxurus hermaphroditus</i>	Gibbon Wildlife Sanctuary Laokhowa Wildlife Sanctuary Burachapori Wildlife Sanctuary Manas National Park
Elephant <i>Elephas maximus</i>	Gibbon Wildlife Sanctuary Manas National Park
Barking Deer <i>Muntiacus muntjak</i>	Gibbon Wildlife Sanctuary Manas National Park
Sambar <i>Cervus unicolor</i>	Manas National Park
Leopard <i>Panthera pardus</i>	Gibbon Wildlife Sanctuary Manas National Park
Leopard Cat <i>Prionailurus bengalensis</i>	Gibbon Wildlife Sanctuary
Jungle Cat (unidentified species)	Burachapori Wildlife Sanctuary
Gaur <i>Bos gaurus</i>	Manas National Park
Wild water buffalo <i>Bubalus bubalis</i>	Manas National Park Burachapori Wildlife Sanctuary
Wild pig <i>Sus scrofa</i>	Manas National Park Burachapori Wildlife Sanctuary Gibbon Wildlife Sanctuary Laokhowa Wildlife Sanctuary
Indian hare <i>Lepus nigricollis</i>	Burachapori Wildlife Sanctuary Laokhowa Wildlife Sanctuary
Indian fox <i>Vulpes bengalensis</i>	Gibbon Wildlife Sanctuary Laokhowa Wildlife Sanctuary Burachapori Wildlife Sanctuary Manas National Park Chakrasilla Wildlife Sanctuary

Appendix-II



Our Survey team in the Field



Vegetation Sampling during Daytime in Survey Site



Slow loris observation at night by Spotlight



Glowing Eyespot of loris detected



More close look



Slow loris in Gibbon WLS



Capped langur at Gibbon WLS



Hoolock gibbon with a baby in Gibbon WLS



Indian Civet at Burachapori WLS



Capped langur at Manas NP



Golden langur at Chakrachilla WLS



Campsite for Loris Survey