

# **Habitat Impact Assessment Report - Four way road extension work at Chinnayampatti RF**

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## INTRODUCTION

The preliminary faunal survey is based on site visits conducted on different dates during the month of July-August 2021 for the purpose of four way road extension work at Chinnayampatty RF, Natham Range. The study site is surrounded by Scrub jungle as a part of Eastern Ghats in the Natham Range. The Chinnayampatty Reserve forest is one of the oldest Reserve forest in Dindigul Forest Division (**G.O.Ms.No.144 dt:11.03.1943**) over all extended area of 252.46 Ha. The majority of the site is dominated by several plant species in this scrub jungle habitat.

### Objectives of the survey

- To provide a description of the current environmental status and Slender loris habitats on the Chinnayampatty Reserve Forest.
- To identify plant species as well as faunal species of conservation importance which could possibly occur on the Chinnayampatty Reserve Forest.
- To determine potential impacts of the Four way road extension work on the immediate environment and associated fauna and flora.
- To provide management recommendations to mitigate negative and enhance positive impacts of the proposed project.

### Scope of study

- Field surveys were conducted in and around the proposed project recording the dominant vegetation as well as sightings and/or evidence of existing fauna.
- An assessment of the ecological habitats, evaluating conservation importance and significance with special emphasis on the current status of Slender loris habitat and associated flora and fauna on the actual site.
- Identification of potential ecological impacts that could occur as a result of the four way road extension work and assess the significance of these, where possible.
- Investigate feasible and practical management recommendations that should be implemented to reduce or minimize the impacts of the project.
- Documentation of the findings of the study.

**Constraints or limitations to the survey included:**

- The majority of species are extremely sensitive and difficult to observe even during intensive field surveys conducted over several seasons as morning to evening and night survey for sighting of Slender loris. The presence of Slender loris and plant species are primarily on the presence of suitable habitat.
- The presence of Slender loris on site is assessed mainly on habitat availability and suitability.

**METHODOLOGY**

A survey of the site and surrounding areas were carried out by two teams of Seed Trust by perambulating the existing tracks and surrounding forest habitat and closer inspection of the actual site. The majority of natural vegetation has already been impacted on or totally transformed, as well as invasion of weedy plant and tree species. The vegetation sampling was carried out in proposed project site and surrounding forest habitat.

The site was visited during daylight hours and night hours on various dates during the month of July-August 2021. Nocturnal surveys were undertaken during same day especially for slender loris. Different habitats were explored to identify any sensitive or specialized species which could possibly occur on the site. Habitats explored included the large mammals like Indian Gaur, and other mammals like Black napped Hare, Wild Boar, etc.,







### VEGETATION AND FAUNAL HABITAT AVAILABILITY

Vegetation of chinnayampatti reserve forest in the study area falls within the Scrub land which covers a relatively large area and also found indirect evidences of Indian Gaur and black napped hare. The landscape forms part of the plateau, having gently slopes and is dominated almost entirely by the large vegetation.

| Sl. No. | Botanical Name                  | Common name       | Tamil Name  | IUCN Status |
|---------|---------------------------------|-------------------|-------------|-------------|
| 1       | <i>Acacia leuchophloea</i>      | Babul Tree        | Velvel      |             |
| 2       | <i>Acacia planifrons</i>        | Umberlla thorn    | Kodaivel    |             |
| 3       | <i>Acrocarpus fraxinifolius</i> | Pink Cedar        | Malaikonnai |             |
| 4       | <i>Aibizia lebbeck</i>          | Siris tree        | Vagai       |             |
| 5       | <i>Albizia amara</i>            | Krishna Siris     | Usil        |             |
| 6       | <i>Albizia odoratissima</i>     | Cylone rosewood   | Kattuvagai  |             |
| 7       | <i>Atalantia monophylla</i>     | Indian Atalantia, | Kurnthu     |             |
| 8       | <i>Azadirachta indica</i>       | Neem Tree         | Vembu       |             |
| 9       | <i>Diospyros ebenum</i>         | Ebony tree        | Karungali   |             |
| 10      | <i>Cassia fistula</i>           | Indian Laburnum   | Sarakonai   |             |
| 11      | <i>Chloroxylon swietenia</i>    | Ceylon Satinwood  | Porasu      | VU          |
| 12      | <i>Pongamia pinnata</i>         | Pongam Tree       | Pungan      |             |
| 13      | <i>Melia azedarach</i>          | Wild Neem         | Malaivembu  |             |
| 14      | <i>Phyllanthus emblica</i>      | Amla              | Nelli       | LC          |
| 15      | <i>Strychnos potatorum</i>      |                   | Thethan     |             |
| 16      | <i>Syzygium cumini</i>          | Jamun tree        | Naval       | LC          |
| 17      | <i>Tamarindus indica</i>        | Tamarind          | Puli        | LC          |
| 18      | <i>Terminalia chebula</i>       |                   | Kadukkai    |             |

|    |                             |                              |                      |
|----|-----------------------------|------------------------------|----------------------|
| 19 | <i>Vitex altissima</i>      | Peacock Chaste Tree          | Myiladi/ Kattu Nochi |
| 20 | <i>Limonia acidissima</i>   | Wood Apple                   | Vila Maram           |
| 21 | <i>Diospyros paniculata</i> | Penciled Ebony               | Karunthuvarai        |
| 22 | <i>Ficus benghalensis</i>   | Banyan                       | Aal                  |
| 23 | <i>Prosopis juliflora</i>   | Bequeite                     | Veli karauvai        |
| 24 | <i>Morinda citrifolia</i>   | Noni                         | Manajanathi          |
| 25 | <i>Borassus flabellifer</i> | Palmyra Palm                 | Panai Maram          |
| 26 | <i>commiphora caudata</i>   | Hill Mango/ green Commiphora | Mul kiluvai          |
|    |                             | Black Thorn                  |                      |
| 27 | <i>Acacia mellifera</i>     | Pala indigo                  | Veppalai             |
| 28 | <i>Wrightia tinctoria</i>   |                              |                      |

### SHRUB SPECIES

|    |                              |                |                |
|----|------------------------------|----------------|----------------|
| 29 | <i>Euphorbia tortilis</i>    |                | Thirugukalli   |
| 30 | <i>Euphorbia tirucalli</i>   | Pencil Tree    | Kodi kalli LC  |
| 31 | <i>Pavetta indica</i>        | Indian pavetta | Pavattai       |
| 32 | <i>Cissus quadrangularis</i> | Veld grape     | Pirandai       |
| 33 | <i>Carissa carandas</i>      | Carandas Plum  | Kilakai        |
| 34 | <i>Manihot esculenta</i>     | Tapioca        | Valli Kizhangu |
| 35 | <i>Dodonaea viscosa</i>      | Hop Bush       | Virali LC      |

### HERB SPECIES

|    |                             |               |                     |
|----|-----------------------------|---------------|---------------------|
| 36 | <i>Euphorbia tortilis</i>   |               | Thirugukalli        |
| 37 | <i>Solanum torvum</i>       | Turkey berry  | Sundaikkai          |
| 38 | <i>Bambusa arundinacea</i>  | Bamboo        | Mungil              |
| 39 | <i>Phyllanthus niruri</i>   | Niruri plant  | Keezhanelli         |
| 40 | <i>Agave Americana</i>      | Agave plantq  | Seeppu kathazhai LC |
| 41 | <i>Euphorbia hirta</i>      | Asthme- Plant | Amman Pacharisi     |
| 42 | <i>Tylophora indica</i>     | Kurinjan      | Kurinjan            |
| 43 | <i>Dracaena trifasciata</i> | Snake Plant   | Marrul              |

### CLIMBERS

|    |                                  |                     |             |
|----|----------------------------------|---------------------|-------------|
| 44 | <i>Abrus precatorius</i>         | Rosary Pea          | Kundumani   |
| 45 | <i>Cardiospermum halicababum</i> | Balloon Vine        | Mudakkathan |
| 46 | <i>Hemidesmus indicus</i>        | Indian sarsaparilla | Nannari     |
| 47 | <i>Pergularia daemia</i>         | Trellis-vine        | Veliparuthi |



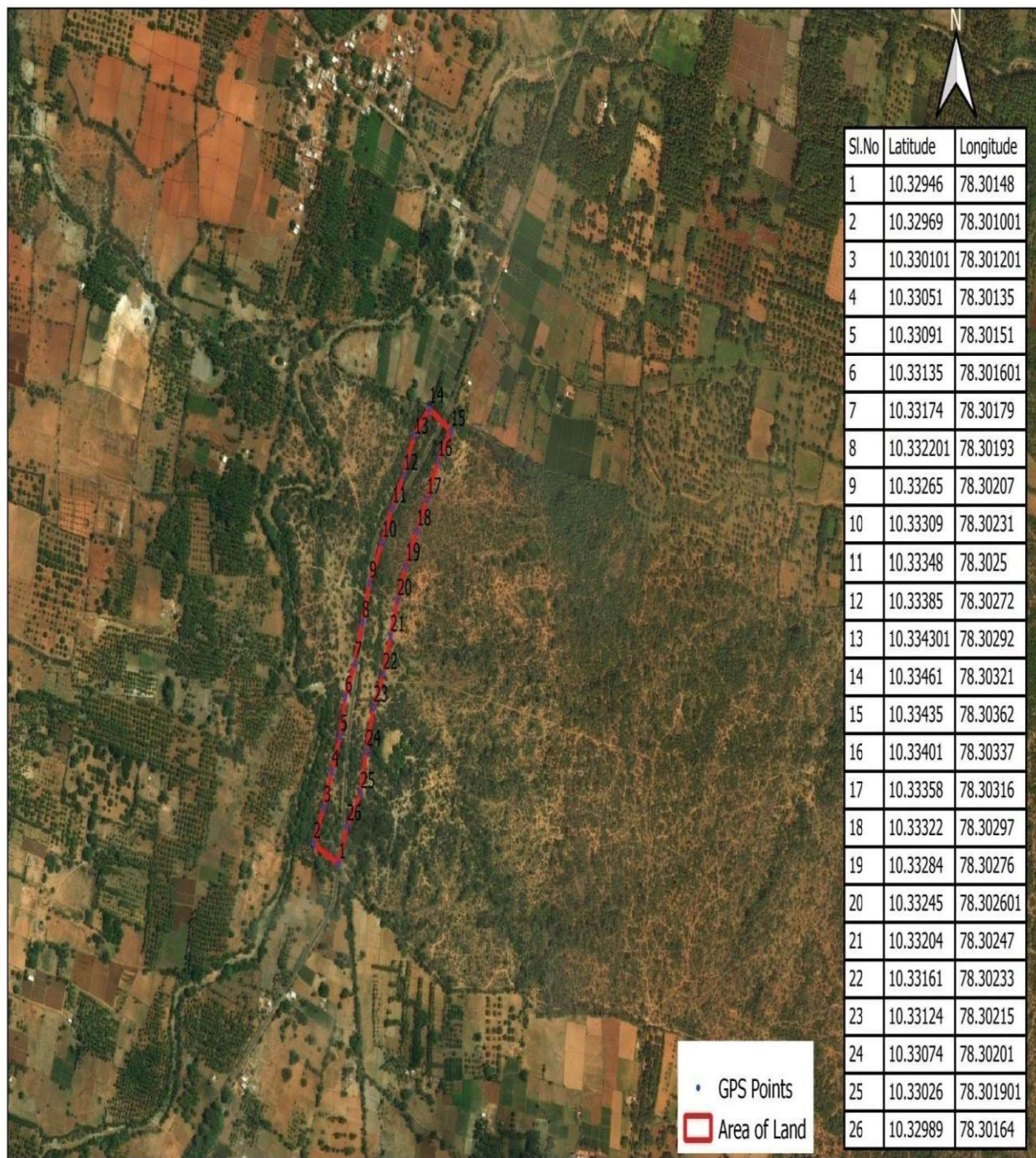


**Table.2. LIST OF FAUNAL SPECIES FOUND IN THIS HABITAT**

| Sl.No | Common name          |  | Scientific Name              |    | IUCN Status |
|-------|----------------------|--|------------------------------|----|-------------|
| 1     | Indian Gaur          |  | <i>Bos gaurus</i>            | VU |             |
| 2     | Indian grey mongoose |  | <i>Herpestes edwardsii</i>   | LC |             |
| 3     | Indian Hare          |  | <i>Lepus nigricollis</i>     | LC |             |
| 4     | Jungle cat           |  | <i>Felis chaus</i>           | LC |             |
| 5     | Spotted Owlet        |  | <i>Athene brama</i>          | LC |             |
| 6     | Shikra               |  | <i>Accipiter badius</i>      | LC |             |
| 7     | Asian koel           |  | <i>Eudynamys scolopaceus</i> | LC |             |
| 8     | Rose ringed Parakeet |  | <i>Psittacula krameri</i>    | LC |             |
| 9     | Common Crow          |  | <i>Corvus splendens</i>      | LC |             |
| 10    | Indian Peafowl       |  | <i>Pavo cristatus</i>        | LC |             |
| 11    | Grey partridge       |  | <i>Perdix perdix</i>         | LC |             |
| 12    | Spotted Dove         |  | <i>Spilopelia chinensis</i>  | LC |             |
| 13    | Cat snake            |  | <i>Boiga trigonata</i>       |    |             |
| 14    | Garden Lizard        |  | <i>Calotes versicolor</i>    |    |             |
| 15    | Gecko                |  | <i>Cnemaspis sp.</i>         |    |             |

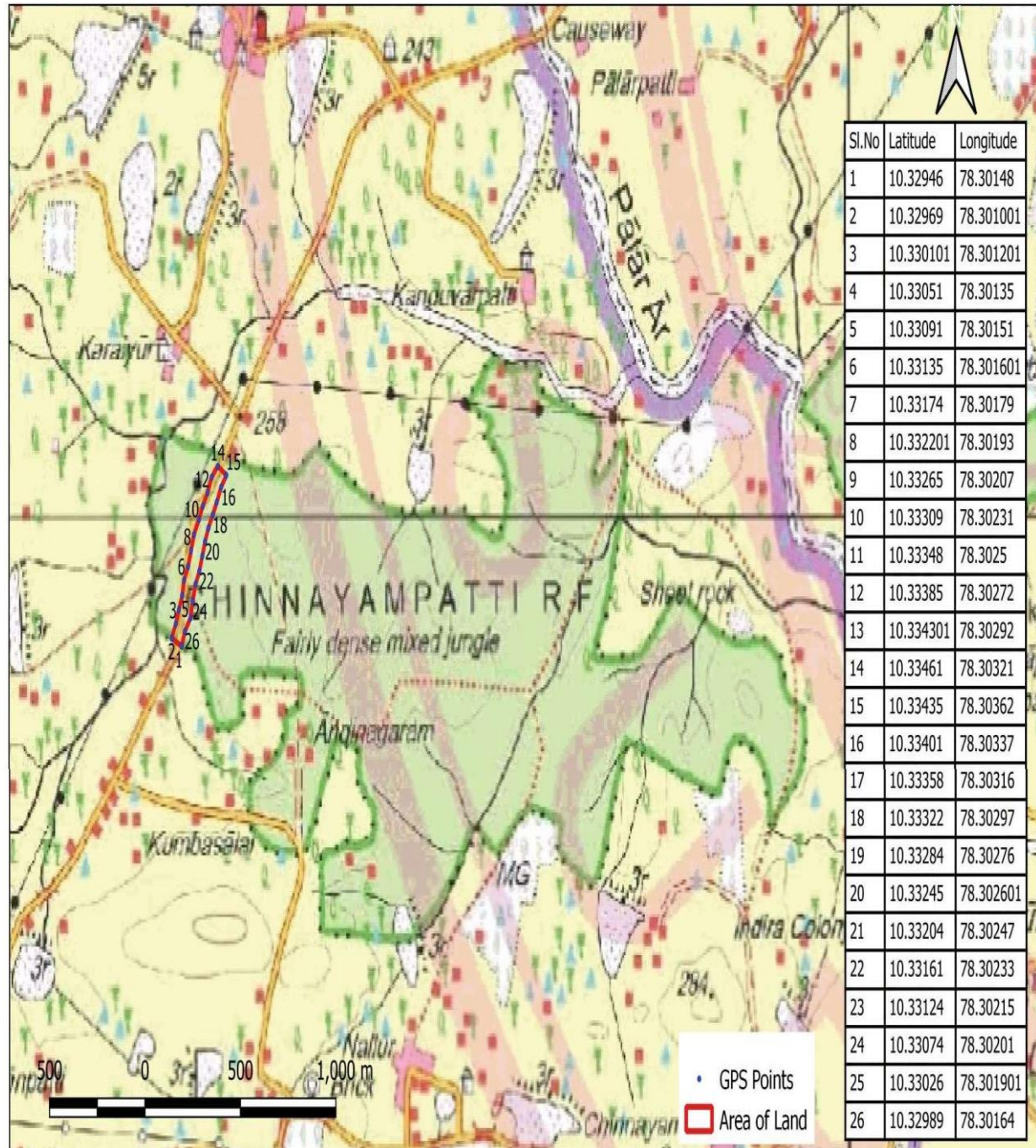


**Map Showing the proposed four way road extension work of land in Chinnayampatti RF, Natham Range, Dindigul Forest Division.**





Map Showing the proposed four way road extension area of land in Chinnayampatti RF, Natham Range, Dindigul Forest Division.



**VEGETATION & LANDSCAPE FEATURES:** Gently to moderately undulating landscape on the scrub jungle supporting short medium-high, dense, dominated almost entirely by *Tamerindus indica* and accompanied by a variety of thorn tree species such as *Acacia leuchophloea*, *Acacia planifrons*, , *Albizia amara*, *Albizia odoratissima*, *Atalantia monophylla* in places not disturbed, only scattered, narrow stream in edge of boundary, occasional ridges or rocky outcrops interrupt the continuous cover. The vegetation on the Chinayampatti RF site has been surrounded by agricultural as well as impacted on by transportation developments. Various other weedy grass species are present and herbs that are especially fire resistant, usually by becoming dormant. These herbaceous plants reported in the working plan of Dindigul forest division. There were many medicinal plants identified during the survey. The remnant forest patch is consisting of faunal composition to the vegetation as well as associated fauna. Illegal dumping wastes and littering occurs throughout the site as well as along several informal access roads.

#### **CONSERVATION STATUS:**

Vegetation structure is generally accepted to be more critical in determining faunal habitat than actual plant composition. Therefore, the description of vegetation presented in this study concentrates on factors relevant to faunal species abundance and distribution, and does not give an exhaustive list of plant species which occur in the study area. Large areas surrounding chinayampatti RF consists of thorn scrub forest. Limited remnant patches of open scrub jungle.

The faunal survey focused on identification of the available and sensitive habitats on the site, within the proposed project site. The survey was supplemented by personal records, habitats as well as the immediate surrounding areas.

#### **FAUNAL SURVEY**

The survey focused on the current status of existing of Slender loris, or likely to occur within the study area, describing the available and sensitive habitats, identifying potential impacts resulting from the development and providing mitigation measures for the identified impacts.

Faunal survey was conducted but it was merely a preliminary habitat assessment. All animals (Mammals, Birds, Reptiles and Amphibians) of direct and indirect sightings were recorded.



## **POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT ACTIVITY ON THE FAUNAL SPECIES**

The proposed four way road work extension will most likely result in less negative impact on the available habitat except for the proposed felling of trees in the site.

In order to minimize the adverse impact of the proposal, adequate mitigation measures like Compensatory planting of tree species, fencing along the proposed site to prevent road accidents by any wildlife, erection of sign boards etc., may be undertaken.

### **Major Findings of the Expert Team:**

SEEDS Trust, Dindigul were informed to study the presence of Slender loris and other endangered species during the month of July – August 2021. It is reported by the SEEDS Trust that there is no direct or indirect sighting of Slender loris or any other endangered species in the vicinity i.e., around 1 Km radius of the proposed site in Chinnayampatty Reserve Forest but there are direct and indirect sightings of mammals like Black napped Hare, Wild Boar, etc., The scrub jungle which form the majority of the proposed development area are dominated by *Tamerindus indica* and accompanied by a variety of thorn tree species such as *Acacia leuchophloea*, *Acacia planifrons*, , *Albizia amara*, *Albizia odoratissima*, *Atalantia monophylla*, etc.

### **Mitigation and Recommendations**

1. During the execution the workers must be limited to areas under construction and access to the undeveloped areas must be strictly regulated.
2. The entire site should be fenced or barrier to prior construction activities.
3. All temporary supply areas, litter and dumped material and rubble must be removed on completion of construction.
4. All alien invasive plant and tree species should be removed from the site to prevent further invasion.
5. Vegetation clearance should be restricted to the areas under construction allowing remaining animals opportunity to move away from the disturbance.
6. No animals should be intentionally killed or destroyed and poaching and hunting should not be permitted on the site.
7. Speed controller must be provided in the both edges of starting and ending of the reserve forest.
8. Sign boards must be erected for wildlife prone zone in both edges of reserve forest.
9. Animal crossing zone must be protected by barriers or fencing in this areas.

### **CONCLUSION AND RECOMMENDATIONS**





It is concluded that Slender loris in the proposed site of Chinnayampatti RF of Natham Range of Dindigul Forest Division might have migrated to adjoining areas due to scarcity of food and other disturbances. In order to improve the habitat of Slender loris the below mentioned mitigation measures shall be undertaken:

**Precautions to be considered :**

During construction activities, wherever possible, work should be restricted to one area at a time. This will give smaller birds, mammals, reptiles and amphibians an opportunity to move into undisturbed areas close to their natural habitat.

**Mitigation Measures :**

In view of above, the project executing authority may be requested to provide necessary following mitigation measures such as:-

- i. Fodder species planting for supporting the habitat of Slender loris.
- ii. Compensatory planting shall be carried out in and around the proposed site preferably with local native species.
- iii. Providing fencing on either side of NH boundary with a minimum length of 1.00 Km in each side by covering the reserve forest land to be diverted from Chain age 50+691 to 51+309 (618m length).
- iv. Necessary Speed Controlling measures to be implemented.
- v. Necessary sign boards to be erected.
- vi. Information boards, such as "No sound Horn please" etc., to be erected.

With above mitigation measures, the proposal of diversion of 3.708 ha for four way road extension work at Chinnayampatti RF of Natham Range of Dindigul Forest Division is recommended.

