

Site Inspection Report of Divisional Forest Officer, Munnar

A proposal has been received in this office for Rehabilitation and upgradation of NH 85 from 119/017 to 161/300 (Design Chainage Km 119/017 to 160/800) Bodimettu to Munnar. The Asst. Executive Engineer NH Sub Division, Devikulam (User Agency) which requires diversion of 1.495 Ha of Forest land under FCA, 1980 for non-forestry purpose.

I have inspected the proposed diversion area from Signal Point near social forestry buildings to the Erachilpara (length - 1740 m) under Devikulam Fuel Reserve and near Gap Road (50 m) in Devikulam Forest range under KDH Reserve under Section 4 Notification of KFA.

In the Devikulam Fuel Reserve area, in total 1507 trees are to be felled, in which Eucalyptus Sp is 696, Melicope lunu-ankenda is 278, Alnus nepalensis is 36, and various other trees are present. And various shola trees (250 around) are also present in the proposed diversion area. The area even though doesn't have any rare/endangered/unique species of Flora and Fauna. These stretches are important elephant movement routes with elephants frequently crossing near more than 10 points. On seeing the upgradation of NH works in the nearby chainages, it is understood that steep slopes might be formed in these area. Based on this following measures seems necessary:

- I) To enable Elephants and other major fauna cross the road, various sign boards are to be kept in the entire stretch (Atleast 10 in no along each side).
- II) Minimum of 10 Ramps with slope not more than 30 degrees shall be made on either side as per the directions of the DFO/ACF/RFO along the strategic and crucial points in the site.
- III) Side railings/side walls, if any, should not be continuous, and should be with gaps of as per the site specific directions of the DFO/ACF/RFO, so as to enable crossing of animals.
- IV) Mid road barriers shall not be built in this stretch so that animal crossing is facilitated.
- V) To facilitate small animals to cross the road and to reduce road kills, atleast 20 horizontal tree ladders are to be provided at desirable height.
- VI) The approach road to the camp office of ACF, Munnar, Devikulam Range office and also Aruvikkad Section Office will be rendered unusable after the cutting of NH road, hence User agency should ensure a newly paved approach shall be made available for these offices.
- VII) The paved shoulders shall not be abruptly ended in a steep wall, rather the paved shoulders should be sloped on either sides.

In the KDH Proposed area, in total 246 trees are to be felled in a stretch of 50 m for widening the NH at Gap. This forms an important habitat connectivity point, ie an important wildlife corridor for animals to move from the gap ridge in the East East North to the chokramudi ridge in West West South directions. The species of trees are mostly Shola trees with Eucalyptus (39 in number). Nilgiri Tahr (Nilgiritragus hylocrius) is an endangered Species native to the Western Ghats and in critical need for connecting habitat needs to utilise this animal corridor area. Also Bison

movement, rarely elephant movement is seen in this area. It is understood that the widening of the road will lead to steep slopes in both the Gap ridge and Chokramudi Ridge sides of the road for atleast more than 200m on either side. So the following measures in this area seems necessary:

I) An Eco-Overbridge, over the widened NH, with stability to support movement of Nilgiri Tahr, Indian Bison, and Elephant, shall be done ensuring the quality of the overbridge and other National Highway rules.

II) Ramps shall be made as per direction of DFO/ACF/RFO on either side to facilitate smooth movement of animals.

III) Mid road barriers shall be not be built in this stretch so that animal crossing is facilitated.

IV) Side railings/side walls, if any, should not be continuous, and should be with gaps of as per the site specific directions of the DFO/ACF/RFO, so as to enable crossing of animals.

V) The paved shoulders shall not be abruptly ended in a steep wall, rather the paved shoulders should be sloped on either sides so that animals are able to climb through this patch to the ridges.

Apart from these areas which are under Reserved Forest Status, the NH widening is taking place from Munnar to Bodimettu, for a 42.5 Km Stretch which has the land status of Cardamom Hill Reserve, KDH Village Revenue land and Chinnakanal Unreserved land (Revenue). Since the entire Munnar Landscape is an Elephant Habitat Area and Cardamom Hill Reserve have many important corridor areas for Elephant Movement, the following measures are necessary for the rest of the area.

I) Ramps on the either side of the road to facilitate Elephants and other animals to climb up and climb down the steep areas on either side of the road.

II) In as many areas as possible, Side railings/side walls, if any, should not be continuous, and should be with gaps of as per the site specific directions of the DFO/ACF/RFO, so as to enable crossing of animals.

III) To facilitate small animals to cross the road and to reduce road kills, atleast 50 horizontal tree ladders are to be provided at desirable height and also few underground passageways to be constructed wherever possible.

IV) At various corridor locations as per site specific directions of DFO/ACF/RFO, Paved Shoulders should not end in abrupt steep slopes, it should be sloped.

Other Conditions:

I) Throughout the entire 42.5 Km stretch various signboards to be erected to create Awareness on Road kills, No Waste Disposal, No Feeding of Animals, and to reduce speed of the vehicles in corridor areas.

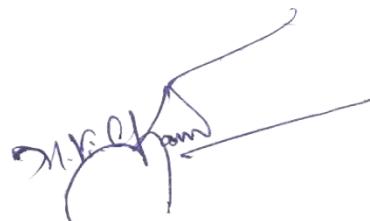
II) To Ensure stability of the Gap Ridge area and the forest areas above the gap road and other parts, suitable geo-textiles to be used, to avoid further landslides in the area.

III) While a equal area of Degraded Forest Area has been identified in the nearby division for Compensatory afforestation, the cost for CA in degraded area is to be provided by the user agency for raising the trees lost. Also equal amount of

Non-forest land (1.495 Ha) shall be provided for future CA to compensate for the land lost.

IV) The entire area is prone to human-animal conflict and as the project might increase the conflict as the traffic increases in the road, the Department would require further infrastructure to handle them. So it is required that a vehicle with 4x4 drive, Tata Hexa Safari edition, Tata Harrier 2020 or Mahindra XUV500 W8 shall be provided to the FDA.

Hence fulfilling all the above directions for mitigation of the impact of the Road expansion on the forest and ecosystems therein, it is recommended for clearance of the road upgradation in the Munnar-Bodimettu Stretch of NH 85.

A handwritten signature in blue ink, appearing to read 'Kannan M.V.G IFS'. The signature is somewhat stylized and cursive.

Kannan M.V.G IFS,
Divisional Forest Officer,
Munnar Division.