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Smt Jayanthi Natarajan,  
Minister of State for Environment & Forests (Independent Charge)  
Chairperson, Standing Committee of the National Board for Wildlife  
Ministry of Environment and Forests, Government of India  
Paryavaran Bhavan, CGO Complex, Lodi Road,  
New Delhi 110 003.

**23 June 2012**

Dear Mrs Natarajan,

**Subject:** Need for protection of fragile Narcondam Island and Endangered Narcondam Hornbill and rejection of proposal for coastal surveillance RADAR and power supply installation

**Reference:** File No. 6-73/2011 WL, Agenda item 4.1(3) in 23<sup>rd</sup> Meeting of the Standing Committee of the National Board for Wildlife held on 14 October 2011 and 25<sup>th</sup> meeting on 13 June 2012

We write to express our great concern over the proposal for the RADAR and power supply source installation at Narcondam Island, which was discussed by the Standing Committee of the National Board for Wildlife (SC-NBWL) during its 25<sup>th</sup> meeting on 13 June 2012.

As you are perhaps aware, we are wildlife scientists with wide experience in conservation of endangered wildlife species in India and our organisation has been active as a member of the SC-NBWL. In connection with the Narcondam proposal which is the subject of this letter, we would also like to place on record that two of us (Dr Divya Mudappa and Dr T. R. Shankar Raman) also have direct field experience from a biological expedition at Narcondam Island in April 2010, and along with Dr Aparajita Datta, have nearly two decades of experience with conservation of endemic and endangered hornbills in tropical forests of India.

**Based on our scientific expertise and considered appraisal, we would like to state clearly and unambiguously that the proposed installations at Narcondam Island are an extremely serious threat to the fragile island ecosystem and its Endangered endemic hornbill species. The proposals deserve to be firmly rejected and we exhort you to take this decisive action at the earliest. As you know, the Dr A. R. Rahmani committee also recommended rejection of the proposal after the field visit in the site inspection report. We request you to uphold the report and recommendation of Dr Rahmani's report.**

While our concerns were highlighted at the 25th meeting of the SC-NBWL (by Dr M. D. Madhusudan), we take this opportunity to again list major concerns below in order that we arrive at a decision regarding the proposal that is scientifically well-informed and justified and faithful to our primary purpose of conservation of wildlife in India.

1. **The small and single population of the globally and nationally endangered and endemic Narcondam Hornbill deserves the highest possible protection:** The Narcondam Hornbill (*Aceros narcondami*) is found as a single population of less than some 350 birds endemic to and exclusively found on the tiny (681 ha) island of Narcondam. This small and unique island harbors the world's only population of this hornbill species. Studies by the Sálím Ali Centre for Ornithology and Natural History (SACON), Coimbatore, suggested that this number represented a decline from around 400 individuals earlier (Vijayan and Sankaran 2000). The small and possibly declining population of this

species requires highest protection as such small populations are extremely vulnerable to extinction by various threats. While small populations are also at risk from stochastic events such as natural disasters, these tend to be rare and unpredictable. In contrast, human destruction of habitat, hunting, and direct disturbances of the sort implied in the present proposal for Narcondam is well known to have highly predictable detrimental consequences on small populations of island endemics such as the Narcondam Hornbill. This is a fundamental tenet of the science of conservation biology and we should not ignore this.

2. **Mature breeding individuals are only around 90 pairs and globally endangered population requires highest protection:** Of the population of 350 hornbills, the SACON study reported that only some 161 to 185 (46% to 53%) are mature breeding individuals (Vijayan and Sankaran 2000). This means that there are only around 80 – 90 breeding pairs of Narcondam Hornbills on the island. It is in recognition of this fact that there are less than 250 mature individuals in the island (Kinnaird and O'Brien 2007) and following a careful assessment of prior studies that conservation scientists have listed its global threat status as **Endangered** in the *IUCN Red List of Threatened Species* (BirdLife International 2012). In India, it is listed in Schedule I of the Wildlife Protection Act. We submit that the proposed developments, which involve construction of structures, a 2 km access road, additional human presence and associated disturbance, and risk of additional future requirements such as helipad etc. highlighted in Dr Rahmani's Site Inspection Report, will all increase the threat to the island and the small breeding population of the endangered hornbill.
3. **Much larger area affected due to extreme disturbances and threats from road construction and installations than indicated in proposal:** The proposal tabled before the SC-NBWL stated that the installation will involve only 0.6736 ha of Narcondam Wildlife Sanctuary. We believe that this is false and misleading information. We submit that the proposed installation, including access road, will involve extreme habitat disturbance of a larger area on this small volcanic island. In the site inspection report, Dr Rahmani mentions that the site is on top of a hillock in dense forest and a 2 km approach road will be cleared through the forest, involving cutting of an unspecified number of trees and direct destruction of habitat. The total area to be directly damaged is likely to be much higher if we include additional area to be cleared and affected due to edge effects which are known to result from such intrusions. We would like to specifically highlight that:
  - a) Narcondam is a volcanic island with ash beds and loose rocks and soil. Road construction is likely to lead to great instability, need for constant maintenance that will lead to further disturbances, erosion, and spread of invasive alien species. **This is serious habitat destruction on a fragile island.**
  - b) We refer you to the scientific evidence summarised in the background paper titled *Framing Ecologically Sound Policy on Linear Intrusions Affecting Wildlife Habitats* which was submitted to the SC-NBWL on 20 January 2011. A review paper cited therein (Sidle *et al.* 2006) points out that roads contribute the largest surface erosion and landslide losses (per unit area disturbed) compared to other land uses. **Along roads on steep hillslopes, landslide and surface erosion fluxes are typically ten to more than 100 times higher compared to undisturbed forests. In loose volcanic soils, there are likely to be even higher erosive losses.** This fact itself justifies the rejection of the proposed installations.
  - c) The total affected area is likely to be much higher than the claimed 0.6736 ha. The background paper referred above summarised evidence that **each kilometre of road directly and detrimentally affects at least 10 ha of habitat.** Studies have also shown increased tree death by 250% along roads through tropical forests, besides edge effects such as desiccation, spread of invasives etc. up to 100 m or more on either side. Reviews of studies specifically on the effect of infrastructure on bird populations cited in the background paper have shown effects that extended over distances up to about 1 km on either side of the road. We submit that the

proposed road will lead to direct damage to habitat on Narcondam of at least 20 ha, and indirect effects over up to 400 ha or nearly 60% of island area. This is nothing short of catastrophic for a small and fragile island like Narcondam.

- d) Additional area is likely to be lost and chronic disturbance created if there is another permanent installation on the island. This is not only due to requirements such as helipad or other 'improvements' that will be sought over time (as mentioned in Dr Rahmani's report), but also due to the gradual clearing and degradation around human-use areas. The presence of the police outpost for some 30 plus staff has already resulted in loss of over 50 acres over time on the island and continuing disturbance. The island needs to be protected from such threats and losses. The requirement for regular maintenance of more installations will also mean a continued influx and presence of people coming into the island, which will result in constant disturbance to this fragile island ecosystem. Dr. Rahmani's report indicates that there was no clarity on how many people will be permanently stationed on the island or how often people will need to be visiting the island for maintenance and operations. The construction of road, helipad and other structures will mean that staff and labour will be continually present on an island, which should not be used to support a human population. It is also not clear how long the construction will take and how much labour is required, this has a bearing on the impacts which are likely to be much more than what is indicated. All resources will be transported from outside which will result in additional pressures on the island habitat. There is only one small fresh water source. Once a facility like this is allowed in a remote fragile island like this, it will also mean further construction or improvements.
- e) Apart from the land-based fragility of Narcondam, the island also represents one of the few examples of isolated coral reefs in the Andaman chain, which is likely to suffer negative impacts from the proposed developments. Isolated reefs often support concentrated high-diversity populations of fish and other species, but may be particularly prone to disturbance, with low abilities to recover precisely because of this isolation. The construction and maintenance of these installations will result in direct damage to these reef systems through anchor damage, direct dredging and other disturbances, while road construction and other land-based activities will precipitate further run-off and coastal-degradation consequences.
4. **Serious threat to nesting trees and breeding zone of Narcondam Hornbill:** Past research by Dr Salim Ali and his students and colleagues has highlighted the special and unique ecology and behaviour of the Narcondam Hornbill (Abdulali 1971, 1974, Hussain 1984, 1991). The SACON research studies on Narcondam Hornbill have highlighted that 60% of the nests of the Narcondam Hornbill are located below 100 m elevation on the island and 98% occur below 300 m elevation (Vijayan and Sankaran 2000, Vivek and Vijayan 2004). Virtually all the roosting trees of the adult Narcondam Hornbills are below 300 m. **The construction of structures and access roads that cut through this elevation zone, thus will have a disproportional negative effect on the population and breeding of Narcondam Hornbill.** Narcondam Hornbill, like other forest hornbills, have highly specialised breeding habits, dependent on specific tall nesting trees with suitable cavities. Nest trees may be re-used year after year, and the hornbill is a sensitive slow-breeding species, with no scope for population expansion beyond the island. The proposed project does not even mention the number of trees to be cut, and there is no clearly marked trace of the access roads/trails. There will be loss of feeding, nesting, and roosting trees due to the proposed project. An intelligent assessment based on available scientific evidence can therefore only conclude that immense harm will ensue if this project is cleared by the SC-NBWL.
5. **Increased threat from invasive alien species:** Oceanic islands are also highly sensitive to introduction of alien plant and animal species, which almost invariably follows human use. The risk of introduction and invasion is when there is constant presence or frequent arrival of people to the island, which is likely if there is a RADAR installation. Some invasive aliens already arrived on

Narcondam Island with the police outpost and the island is only now recovering from the damage caused by the population of goats that were introduced, went feral and multiplied, and only recently were removed on the advice of conservation biologists. This process of recovery will receive a setback by the proposed project.

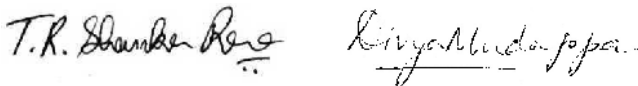
6. **Poor justification:** Finally, we would like to mention that projects such as this are often proposed with a nebulous justification of being important for 'defense purposes'. We submit that the SC-NBWL is a body whose focus is on wildlife and conservation of our natural heritage. If the SC-NBWL does not act on the best scientific information to protect one of our most endangered species in one of our most fragile protected areas in the country, it will become a body that is 'Betraying India's Wildlife' as recently criticised in National media. We submit that it is contingent on the Ministry of Defence, Coast Guard and other authorities to come up with alternative proposals and sites (e.g., Landfall Island, northernmost in the A & N chain near the Coco Islands) with appropriate budgets or find peaceful diplomatic and bilateral solutions in such cases, ensuring that our most sensitive wildlife areas and endangered species are not destroyed in the name of national defense. **Defense of our nation is also about defending our natural heritage from all threats and it is in that capacity that we must act in the Standing Committee of the National Board for Wildlife.** Otherwise we will have little credibility or standing left to play our vital role.

Oceanic islands such as Narcondam are not only important nationally, but are a global heritage of immense ecological and evolutionary significance, exemplified by the unique endemic species such as the Narcondam Hornbill. It will be indeed a huge step backward if India, a mega-biodiversity country with its record of being a leader in conserving and protecting species should be responsible for resulting in the potential decline/loss of a globally endangered, unique bird species. Taking all the above issues into consideration, we would like to conclude by pointing out, as we did in a recent article in *The Hindu* that this *"proposal has been tabled before the Standing Committee of the National Board for Wildlife to clear additional area on Narcondam to install RADAR surveillance and diesel power generation stations by the Indian Coast Guard, with little heed to ecological consequences. Recognising its extraordinary evolutionary and conservation importance, the fragile [Narcondam] island and its endemic hornbill deserve higher protection, including strictures against plant and animal introductions, rather than being bandied about for insensitive uses."*

**We trust you will take these comments seriously and reject the proposal for RADAR surveillance and power generation installations on Narcondam island.**

With regards,

Yours sincerely,



T. R. Shankar Raman, Divya Mudappa, M. D. Madhusudan, Aparajita Datta, Rohan Arthur, Anindya Sinha, Yash Veer Bhatnagar, Charudutt Mishra, Suhel Quader  
*Senior Scientists*

&

Manish Chandi, Rohit Naniwadekar, and other *Research Scholars*  
**on behalf of the Nature Conservation Foundation, Member,  
Standing Committee of the National Board for Wildlife**

**Copy:** Mr Jagdish Kishwan, ADG & Director, Wildlife Preservation, Member-Secretary, SC-NBWL  
Mr Vivek Saxena, IFS, Deputy Inspector General of Forests (Wildlife)  
Members of the National Board for Wildlife and its Standing Committee

*(References on next page)*

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