

# ETALIN HEP

REVIEW OF WILDLIFE  
CONSERVATION PLAN



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# INTRODUCTION AND BACKGROUND

On the 5th of May, 2020, 26 scientists from 16 separate institutions released a peer review of the Wildlife Institute of India's (WII) Etalin Wildlife Conservation Plan. This Wildlife Conservation Plan itself was the result of a 2017 recommendation by India's Forest Advisory Committee to conduct "a multiple seasonal replicate study on biodiversity assessment of the catchment area" of the 3097 MW Etalin Hydro Electric Project (HEP) in Dibang Valley, Arunachal Pradesh.

The proposed Etalin HEP is awaiting clearance from the Forest Advisory Committee. If approved, the project will cause the destruction of over 2,70,000 trees in the extraordinarily biodiverse Dibang Valley, which is also the ancestral homeland of the Idu Mishmi community. The project has been mired in controversy because of its irrefutable environmental and social implications, and is facing growing opposition from the Indian public. Local views on the issue have remained divided on the matter.

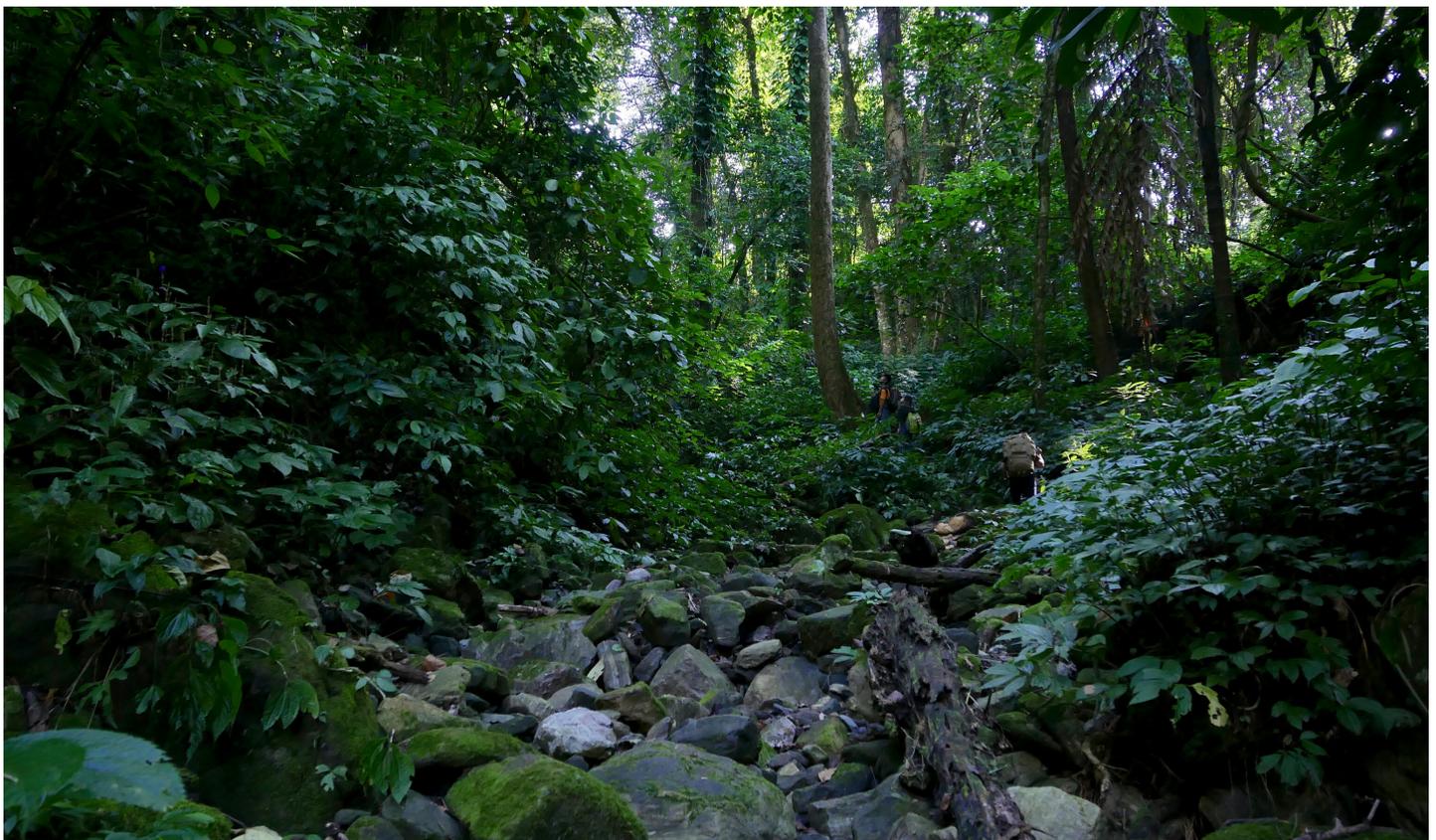
The WII report (henceforth 'the Report') assesses the status of various taxonomic groups including mammals, avifauna, entomofauna, herpetofauna and flora in the HEP site, and forms the basis of any decision taken by the FAC on the Etalin Project. However, this peer review found "incomplete and inaccurate data lead to an erroneous and inadequate assessment of the impact potential of the proposed HEP on biodiversity".

The group of Indian scientists that contributed to the peer review includes botanists, entomologists, ornithologists, mammalogists, herpetologists, aquatic fauna specialists, geographers, hydrologists and social scientists, many who have multiple years of research experience in Arunachal Pradesh, including in the Dibang Valley. Amongst the list of contributors are well-known scientists such as M. Firoz Ahmed, PhD, Scientist F, Head, Herpetofauna Research and Conservation Division; Aparajita Datta, PhD, Senior Scientist, Nature Conservation Foundation; Jagdish Krishnaswamy, PhD, Ashoka Trust for Research in Ecology and Environment; Sanjay Molur, PhD, Zoo Outreach Organization; and Anindya Sinha, PhD, National Institute of Advanced Studies.

Independent peer review is part and parcel of any robust scientific undertaking. Grave concerns arise when reports produced by the nation's premier wildlife research institute are found to contain "considerable deficiencies and scientific biases... which have compromised the quality and the veracity of its findings and conclusions". The Wildlife Institute of India is an autonomous institution under the Ministry of Environment, Forest and Climate Change.

## HERE ARE SOME OF THE KEY POINTS MADE IN THE PEER REVIEW:

- The Report suffers from several technical shortcomings. Not all grid cells within the project's Zone of Influence were sampled, and within the sampled grid cells not all elevations were surveyed, despite ample evidence that changes in elevation result in higher biodiversity in the Eastern Himalayas. This ignores the potentially disastrous impact of the HEP on yet undiscovered and endemic taxa.
- The Biodiversity Conservation Plan in the Report does not account for the damage to the greater landscape by the construction of over 50 km. of new roads and widening of an additional 30 km. of existing roads. The true 'Zone of Influence' due to road construction, quarrying and debris dumping is likely to be much larger on account of the extensive slopes on either side of the steep river valley, and their very-high susceptibility to landslides.
- The Report identified only 35 species of wild orchids in the region, but other studies have identified 117 species in the Dibang Valley, with up to 200 reported in recent surveys.
- Over 80 species of medicinal plants have been documented in the two Dibang districts. However, the Report recorded only nine species. The reviewers say this is difficult to believe as prior research has established that the Idu Mishmi have a vast knowledge of medicinal plants and use them regularly for a variety of ailments.



- Arunachal Pradesh supports a rich diversity of bees with 49 species recorded to date in limited surveys. The Report does not mention any of the numerous insect species that provide essential ecosystems services.
- The Brahmaputra river basin has been a barrier to the dispersal of many butterfly species resulting in high rates of endemism and speciation in Dibang Valley. An astounding 354 species of butterflies have been reported from Dibang Valley in the last 10 years, while up to 500 species are believed to exist in the region. However, the Report mentions a mere 159 species from the project site. The riparian habitat within the project's 'Zone of Influence' is likely to have around 290-300 butterfly species according to the reviewers.
- Benthic macro-invertebrates are considered one of the most important bio-indicator groups for freshwater ecosystems. The Report poorly studies these key taxa, identifying them only up to the family level. This is a gross under-representation of the actual diversity as each family contains several species.
- The Report documented evidence of 14 amphibian and 31 reptile species, which is significantly lower than the 95 species reported in previous studies in Dibang Valley, conducted in habitats and elevation gradients comparable to that of the 'Zone of Influence' of the Etalin Project.
- A sizable population of the endangered keeled box turtle *Cuora mouhotii* locally called Ichimbo, was recorded from forest patches between 200-1000m elevation range downstream of the project site in earlier studies. Modelling has indicated a very high likelihood of this species being present around Etalin, which has similar habitat type and elevation range. Due to large-scale habitat change, this little-studied, extremely rare turtle may be driven to local extinction.
- Several groups of taxa were not surveyed at all, including numerous insect orders such as Hymenoptera (bees, wasps and ants), Diptera (flies), Orthoptera (grasshoppers, locusts and crickets), and arthropod species such as scorpions, and pseudo-scorpions, and other taxa such as crustaceans (crabs), molluscs (snails), and protozoans. Excluding highly diverse taxa such as insects and arthropods heavily underestimates biodiversity values.
- 434 bird species have been reported from the Dibang Valley. The 230 species recorded from the study area is likely to be an underestimate owing to the lack of multi-season surveys and the low detectability of rare and migratory species.

- The Report claims evidence of 21 mammal species within the project's 'Zone of Influence'. The peer review states that "overall, flawed methodologies have been adopted to create an inadequate and incomplete assessment of the area's mammals and the HEP's impacts on them". In compiling data on mammals, they ignored key publications on the mammals of the region. It instead opted for the EIA report (2015) that the FAC (2017) deemed "completely inadequate", and which led to the commissioning of their Report.
- The Report does not provide the GPS coordinates of camera trap locations. However, a map included in the document makes it clear that most of the cameras were clustered close to the river, roads and settlements. The Report provides no rationale for purposefully selecting sampling grids and camera locations within areas known to have human presence, while leaving a significant majority of the project's Zone of Influence unsurveyed. This is likely to underestimate the species diversity due to the non-detection of species that avoid areas with human presence.
- The Report ignores the outcome of another long-term study, conducted by the same WII scientists who compiled the Report, which found camera trap evidence of tigers within a 10 km. radius of the HEP site.
- Despite serious methodological flaws, the Report recorded 21 species of mammals, including the 'critically endangered' Chinese pangolin, and seven other rare, endangered or threatened species, which points to the area's importance for diverse, rare and threatened mammals.
- The claim of absence of 'critical habitat' contradicts both the FAC's observations that "The type of forests appears to be predominantly Subtropical Evergreen broad-leaved forest and Subtropical rain.... The vegetation is of multi-strata and can truly be said to be irreplaceable", and the fact that the Dibang Valley is a Global Biodiversity Hotspot - one of just 36 places that constitute 2.4 per cent of the earth's surface but host 60 per cent of all biodiversity on earth!
- The Report states that since providing jobs to members of all affected families is not possible, they will support various income generating programmes to reduce local dependency on natural resources. Some of these jobs listed and described as 'decent' such as welder, fitter, plumber, electrician etc. are largely alien to most highland farmers and rests on the assumption that people can make an effortless transition to new livelihoods immediately after the shock of resettlement. Studies on dam-induced displacement have found that it has negative impacts on employment rate, income level, income resource, and overall well-being.

- The Report also examined the dependence of the local communities on forests. The reported figure of 38.2 per cent of Project Affected Families being dependent upon forests, and forest resources is an underestimate, and does not consider the entire range of services that are utilised by forest-dependent communities.
- The Report recommends large-scale agriculture and a shift to cash crops, without considering the impact of such large-scale (possibly monoculture) cultivation on biodiversity, and the well-being and food security of the local people.
- Despite clear directives to conduct a multi-seasonal study, WII only spent four months in the field, and surveyed a limited number of sites using biased sampling methods. As a result, their report hugely under-assesses the biodiversity of the region.
- The Report is a Wildlife Conservation Plan with the final chapter dedicated to mitigation and conservation measures. It is not clear on what basis the FAC's singular mandate to conduct a 'biodiversity assessment' was converted into a Wildlife Conservation Plan.
- By suggesting mitigation measures, the Report presumes the project to be cleared and presents it as a fait accompli. This implies that the report's findings have no bearing on the FAC's decision on the project, ultimately making it an exercise in futility.

