

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

(By Video Conferencing)

Original Application No. 462/2018
(Earlier O.A.No.11/2018 (SZ)

(With report dated 12.03.2021)

D. V. Girish

Applicant

Versus

Union of India & Ors.

Respondent(s)

WITH

Original Application No. 76/2015 (SZ)

D. V. Girish

Applicant

Versus

The Member Secretary, National Tiger
Conservation Authority, MOEF & Ors.

Respondent(s)

Date of hearing: 17.03.2021

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

Respondents:

Mr. Raj Kumar, Advocate for CPCB
Mr. Attin Shankar Rastogi, Advocate for MoEF & CC

ORDER

1. The issue for consideration is undertaking of carrying capacity assessment of eco sensitive areas, to give effect to the principle of 'Sustainable Development'.

2. This Tribunal issued directions on 30.07.2018 to the Ministry of Urban Development and the Ministry of Environment, Forest and Climate Change (MoEF&CC) and the corresponding authorities in all the

States to take steps in the matter. Thereafter on 03.04.2019, the Tribunal considered the affidavit filed by the MoEF&CC dated 27.03.2019 and observed:

“3. The MoEF & CC had filed an affidavit dated 27.03.2019 and submitted that they are taking steps to study the matter and also getting views from the States and the concerned Department but the exercise could not be completed and they require 6 months more time for this purpose. The order was passed in the month of July, 2018. Nearly more than eight months lapsed after the order but nothing fruitful has been done by them and MoEF & CC has not taken seriousness about the issue as considered by the Tribunal.

4. Ongoing through the affidavit, it is seen that no substantive work has been done for preparing the report as directed by this Tribunal. Considering this aspect, we feel that some time can be granted but same cannot be as requested by them.

5. We feel that 3 months’ time can be granted and they are directed to file a report regarding progress of the study taken by them on monthly basis by Email and if the Tribunal is satisfied with work done by them and if they require further time that can be considered after expiry of 3 months fixed by this Tribunal. Reports shall be filed to this Tribunal through email at ngt.filing@gmail.com.”

3. Thereafter on 25.09.2019 on further consideration, the Tribunal observed:

“10. In the meantime the MoEF & CC and Ministry of Urban Development may complete the study and prepare national policy as to how this will have regulated as directed by this Tribunal as per order in O.A. No. 462/2018 dated 30.07.2018.

*11. The Joint Secretary, MoEF & CC was present today. **He explained that a draft template has been prepared for circulation and they need to consult the Ministry of Urban Development for approval of the same and thereafter it will be circulated among the States, then final guidelines will be issued. They are directed to submit a further report on this aspect before the next date of hearing.***

4. The matter was last considered on 19.03.2020 in the light of affidavit of the MoEF&CC dated 31.01.2020 and **direction was issued for undertaking carrying capacity study of atleast one eco sensitive**

area in every State/UT to be coordinated by CPCB with concerned States/UTs.

5. Accordingly, report has been filed by CPCB on 12.03.2021 to the effect that a rapid study has been carried out of Sanjay Gandhi National Park, Mumbai through CSIR – NEERI. In the course of such study, the area was demarcated. Basic details such as arid extent, geographical features, flora and fauna, and the tourist activities were compiled. Thereafter, carrying capacity assessment was made in the light of air, water, habitat, biodiversity, land, noise, and tourism as the crucial elements affecting SGNP by using fuzzy comprehensive evaluation method based on secondary data available. The thematic areas covered are: Water Environment Carrying Capacity (WECC), Air Environment Carrying Capacity (AECC), Tourism Carbon Carrying Capacity (TCC), Noise Carrying Capacity (NCC), Normalized Difference Vegetation Index (NDVI), Land Surface Temperature (LST), Digital Elevation Model (DEM), Land Use Land Cover map (LULC), Normalized Difference Water Index (NDWI), Land Stress Index (LSI), Habitat Quality Index (HQI), Aerosol Optical Dispersion (AOD) & PM_{2.5}, Selection of Ecological System, A Fuzzy Comprehensive Evaluation Method and AHP based Estimation. The assessment in the light of the above has been made in relation to Tourism Carbon Carrying Capacity (TCC), Water Environment Carrying Capacity (WECC), Noise Carrying Capacity (NCC), Air Environment Carrying Capacity (AECC) and Environmental Attributes for Ecological Carrying Capacity. Relevant extracts from the report are as follows:-

“Eco-Sensitive Zones (ESZs) or Ecologically Fragile Areas (EFAs) are areas in India notified by the Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India around Protected Areas, National Parks and Wildlife Sanctuaries. The purpose of declaring ESZs is to create "shock absorbers" to the protected areas by regulating and managing the activities around such areas. These zones are indispensable for a nation as they

preserve biologically and ecologically rich areas and potentially valuable and unique natural resources that would be difficult to replace once annihilated. The ecosystem is quite delicate around these areas and needs to be protected against human intervention. They are of immense importance to human society as they are ecologically and economically important, maintain ecological stability and preserve the rarity of the ecosystems they harbor.

XXX.....XXX.....XXX.....

Carrying capacity assessment is a tool to determine the growth limits that an area can accommodate without violating environmental capacity goals. CSIR-NEERI being an expert organization was engaged for a short term study to assess environmental carrying capacity (ECC) of Eco-sensitive zone – Sanjay Gandhi National Park, Mumbai using secondary data, remote sensing data, literature survey and selected ECC methodologies.

The findings reveal that environmental attributes such as available water resources, vegetation cover and land stress are within the permissible carrying capacity limits, however, other attributes such as mangrove cover, air quality (except SO₂) and surface temperature are deteriorating. The overall noise levels are within the limits except at the entrance gate. The utilization ratio of available water resources in SGNP is 59.87%, which is less than the reference value of 100%.

The total calculated footfall, in terms of tourists, shows that it is in a critical stage and has exceeded the maximum footfall possible and can affect the wildlife and its carrying capacity. The overall noise levels are within the acceptable limit except at SGNP entrance gate due to high traffic flows and other human activities, and it should be controlled through suitable measures. The utilization ratio calculations for air pollutants except SO₂ are already beyond the safe limits and necessary air pollution control measures are required to be taken in and around the eco-sensitive zone of Sanjay Gandhi National Park.

The comparison of NDVI values indicates that the vegetation cover of SGNP has increased over the years, which is a good sign for the enhancement of its carrying capacity. The LULC classification area for SGNP from 1978-2020 shows a positive increase in forestland, is beneficial for wildlife and overall ecosystem. However, the Mangroves cover and water bodies areas, in the SGNP and buffer area (analyzed through remote sensing data) are decreasing year by year. Human settlements are continuously increasing including in buffer area threatening environmental balance. LST maps of SGNP show that the surface temperature has increased in 2020 (24-34°C) as compared to 2000 (17.93 °C). Preliminary analysis of SGNP indicates limited land stress which should be maintained for ecological balance. The values of AOD and indicate

higher air pollution level due to anthropogenic activities, which is also confirmed by available ground data.

Based on the rapid assessment of CC done using the available data, it is recommended that:

- 1. Anthropogenic activities including construction within the premises of the SGNP should be limited as it is affecting the fragile ecosystem of the area and is putting pressure on other environmental attributes such as water, air and noise.*
- 2. Assessment of noise carrying capacity needs a detailed analysis with biodiversity centric focus, given the severe impact of noise on fauna present in the area. A long term study is needed in this regards.*
- 3. Suitable measures to mitigate the impacts of air and noise pollution in the area should deployed and an environment management plan be prepared to preserve the floral and faunal biodiversity.*
- 4. The slope factors of the area shows a reduced stress on land which should be maintained by avoiding construction activities in the area.*

XXX.....XXX.....XXX.....

“4.0 Way Forward

In order to understand the carrying capacity of the SGNP in depth, the critical environmental attributes are to be weighed scientifically. Methods, including but not limited to, modelling, fuzzy, hierarchical techniques will be applied in the next step to derive conclusive assessment on environmental carrying capacity of SGNP.

A detailed study using other modelling techniques shall be carried out during next phase of the study, the extent of utilization will be assessed using weightage of different factorial layers and sub- criteria. Assessment in reference to the impact to faunal diversity of the park will also be attempted during the detailed planned study.

There are certain aspects of the study which requires subsequent detailed analysis. It includes secondary data collection of remaining parameters, primary survey for certain parameters, assessment of habitat suitability, ECC with respect to Air, Water and Noise environment by keeping faunal biodiversity impacts at the center and select ground validation points for remotely sensed data. Overall analysis of ECC using AHP or Fuzzy method based on the above additional parameters, data and validation points will be done.”

6. The issue of carrying capacity study in eco sensitive areas has been considered by this Tribunal in several cases. We may refer to some

of the orders. Vide dated 29.07.2019 in O.A. No. 635/2017, *Ramesh Chand v. State of Himachal Pradesh & Ors.* Therein, this Tribunal got carrying capacity study conducted for **eco sensitive and geographical fragile areas of Manali and Mcleodganj** from an expert Committee as follows:-

“

- i) *An Expert of Ecology from G.P. Pant Institute, Almora, Uttarakhand to be nominated by the Director of Institute.*
- ii) *Chief Town Planner, Shimla or senior Architect (Planner) from PWD.*
- iii) *A senior Scientist from MOEF&CC, to be nominated by the Secretary, MOEF&CC.*
- iv) *A senior Scientist from the Indian Council of Forestry Research and Education, Dehradun.*
- v) *Senior Scientist from Wadia Institute of Himalayan Geology, Dehradun, to be nominated by the Director.*
- vi) *Scientist/ Senior official form the Central Ground Water Board, New Delhi.*
- vii) *Scientist/ Senior official form the Central Pollution Control Board, New Delhi*
- viii) *Representative of National Disaster Management Authority, Govt. of India.*
- ix) *Representative of School of Planning and Architecture, New Delhi.*
- x) *Member Secretary, Himachal Pradesh Pollution Control Board, shall be a member and Nodal Officer, who shall ensure the compliance.”*

The Committee was to consider following factors:-

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- i) *Vehicular traffic and parking space;*
- ii) *Road Infrastructure;*
- iii) *General scarcity of under-ground water;*
- iv) *Availability of Drinking Water;*
- v) *Overall impact on the air quality;*
- vi) *Overall impact on the Bio-diversity of the area;*
- vii) *Earthquakes, disasters, structures stability, seismicity, land bearing capacity of soil, underlying rock, proneness of landslide, structural flaws in existing structures.*
- viii) *Transport and mobility;*
- ix) *Indiscriminate constructions and regularization of unauthorized constructions.”*

The object of such studies was to ascertain whether further construction in Manali and Mcleodganj can be permitted or need to be restricted, considering the present situation in respect of environment, ecology, forest, sewage system, water supply, collection and disposal of MSW and carrying capacity, strength of the hill and adequacy of civic infrastructure etc. Such studies were carried out and recommendations were made with regard to control of activities having potential for degradation of environment such as construction of hotels, transportation and number of tourists to be allowed. The report was accepted and it was observed:-

“1to19...xxx.....xxx.....xxx

20. ***The three templates of ‘carrying capacity assessments’ - two in the present case i.e. Manali and Mcleodganj and one in case of Kasauli which was dealt with by order of this Tribunal vide order dated 05.10.2018 in Original Application No. 218/2017, Society for Preservation of Kasauli and its Environs (SPOKE) v. M/s Kasauli Glaxie Resorts, may be taken into account by the MoEF&CC and CPCB while carrying out further carrying capacity assessments as required in terms of orders of this Tribunal.”***

7. In recent order dated 10.03.2021 in O.A. No. 312/2016, *Dr. Arun Kumar Sharma v. MoEF&CC & Anr.*, **in the context of Mount Abu eco-sensitive zone**, the Tribunal considered the study of area to **sustain building and other activities and conditions subject to which the same could be permitted to give effect to the objective of the ESZ Notification**. The Committee appointed by the Tribunal while giving its report also made recommendations for **carrying capacity study to determine the number of tourists and vehicles to be permitted in the said eco-sensitive zone**. The Tribunal accepted the report and directed further action by Monitoring Committee as follows:-

“1to26....xxx.....xxx.....xxx

27. Accordingly, we accept the report of the Committee and direct that the **ZMP 2030 may be duly modified in the light thereof.** The revision of the ZMP may be undertaken by the concerned authorities, in consultation with the nine-member Committee constituted by this Tribunal vide order dated 07.11.2019. ZMP may be finalized within three months from today, covering all aspects in detail, and duly published in the official gazette. We may particularly mention that where land holding is less than 2500 meters, the built-up area should be allowed on pro-rata basis, in consonance with the Farmhouse norms where application of such norms has been recommended by the Committee. **Apart from giving effect to the recommendations regarding ban and restrictions on construction, protection of rocks in terms of the recommendations by not permitting the ropeway or sport climbing may be ensured. The status of the construction, as on date of ESZ Notification, be duly compiled and placed in public domain and any construction in violation of ESZ Notification be removed. All land parcels where Expert Committee has permitted construction be properly demarcated on map as well as on ground by pucca pillars, after duly leaving the distance for buffers as per ESZ notification. The information be put in public domain. All blank patches of lands within the ESZ be greened up by the Municipal corporation. Buffers around drains, wetlands and forest be duly maintained and protected.** The authorities may ensure proper functioning of STP and its connectivity to the sewer lines, utilization of treated sewage, management of solid waste and overall environmental quality. We direct that consideration of NOC by the Forest Department should be prompt and a decision must be taken within one month from the date of the application, failing which the officer delaying the matter should be held accountable. Subject to these directions, the applicants or any other aggrieved party will be at liberty to give their suggestions to the Member Secretary, State PCB for consideration by the Committee. The members of the Committee will be deemed to be co-opted in the statutory Monitoring Committee under the ESZ Notification, till finalization of the ZMP.”

8. Thus, as earlier directed vide order dated 19.03.2020, **there is need to undertake carrying capacity of eco sensitive areas in all the States/UTs.** In spite of such need, such studies do not appear to have been undertaken. We reiterate our direction for this course of action being adopted in a time bound manner to enforce the ‘Sustainable Development’ and ‘Precautionary’ principles which the Tribunal is expected to apply in giving directions under Section 15 of the NGT Act, 2010.

9. In the first instance, such study may be undertaken for atleast one eco-sensitive area in every State/UT. As per report of the CPCB, only one such study has been undertaken so far and that too, **only rapid assessment, using available data**. Further detailed study to determine steps necessary for protection of the said ESZ is yet to be undertaken. During the hearing, learned Counsel for CPCB stated that while such studies for all eco sensitive areas are necessary, it may be difficult for CPCB alone to undertake such exercise. It is suggested that such studies be got conducted by the concerned States/UTs by associating concerned experts and handholding may be provided by the MoEF&CC.

10. **Accordingly, we direct that such exercise may be got conducted by concerned State/UT to be coordinated by a joint Committee comprising State PCB, Secretary/ Director Environment and Chief Wildlife Warden.** The nodal agency will be Secretary/Director, Environment for coordination and compliance. The said joint Committee may determine the mode of carrying out such study and the composition of the Committee for accomplishing the task. In doing so, it may be desirable to associate nominees of reputed Institutions, which have earlier been associated with such exercise, like G.B. Pant Institute of Himalayan Environment & Development, Almora, Forest Research Institute, Dehradun, ICFRE, Dehradun, Wadia Institute of Himalayan Geology, Dehradun and School of Planning and Architecture, New Delhi. The first phase may be completed within six months and next phase in further six months. The ESZ Expert Committee of the MoEF&CC may provide necessary guidance by holding periodical video conferences and issuing appropriate guidelines on the subject. **In the light of such carrying capacity studies, the respective Master Plans of the eco**

sensitive areas in question be modified on the pattern of our directions in O.A. No. 312/2016, Dr. Arun Kumar Sharma, supra.

The applications are disposed of.

A copy of this order be forwarded to the Secretary, MoEF&CC, Chief Secretaries, Secretaries/ Directors, Environment Departments, State PCBs/PCCs, and Chief Wildlife Wardens of all States/ UTs by e-mail for compliance.

Adarsh Kumar Goel, CP

S.K. Singh, JM

Dr. Nagin Nanda, EM

March 17, 2021
Original Application No. 462/2018
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