BEFORE THE NATIONAL GREEN TRIBUNAL, SOUTHERN ZONE, CHENNAI
APPLICATION No.8 OF 2016 etc

ENVIRONMENTAL IMPACTS OF COAL ASH POLLUTION ON ENNORE CREEK AND SURROUNDING AREAS OF NORTH CHENNAI THERMAL POWER STATION (NCTPS) ENNORE, CHENNAI

EXPERT COMMITTEE REPORT OF
Dr. Sultan Ahmad Ismail
Director Ecoscience Research Foundation
Professor & HOD (Retd), Department of Biotechnology,
The New College, Chennai
Dr. D. Narasimhan
Associate Professor (Retd.)
Department of Botany
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Department of Civil Engineering
Environmental and Water Resources Engineering Division,
IIT, Madras

INDEX

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(2)

THE HON'BLE NATIONAL GREEN TRIBUNAL,
SOUTHERN BENCH

Application Nos. 8, 152 & 198 of 2016

R. Ravimaran,
Ennore, Chennai .... Applicant

Vs

Union of India, MoEF& CC,
Rep. by its Secretary
New Delhi
and 7others .... Respondents

INTERIM REPORT OF EXPERT COMMITTEE

1. **Background**:

   a. The Hon'ble National Green Tribunal by order dated 4.08.17 constituted an Expert Committee and tasked with several Terms of Reference to assess the extent of coal flyash pollution in Kosasthalaiyar, Ennore Creek and associated regions, and to gauge its impacts. The scope of this report is restricted to the flyash contamination caused by TANGEDCO's North Chennai Thermal Power Station.

   b. However, it is noteworthy that coal flyash ponds of three power plants – TANGEDCO's North Chennai Thermal Power Station and the now closed Ennore Thermal Power Station, and NTPC's Vallur power plant -- are located in and near the Creek.

   c. On 13.8.2017, the Committee visited Ennore Creek following which the three subject experts – Dr. Balaji Narasimhan (Water Resources and Hydrology), Dr. Sultan Ismail (Soil Biology) and Dr. D. Narasimhan (Botany) drew up independent programs of study on their respective topics.

d. A consolidated response to the Terms of Reference and additional issues arising from the study is below. The individual reports of the three experts is in Annexures.

e. It is to be noted that the duration and nature of the study limits it to being a preliminary scoping study, and cannot be the basis for full and final remediation of the region. However, it can be the basis for a pre-remediation assessment and further development of a Detailed Project Report for remediation and restoration of the contaminated site.

2. **General Observations**

- Pursuant to the recommendation of this committee that a health study of workers and exposed people should be conducted, TANGEDCO had on 12.9.2017 written to Dr.Hisamuddin Papa of Human Hospital requesting him to undertake the study. However, Dr. Papa has updated the Committee that he is awaiting certain details and documents from TANGEDCO and can proceed with a study upon receipt of the information.

- The Committee intended to map the affected area using aerial drones to get a more accurate picture of the extent and intensity of the contaminated area . However, a drone survey could not be carried out for want clearance from DGCA. A rough estimate of the fly ash spill extent and the likely volume of fly ash in the ponds have been calculated based on field survey and mapping from highly resolution google earth imagery. A drone survey will be essential for improving the reported estimates as well as for formulating any remediation measures and monitoring of actual follow-up actions.

- The tail-end of the Kosasthalaiyar and the Ennore Creek and backwaters are subject to heavy siltation and pollution from multiple sources, not restricted to coal flyash pollution.

- Industrial activities in general, and coal flyash pollution from ash conveyance and storage/impoundment structures have drastically altered

the hydrology, ecology and topography of the area.

- The estuarine ecosystem consists of several habitats and is a transition zone buffering the inland freshwater areas from the coastal saline areas. Any further degradation to this region will make inland areas vulnerable to extreme weather and marine events and salinity intrusion.
- Water, flora and fauna are severely contaminated with toxic chemicals, some of which can with reasonable certainty be linked to coal flyash.
- Fish diversity, availability and quality has declined leading to a significant economic loss to fisherfolk.
- Dumping of earth for reclamation of low-lying areas and flyash pollution has reduced the area under mangroves and harmed the biological productivity of the Creek.

3. Terms of Reference:

TOR1: Location of ash ponds, their storage capacity, present storage levels, their present condition and steps taken to avoid leakage and consequent pollution from the ash ponds.

a) Location: *TANGEDCO operates two sets of Ash Ponds that fall partly or wholly within the Ennore Creek. The NCTPS' ash pond, which is subject of this enquiry, is located in the vicinity of Athipattu, Seppakkam and Puzhuthivakkam villages.. The Northern portion of the pond is the largest, and is filled with old flyash. This is the site of a new power plant being constructed by TANGEDCO.*

b) Storage capacity, present storage levels

Original Constructed Volume	**Based on the original design drawings, field measurements and satellite imagery**
Fly ash Dyke 1 (Million m^3) Old Pond	12.03
Fly ash Dyke 2 (Million m^3)	6.82
Total Installed Capacity (Million m^3)	**18.85**