

BEFORE THE HONOURABLE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI

Original Application no. 141/2021 (SZ)

Tribunal on its own motion SUO MOTU  
based on the News Item in Kerala Kaumudi  
Newspaper, web edition dt: 06.06.2021,  
"A New Ray of Life for Pallikkalar".

Vs.

The Principal Secretary to Government of Kerala,  
Department of Environment,  
Thiruvananthapuram  
and Ors

...Respondents

**Report filed by the Chief Environmental Engineer,  
Kerala State Pollution Control Board, Regional Office, Thiruvananthapuram  
on behalf of the Kerala State Pollution Control Board,  
in Original Application No. 141/2021 (SZ)**



**Adv. Remasmrithi.V.K**

ADDITIONAL STANDING COUNSEL

RESPONDENT No.5

# BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE, CHENNAI

**Original Application no. 141/2021 (SZ)**

Tribunal on its own motion SUO MOTU  
based on the News Item in Kerala Kaumudi  
Newspaper, web edition dt: 06.06.2021,  
“A New Ray of Life for Pallikkalar”.

Vs.

The Principal Secretary to Government of Kerala,  
Department of Environment,  
Thiruvananthapuram  
and Ors

...Respondents

## VOLUME 1

### Index

SL NO	Description	Pages
1	Report filed by the Chief Environmental Engineer, Kerala State Pollution Control Board, Regional Office, Thiruvananthapuram on behalf of Kerala State Pollution Control Board, in Original Application No. 141/2021.	1-2

Dated this the 22<sup>nd</sup> day of March 2023

**Remasmrithi. V.K.**, Advocate  
Additional Standing Counsel  
Respondent No.5

**BEFORE THE HONOURABLE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI**

**Original Application no. 141/2021 (SZ)**

Tribunal on its own motion SUO MOTU  
based on the News Item in Kerala Kaumudi  
Newspaper, web edition dt: 06.06.2021,  
“A New Ray of Life for Pallikkalar”.

Vs.

The Principal Secretary to Government of Kerala,  
Department of Environment,  
Thiruvananthapuram  
and Ors

...Respondents

**VERIFICATION**

I, Sreekala S. , Chief Environmental Engineer, Kerala State Pollution Control Board, Regional Office, Thiruvananthapuram, The 5<sup>th</sup> respondent, do hereby verify on this the 22<sup>nd</sup> day of March 2023, that all what is stated above are true and correct to the best of my knowledge, information and belief.



  
**Sreekala S.**

**Chief Environmental Engineer  
KSPCB**

**SREEKALA S.**  
Chief Environmental Engineer

**BEFORE THE HONOURABLE NATIONAL GREEN TRIBUNAL**

**SOUTH ZONE, CHENNAI**

**Original Application No.141 of 2021 (SZ)**

Respondents : State of Kerala & Others

**Report filed by Chief Environmental Engineer, Kerala State Pollution Control Board, Regional Office, Thiruvananthapuram on behalf of The Kerala State Pollution Control Board, in Original Application No. 141/2021.**

The report is filed in accordance with the order of the Hon'ble NGT dated 16/02/2023 in O.A.No.141/2021.

The Hon'ble NGT vide order dated 16/02/2023 in the above O.A. has directed the officials concerned to approach the NEERI in person and sought out the plan for implementing "Phytorid Waste Water Treatment Technology". The Board by its letter dated 08/02/2023 had addressed CSIR-NEERI Maharashtra and Chennai regarding the Phytorid technology developed by their institution in treating sewage from water bodies.

Subsequently, in accordance with the order, in O.A. No. 141/2022 Board conducted a meeting on 13/03/2023, via Video conference, where Dr. Ritesh Vijay, Senior Principal Scientist and Head from NEERI, presented the technology for treating polluted water bodies using Phytorid technology before the Board officials. Dr. Ritesh Vijay explained that Phytorid technology, followed by disinfection, results in considerable reduction of coliforms in the sewage and this is considered as a permanent treatment solution. The Principal Scientist also added that the Phytorid bed is constructed slightly above the ground level so as to reduce



flooding effect. He said that the initial cost of construction is high but the operational and maintenance cost is low. Copy of the minutes of the meeting is attached as Annexure I.

The feasibility of treating a water body like Pallickal river and the methodology to be adopted with respect to Kerala weather conditions and other details are to be sought out from NEERI. Hence the Board vide letter dated 18/03/2023 had requested the Director, CSIR-NEERI, Nagpur to depute Dr. Ritesh Vijay to visit and understand the details of various locations and feasibility of technology in Kerala condition. The matter is being followed up by the Board.

All that stated above are true to the best of my knowledge and belief.

Dated this the 22<sup>nd</sup> day of March 2023.



  
**Chief Environmental Engineer**

**KSPCB**

**SREEKALA S.**  
Chief Environmental Engineer

Solemnly affirmed and signed by the deponent who is known to me on

this the 22<sup>nd</sup> day of March 2023.

**BEFORE THE**  
**HONOURABLE NATIONAL**  
**GREEN TRIBUNAL (SZ)**

OA no. 141/2021 (SZ)

**Report filed by the Chief**  
**Environmental Engineer,**  
**Kerala State Pollution Control**  
**Board, Regional Office,**  
**Thiruvananthapuram on behalf of the**  
**Kerala State Pollution Control Board,**  
**in Original Application No.**  
**141/2021 (SZ)**

**Adv. Remasmrithi.V.K**

ADDITIONAL

STANDING COUNSEL

RESPONDENT No.5

9445782946

**Original Application no. 141/2021 (SZ)**

Tribunal on its own motion SUO MOTU  
based on the News Item in Kerala Kaumudi  
Newspaper, web edition dt: 06.06.2021,  
“A New Ray of Life for Pallikkalar”.

Vs.

The Principal Secretary to Government of Kerala,  
Department of Environment,  
Thiruvananthapuram  
and Ors

...Respondents

**VOLUME 2**

Index

SL NO	Description	Pages
1	Annexure 1- Copy of the minutes of the meeting conducted by the Board on 13/03/2023.	1-2

Dated this the 22<sup>nd</sup> day of March 2023.

**Remasmrithi. V.K.**, Advocate  
Additional Standing Counsel  
Respondent No.5

Minutes of the presentation by NEERI on 13.03.2023 regarding  
Phytoid Waste Technology in the matter of  
O.A. 27/2021 Perandoor Canal & OA 141/2021 Pallikkalar

The meeting was convened via VC by the Chairman, Kerala State Pollution Control Board to view and assess the possibility of utilizing phytoid technology as a temporary measure for treatment of sewage as suggested by the NGT in the order dated 02.02.2023 on OA 27/2021 and in the order dated 16.02.2023 on OA 141/2021. Dr Rithesh Vijay, Senior Principal Scientist and Head, NEERI ; Member Secretary KSPCB; Director, Waste Water Management Suchitwa Mission ; CEE ,Head office; CEE,RO, Trivandrum; CEE,RO, Ernakulam; Senior Environmental Engineer, Head Office, Environmental Engineers Kollam, Pathanamthitta, Alappuzha, Ernakulam, and representatives from Local Bodies namely Kadambanad, Pallickal, Thodiyoor, Poruvazhy attended the online presentation.

The Chairman, KSPCB at the outset gave a brief description about O A 141 and O A 27 and mentioned that as per the latest order NGT has observed that the methodology known as Phytoid Waste water Technology developed by NEERI was suggested to restore Pallikallar and Perandoor canal.

Dr Rithesh Vijay , Senior Principal Scientist and Head ,NEERI presented the technology in powerpoint.

From the presentation it is presumed that only stones and aggregates along with plants are used in this technology. The existing and ongoing projects taken up by NEERI, with this technology was also shown, during the presentation.

Chairman enquired about the space requirement of the treatment plant and about the removal efficiency with respect to coliforms. Dr Rithesh Vijay clarified that Scalability of this plant varies from 5.0 KLD to 50 Lakh litres per day, and upper portion works on aerobic principle and bottom portion works on anaerobic principle. So considerable reduction of coliforms will occur but disinfection is required after this.

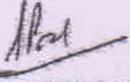
The time period required for construction was reported as 3 to 4 months. The

Chairman further enquired whether any odour control facilities are associated with the method and Dr. Rithesh Vijay replied that sewage goes to subsurface and no water logging and stagnation and hence there will be no foul smell.

Dr. Praveen K. S., Director Waste Water Management, Suchitwa Mission opined that NEERI is not executing any new projects and only gave consultancy service and they have empanelled agencies for execution. He enquired whether this method will be effective during flooding and Dr. Rithesh Vijay, NEERI replied that flooding will not affect the plant as this is constructed slightly above ground level.

The Chairman, KSPCB enquired about the total cost of construction and enquired whether it is a permanent method as NGT mentioned it as "a temporary measure". Dr. Rithesh Vijay, replied that though the initial cost for construction of RCC tank is high, the operational and maintenance cost is low and least. He also clarified that it can be considered as a permanent treatment solution and invited officials concerned for a site visit, to any of the visit where the system has been installed.

The Chairman concluded the meeting by stating that the matter would be informed to Additional Chief Secretary, Environment for filing the report to NGT and with permission, concerned officials can undertake a trip to the nearest such facility operated by NEERI.

  
CHAIRMAN