

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
(SOUTHERN ZONE BENCH, CHENNAI)**

**Original Application No. 76 of 2017**

**REPORT FILED BY THE ADDITIONAL CHIEF SECRETARY,  
ENVIRONMENT DEPARTMENT/3<sup>RD</sup> RESPONDENT**

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Dated at Chennai on this the 21<sup>st</sup> day of July, 2022.

**M/s. E.K.KUMARESAN**

Standing Counsel for State Government of Kerala - NGT(SZ) Chennai Bench

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

**O.A. 76 OF 2017 SUO MOTO PROCEEDINGS & CONNECTED  
CASES INITIATED BY HON'BLE NATIONAL GREEN  
TRIBUNAL, CHENNAI (SZ)**

Proceedings initiated based on the News item published in Malayalam  
Manorama News Paper - Malayalam Edition dated 25.03.2017 on the  
Caption "Black City"

Vs

Respondent(s) : The Kerala State Pollution Control  
Board and others

**AFFIDAVIT FILED BY ADDITIONAL CHIEF SECRETARY,  
ENVIRONMENT DEPARTMENT, THE 3RD RESPONDENT**

I, Venu.V, S/o Vasudeva Panikkar, aged 57 years, residing at  
Government Quarter No.6, Jawahar Nagar, Kowdiar P.O.,  
Thiruvananthapuram, Kerala, do hereby solemnly affirm and sincerely  
state as follows:

1. I am presently working as the Additional Chief Secretary to  
Government of Kerala (Environment Department) and I am conversant  
with the facts of the case as disclosed from the relevant records. I am  
competent to swear to this Affidavit and I am representing the 2<sup>nd</sup>  
respondent in this Original Application.

2. This report is filed in compliance with the Judgment of this  
Honourable Tribunal dated 14.07.2021 in O.A. No. 76/2017 and  
connected cases in which the official respondents had been directed to  
file their independent statements regarding the allegations made in the  
application.

3. Honourable National Green Tribunal in the OA No. 259 of 2017  
challenged the ambient air quality, especially in 8 cities, viz.  
Thiruvananthapuram, Kollam, Kochi, Alappuzha, Kozhikode, Thrissur,  
Kasargod and Kannur. Hon'ble NGT directed the committee comprising  
of Central Pollution Control Board, MoEF&CC, Motor Vehicles  
Department, Kerala State Pollution Control Board, IIT-Chennai and

NEERI, Chennai to conduct study to identify the sources of pollution, to formulate long term/short term — steps to reduce pollution index and improve ambient air quality in the State of Kerala.

4. The committee had conducted an air quality status study and submitted report of the eight cities mentioned in the application. As per the study report the air quality of all other areas except Vyttila in Ernakulam District were found to be within the permissible level.

5. The Hon'ble NGT vide order dated 20.01.2021 in the aforementioned application, 259/2017, directed the Joint Committee appointed by Hon'ble NGT to conduct further Ambient Air Quality test when the activities in the State are in peak operation and to submit a detailed report along with suggestions on remedial measures, if any.

6. Further, it was also directed that the independent departments, who were directed to carry out certain recommendations, to file their independent status report regarding the action plan with shorter time-line as to how they are going to implement the recommendations made by the committee to check the air pollution in the State of Kerala.

7. The action plan comprising of the short term and long term steps already prepared and submitted by the committee before the Honourable NGT is reproduced below:

Short term steps suggested for improving Air Quality		
No.	Action	Implementing Agency
1.	Launching extensive awareness drive against polluting vehicles	Motor Vehicle Department
2.	Ensuring strict action against visibly polluting vehicles	Motor Vehicle Department
3.	Steps to prevent parking of vehicles in non designated areas.	Motor Vehicle Department/State Police- Traffic
4.	Introducing wet/Mechanized vacuum sweeping of roads.	Local Self-Government Department
5.	Controlling dust pollution at construction sites by providing an appropriate covering system	Local Self-Government Department
6.	Ensuring carriage of construction material in closed/covered vessels.	Police Department
Long term steps suggested for improving Air Quality		
Sl No.	Action	Implementing Agency
1.	Retrofitting of diesel vehicles with particulate filters	Motor Vehicle Department

2.	Installation of the vapour recovery system in fuelling stations	Petroleum and Explosives Safety Organization (PESO) /Pollution Control Board
3.	Promoting battery operated vehicles	Motor Vehicle Department
4.	Banning of old diesel vehicles in a phased manner	Motor Vehicle Department
5.	Undertaking Greening of open areas	Local Self Government Department/Public Works Department
6.	Creation of green buffers along the traffic corridors	Local Self-Government Department/ Public Works Department
7.	Development of a proper system for ensuring garbage/municipal solid waste/biomass/leaves collection and disposal and to avoid open burning.	Local Self-Government Department
8.	Promoting the use of LPG only and a to avoid the use of kerosene/firewood in restaurants/dhabas/roadside eateries.	Local Self-Government Department
9.	Introduce water fountains at major traffic intersection, wherever feasible	State Highway Authority of Kerala (SHAK)/ National Highways Authority of India/Public Works Department (PWD)
10.	Take steps for lacktopping/ pavement of road shoulders to avoid road dust	Public Works Department (PWD)
11.	Prepare an action plan for public transport on CNG mode.	Motor Vehicle Department
12.	Ensure the proper collection of solid waste ( biomass)	Local Self-Government Department (LSGD)
13.	Ensure strict enforcement of the ban on burning of agricultural waste and crop residues	Agriculture Department
14.	Ensure strict action against industrial units not complying with standards.	Pollution Control Board
15.	Ensure DG sets meeting the standards only be allowed to operate	Department of Electrical Inspectorate/Pollution Control Board (KSPCB)
16.	Undertake road widening and improvement of infrastructure for decongestion of road	Public Works Department (PWD)

8. In the action plan already submitted to the Hon'ble NGT, by the committee, the following are the steps to be taken by the Pollution Control Board (item 2, 14, and 15 above).

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2	Installation of the vapour recovery system in fuelling stations	Petroleum and Explosives Safety Organization (PESO)/ Pollution Control Board
14	Ensure strict action against industrial units not complying with standards.	Pollution Control Board
15	Ensure DG sets meeting the standards only be allowed to operate	Department of Electrical Inspectorate/ Pollution Control Board (KSPCB)

9. Petrol refuelling stations are a major source of benzene emissions, volatile organic compounds and particulate matter 2.5 concentration. Therefore installation of vapour recovery system is an important step in improving air quality. This is to be implemented in coordination with Petroleum and Explosives Safety Organization (PESO) shortly. Action in this regard has already been initiated, and this is now being insisted for new retail outlets with sale potential of 300kL per month and setting up in cities with population more than one lakh.

10. Periodical inspections are being conducted by the Kerala State Pollution Control Board in industries and the pollution control measures adopted by them are being verified. Industries with higher pollution potential are having Online Continuous Emission Monitoring System (OCEMS) of industries with the Board's portal. Adequate actions are also being taken to rectify the same if, any non-compliance is noticed by the Board.

11. The Hon'ble NGT have ordered that with a view to ensure availability of air quality data, atleast one air quality monitoring station must be set up at every district headquarters at the earliest. The air quality data is to be displayed on the website of the District administration and also at prominent locations in the towns, in the form of AQI, PM<sub>2.5</sub> and PM<sub>10</sub>.

12. The Board informed its willingness to share the data from the Continuous Ambient Air Quality Monitoring Station (CAAQMS) established by KSPCB and requested the District Collector to take necessary steps to publish the air quality data on the website of District Administration and at prominent locations in the towns in the form of AQI, PM<sub>2.5</sub>, PM<sub>10</sub>.

13. In connection with the National Clean Air Programme (NCAP), with an intention to reduce the PM<sub>2.5</sub> and PM<sub>10</sub> concentration from DG sets, retro fitting of emission control devices of generators already in use was suggested or direction given to shift to gas based DG sets. Circular

regarding the above was already issued by Kerala State Pollution Control Board on 9/12/2020. This emission control is required to be provided for DG sets of 500kVA and above only.

14. The Hon'ble NGT vide its Order dated 14.07.2021 in O.A. 259/2017 has directed to conduct Source Apportionment Studies in Kochi & Thiruvananthapuram Cities. Environment Department, Government of Kerala was directed to conduct the study. Chief Secretary, State of Kerala was directed to supervise the implementation of the scheme envisaged by each department. The matter was discussed in the meeting convened by Chief Secretary on 14.09.2021 and it was directed to invite estimate from NIT, Calicut. Accordingly, the Additional Chief Secretary, Environment Department invited estimate from NIT, Calicut. Later Kerala State Pollution Control Board was directed to examine the proposal received from NIT, Calicut and to hold discussion with the Director, NIT Calicut to get it revised to reasonable amount.

15. It was noted that the proposal submitted by NIT, Calicut did not contain adequate details and procedure required to be followed for Source Apportionment study specified in the CPCB guidelines. Hence the Conceptual Guidelines and Common Methodology issued by Central Pollution Control Board for conducting Air Quality Monitoring, Emission Inventory and Source Apportionment study was discussed with NIT, Calicut during the meeting held on 03.03.2022 and requested to submit revised detailed proposal considering all aspects of the guidelines issued by CPCB and the points recommended by the Joint Committee appointed by the Hon'ble NGT.

16. The revised proposal of NIT Calicut was received on 04.04.2022. As per the recommendation of the committee appointed by the Hon'ble NGT, a minimum of 20 locations shall be required for the study. Revised estimate submitted by NITC for conducting study in 40 station/location in two cities viz, Thiruvananthapuram and Kochi was Rs 5,20,46,880/- (Five Crore Twenty Lakhs Forty Six Thousand Eight Hundred and Eighty Rupees only).

17. As per the order dated 14.07.2021, the committee appointed by Hon'ble NGT in O.A. 259/2017 was directed to provide necessary guidance for the study as envisaged by them in the report primarily in Thiruvananthapuram and Kochi cities. As the committee appointed by Hon'ble NGT in O.A. 259/2017 has to provide guidance for the Source

Apportionment study, the revised proposal received from NITC was placed before the committee on 06.05.2022 for remarks and requested to offer remarks by 13.05.2022. One of the committee member refused to offer remarks as estimate from only one institution was invited for the study and remarks from other members also not received even after repeated reminders.

18. As the committee had not offered remarks and the cost estimated by NIT, Calicut for conducting Source Apportionment study in 2 cities was a huge amount (more than 5 crores) on account of more sampling station, revised proposal as per the CPCB guideline and direction in letter no 4179/2021/AQM-HO of CPCB dated 26.07.2021 of CPCB was requested from NIT, Calicut. The total cost for monitoring 5 locations each a for Greater Cochin area and Thiruvananthapuram (Total 10 stations) is revised to Rs. 2,56,62,400/- (Two Crore Fifty Six Lakhs Sixty Two Thousand Four Hundred Rupees Only)

19. As the committee constituted based on the directions of Hon'ble NGT has not provided any specific remarks on the matter, the committee has been strengthened with Sri. Alexander George, Senior Environmental Engineer, Technical Section, Head Office, Kerala State Pollution Control Board, Sri. J. Chandrababu, Zonal Officer, CPCB, RO, Bangalore, and Dr. S.M. Siva Nagendra, HOD, IIT, Madras. This committee can look into the proposal of NIT and provide necessary guidance and support and further negotiate the rate so as to conduct and complete the study as per CPCB guidelines at the earliest. The funding under Million Plus Cities for Thiruvananthapuram and Greater Cochin which is provided by MoEF can also be explored simultaneously and the Board shall address CPCB in this regard.

20. The Chief Engineer, Design, PWD was directed to submit report regarding the action taken in the management of Air Quality during construction of roads, bridges and buildings. Currently, the Environmental Engineering Unit, PWD undertakes the Environmental Impact Assessment study of all projects with Estimate PAC greater than 15 Crores or all projects that are environmentally susceptible, considering the effects on Air Quality during and after construction.

21. The PWD Manual Clause 1103.2 mentions the different sources of air pollution and mitigation measures to be taken for controlling air pollution during the construction of roads, bridges and buildings. Also

the Standard Environment Management Plan for Projects/ Works mentioned in the Appendix 1100.2 SI. No. W.H.1 and W.H.2 clearly depicts the management measures to be undertaken for reducing dust pollution and air pollution due to emission from construction vehicles, equipments and machinery.

**22. According to the Standard Environment Management Plan, the following air pollution control measures are strictly implemented during all construction projects to reduce air pollution.**

- (i) Select the Project locations or preferred alignment accordingly and prepare Environment friendly design.
- (ii) Install required air pollution control equipment for the machinery, plants and vehicles.
- (iii) Ensure proper periodical maintenance and servicing of the pollution control equipment, machineries, plants and vehicles.
- (iv) Control tree cutting and plant more trees.
- (v) Watering of the access roads and approach roads to provide seal coat.
- (vi) Watering of the materials before loading into plants for reduction of dust generation.
- (vii) Limit the extent of disturbed areas and restore the disturbed areas.
- (viii) All Vehicles delivering materials to site shall be adequately covered.
- (ix) The contractor to take every precaution to reduce level of dust emissions from crushers/ hot mix plants/ batching plant/WMM plant, construction sites involving earthwork by sprinkling of water, encapsulation of dust source and by erection of screens/ barriers.
- (x) The contractor is to obtain the necessary consent-to- establish and consent-to-operate all its plants from Kerala State Pollution Control Board.
- (xi) All plants are to be sited at least 150m in the downwind direction from the nearest human settlement. The contractor will provide necessary monitoring reports to confirm that all plants conform to relevant dust emission control legislation. The suspended particulate matter value at a distance of 40m from a unit, located in a cluster should be less than 500 g/m<sup>3</sup>.
- (xii) The contractor should conduct pollution monitoring at periodic intervals.
- (xiii) Dust screen vegetation will be planted on the edge of ROW for all existing roadside crushers. Hot mix plant to be fitted with dust extraction units.

**23. Instructions to be followed in all construction sites to reduce pollution due to Air emission from construction vehicles, Equipments and machineries:**

(xiv) The contractor will ensure that all vehicles, equipment and machinery used for construction are regularly maintained and confirm that pollution emission levels comply with the relevant requirement of PCB. The contractor will submit PUC certificates for all vehicles/equipment/ machinery used in the project.

(xv) Monitoring results will also be submitted by the contractor as per the monitoring plan.

24. The steps taken by the Motor Vehicles Department as per the orders of the Hon'ble National Green Tribunal, South Zone, Chennai is furnished below:-

**Short term suggestions:-**

- (a) Launching extensive awareness drive against polluting vehicles:
- (b) Ensuring strict actions against visibly polluting vehicles:
- (c) Steps to prevent parking of vehicles in non designated areas;

**Long term suggestions:-**

- (a) Retrofitting of diesel vehicles with particulate Filters;
- (b) Promoting Battery Operated Vehicles:
- (c) Banning of old diesel Vehicles:
- (d) Prepare an action plan for public transport on CNG mode:

**Short term steps**

25. In order to ensure strict action against visibly polluting vehicles, the department conducted a special drive "Operation Green Awareness". In this drive, strict actions were taken against visibly polluting vehicles. Awareness campaigns were conducted in each district by the Regional Transport officers with the help of personnel from Pollution Testing Centres, NGOs and Vehicle Dealers. Stringent actions were also taken against the vehicles which were parked in non-designated areas.

26. The Motor Vehicles Department is conducting pre - learners road safety awareness classes for the Driving License aspirants, in all Regional Transport Offices/Joint Regional Transport Offices in the State of Kerala. One of the major areas covered in such classes include Air Quality Control, its importance and measures to be adopted for

controlling air pollution due to vehicle emission etc. Questions related to the pollution control due to vehicle emission are included in the questionnaire for learner's tests also.

27. All the officers, especially officers of the enforcement wing of the Motor Vehicles Department have given strict direction to launch special drive for checking all the Polluting vehicles. Computerised pollution testing centres are launched in the state. All pollution testing centres were networked and linked with Parivahan site. The quality of testing centres have been improved. Web based Vahan PUCC module was implemented from 01/11/2020. Government are also contemplating to strengthen the vehicle pollution control testing centres.

28. As regards unauthorized parking of vehicles in non designated areas, effective enforcement activities are being carried out to prevent parking of vehicles in non - designated areas. The vehicle owners were given strict instructions to park the vehicles only in designated areas. The local bodies are requested to provide sufficient space in public places in their jurisdiction for vehicle parking as per the provisions of the Kerala Panchayat Raj (Landing place, Halting place, Car stands and other vehicle stands) Rules 1995 and Section 472 of the Kerala Municipality Act, 1994.

29. The details of checking and vehicles booked for violating pollution norms and unauthorised parking is furnished in the table below:

Month	Vehicles without PUC		Unauthorised Parking	
	No.of Cases	File Collected (Rs)	No.of Cases	File Collected (Rs)
January 2021	209	78500	3008	747750
February 2021	220	56750	1738	430750
March 2021	383	103000	1118	277000
April 2021	1368	1827900	1439	974250
May 2021	29	111000	53	46000
June 2021	49	125500	4845	192300
July 2021	389	1238250	5283	2189350
August				

2021	750	1926250	2330	1143500
September 2021	438	1432050	1513	915100
October 2021	504	1586000	2230	1198400
November 2021	712	2426250	2083	1296000
December 2021	646	2480150	1872	977150
<b>Total</b>	<b>5697</b>	<b>13391600</b>	<b>27512</b>	<b>10387550</b>

### Long term steps

30. In order to ensure environmental sustainability and to reduce pollution, Government of Kerala envisage Electric Vehicle Policy. As part of this Government are encouraging the use of electric vehicles and planning to switch over from diesel to CNG/LNG Electricity as fuel for public transport buses including KSRTC. KSEB was appointed as the State nodal agency for installation of charging station in the state. An amount of Rs. 5 Crores has been given to Kerala State Electricity Board for the installation of the charging Stations. ANERT under department of Power, Government of Kerala, had decided to give all support for the installation of Public Electric Vehicle Charging Stations across the State and also plans to give subsidy/ incentives for solarization of Public Electric Vehicle Charging Stations.

31. Government as per notification issued as G.O(P) No.12/2021/Trans dated, 23/02/2021 and published as S.R.O No.231/2021 in the Kerala Gazette Extra Ordinary No.917 dated, 23/02/2021 have granted a reduction of 50% for a period of 5 years with effect from 01/04/2021 on the rate of tax levied u/s. 3 of the KMVT Act to new electric vehicles and exempt the tax on new electric autorickshaws for a period of first 5 years on and from the date of their registration.

32. Government as per GO(Rt)No.240/2020/Tran dated 15/07/2020 has accorded sanction for hiring electric vehicles from EESL through ANERT. Accordingly 66 electric vehicles were hired by the department for the SAFE KERALA project. In the view of e-vehicle policy, a subsidy of Rs.30,000/- has been granted to the owners of the e-autorickshaws.

33. Motor Vehicles Department have imposed green tax on transport vehicles that are more than ten years old and non-transport vehicles that are more than 15 years old from 01 January 2017.

34. It is also informed that, Rule 52 of the Central Motor Vehicles Rule, 1989 provides for the provisions for Renewal of Certificate of registration. The Ministry of Road Transport and Highways as per the notification published as GSR 177 (E) dated 12.03.2021 has decided to insert a new rule. Rule 52A to the Central Motor Vehicles Rules, 1989, providing for the Non renewal of Certificate of registration of Government Vehicles, the draft of the said rule is as follows:-

“52A: Non-Renewal of Certificate of registration of Government Vehicles:

Notwithstanding anything contained in Rule 52, in the case of motor vehicles, owned by-

(i) Central Government and its Departments:

(ii) State/UT Governments and their Departments:

(iii) Local Government Institutions namely, the Municipal Corporations or Municipalities or Panchayats:

(iv) State Transport Undertakings established under the Road Transport Corporation Act, 1950 (64 of 1950) and the Companies Act, 2013 (18 of 2013):

(v) Public Sector Undertakings:

(vi) Autonomous bodies with the Central Government and State Governments.

The certificate of registration shall not be renewed after the lapse of fifteen years, as provided in sub-section (7) of Section 41, from the date of such certificate."

35. On coming into effect of the said rules the Certificate of registration of the vehicles mentioned as items (i) to (vi) of rule 52 A shall not be renewed.

36. In view of the directions of the Hon'ble National Green Tribunal and in order to ensure environmental sustainability and to reduce pollution as envisaged in the Electric Vehicle Policy of the Government of Kerala, the Government have decided to bring Air Pollution under control by implementing alternative fuels like Electrical Energy, Liquefied Petroleum Gas (LPG), Compressed Natural Gas (CNG), Liquefied Natural Gas (LNG) in Auto rickshaws older than 15 years from first June, 2021. For the purpose the Government have amended the

Kerala Motor Vehicles Rules, 1989, by inserting a new rule namely Rule 292 A, as per notification issued under G.O.(P) No.15/2020/ Trans dated, 24/05/2021 and published as S.R.O No.414/2021 in the Kerala Gazette Extra Ordinary No. 1642 dated, 27/05/2021.

37. As per GO(P) No.41/2018/Tran dated, 22/1 1/2018 Government of Kerala have directed the Regional Transport authorities to fix the limit for auto LPG/LNG/CNG/Electric Autorickshaws in each of the cities of Thiruvananthapuram. Kochi and Kozhikode as 3000 numbers in which 2000 permits will be allotted only for electric autos and a separate quota of 1000 permits will be allotted to other fuels like CNG/LNG/LPG apart from the auto rickshaw permits already fixed.

38. A special team under Joint Transport Commissioner (Enforcement) has been formed for proposing a detailed action plan for public transport on CNG mode. Oil Companies have been directed to set up CNG & LNG stations across the state. Land has allotted at Anayara, KSRTC in tie up with IOCL is trying to introduce CNG/LNG/Electric buses. Private vehicles are also being converted to CNG.

39. KSRTC has invited tender for the procurement of 310 CNG buses to replace the existing diesel buses.

40. Government have announced Rs. 100 Crores fund for the conversion of diesel buses of KSRTC to CNG. As a pilot project, KSRTC invited tender for the conversion of 5 diesel buses to CNG for evaluating the performance and work order issued.

41. KSRTC is also planning to phase out 935 old aged diesel buses. Most recently, the Government of India is in- the process of preparing a Hydrogen Mission, with support from the MNRE and NITI Aayog. In addition, Government have took initiative to explore opportunities for Kerala to exploit the potential of green hydrogen technologies for green energy acceleration and the adoption of clean transport.

42. Travancore Cochin Chemicals Ltd (Public sector under taking owned by Government of Kerala) is the only company in Kerala producing green Hydrogen through electrolysis route, and the purity of hydrogen produced is 99.4%. This need to be further purified to meet the requirements of automotive fuel grade. Travancore Cochin Chemicals Ltd is planning to set up facility to purify, compress and dispense refuel

hydrogen gas available at their premises. KMRL has been awarded Rs.10 Crore for running Hydrogen Buses on a pilot basis.

43. IOCL, Cochin has obtained an in-principle clearance from their management for investment of Rs.100 crores for setting up Green Hydrogen Fuel infrastructure one each at Cochin and at Trivandrum as a pilot project. IOCL has requested for allotting 2 acres of land at Vytilla mobility hub and Trivandrum for setting up hydrogen Refueling Station.

44. Cochin Shipyard Ltd got funding approval from the Ministry of Ports and Shipping for their ongoing Projects in manufacturing fuel cell Boats and Vessels. First fuel cell Boat will be commissioned by the end of the next year, so that, when the National Water Ways become functional, Government can put more fuel cell boats across the State.

45. All the facts stated above are true to the best of my knowledge, belief and information.

Dated this 7<sup>th</sup> day of July, 2022.

*[Signature]*  
**Dr. VENU V IAS**  
 Additional Chief Secretary  
 Home, Vigilance  
 Environment Department  
 Government of Kerala  
 Thiruvananthapuram  
**DEPONENT**

Solemnly affirmed and signed before me by the deponent, whom I know on the 7<sup>th</sup> day of July, 2022 at the Office of the *Government*

*Secretariat, Thiruvananthapuram*



*[Signature]*  
**GEETHA GOPINATH**  
 Under Secretary  
 Environment Department  
 Govt. Secretariat  
 Thiruvananthapuram