BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

OA NO. 621 OF 2025

IN THE MATTER OF:

NEWS ITEM TITLED "CLIMATE CHANGE IMBALANCE IN FERTILIZER USE IMPACTS SOIL'S ORGANIC CARBON: ICAR STUDY" APPEARING IN THE HINDU DATED 10.11.2025.

Next Hearing: 07-09-2026

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NEWS ITEM TITLED "CLIMATE CHANGE IMBALANCE IN FERTILIZER USE IMPACTS SOIL'S ORGANIC CARBON: ICAR STUDY" APPEARING IN THE HINDU DATED 10.11.2025.

REPLY AFFIDAVIT ON BEHALF OF THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (RESPONDENT NO. 3)

I, Sharath Kumar Pallerla, currently working as Scientist G in the Ministry of Environment, Forest and Climate Change (MoEF&CC), New Delhi do hereby solemnly affirm and state as under:

1. That I, in my official capacity of Scientist G in the Ministry of Environment, Forest and Climate Change, New Delhi, i.e., Respondent No. 3 in the above-mentioned matter, am conversant with the facts and circumstances of the case on the basis of official records, and as such, authorized and competent to swear this affidavit.
2. That an affidavit is being filed by the answering respondent at this stage, and it craves leave and liberty to file any other Affidavit to the aforesaid application, as and when required.

3. The matter relates to the news item titled "Climate Change imbalance in fertilizer use impacts soil's organic carbon: ICAR study" appearing in The Hindu dated 10.11.2025.

4. It is submitted that matters related to climate change are not specifically covered under any environmental statute in India. They are addressed primarily through international frameworks and multilateral processes.

5. It is further submitted that the soil organic carbon (SOC) content in cultivated lands is governed by a complex interaction of climatic variables, soil properties, and land management practices. In Indian agro-ecosystems, SOC is influenced by temperature, rainfall, soil texture and mineralogy, cropping systems, and agronomic practices such as residue management, tillage, and nutrient application. SOC levels are fundamentally determined by biomass inputs and their stabilisation in soil, which vary significantly across agro-ecological regions. Cropping systems that enhance biomass return, such as residue retention, legume inclusion, and agroforestry, tend to increase or maintain SOC, whereas residue removal and intensive tillage accelerate SOC depletion.

6. The Ministry of Environment, Forest, and Climate Change has not conducted any study on the effects of climate change on SOC content in India's agricultural soils. Available evidence from studies conducted by ICAR institutions and State Agricultural Universities across India shows that SOC is generally higher in cooler, humid regions and lower in hot, arid regions, indicating an association with climatic gradients. However, such evidence is predominantly spatial. Empirical evidence directly quantifying the impact of

NOTARY R.V. SINGH Advocate Regd. No. 12182 GOVT. OF INDIA

temporal changes in climate (e.g., rising temperatures or altered rainfall patterns) on SOC is limited. The literature-based data used in India's Biennial Update Reports and National Communications submitted to the United Nations Framework Convention on Climate Change showed that SOC trends are non-uniform, exhibiting both increases and decreases depending on agro-ecological conditions, baseline SOC levels, and management practices. For instance, SOC decline has been observed in some arid and rainfed systems, whereas increases have been recorded in irrigated and intensively managed systems. However, the cropland in India has continuously shown an increase in the soil organic carbon, as a result, it remains a net sink for greenhouse gases, resulting in substantial carbon sequestration.

7. The journal publication titled "Understanding Spatial Distribution Variability of Top Soil Organic Carbon in Cultivated Soils of India as Influenced by Rainfall, Elevation and Temperature" (Land Degradation & Development), referred to, does not analyse or establish any empirical evidence on temporal changes in climate parameters or their impact on SOC. It only discusses the correlation between SOC and environmental variables (rainfall, temperature, elevation). Therefore, as in the newspaper report in The Hindu dated 10.11.2025, an inference of SOC decline and its attribution to drivers such as climate change cannot be made solely on the basis of the spatial distribution map of SOC generated from data obtained at a single point in time. Such data represent spatial variability and do not capture temporal trends. Establishing decline and causality

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requires repeated measurements over time, along with analysis of associated driving factors.

8. The soil organic carbon content in Indian cultivated soils must therefore be understood as the outcome of interacting climatic, edaphic, and management factors, and not as a consequence of any single driver, such as climate change, inferred from spatial distribution alone.

9. It is respectfully submitted that the Department of Agricultural Research and Education and Department of Agriculture and Farmer Welfare are the nodal authorities for dealing with matters relating to fertilisers used for agriculture and its impact on soil thereof. Furthermore, The National Mission for Sustainable Agriculture has been implemented by the Ministry of Agriculture and Farmers Welfare, wherein one of the components of the abovenamed mission is "Soil Health Management".

10. In view of the points stated above, it is submitted that the Ministry of Environment, Forest and Climate Change may be excluded from the list of respondents.

11. It is respectfully submitted that in view of the above submissions, this Hon'ble Tribunal may pass order(s) as deemed fit and proper in the facts and circumstances of the case.

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DEPONENT

(शरथ कुमार पलरेला)
(SHARATH KUMAR PALLERLA)
वैज्ञानिक 'जी'/Scientist 'G'
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min.of Environment,Forest and Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

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VERIFICATION

30 JUN 2026

30 JUN 2026

Verified at on this 30 day of June, 2026 that the contents of this affidavit based on official record(s) maintained and information available in the office are true and correct, no part of it is false and nothing has been concealed there from.

30/6/26

DEPONENT

(शरथ कुमार पल्लेरला)
(SHARATH KUMAR PALLERLA)
वैज्ञानिक 'जी'/Scientist 'G'
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min.of Environment,Forest and Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

Identified the deponent/executant who has signed in my presence

D/7676/2022

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Solemnly affirmed before me, read over & explained to the deponent

Notary Public, DELHI

30 JUN 2026