

BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH NEW DELHI

O.A. NO. 555 OF 2024

IN THE MATTER OF: -

News item titled "India lost 2.33 million hectares of tree cover since 2000 Global Forest Watch" appearing in "The Indian Express" dated 13.04.2024. ...Petitioners

VERSUS

Central Pollution Control Board & Others ...Respondent

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PAPER BOOK

ADVOCATE FOR THE RESPONDENT No.14

KUMAR ANURAG SINGH

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

IN THE MATTER OF :

O.A. No.555/2024

News item titled "India lost 2.33 million hectares of tree cover since 2000 Global Forest Watch" appearing in "The Indian Express" dated 13.04.2024.

-Versus-

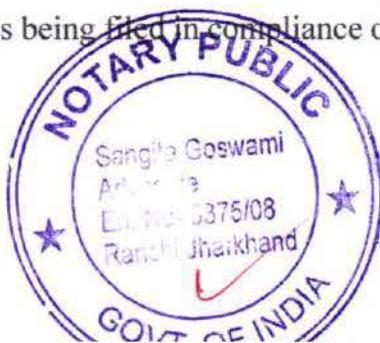
Central Pollution Control Board & Others

...Respondents

Affidavit on behalf of Respondent No. 14 namely State of Jharkhand through Secretary, Department of Forests and Environment & Climate Change, Nepal House, Doranda, Ranchi – 834002, Jharkhand in compliance of order dated 18.11.2024

I, P. RAJENDRA NAIDU, aged about 46 years, S/o- P. ANANDA RAO, R/o- DORANDA, P.O. DORANDA, P.S. DORANDA, District- RANCHI do hereby solemnly affirm and state as follows: -

1. That I am presently working and posted Conservator of forest, (W.P) as and as such I am well acquainted with the facts and circumstances of this case.
2. That I am competent to swear and file this affidavit.
3. That the present affidavit is being filed in compliance of order dated 18.11.2024 passed by this Hon'ble Tribunal.



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REF No 552 DATE 52 APR 2025
Authorised under Notaries Act-1952 and Notaries Rules-1956 Govt. of India

4. That it is respectfully submitted that the Hon'ble Tribunal made a reference to the loss of 2.33 million hectares of tree cover since 2000 in India, equivalent to six percent decrease in tree cover during this period and also that the country lost 4,14,000 hectares of humid primary forest from 2022 to 2023, as per the data presented by Global Forest watch.
5. That however, in the State of Jharkhand, as per the State of Forest Report submitted by FSI, it has been observed that the tree cover or the total forest cover which include the three classes of forest *i.e.* Very Dense Forest, Moderately Dense Forest and Open Forest, in the year 2003 was 22,71,600 hectare (2.27 million hectares) and in the year 2023 the total forest cover was 23,76,578 hectares or (2.37 million hectares). Therefore, there is an increase of 1,04,978 hectares of forest cover in the state of Jharkhand in last two decades.
6. That the primary forests, which are the natural forests, formed due by the natural regeneration of native species and having reached the final stage of succession in the state of Jharkhand, developed into a high forest or mature forest supporting a rich biodiversity. As per the Global Forest Watch report, Jharkhand has lost 57 ha of primary forest from the year 2002 to 2023 mainly in the southern districts of Singhbhum region. This is largely attributed to the fact that much of the iron ore mining take place in these districts hence tree felling is done in those areas. In Jharkhand, the Sal forests are dominant and are broadly classified into (i) Moist peninsular low level Sal (having an area of 57,313 hectares) (ii) Moist peninsular valley Sal forests (having an area of 6509 hectares) and (iii) Dry peninsular Sal forests (having an area of 13,18,365 hectares). The primary forests are present in all the above mentioned forest types but in the Very Dense category of forests. In the Jharkhand state, the Very Dense category of forests was 2,54,400 hectares in the year 2003 and in the year 2023 it increased to 2,63,535 hectares. Hence, there is a net gain



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of 9,135 hectares of Very Dense category of forests in the span of two decades in Jharkhand.

(Photocopy of document showing category of forests is annexed herewith and marked Annexure – 1).

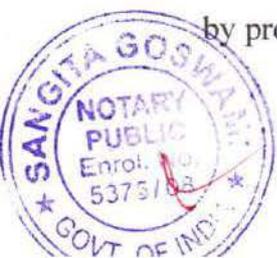
7. That it is respectfully submitted that as per the report of Global Forest watch, an average of 51.0 million tons of Carbon dioxide equivalent per year was released into the atmosphere as a result of tree cover loss in India and that 1.12 gigatons of Carbon dioxide equivalent was emitted during this period. It was estimated by FSI that the total volume of growing stock in Jharkhand is 175.15 MCM (Million Cubic Metres) including Trees outside Forest (TOF) which is 74.35 MCM (which includes plantations, etc). The total Carbon stock of forest in the state including TOF patches that are more than 1 hectare in size is 184.81 million tonnes (677.64 million tonnes of CO₂ equivalent), which is 2.57% of total forest Carbon of the country. The Soil organic Carbon in the state is the largest part of forest Carbon accounting for 59%, followed by above-ground biomass (AGB), which is 27%, below-ground biomass (BGB) consisting of 10%, litter is 0.01% and dead wood 0.0004% of total Carbon (FSI, 2021). As per the Global Forest watch Report, between 2001 to 2023, forests in Jharkhand emitted 136Kt CO₂ e / year and removed -2.19 Mt CO₂ e / year. This represents a net Carbon sink of -2.05 Mt CO₂ e / year . The CO₂ emissions in the state is mainly due to deforestation of tree cover in the forest land diverted for non-forestry purposes. However, at the same time Carbon is being sequestered through the Compensatory Afforestation and other plantation activities taken up by the state. As per the FSI report, in the year 2021, the largest pool of carbon is the soil organic carbon which



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is 59% of total forest Carbon, so the factors like soil erosion, forest fires also contribute significantly for the Carbon loss from soil in the Jharkhand state. Jharkhand being a plateau, have undulating terrain and majority of forests are on the slopes. Hence the area is highly vulnerable to the soil erosion, similarly as the majority of forests are deciduous forests, there is accumulation leaf litter on the forest floor in the months of March and April, which acts as fuel load for fire. The state of Jharkhand has been proactive in controlling forest fires. As per the FSI report, in the year 2021 the number of fire incidences in the state were 26,388. There was gradual decrease in the fire incidences, in the year 2023 it was 11,336 incidences, which further reduced to 7,607 incidences, in the year 2024.

8. That it is respectfully submitted that the observations made by the Hon'ble Tribunal are true that forests are both a sink and a source of carbon, removing carbon dioxide from the air when standing or regrowing and emitting it when cleared or degraded. Actually, the tree cover loss is not always due to deforestation, which typically refers to human cause but also includes natural disturbances. Approximately 95 percent of the tree cover loss in India from 2013 to 2023 occurred within natural forest. In the state of Jharkhand, as per the Global Forest watch report from the year 2001 to 2023, the state lost 5980 hectares of tree cover. The main reason being the diversion of natural forests for non-forestry activity like mining and critical infrastructure. However, as per the FSI report in the year 2023 there is an increase of 1,04,978 hectares of forests cover in the state compared to the year 2003. Similiarly, as per the Global Forest Watch data between the years 2000 to 2020, Jharkhand gained 61,600 hectares of tree cover in the state. This increase is mainly due to the plantation activities taken up by the state of Jharkhand under various schemes followed by protection and enforcement activities .



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9. That with respect to the data from the Food and Agriculture Organisation, which states that the rate of deforestation in India was 6,68,000 hectares per year between 2015 and 2020, the second highest worldwide. With respect to the state of Jharkhand, the deforestation can be understood by net conversion of Very Dense Forests and Moderately dense forests to Non-forests (*i.e.* deforestation). This analysis is called the Forest cover change matrix, which is prepared by FSI, Dehradun and published in the State of Forest Reports. The change matrix in the State of Jharkhand from the year 2005 to 2023 was analysed and was observed that an area of 149 hectares of Very Dense forests have been converted to Non-forest (deforestation). At the same time, the positive changes were observed, wherein an area of 300 hectare of Non-forest has been converted to Very Dense Forest (VDF). Hence, the net gain in VDF category is 151 hectares. Moreover, 9090 hectares of Moderately Dense forests (MDF) has been converted to Non-forest in the afore-mentioned period. Nonetheless, an area of 16,353 hectares of Non-forest has been converted to Moderately Dense Forests (MDF) category. Thus, the net gain in area under Moderately Dense Forests is 6,247 hectares. It can be reasoned that the conversion of VDF and MDF category of forests to Non-forest or deforestation is due to tree felling done due to change in land use on the diverted forest land for mining and other critical infrastructure projects in the state. However, the net gain of Very Dense forests and Moderately Dense forests together is 6,398 hectares, which is due to protection and plantation activities taken up by the state in the last two decades.

(Photocopy of document showing forest change matrix is annexed herewith and marked Annexure – 2).



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10. That the Hon'ble Tribunal observed that there is loss of trees all over India and therefore individual States and Union Territories should also submit their reports with regard to such loss of Trees and the reason thereof. In compliance of the same and the relevant issues *i.e.* status of forest, as on date in Jharkhand, the factors responsible for loss and action taken report for conservation and management of forest is to be apprised to the Hon'ble Court. The forests in Jharkhand face many challenges, importantly anthropogenic factors like mining activities, grazing, collection of NTFP, unsustainable harvesting by local people, fuel wood collection, forage removal, lopping of branches, etc. The forests in the state of Jharkhand are dominated by *Shorea robusta* or Sal trees and the species *Madhuca latifolia*, *Terminalia tomentosa*, *Buchunania latifolia* and *Anogeissus latifolia*, etc. As per the FSI report 2023, there are a total 2213 lakh Sal trees in Jharkhand's forests followed by other species. However in spite of various pressures, the forests in the state have stabilised due to profuse regeneration of Sal trees and extensive plantation activities. On analysis of the various categories of forests in different density classes from the State of Forest Report of FSI Dehradun from the year 2003 to 2023 confirmed this fact. The Very Dense Forests (VDF) in the year 2003 was 2,54,400 hectares and in the year 2023 it was 2,63,535 hectares with a marginal increase of 9135 hectares. The Moderately Dense Forests (MDF) was 9,13,700 hectares in the year 2003 and in the year 2023, it was 9,64,099 hectares and the net gain in this category is 50,000 hectares. Similarly, the Open forests was 11,03,500 hectares in the year 2003 and in the year 2023, the area under Open forests was 11,48,944 hectares. Thus, the area under different classes have stabilised over the years. However, as mentioned earlier, the anthropogenic factors are responsible for the loss of trees. The preventive and other remedial measures undertaken by the Forest department includes creating awareness among the people regarding forest protection, especially forest fires,



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taking punitive action against people involved in forest crime, seizure of vehicles carrying illegal forest produce and subsequent confiscation of vehicles involved in forest crime, controlling forest fires and regular patrolling by the frontline staffs. Additionally, encroachment of forest land is being prevented and legal proceedings are being initiated under Jharkhand Public Land encroachment Act and subsequently the temporary and the temporary encroachments are removed. The other remedial measures include plantation and afforestation activities, silviculture practices and soil and moisture conservation measures to improve the forest quality and tree cover in the state. The conservation and management are done as per the prescription in the sanctioned Working Plan, which is prepared for 10 years. The forest area is allotted to different Working circles, as per the treatment required and they are treated accordingly. The various working circles include Protection Working circle, Soil and moisture Conservation Circle, Wildlife management circle, etc.

(Photocopy of document showing plantation details is annexed herewith and marked Annexure – 3).

11. That therefore it is humbly submitted that the forests in the state are systematically managed and protected in the State of Jharkhand.



VERIFICATION

I, P. RAJENDRA NADU, age- 46 years, SW/o P. ANANDA RAO, resident of DORANDA, P.O.- DORANDA & P.S.- DORANDA, District- RANCHI, at present working and posted as CONSERVATOR OF FOREST, (W.P.) do hereby verify that the contents of paragraphs 1 to 11 are true to my knowledge, the statements contained in paragraphs 1 to 11 are true to my information derived from the official records which I verily believe to be true and the statements contained in paragraphs 1 to 11 are my respectful submissions before this Hon'ble Tribunal.

Date:

Place:

Prepared in my office

and identified by me

Advocate

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Depoent

Devidh Kon
2/4/25

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Signature Attested
Identification of Lawyers



NOTARY PUBLIC RANCHI
2/4/25

Annexure - 1

**Table 1: Category of Forests in various density classes in Jharkhand state
(as per FSI reports, 2003 to 2025)**

Category of Forest	2003	2005	2007	2009	2011	2013	2015	2017	2019	2021	2023
VERY DENSE FOREST (V.D.F)	254400	254400	259500	259000	259000	258700	258800	259800	260300	260100	263535
MODERATELY DENSE FOREST (M.D.F)	913700	907800	989200	989900	991700	966900	966300	968600	968700	968900	964099
OPEN FOREST (O.F)	1103500	1096900	1023500	1040500	1047000	1121900	1122700	1126900	1132000	1143100	1148944
Total:-	2271600	2259100	2272200	2289400	2297700	2347500	2347800	2355300	2361000	2372100	2376578

Annexure - 2

Table 2: Estimate of net conversion to Non-forests (NF) , Very Dense forests (VDF) and MDF as per the forest cover change matrix (2005-2023), FSI reports

Forest cover change (in ha)	2005	2009	2011	2013	2015	2017	2019	2021	2023	total forests change from 2005-2023
VDF to NF	0	0	0	0	0	0	0	100	49	-149
NF to VDF	0	100	0	0	0	0	100	100	0	300
Net conversion of VDF to NF	0	100	0	0	0	0	100	0	49	151
MDF to NF	200	2300	1600	2600	0	0	600	2300	510	-9090
NF to MDF	0	1500	0	11000	200	200	700	2600	153	16353
Net conversion of NF to MDF	-200	-800	-1600	8400	200	200	100	300	-353	6247
Net change										+6398

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Annexure - 3

Table 3: The Afforestation and plantation activities taken up in the state of Jharkhand for last 5 years (2019-20 to 2024-25)

Sl. No.	Year	Plan scheme		CAMPA scheme		Total Area (ha.)	Total Number of saplings
		Area (ha.)	Plantation of saplings (No.)	Area (ha.)	Plantation of saplings (No.)		
1	2	3	4	5	6	7	8
1	2019-20	22634	8197060	14134	7490040	36768	15687100
2	2020-21	22538	14145354	10727	6436782	33265	20582136
3	2021-22	15067	10812941	13459	7001395	28526	17814336
4	2022-23	12149	13872620	17541	11378433	29690	25251053
5	2023-24	16772	13564200	12572	10373956	29344	23938156
6	2024-25	21170	19537322	2902	2659766	24072	22197088
Total:-		110330	80129497	71335	45340372	181665	125469869

H.a.