IN THE HON'BLE COURT OF THE NATIONAL GREEN TRIBUNAL, SOUTHERN ZONE ,CHENNAI.

Application No.131/2016(SZ)

B.R.Lakshmanan ..... Applicant

V/s

The District Collector,

Nilgiri District & 13 others ..... Respondents.

WRITTEN ARGUMENTS FILED BY THE APPLICANT.

1) The Applicant Alleges that the Respondent No.7 to Respondent No.14 are the green tea leaf agents and are purchasing the green tea leaves from the small growers and are transporting it to local tea factories in valparai of Coimbatore District which is 250 kilometers away from the Nilgiri District and for the above said transportation huge amount of ground water is mixed or soaked with the green tea leaves to keep it fresh till it reaches the tea factories in valparai.

The District Authorities of Nilgiri District through the letter R.C.No.844/2016/p3 dated 18.8.2020 (joint committee Report) submitted by Thiru.D.Samsanthakumar.M.A, Assistant Director(Village Panchayats), udhgamandalam have admitted the alleged transportation of the green tea leaves by using huge amount of ground water as a preservative during transportation from the Nilgiri District to Valparai which is 250 kilometers away from the Nilgiri District by the Respondents No.7 to Respondents No.14 and also the above mentioned Assistant Director of Village Panchayat has reported the green leaf transportation period as follows.

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S.No	Name of the Respondents	Type of water source	Period of transportation of tea leaves to valparai.
1	Mr.Nandhakumar, R-7	60 Feet open well	2003-2015 (13 years)
2	Mr.H.Subramani, R-11	Bore well	2004-2013(9 years)
3	Mr.sreenivasan & Krishnamoorthy,R-12& 14.	Bore well	2007-2015(9 years)
4	Mr.Dharmaraj, R-13	Open well	2007- 2018 (12 years)
5	G.Krishnamoorthy,R-9	Bore well	2005- 2018(14 years)
6	Mr.S.Santhosh kumar,R-10	Bore well	2002-2018(17 years)
7	Mr.B.C.Senthilkumar, R-8	Open well	2005-2017(13 years)

But the actual period of transportation of the green tea leaves by the respondents is till 2018 and the Respondent No.9, G.Krishnamoorthy is Transporting the green tea leaves to valparai till date.

Please peruse the above mentioned details in calculating the Environment Compensation which is pleased to be collected from the Respondents No.7 to Respondents No.14 for the alleged extraction of huge amount of underground water for the illegal transportation of green tea leaves from the Nilgiri District to valparai which is 250 kilometres away from the Nilgiri District.

PLEASE NOTE: THE RESPONDENT No.7 to RESPONDENT No.14 ARE NOT USING ANY WATER FOR THE TRANSPORTING THE GREEN TEA LEAVES TO THE 177 TEA FACTORIES IN THE NILGIRI DISTRICT BUT ARE USING HUGE AMOUNT OF WATER FOR TRANSPORTING THE GREEN TEA LEAVES FROM THE NILGIRI DISTRICT TO VALPARAI.

2) The landslide vulnerable Hot spots in the Nilgiri District of Tamilnadu State from time to time were notified by the Revenue Administration and Disaster management from time to time and now they notified 233 Landslide vulnerable Hotspots in the Nilgiri District. The District Authorities through the independent Report filed against the Objections filed by the Applicant have admitted the exisistence of eight landslide vulnerable Hotspots namely 1)ambedkar nagar, 2)Bhagyanagar, 3)Ghandhinagar ,4) Kudumanai, 5)

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Giri Betta, 6) Manavoroi, 7) Kovilmedu and 8) Honnathalai which were very nearer to the Respondent No.7 to 14 Water sources used for the alleged illegal extraction of water and transportation of green tea leaves to valparai of coimbatore District.

Page No.23 of the objections filed by the Applicant Reveals that S.No.28 Ambedkar Nagar, S.No.29 Bhagyanagar, S.No.30 Gandhinagar, S.No.31 Kudumanai are notified as Very higly vulnerable landslide hotspots by the Revenue Administration and Disaster management with the Abbreviation VHV(Very Highly Vulnerable) and S.No.33 Giri Betta, S.No.34 Manavoroi, S.No.39 kovilmedu are notified as Highly Vulnerble landslide hotspots by the Revenue Administration and Disaster Management with the abbreviation HV(Highly Vulnerable) and S.No.46 Honnathalai is notified as LV(Less vulnerable). But the district Authorities in the motivation to safe guarding the Respondents No.7 to 14 has misled this Honourable Tribunal through the letter (Annexure 2 dated 15.2.2022)submitted by Thiru.Rameshkumar.M.Sc., Assistant Director of Geology and mining, R.C.No.1653/Mines/2021 dated 7.2.2022 are as follows. In the sixth paragraph He states that **"The other villages Kovilmedu,Honnathalai, Gandhinagar,Kudumanai are located on the gentle slope to moderate slope and falls in the less prone to moderate prone for land slide due to geotechnical parameters like slope,Drainage pattern, Top soil Thickness and land use pattern"** which is contrary to the reports of the Revenue Administration and Disaster Management which classified the above mentioned landslide hotspots to be Very Higly Vulnerable and Highly Vulnerable.

The COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH, MINISTRY OF SCIENCE & TECHNOLOGY, GOVERNMENT OF INDIA and also the United states Geological Survey has made many researches and found that the main reasons for the earthquakes, land slides and land subsidence is due to the extraction of huge amount of ground water which causes a vacuum in the underground which inturn causes earth quakes, land slides and land subsidence.

Hence the ground water extraction by the Respondents No.7 to 14, near the landslide Vulnerable hotspots in the Nilgiri District for the alleged Transporatation of green tea leaves to valparai must be restricted by this Honourable Tribunal in order to prevent the landslides and to protect both the nature and Humans immediately.

3) The District Collector through the Reply Affidavit to the Objections filed by the Applicant in page 5 has admitted that the Respondents electricity connections are under commercial tariff under category 5.

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4) The Public woks Department through the letter(Annexure -1 , 15.2.2022) submitted by Thiru.M.Sivakumar, M.Sc, Assistant Director(Geology),PWD, Ground water Sub-Division,coimbatotr through the letter Lr.No.30/AD(G)/GSWDn/CBE/2022/Dt 13.1.2022 has admitted in last paragraph that"**The above said Tea processing units are not obtained No Objection certificate from the chief engineer, State ground and surface water Resources Data centre,Tharamani,Chennai and also observed that they have not applied (or) approach this department in this regard. Notice has to be issued to the firm regarding the NOC through District administration/district monitoring committee"** reveals that the extracting water,processing the green tea leaves and transporting it to the tea industries in valparai to be commercial activity and the Respondents No.7 to 14 have extracted huge amount of under ground water for the said activity for many years illegally without obtaining necessary permissions from the water resources department which is illegal and against law.

5) The Reply Affidavit filed by the second Respondent against the O.A.131/2016(SZ) is completely against the Respondents No.7 to 14 and favouring the Applicants Allegations.

Considering the original Application, Objections to the joint Committee Report and also considering the Written Arguments and the facts, Therefore,

1) **It is Respectfully prayed that this Honourable Tribunal may be pleased to restrict the extraction of under ground water by the Respondents No.7 to 14 by Restricting the Transportation of Green tea leaves from Nilgiri District to valparai which is 250 kiklometres away in order to prevent landslides,land subsidence and the loss of Human lifes due to landslides.**

2) **Please Impose or collect an Environmental Compensation of Rupees fifty lakhs to one crore from each of the Respondents No.7 to 14 severally and independently on the basis of the "Polluter Pays" Principle and thus render justice.**

Enclosures: COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH, MINISTRY OF SCIENCE & TECHNOLOGY, GOVERNMENT OF INDIA.

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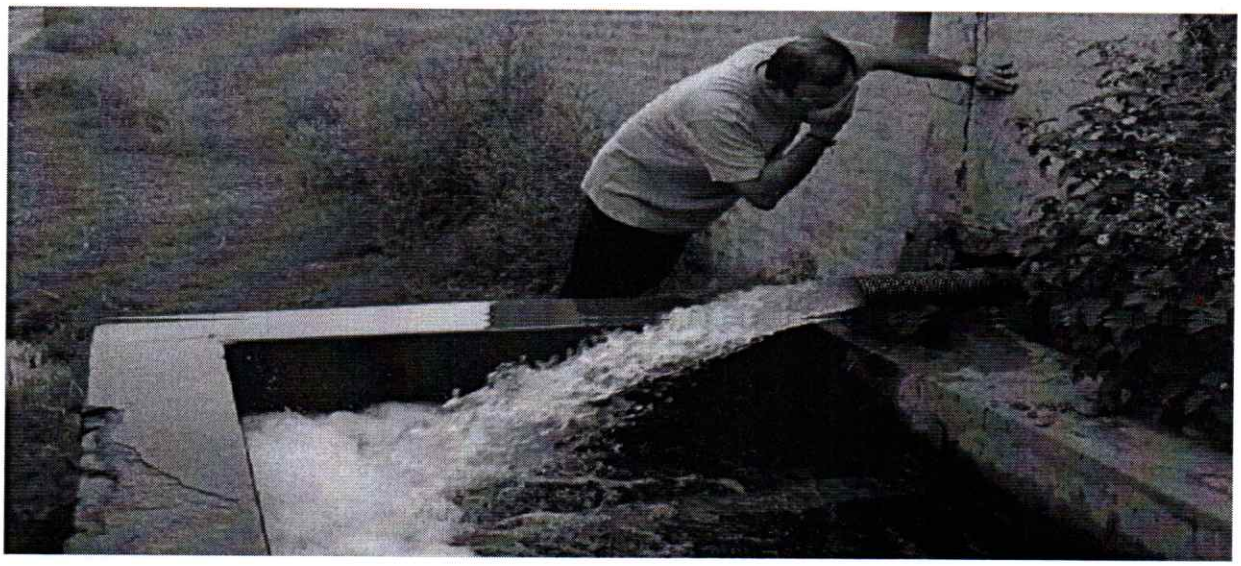
Frequent earthquakes around Delhi linked to groundwater pumping



Earthquakes along the Aravalli-Delhi Fold Belt (ADFB) – spanning north of Delhi to Udaipur in India's northwest – appear to be more frequent around the national capital, a region that extracts maximum groundwater for agricultural and domestic use. A team of geophysicists now suggest a link between the increased seismic activity and the 'alarming' increase in groundwater pumping in the Delhi region1.

Simulating data around space-based gravity change, earthquake frequency, GPS, rainfall and well-level groundwater, Vineet Gahalaut, chief scientist at the National Geophysical Research Institute (NGRI) in Hyderabad, and his colleagues suggest that the pressure on groundwater aquifers may be the trigger for increased seismic activity in the region.

"Groundwater pumping leads to reduction in water load in the aquifers causing subsurface faults to unclamp, thereby promoting failure," Gahalaut told Nature India. This means that earthquakes in this region are either triggered or their frequency is modulated by the groundwater withdrawal patterns, he said. The combined effect of aquifer contraction and basement rock expansion modulate the effective stress regime and seismicity on the faults of the region, he added.

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The 'low magnitude but moderate seismicity rate' of Delhi region correlates with groundwater pumping for extensive irrigation, urban activities, and seasonal loading of freshwater aquifers. To understand how much groundwater was being extracted in northwest India and the region surrounding Delhi, the researchers explored 156 months of NASA's Gravity Recovery and Earth Climate Experiment (GRACE) data and Global Land Data Assimilation System (GLDAS), from January 2003 to December 2015.

They estimated that groundwater storage in the region was changing at an 'alarming' rate of around 1.6 cm per year. Although the entire Aravalli-Delhi Fold Belt experiences earthquakes, the Delhi region appears to be more active seismically, having witnessed several moderate and strong historical earthquakes in 1720, 1831, 1956 and 1960. Most of these earthquakes occurred in the upper 25 km of the Earth's crust. The study suggests that recent earthquakes in the region have good correlation with the timing of the seasonal hydrological loading cycle. "During the water loading period – June to September monsoon time – seismicity is the lowest, whereas it is relatively high during the unloading period."

"Such hydrological processes may trigger earthquakes, but what causes them in the intraplate region (away from the plate boundary regions like the Himalayan arc) still needs to be explored," Gahalaut said. It is also a good prompt for future explorations into the seismogenic potential of the region and to determine the maximum magnitude of an earthquake which may occur here, he said. With hydrological modeling, in-situ and satellite-based observations, the researchers also indicate alarming groundwater extraction rates across the Indo-Gangetic Basin in north-western India.

'Induced seismicity' is of concern to scientists observing a direct link between water withdrawal rates and earthquakes. They suggest that this may be a promising tool to mitigate the occurrence of induced earthquakes. Delhi could represent other mountain valley regions in the world that experience similar overexploitation of aquifers and suffer from ground subsidence and seismicity, the authors suggest. "The two-way coupling between fluid flow and mechanical deformation processes also holds promise for uncovering hidden basement faults and effective forecasting of human-induced earthquakes," Gahalaut pointed out.

Earlier, another NGRI study found links between the heavy extraction of groundwater in the Indo-Gangetic basin for over five decades to the devastating magnitude 7.8 earthquake in Nepal in April 20152.

Similar studies are underway in other regions of India. In Maharashtra, scientists are trying to understand the phenomenon of induced earthquakes in a reservoir of the Koyna Dam. "There too, water loading seems to be the primary driver," said Madhavan Rajeevan Nair, secretary in India's Ministry of Earth Sciences.

Globally, earthquakes have been associated with extraction of water, oil and gas3. Ramesh Singh, a geophysicist at Chapman University in California said the Indian government must think of rotation of crops to minimise use of groundwater in agriculture. "Dedicated water wells that can be monitored will provide good information about the changes in stress possibly leading to earthquakes," he told Nature India.

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The NGRI study adds to the growing body of evidence on how modest stress changes from non-tectonic loads can influence the activity of small earthquakes. "They are still tectonic earthquakes, but apparently influenced by changing amounts of water at the Earth's surface and in the ground," said Roland Burgmann, Professor in the Department of Earth and Planetary Science at the University of California, Berkeley.

With improved seismicity records and continuous studies, it should be possible to solidify these linkages, he said.

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