Item Nos.01&02

BEFORE THE NATIONAL GREEN TRIBUNAL
CENTRAL ZONE BENCH, BHOPAL
(Through Video Conferencing)

Original Application No.81/2025(CZ)
(Earlier O.A. No.217/2025-PB)

IN THE MATTER OF:

News Item Titled "Marble waste creates mirage of now in Rajasthan's Kishangarh poses long term risks" appearing in The Hindu dated 13.04.2025

Suo Motu

Versus

1. **Member Secretary, Rajasthan pollution Control Board (RPCB)** Rajasthan Pollution Control Board, 4, Jhalana Institutional Area, Jhaiana Doongri, Jaipur, Rajasthan Pin - 302004 — Respondent No. 01

2. **Member Secretary, Central pollution Control Board (CPCB),** Parivesh Bhawan, East Arjun Nagar, Delhi – 110032 — Respondent No. 02

3. **Regional Office, Ministry of Environment, Forest and Climate Change (MoEFCC), Jaipur,** Regional Office (Central Region), Ministry of Environment, Forest and Climate Change, Kendriya Bhawan, 5th Floor, Sector H Aliganj, Lucknow Pin - 226024 — Respondent No. 03

4. **District Magistrate (DM), Kishangarh,** Collectorate Office, Ajmer Road, Kishangarh, Rajasthan - 305801 — Respondent No. 04

With
Original Application No.86/2025(CZ)
(I.A. No.87/2025)

IN THE MATTER OF:

Drupad Malik,
S/o Shri Ashok Malik,
Aged about 26 Years,
R/o 339-1/11 Bimla Marg Kalu Ke Dhani
GC Road Ajmer- 305007 Applicant(s)

Versus

1. **State of Rajasthan,**
Through Chief Secretary Secretariat,
Jaipur, Rajasthan- 302001 Respondent No. 01

2. **Rajasthan State Pollution Control Board (RSPCB)**
Through, Member secretary
4, Jhalana Institutional Area,
Pin - 302004 Respondent No. 02

3. **Central Pollution Control Board**
Through Member Secretary Parivesh Bhawan, Maharshi Valmiki Marg, East Arjun Nagar, Vishwas Nagar Extension, Vishwas Nagar, Shahdara, Delhi, 110032 Respondent No. 03

4. **District Collector, Ajmer**
Collectorate, Civil Lines, Ajmer,
Pin - 305001 Respondent No. 04

5. **Kishangarh Marble Association**
Through Chairman IV Phase, RIICO Industrial, Area Auditorium Building, Paryavaran 1st Rd, Madanganj, Kishangarh, Rajasthan,
Pin - 305801 Respondent No. 05

COUNSELS FOR APPLICANT(S):

Suo Motu

COUNSELS FOR RESPONDENT(S):

Mr. Shoeb H. Khan, Adv. with
Mr. Rachit Soni, Adv. for State of Rajasthan
Mr. Rohit Sharma, Adv. for RSPCB
Mr. Yadevendra Yadav, Adv. for R-2
Mr. Lokendra Singh Kachhawa, Adv. for R-5

CORAM:

HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE MR. SUDHIR KUMAR CHATURVEDI, EXPERT MEMBER

Date of completion of hearing and reserving of order : 05.01.2026

Date of uploading of order on website : 07.01.2026

JUDGMENT

1. Both the Original Applications are connected and issues are common, thus, are taken together and decided by a common order.

2. The grievance of the Application in Original Application No.86/2025(CZ) is unscientific and hazardous dumping of marble slurry waste at the Kishangarh dumping site in Ajmer District, Rajasthan. The site, spread over approximately 82 acres, receives more than 5,500 metric tonnes of marble slurry daily from over 1,200 marble processing units operating in the region, making it one of the largest slurry disposal sites in Asia. Despite its scale and impact, the dumping yard is being operated in flagrant violation of basic environmental safeguards. There is no engineered liner system, no decanting wells, no dust suppression mechanisms, no monitoring of air or groundwater, and no protective green belt. These failures have led to severe contamination of groundwater, degradation of agricultural land, and high levels of

fugitive dust pollution, thereby endangering public health and violating the fundamental rights guaranteed under Article 21 of the Constitution.

3. The Central Pollution Control Board (CPCB) has issued only a Draft Guideline (2023) for the management of marble slurry, which remains unnotified and non-binding till date. Scientific studies conducted by the Department of Environmental Science, Central University of Rajasthan, have documented the health and ecological impacts of this unregulated dumping. However, these insights have not been utilized by regulatory authorities, nor have technical experts from academia been involved in mitigation efforts. Alarmingly, the dumping yard has also become a location for public recreation and photography, further exposing civilians to toxic airborne marble dust without any public warnings or access restrictions.

4. According to WHO in 2016, approximately 24% of all global deaths were related to environmental factors and 4.2 million deaths occur due to exposure from fine particulate matters, in this marble industry is one of the most contributor.

5. Marble is one of the most popular, beautiful and adapted stones in the world, a natural metamorphic rock which is commonly used by humans due to its beautiful colours, long lifetime & easy maintenance. But marble also has a different side & very dangerous for the environment & hazardous for the living things nowadays, the waste generated by marble industries is considered one of the biggest environmental issues in the world (Alyamac et al., 2015, Corinaldesi et al. 2005). It is high waste producing industries (El- Gammal et al. 2011, Gazi et al. 2012,

Kore et al. 2016) that generates huge amount of liquid slurry (Torres et al., 2004) and, by leaching contaminate ground water bodies (Sabouri et al., 2011, Davies-Colley et al., 2001, Rizzo et al., 2008, Dubey, Dr. 2022). Liquid waste slurry of marble, has high composition of CaCO3, Cao (lime), Loss of Ignition (Lol), limited amount of SiO2 (silica), Fe2O3 (iron oxide), MgO (magnesia), nickel, copper (Shah et al. 2021), high concentration of calcium can cause of hypercalciuria (Sulaiman et al., 2020). In 1997 marble dust, heavy metals & crystalline classified as carcinogens by International Agency for Research on cancer (IARC) (Khalid et al., 2022).

Marble waste can become a possible source of dust exposure to employed workers that perform their duties to the marble factories in manufacturing, finishing, installing, transportation, mining & cutting, and by inhalation these dust particles cause of lung cancer, silicosis, tuberculosis, associated with silica exposure (Leso V et al. 2019, Angotzi et al. 2005), chronic obstructive pulmonary disease (COPD) over a long period time, highly irritating & allergenics, cause of respiratory diseases affect upper and lower tracts which leads to decreasing respiratory functions, hyper responsiveness of bronchial mucosa, dry cough, etching, skin irritation & visualization weakness etc. (Ahmed Q R et al., 2011; Azizah 2019; Borup et al., 2017), risk of nasal inflammation, bronchitis, alveoli inflammation, reduced lung function (Leung et al. 2012), tissue necrosis (Saha et al., 2011), chlorosis symptoms (Bergman, 1983), affect the air quality and create toxic environment to every living organism (Sutcu et al., 2015).

6. The matter was taken up by this Tribunal and notices were issued to the Respondents with direction to submit the reply. The replies have been filed. The Tribunal vide order dated 04.07.2025 also constituted a Committee consisting; one representative each from the Central Pollution Control Board and the Rajasthan State PCB, with direction to submit the factual and action taken report. The reply has been filed.

7. The cognizance of Original Application No.81/2025(CZ) was taken up by the Principal Bench of the Tribunal based on the news item titled *"Marble waste creates mirage of now in Rajasthan's Kishangarh poses long term risks"* appearing in The Hindu dated 13.04.2025. The news item relates to the alarming environmental situation in Kishangarh, Rajasthan, where marble waste dumping has created a deceptive landscape resembling snow-covered fields.

8. As per the news item, the white marble slurry, discarded by the region's thriving marble industry (largest in Asia), covers vast areas, posing serious long-term ecological and health risks. This waste, primarily dumped in two plots allocated by RIICO (Rajasthan State Industrial Development and Investment Corporation), has spread uncontrollably beyond designated zones, affecting soil quality, groundwater, and air purity.

9. News Item further highlights that the marble slurry not only reduces soil fertility but also leads to contamination of water bodies due to leaching of chemicals, reflecting in total dissolved solids escalating 10 times above safe limits in a six km radius of the dumping site Fine marble dust carried by the wind poses respiratory health risks to

nearby communities, contributing to air pollution. The scale of the problem is massive, with thousands of tonnes of waste generated daily from hundreds of marble processing units. Farmers in nearby areas have also complained that the marble dust often settles on their land and mixes with irrigation water, affecting crop production. Moreover, the owners of privately owned hospitals in the region admit that diseases related to environmental pollution have increased.

10. The news item further states that this unique, snowy appearance of the land has unintentionally turned into a tourist attraction, drawing visitors to come for photographs and even charging them money for using digital cameras. Makeshift installations, including decorative signs and props, have emerged to cater to tourists, further commercialising the issue without addressing the environmental damage.

11. The news item raises substantial issues relating to compliance of provisions of Air (Prevention and Control of Pollution) Act, 1981; Water (Prevention and Control of Pollution) Act, 1974 and the Environment Protection Act, 1986.

12. After taking cognizance and issued notices to the Respondents, the matter was transferred to this Tribunal for disposal according to rules.

13. Since a common question has been raised in both the applications, thus the matters were taken together.

14. Heard the learned Counsel for the parties and perused the records.

15. In Original Application No.81/2025(CZ), the learned Counsel for the Central Pollution Control Board has argued that the National Green

Tribunal, Principal Bench, vide order dated 28.09.2022 passed in Original Application No.164/2022 had directed to issue guidelines for utilization of marble slurry and to prevent its unregulated duping on land or low lying areas or otherwise. The Central Pollution Control Board is in the process of preparing the guidelines and deliberations with expert committee/technical institutes have been completed and the process of finalization of the guidelines are under consideration.

16. Learned Counsel for the Rajasthan SPCB Mr. Rohit Sharma has argued that that, in compliance with the Hon'ble NGT (PB) order dated 28.09.2022 passed in OA No. 164/2022, Srinivas Rao & Ors. vs. State of Andhra Pradesh, transferred to the Southern Zone, Chennai Bench (OA No. 78/2024 (SZ)), finalization of the "Guidelines for utilization of marble slurry and to prevent its unregulated dumping on land or low-lying areas or otherwise" is under preparation. Besides, the RSPCB, vide letter dated 14.03.2023, directed all concerned Regional Officers to ensure utilization of slurry, cutting waste, etc., for gainful purposes or proper disposal at designated dumping yards. In this regard, it is further submitted that the cutting waste of marble and granite cutting units in Kishangarh is sent to the designated dumping yard, from where it is lifted and transported to Morbi, for use in tile manufacturing units. It is further argued that necessary guidelines issued, will be followed by the State PCB.

17. Submissions of the learned Counsel for the Respondent No.5 are that the Respondent has taken utmost care while developing the dumping

yard and it has become a model dumping yard across the country which is evident from the appreciation given by its visitors.

18. It is further argued that the matter was taken up by the Principal Bench of the Tribunal at New Delhi and vide order dated 28.09.2022 directions have been issued for the issuance of proper guidelines. It is stated that the first dumping yard was established in the year 2005 and spreads in about 322 bighas. It is pertinent to mention here that the dumping yard is surrounded by thick walls having height upto 13 meters. Further, the dumping is surrounded by dense plantation of lakhs of trees from species like Peepal, Neem, etc. The trees work as a great wall to move any sort of dust from both sides, this is the reason that the dumping yard looks snow white from inside and outside there is no harm to agriculture fields which is evident from the recent photographs. It is further submitted that the dumping yard was allotted to the answering respondent with a clear intention that the slurry waste be dumped at the designated site so that there shall be no harm to the environment. The dumping yard was developed as directed by the competent authorities and is operated with outmost care. The dense plantation along the wall of the dumping yard works as natural wall to stop dust particles within the dumping yard. It is stated that the dumping yard was allotted to the Respondent with a clear intention that the slurry waste be dumped at the designated site so that there shall be no harm to the environment. The dumping yard was developed as directed by the competent authorities and is operated with outmost care. The dense plantation along the wall of the dumping yard works as natural wall to

stop dust particles within the dumping yard. It is also stated that the dumping yard is surrounded by 13 meter high and thick walls from all sides, since 2003 there has been no occasion that these walls were damaged for any reason. The marble slurry is being dumped in the designated site only; the answering respondent imposes fine on individuals as well as industry who are involved in dumping of marble slurry waste at places other than the dumping yard. It is also submitted that the Chief Medical Officer, Kishangarh, Ajmer vide letter dated 31.07.2025 has informed that from year 2021 to 2025 only 01 person was found with silicosis disease. Similarly, the Director, Marble City Hospital, Kishangarh vide letter dated 31.07.2025 that in last five years no person with silicosis disease has been treated in Marble City Hospital. It is further stated that submitted that the Respondent is taking outmost care for the protection of environment as well as humans while operation of dumping yard. It is further submitted that the guidelines referred by the applicant are draft guidelines and once these guidelines are finalized by the competent authorities. The same will be executed as per directions of the competent authorities. It is further submitted that the guidelines referred by the Applicant are draft guidelines and once these guidelines are finalized by the competent authority, the same will be executed as per the directions of the competent authorities.

19. Submissions of the learned Counsel for the Respondent No.4, District Collector, Ajmer, are that vide order dated 30.07.2003, the District Collector, Ajmer, converted 322 Bigha of land out of Khasra No. 209,

Village Sanvatsar, from Gair Mumkin Charagah (pasture land) to Siway Chak land. The said land was allotted to the Industries Department on a 99-year lease basis for establishing a dumping ground for marble slurry under the State Land Revenue (Allotment of Unoccupied Government Agricultural Land for Construction of Schools, Colleges, Hospitals, Dharamshalas and Buildings for Public Use) Rules, 1963 read with Section 102 of the Rajasthan Land Revenue Act. The allotment was issued pursuant to the sanction granted by the Deputy Secretary, Revenue (Group-3), Government of Rajasthan. It is further stated that in compliance with the above order, vide mutation entry No. 1198 dated 31.07.2003, Khasra No. 209 of Village Sanvatsar, admeasuring 358- 12-00 Bigha, was divided and Khasra No. 209/1, admeasuring 322 Bigha, was recorded as Banjar Pratham – Siway Chak. Vide mutation entry No. 1199 dated 31.07.2003, Khasra No. 209/1 (322 Bigha – Dumping Ground) was allotted to the Industries Department, Ajmer, on a 99-year lease for use as a dumping ground for marble slurry. It is stated that possession of Khasra No. 209/1, admeasuring 322 Bigha, was handed over to the District Industries Officer, Sub-Centre, Kishangarh, on the spot on 31.07.2003. and that vide letter No. 1050 dated 07.08.2003, the Regional Manager, RIICO Ltd., Ajmer, handed over the aforesaid 322-00-00 Bigha of land of Village Sanvatsar, Tehsil Kishangarh, to the Kishangarh Marble Association for development and use as an eco-friendly dumping ground for marble slurry. 11.That the aforesaid land is presently being used as a dumping yard, which is located approximately 200 meters from the

nearest khatedari agricultural lands and about 2 kilometers from the nearest inhabited area. It is further stated that vide order dated 19.02.2008, the Land Acquisition Officer, RIICO Ltd., Jaipur, acquired khatedari agricultural lands of Village Kali Dungri, Tehsil Kishangarh, District Ajmer, including Khasra Nos. 188/9 (146 Bigha), 98 (10-00-00 Bigha), 103 (36-04-00 Bigha), 106 (28-05-00 Bigha), 112 (50-08-00 Bigha), 187/105 (27-14-00 Bigha), 191/187 (00-04-00 Bigha), 105 (27-19-00 Bigha), 108 (20-04-00 Bigha), 107 (24-12-00 Bigha), 109 (67-09-00 Bigha), 189/110 (19-02-00 Bigha), 104 (35-16-00 Bigha), 186/105 (27-18-00 Bigha), and 113 (89-16-00 Bigha), totalling 531 Bigha 7 Biswa, for establishment of an extended dumping yard. Compensation of Rs 11,69,70,026/ was awarded and disbursed. Mutation No. 264 of the acquired land was entered in favour of RIICO Ltd., Kishangarh, on 02.06.2008, and the land was duly recorded in the revenue records and the land measuring 531 Bigha 07 Biswa, as mentioned in point No. 10, is currently recorded in the name of RIICO Ltd., Kishangarh, and is being used as a dumping yard. The said dumping yard is situated about 2 KM from the inhabited area and is adjacent to local agricultural lands.

20. The contentions of the Applicant are based on a scientific study which is quoted below:-

"Integrating Geospatial Tools with XRD and AAS for Assessing Industrial Pollution and Health Impacts in Marble City of India

Basant Bijarniya, Laxmi Kant Sharma and Rajani Kant Verma Department of Environmental Science Central University of Rajasthan, Aimer-305817. Rajasthan (India)

……x……x……x……x……

Discussion

Approximately, 99% of the global population breathes air that exceeds WHO guidelines standards limits, which contains high pollutants level and developing countries suffering from the highest exposure. Particulate matters are the key contaminants in air pollution that trigger adverse impacts on agriculture productivity by affecting their biochemical, physiological and morphological mechanisms (Rai, 2016, Das et al., 2021), directly or indirectly on human health by affecting respiratory organs (Ristovski et al., 2012) or cardiovascular system (Fiordelisi et al., 2017; Hamanaka et al., 2018; Nelin et al., 2012), cause of ecological pollution (Grantz et al., 2003). The study showed that the concentration of PM2.5 exceeds the limit of ambient air quality standards of PM2.5 set by BIS, WHO. The health survey report also describes that dust pollution due to marble industries creates harmful environment for people in Kishangarh. Coarse particles of marble waste powder fall on soil surface due to gravity and adversely impact soil characteristics, soil composition and soil fertility.

Electro-conductivity of saturation extract (ECe) related to the salinity nature of the soil, high EC is the indication of higher-level salinity of the soil, at a specific temperature (Maiti, 2003). Based on this characterization, 2 soil samples $10 and S11 are characterized as high salinity soil, S4 soil sample medium salinity soil and 9 soil samples S1, S2, S3, S5, S6, S7, S8, S9 and S12 are lies between low salinity hazardous level. Soil salinity is resulted in desertification, reduction in agricultural potential (Stolte et al., 2016), degradation of agricultural lands (Bowyer et al., 2009), reduction in productivity of agricultural crops and vegetables (Munns et al., 2002), decreasing the photosynthesis mechanism by reducing CO2 availability (Flexas et al., 2007) and photosynthetic pigments (Ashraf et al., 2013).

The human body and other species can also be exposed to such kind of heavy metals through soil and plants food chain (Stankovic et al., 2014). By acting as anti-inflammatory agent, high conc. of zinc can cause heart disease (James et al., 2011) to workers of marble industries and nearby peoples. Excessive amounts of zinc salts such as zinc sulphate and zinc chloride in dietary supplement can result in food poisoning, vomiting, diarrhea, abdominal cramps (Friberg et al., 1979). Marble industry's workers can be highly exposed to kidney problems &

cancer due to high concentration of Cu (Jurado et al., 2007). Heavy metal contamination such as Zn and Cu, affect the soil respiration rate, microbial (bacterial and fungal) activity (Rajapaksha et al., 2004, Bååth, 1989) and Zn can cause of phytotoxicity in leaves by disturbing chlorophyll biosynthesis mechanism (Chaney, 1993). Long exposure of Ni can result in asthma, lung fibrosis, cardiovascular and respiratory disease to humans, as carcinogen and immunotoxin agent (Genchi et al., 2020).

Leaching of liquid waste slurry chemicals resulted in ground water contamination and change the ground water quality and standards (Fawad et al., 2021). High TDS level in drinking water, affect the water quality, it can be bad tasting water, hard water, bad smelling water and can have several impacts on human health by containing heavy metals, high concentration of chloride ions, high concentration of unwanted salts and presence of bacteria can be also there [EPA Water Consultants (epa-water.com)]. Based on classification to TDS value according to Robinove et al., 1958, water sample W4 was characterized as moderate saline water by having TDS value 3573.33ppm, 3 water samples W1, W3, W6 having TDS values respectively 1082.67ppm, 1286.67ppm, 1291.67ppm, was in slightly saline category of water and 2 water samples W2, W5 was non saline water that had respectively 460ppm and 566.67 ppm TDS values.

High value of EC is associated with large number of dissolved salts in ground water, that depends on temperature, type, and concentration of ions presence (Hem, 1985). W4 water sample contained a high EC value, 7.15 ms/cm. Drinking water quality, agricultural activity and ecosystem health can badly affect by leaching of high number of dissolved salts. High concentration of these salts in water and soil cause of corrosion of infrastructure and machineries, decreasing in crop productivity and yields, declining in biodiversity, and can be also cause of death or poor health of native vegetation. (Water Quality Salinity and water quality). Chloride ion is major constituent of dissolved solids in water bodies, associated with calcium (Ca), sodium (Na), potassium (K), bicarbonate (HCO3), sulfate (SO4) etc. (marble waste slurry had mixture all of them) components, but high concentration of chloride ion in aquifers or ground water due to anthropogenic pollution, is the main concern. In current study, water

sample W4, W3, W6, WI had high conc. of chloride ions, respectively 1199.63mg/l, 798.09mg/1, 521.5mg/1, 479.85mg/l that exceed the standard limit of chloride ion, 250mg/L. In rural areas ground water is the main source of drinking water and high concentration of chloride ion in ground water can cause bad taste and odour of drinking water (DeSimone et al., 2014). Chloride ions work as electrolytes in human body, which can change the level of electrolytes and in the high concentration it can cause of hyperchloremia, heart failure syndrome, disorders associated with the vesicular function (Kataoka H., 2021 Jentsch et al., 2005). Water samples WI, W3, W4, W5, W6 contained high conc. of hardness above the standards 200-600mg/1, respectively 990mg/1, 670mg/1, 620mg/1, 640mg/1, 1010mg/1. All ground water samples were very hard water based on water hardness value, classified according to Durfor et al., 1964.

Table 2 shows that marble waste and slurry contain huge amounts of calcium and magnesium salts as Ca carbonate (CaCO3), Ca-Mg carbonate CaMg(CO3)2. Hardness of water is defined as the amount of dissolved calcium and magnesium salts in water and presence of these salts in ground water also indicate hard water condition, can cause of cardiovascular disease, Alzheimer's disease, cerebrovascular mortality (Sengupta P., 2013). Hard water is the dietary supplement of calcium, but excess levels of calcium can cause kidney stone (nephrolithiasis), strokes etc. (Monarca et al., 2006, Domrongkitchaiporn et al., 2004).

A greater limit to standards, copper conc. can cause different health diseases such as Wilson's disease, affect central nervous system (CNS), kidney and liver disorders, hepatic and rental problems, gastrointestinal disorders etc. (Kitzberger et al., 2005, Campbell, 2004, Kulkarni et al., 2017, Gomaa et al., 2021, Bashir et al., 2021). Water samples W5 and W4 had high conc. of Zn above the standard limit Img/l, respectively 8.73 mg/L and 9.94 mg/L. High conc. of Zn in human body can badly affect gastrointestinal functions (Chobanian, 1981), enhance immunological and lymph reticular disorders (Delafuente, 1991, Fraker et al., 1986), cause of cardiovascular disease, hypertension (Nriagu, 2007), can produce neurotoxicological effects (Murphy, 1970, Potter, 1981). The avg. conc. of Fe, 4.43 mg/L was above the standard limit (0.3mg/l). Iron is the essential nutrients for

haemoglobin synthesis and oxygen transportation (Yip et al., 1996, Underwood et al., 1999) in human body, which daily requirement depends on sex, age, iron bioavailability and physiological status (WHO, 1998). Deficiency of iron can cause of anemia (Clark, 2008, Killip at al., 2007, Short et al., 2013), affect pregnancy that increases risk of low birth weight, maternal mortality, perinatal mortality, decreases learning ability (Means, 2020, Abu-Ouf et al., 2015) but overloaded iron concentration is responsible for hemochromatosis syndrome (Widdowson et al., 1937, Von Recklinghausen, 1889) that can affect human body organs (Pietrangelo, 2010) and high level of iron cause of Alzheimer's and Parkinson's disease (Selkoe, 2004, Barnham et al., 2008, Altamura et al., 2009, Belaidi et al., 2016).

W1 water sample had high conc. of fluoride ion 2.3 mg/L above the standard limit (1.5mg/1). In drinking water, high conc. of fluoride can lead to various human health effects more than 1.5 mg/L, such as dental fluorosis or skeleton fluorosis. Moreover, fluorosis disease is irreversible and untreated (Miretzky et al., 2011, Jadhav et al., 2015). Agriculture fertilizers can be major source of phosphate contamination in soil and ground water through leaching of fertilizer chemicals (Khan et al., 2018). Sulphate does not have any toxicity to humans, but high concentration of sulphate can be responsible for dehydration, diarrhoea, catharsis and changing in levels of sulphaemoglobin, methaemoglobin in body system of human (Cocchetto et al., 1981, Gomez et al., 1995, Digesti et al., 1976, Paterson et al., 1979). Excess amount of sulphate can also cause an increasing salt concentration in fresh water (Cañedo et al., 2013). Intensive agricultural activities, fertilizers may be possible sources of nitrate contamination in ground water (Mahvi et al., 2005, Follett et al., 1991). Water samples W5, W1, W3 had conc. 138mg/1, 84mg/1, 51mg/l respectively that exceed standard limit (45mg/l). Nitrate exposure to humans, can take place through drinking water, intakes of vegetables grown in nitrate polluted water or soil (Hmelak et al., 2013) and high conc. of nitrate can cause of blue baby syndrome (methemoglobinemia) diseases that affect foetus and children (WHO, 1995, Pal, 1983), bladder and ovarian cancer, thyroid gland disease by interrupted iodin uptake (Weyer et al., 2001, De Groef et al., 2006, Ward et al., 2018).

Table 4 describe the changes in different areas of classes in LULC of study area from 2017 to 2022. It can be seen that approximate 2.58% of the area of cropland decreased by increasing in urbanization or built-up area 3.5% from 2017 to 2022 over study area that change land use management. LULC changes have significant impact on climate through regulate surface temperature, rainfall (Gogoi et al., 2019) and by altering mass and energy flux (Dale, 1997), influence carbon storage capacity (Zhu et al., 2022), drive ecosystem degradation and reduction (Guida-Johnson et al., 2013, Shrestha et al., 2022), affect local climate (Baldocchi, 2014), transform ecological processes (Brookfield, 2001) and affect ecosystem services (Van Oudenhoven et al., 2012, Arunyawat et al., 2016), disturb the natural habitats and affect the diversity of bird species across the global level (Jetz et al., 2007), significate impact on earth's surface temperature (Luyssaert et al., 2014).

Health survey results showed that most of people of local community and marble industries workers were suffering from different health issues such as lungs related issues, breathing issues, problems in visualization, skin irritation, hearing disorders, throat disease. In local community 25% suffering from lungs related problems, 56% had throat problem, 53% from breathing issues, 22% had hearing problem, 39% from skin disease, 17% suffering from visualization issues. In marble industries workers, approximate 84% workers had throat problem, 46% suffering from lung related issues, 70% from breathing problem, 56% hearing problem, 50% had skin disease and 36% had visualization issues because only 12% of workers used safety glasses for eyes while working in industry and 16% of them wear mask while working.

Conclusion

The study shows that the marble industry has many drastic impacts on the environment and human health. Major human health issues related to breathing, throat problems and lung related issues are occurring due to the marble dust. The study also reveals that marble industry is responsible for the degradation of air, soil and ground water quality in the Kishangarh that is responsible for many diseases in local community.

In conclusion, impact of marble dust and waste slurry on air, agricultural land and ground water need to be regulatory solutions and comprehensive mitigating strategies. The unwanted disposal of marble waste powder and slurry in open area or without any management leads to release particulate matters and toxic substance in atmosphere, leaching of toxic chemicals in ground water due to waste liquid slurry, create harmful condition to the environment, affect the soil quality and its fertility, decreasing in crop productivity.

……x……x……x……x……"

21. To examine the correctness of the issues raised in the application, the Tribunal constituted a Committee and members of the Committee visited the site and summarized the major issues and problems as follows:-

"JOINT COMMITTEE REPORT

……..x……x……x……x……

1.0 Major issues raised by the applicant in the matter:

The applicant has raised following major issues related to marble waste management in its application:

i. Unscientific and hazardous dumping of marble slurry waste at Kishangarh dumping site.
ii. Severe contamination of ground water, degradation of agricultural land, high levels of fugitive dust pollution.
iii. Exposure of civilians to toxic airborne marble dust by opening the area for public recreation and photography.
To address and account the factual status of the issues raised by the applicant, committee was in the opinion to visit both the dumping sites established in the Kishangarh area to accommodate the dumping of marble & granite slurry disposal. Secondly, to address the issue related to air quality & water quality, committee opined to take requisite no. of water & air samples to account the current status on their quality. Further, committee carried out aerial view survey using drone to cover

the area through top view to understand the area in holistic manner.

2.0 The Kishangarh Marble/ Granite Cutting processing, cluster and slurry dumping yards – AN OVERVIEW

- *Kishangarh is home to marble & granite cutters. As such there is no mining of these minerals in the Kishangarh area. Currently in FY 2025-26, there are 238 Gangsaw units, 79 gangsaw & granite units and 604 granite cutting units, that sums up to 921 marble and granite cutting units in operation.*
- *The processing of marble and granite begins with the transportation of extracted blocks from the mining sites viz. Makrana, Rajsamand & other places to the processing facility established at Kishangarh, where they are unloaded using gantry cranes. The first stage involves dressing the blocks with dressing machines to remove irregular outer surfaces and produce smooth, rectangular blocks suitable for sawing. Once dressed, the blocks are cut into slabs. For marble, gang saws equipped with 75–125 parallel blades are commonly used, while single-blade saws with a thickness of 4–5 mm slice the blocks into slabs of approximately 15–20 mm thickness. Granite, being harder than marble, is generally processed using multi-cutter machines fitted with diamond-tipped circular saws. During the cutting process, approximately 5 mm of material per 25 mm thickness of block is lost as powder due to the blade thickness. Water is continuously applied during sawing to minimize heat generation, with requirements met through tanker supply and recycled water. Processing generates about 30% waste. 20–25% marble dust powder and about 5% broken edges and defective slabs. The marble dust stored as slurry containing 35– 45% water. The operation is water-intensive, with average consumption of 0.1–0.2 kilolitres per tonne of processed material. To reduce freshwater intake, processing facilities employed sedimentation tanks of either horizontal zig-zag or vertical design for settling marble and granite dust from the slurry, after which clarified water is being recycled back into the cutting process. Despite recycling, net daily water loss of about 1,000–1,500 litres*

(1–1.5 KL) per gangsaw occurs due to evaporation and retention in the slurry. Flocculants or coagulants addition is being practised by some units to improve settling, and in some cases filter presses are also in use for dewatering slurry. The semi-solid residue generated is transported by tankers for disposal.

- *There is only one marble & granite processing cluster at Kishangarh. The slurry is being dumped via tankers in 02 designated dumping yards established in the Kishangarh area only. The land for dumping yard was provided by the local administration & Rajasthan State Industrial Development and Investment Corporation (RIICO) and these are now maintained by Kishangarh Marble Association (a division of Kishangarh Marble Udyog Vikas Samiti) to reduce nuisance generated by slurry disposal on road side or other lands by the member units.*

About dumping yards:

As per the information furnished by Kishangarh Marble Association (KMA), following is the status of yard establishment:

i. Department of Industrial Policy & Promotion (DIPP), Ministry of Commerce & Industry, Government of India vide letter dated 4th November, 2004 sanctioned a sum of Rs 9.1 Cr to Kishangarh Marble Udyog Vikas Samiti for development of existing & additional dumping yards and R&D for slurry uses.

ii. Dumping yard- I was inaugurated on 05.04.2005 and it is spread over an area of 322 Bigha with depth of 13 meters. Its capacity is 40 lakh cubic meter and it reached its full capacity on 16.08.2014. Currently no slurry discharge is in practice here.

iii. Further, dumping yard-II was constructed in 2009 in an area admeasuring 532 Bigha with depth of 15 meters and was inaugurated on 17.08.2014. Everyday approx. 550 tankers containing approx. 22 lakh liters of lean slurry (water: dust 40%: 60%) are emptied in this dumping yard.

iv. Daily record of disposal of slurry through tankers in dumping yard for a period of last six years (2019 to July 2025).

It is pertinent to mention here that both the yards design has made provision of decanting well to decant the supernatant water of the slurry.

Siting status, plantation at the dumping yards:

i. The distance of nearest abadi from dumping yard-I is approx. 2 km and its distance from nearest agricultural land is 200 meters. The distance of nearest abadi from dumping yard-II is 2 km while agricultural land is situated just adjacent to the yard on one side.

ii. Plantation has been carried out along the entrance pathway and along the boundary in 2-3 rows in both the yards.

iii. The dumping yards have been provided with bituminous roads from entrance to the slurry dumping/ pickup point.

iv. A restaurant is operational within Dumping Yard – I to cater the need of the visitors during their visiting hours.

Status of the utilization of dry slurry:

v. Dried slurry (which is in compacted form) from dumping yard-I is taken to Morbi, Gujarat from October, 2019 till July 2025 to be used in tile manufacturing units/other purpose and record of last six years of daily number of heavy vehicles loaded and sent to Morbi.

Dried slurry from dumping yard-II is also taken to Morbi, Gujarat from Aug 2024 and daily record. The details are as tabulated below:-

Year	**Number of vehicles transported the marble powder to Morbi, Gujarat for further utilization**	
	Dumping yard-I	Dumping yard-II
2019	1462	-
2020	5334	-
2021	4286	-
2022	9711	-
2023	8395	-
2024	5401	618 (from Aug 24)
2025	3020 (till July 25)	594 (Till July 25)

Note: Each vehicle transport about 30-35Tons of the dried slurry.

vi. Currently, marble/ granite slurry is being disposed of only in Dumping Yard- II. Tankers containing the slurry get emptied at separate designated points depending on the slurry they carry (marble or granite).

Practices adopted by Kishangarh Marble Association (KMA): -

i) As per KMA regulations, any industry found disposing of slurry outside the designated dumping yard is liable for financial penalties imposed by KMA. In addition, a flying squad constituted by the Association monitors illegal dumping activities within the industrial area. In cases of violations, the concerned department is immediately informed, and penalties are enforced against the defaulters by KMA.
ii) KMA operates a truck-mounted road sweeper for cleaning road dust in the industrial area, along with a tractor utilized for multiple purposes, including plantation watering and transportation of collected dust to the dumping yard.
iii) All six phases of the RIICO Industrial Area, predominantly consisting of stone-cutting units, are equipped with concrete roads.
iv) Furthermore, all available open land across the six phases is proposed to be developed into gardens.
v) Dumping Yard-I has emerged as a tourist attraction due to its snowy-like appearance. While entry remains free for general visitors, a fee is levied on commercial activities such as advertisements and pre-wedding shoots involving professional or digital cameras. The revenue generated is utilized to provide basic visitor facilities, including changing rooms, parking, waste collection systems, toilets, water supply, and security arrangements.
vi) To mitigate plastic pollution, RSPCB has installed a reverse vending machine within the dumping yard, following the necessary approval (NOC) from KMA.

3.0 Observations made during visit

To record the factual status, committee visited both the dump yards I (Old) & II (New), internal roads of the Kishangarh Industrial area, marble & granite processing unit operations. To record the quality of air & water, detailed sampling was conducted by RSPCB team.

Following are the field observations related to ambient air quality:

• Dumping Yard-I (Old)

i. This dumping yard-I (Old) was made for disposal of only marble slurry and was closed for disposal of slurry on 16.08.2014. It is pertinent to mention here that slurry gets solidified/ compacted after drying. Excavation process of slurry was started in October, 2019 which is ongoing. This dried solidified slurry from this sent to tile manufacturing units in Morbi, Gujarat. Slurry is loaded in heavy vehicles through JCB which is then recorded through weighing balance at the exit point.

ii. Because of the excavation process, rain water gets stored at many places in the dumping yard which looks blue against the whitish color of slurry and this gives it the appearance of a snow yard. For this reason, KMA developed this site as a tourist place.

iii. There are different entry and exit gates at dumping yard-I for dispatch of slurry through heavy vehicles and for entry of visitors. Concrete roads have been provided from entrance to inside for vehicular movement and a garden is developed on both sides along the entrance pathway. Besides, plantation in the form of a thick belt of mature trees has also been carried out all around the premises on the dyke walls. A helipad is also situated inside the dumping yard-I to facilitated the landing of helicopter.

iv. During visit, it was observed that the excavation of solidified marble dust was going on at one side of the dyke & a good numbers of visitors were present. A railing is provided to keep visitors away from the ongoing mining site. It was observed that there was no visible fugitive emission due to excavation of the marble powder because of the intact moisture & compactness in the dumped material, also there was reported rain events too. Besides, the KMA representatives were also asked by the committee members to take feedback of the visitors regarding problems, if any, pertaining to air pollution experienced by them during their visit. Subsequently, the KMA has started taking visitor feedback, copy of some of the feedback forms from 23rd July to 30th July period are enclosed at

Annexure – IX. None of the visitor reported complain of air pollution at the dumping yard-I during their visit to this place.

v. The 24-Hourly ambient Air Quality was monitored on 13.08.2025 by installing the instrument near the helipad location where most of the visitor gathered & stays. The PM10 was observed as 110 µg/m³ against the prescribed standard of 100 µg/m³ whereas PM2.5 was observed as 40 µg/m³ which is under the limit i.e. 60 µg/m³.

vi. The fugitive emission monitoring was conducted using High Volume Sampler near the weigh bridge inside the dumping yard-I, the concentration of the suspended particulate matter (SPM) was observed as 430 µg/m³.

It is pertinent to mention that whether the visitors as provided the positive feedback on the dust pollution inside the dump yard and they are subjective in nature. So, committee strictly opined based on the ambient & fugitive emission monitoring results that the excavation of the dumped material needs to be carried out only after the visitors' hours or in Night time and ensure installing mist guns at suitable points to improve the ambient air quality.

- ***Dumping Yard-II (New)***

i. This dumping yard was started on 17.08.2014 after the first dumping yard was closed for slurry dumping and both marble and granite slurry are disposed in this yard. Dyke wall has been constructed on periphery of the dumping yard premises with plantation in 3-4 rows. The plantation comprises mature trees. Approx. 1 lakh trees have been planted and maintained by the KMA. This site has only one gate for entry & exit as no tourism activities are carried out in this dumping yard. However, upon entering the main gate, there are two separate pathways for tanker/ truck movement and other movement for official purpose.

ii. Presently, this site has two separate disposal points for granite and marble slurry, so to ensure that no mixing of the two slurries takes place. This is done because the marble and granite slurry have different chemical composition and hence, different end uses.

iii. Concreate road have been constructed around the dumping site for transportation of vehicles.

iv. Excavation and dispatch of dried marble slurry for reuse started from Sept, 2024. Loading of slurry is being carried out through JCB from dried and compacted location.

v. The 24-Hourly ambient Air Quality was monitored on 8.08.2025 near guard room inside the dumping yard. The PM10 was observed as 75 µg/m³ against the prescribed standard of 100 µg/m³ whereas PM2.5 was observed as 32 µg/m³ which is under the limit i.e. 60 µg/m³.

vi. Besides, fugitive monitoring was also conducted on 13.08.2025 at a location, 10 meters away from the loading point inside the dumping yard and the concentration of the suspended particulate matter (SPM) was observed as 354 µg/m³.

Other than the monitoring at dump yard, ambient air quality was monitored inside the industrial area at KMA office on 07.08.2025. The PM10 & PM2.5 were observed as 87 µg/m³ and 38 µg/m³ respectively which are under the limit.

• Industrial Area:

Further, to assess the Ambient Air Quality (AAQ) of the Kishangarh industrial area & surrounding residential area, 02 manual monitoring stations are operational under National Ambient Air Quality Monitoring Program (NAMP), one at R K Community and RSPCB Office. The recorded AAQ of this location from August 2024 to July 2025 is as tabulated below:-

Month & Year	**Particulate Matter (< 10 µm), µg/m³**	
	RSPCB Office, Kishangarh (2Kms from dump yard) Latitude: 26.606152 N; Longitude: 74.844027 E	R K Community (3KMs from dump yard) Latitude: 26.589526 N; Longitude: 74.864284 E
August, 2024	105	54
Sep-24	118	105
Oct-24	198	170
Nov-24	200	194
Dec-24	206	198
Jan-25	194	187
Feb-25	178	162
Mar-25	155	159
Apr-25	165	184
May-25	124	134
Jun-25	94	94
Jul-25	68	67

The AAQ result reveals that at RSPCB Office station, only the June & July are the month where the Ambient Air Quality was under the limit else in rest of the months it ranged from 105 µg/m3 to 206 µg/m3 which is higher than the prescribed limit of 100 µg/m3. This is majorly due to dust deposited on the internal road of the industrial area, kachha floor area of the processing units where material load & unload.

Observation related to water quality:

- *The committee planned that groundwater samples should be collected at distances of 1 km, 5 km, and 10 km in all four directions from each dumping yard to study the change in quality of water quality. Accordingly, 12 groundwater samples were obtained. In addition, a control location—situated beyond 10 km from the dumping yard and with no waste processing facility nearby—was identified at approximately 15 km in the eastern direction.*
- *Total 13 groundwater samples were collected on 05.08.2025, comprising samples from 1 km, 5 km, and 10 km distances in all four directions, along with one control point.*
- *The details of locations are as given below:*

S. No.	Source of Sample	Latitude	Longitude	Location / Landmark
I	Handpump	26.656252	74.83611	Near Government Sr. Sec. School, Raheempura, Kishangarh, Ajmer
Ii	Handpump	26.648876	74.878372	Near Dev Narayan Ji Temple, Tokra, Kishangarh, Ajmer
Iii	Open Well	26.621748	74.850354	Shri Ramswroop Ji S/O Bhawar Ji, Kali Doongri, Kishangarh, Ajmer
Iv	Tube Well	26.609224	74.870449	M/S Ronak Textile Mills, E-75A, RIICO Industrial Area, Phase-III, Kishangarh, Ajmer
V	Handpump	26.654477	74.908318	Near Tajani Ka Mandir, Bhuiyas', Kishangarh, Ajmer
Vi	Handpump	26.577531	74.903358	Near Shri Jagnarayan Public School, Nayagaon, Kishangarh, Ajmer
Vii	Open Well	26.60723	74.809919	Ramner Drinking Water Site, Ramner, Kishangarh, Ajmer
Viii	Handpump	26.672306	74.835885	Near Bharat Nirman Rajiv Gandhi Seva Kendra, Khatoli, Kishangarh, Ajmer
Ix	Handpump	26.702351	74.804046	Near Government Sr. Sec. School, Pinglod, Kishangarh, Ajmer
X	Handpump	26.679147	74.955528	Near Anganwadi Kendra, Baharu, Kishangarh, Ajmer
Xi	Handpump	26.544152	74.929331	Near Shiv Temple, Tedwa Ka Mohalla, Kishangarh, Ajmer
Xii	Handpump	26.584313	74.765016	Near House of Sadaruddin S/O Manne Khan, Mullana Ki Dhani, Oontra, Kishangarh, Ajmer
Xiii	Handpump	26.60338	75.017569	Village Nohariya, Kishangarh, Ajmer (Control Sample)

• *The analysis results are as given below for*

S.NO.	Sampling Location	PARAMETERS							
		pH	Total Hardness	Ca	Mg	TDS	Cl	SO4	F
1	Handpump at approx. 1.0 km distance in NW direction from Dump yard-II	7.4	303	36	52	2175	575	112	2
2	Handpump at approx. 1.0 km distance in NE direction from Dump yard-II	7.09	307	50	44	980	120	67	2
3	Open well at approx. 1.0 km distance in SW direction from Dump Yard-II	7.54	319	47	49	1895	230	310	2
4	Tubewell at approx. 1.0 km distance in SE direction from Dump Yard-I	6.87	1141	267	115	2055	465	320	2
5	Handpump at approx. 5.0 km distance in NE direction from Dump Yard-II	7.03	247	40	35	490	20	28	1
6	Handpump at approx. 5.0 km distance in SE direction from Dump yard-I	7.22	655	126	83	3700	1010	260	2
7	Handpump at approx. 5.0 km distance in SW direction from Dump yard-II	7.02	432	99	45	745	156	35	1
8	Handpump at approx. 5.0 km distance in NW direction from Dump yard-II	7.69	178	24	29	826	130	36	2
9	Handpump at approx. 10.0 km distance in NW direction from Dump yard-II	7.22	271	39	42	1125	255	65	2
10	Handpump at approx. 10.0 km distance in NE direction from Dump yard-II	7.13	267	28	48	695	86	48	1
11	Handpump at approx. 10.0 km distance in SE direction from Dump yard-I	6.96	1444	388	115	3242	900	280	2
12	Handpump at approx. 10.0 km distance in SW direction from Dump yard-II	7.23	234	34	36	926	120	56	2
13	Handpump at approx. 15.0 km distance in East direction from Dump yard-II – **CONTROL**	6.93	420	97	43	1315	250	104	1

The heavy metals (Copper, Zinc, Nickel, Lead, Chromium, Iron, Cadmium & Hg) concentration of all 13 ground water samples is as tabulated below:

S.NO.	Sampling Location	Parameters in mg/l	
		Zn	Fe
1	Handpump at approx. 1.0 km distance in NW direction from Dump yard-II	0.22	4.6
2	Handpump at approx. 1.0 km distance in NE direction from Dump yard-II	0.39	2.89
3	Open well at approx. 1.0 km distance in SW direction from Dump Yard-II	NT	0.25
4	Tubewell at approx. 1.0 km distance in SE direction from Dump Yard-I	NT	5.14
5	Handpump at approx. 5.0 km distance in NE direction from Dump Yard-II	0.09	4.75
6	Handpump at approx. 5.0 km distance in SE direction from Dump yard-I	0.13	0.93
7	Handpump at approx. 5.0 km distance in SW direction from Dump yard-II	NT	0.45
8	Handpump at approx. 5.0 km distance in NW direction from Dump yard-II	1.06	3.98
9	Handpump at approx. 10.0 km distance in NW direction from Dump yard-II	1.2	3.83
10	Handpump at approx. 10.0 km distance in NE direction from Dump yard-II	0.08	0.45
11	Handpump at approx. 10.0 km distance in SE direction from Dump yard-I	4.78	6.38
12	Handpump at approx. 10.0 km distance in SW direction from Dump yard-II	0.18	0.62
13	Handpump at approx. 15.0 km distance in East direction from Dump yard-II - **CONTROL**	3.03	4.38

In all the 13 samples, out of the 08 heavy metals only 02 (Zinc & Iron) were observed in the ground water, rest were not-traceable.

The groundwater study shows that almost all samples have hardness, TDS, and fluoride above desirable levels, while the control site (15 km east) already reflects naturally hard and mineral-rich water (TH 420 mg/L, TDS 1315 mg/L, F 1 mg/L). The SE direction (Dump Yard-I) is found as impacted, with very high hardness (up to 1444 mg/L), TDS (3242–3700 mg/L), chlorides (900–1010 mg/L), and fluoride (2 mg/L), indicating continuous leachate contamination with distance. The NW and SW directions (Dump Yard-II) show moderate but fluctuating quality, with elevated TDS (745–2175 mg/L) and fluoride (2 mg/L), making them worse than the control. In comparison, the NE direction (Dump Yard-II) improves with distance, with 5–10 km samples (TDS 490–695 mg/L, TH 247–267 mg/L) being better than the control, showing lesser leachate influence. In summary, groundwater around the dumping yards is generally degraded, with the SE direction showing the contamination risk, while the NE corridor appears relatively safer. Most sources are not suitable for drinking without proper treatment, especially for fluoride and hardness.

- *The committee observed decanting well in the dumping yard-II (New) and also surveyed through drone to check the location. As per the design the 02 decanting wells are provided in North direction of dumping yard-I and 02 are provided in SW direction in dumping yard-II to decant the water. During visit, it was observed that water is getting accumulated in North direction slop of the dumping yard-II, where no decanting well is provided. KMA need to make arrangement to decant the supernatant water.*

Due to rain-cut, a portion of dumping yard-I was found damaged in the north direction near to decanting well, due to which slurry flowed outside the dyke. That require repair and a dyke stability study is also needed.

No decant water reuse facility found established by the KMA that raises the possibility of discharge of decanted water in nearby area viz. open land etc.

Observation related to agriculture & health issue:

- *As per the Tehsildar's report, the nearest agricultural land is located approximately 200 meters from Dumping Yard–I, whereas agricultural land lies directly adjacent to Dumping Yard–II on one side. During the committee's site visit, the agricultural fields adjoining Dumping Yard– II were observed to be under cultivation without any apparent issues. Information regarding agricultural produce over the past five years from villages located near Dumping Yards I and II, along with soil health card data, was requested from the Agriculture Department through a letter dated 25.07.2025 and subsequent reminders on 11.08.2025 and 18.08.2025. However, the information has not been furnished to date.*
- *The major hospital in Kishangarh region is Marble City Hospital which has informed vide letter dated 11.08.2025, that no patient suffering from respiratory diseases, like Asthma, etc. has been registered in the hospital in the last 5 years. Copy of the letter is enclosed at Annexure – XV. Besides, the feedback forms filled up by visitors visiting the dumping yard reveal that the tourists do not feel dust led air pollution related issues or beathing problems/ eye irritation.*
- *Photographs taken during visit and drone survey are enclosed as Annexure-XVI.*

4.0 Conclusion:

In compliance of the Hon'ble NGT order dated 22.09.2022 in O.A. 164 of 2022 (Srinivas Rao Vs State of Andhra Pradesh), Central Pollution Control Board (CPCB) is preparing the guideline for 'utilization of slurry generated from Marble/Granite processing units to prevent its unregulated dumping on land or low-lying areas' and same is under finalization.

Kishangarh has 921 marble and granite cutting units generating significant slurry waste, which is disposed into two designated dumping yards maintained by Kishangarh Marble Association (KMA). Dumping Yard–I (322 bigha) has reached capacity and is now used for excavation of dried slurry, while Dumping Yard–II (532 bigha) is currently operational, receiving ~550 tankers daily.

Monitoring at Dump Yard–I showed PM_{10} levels (110 µg/m³) slightly above standards, while $PM_{2.5}$ remained within limits. Fugitive SPM was 430 µg/m³ during excavation. At Dump Yard–II, PM_{10} and $PM_{2.5}$ were within standards, but fugitive SPM reached 354 µg/m³. Long-term AAQ data (Aug 2024–Jul 2025) revealed PM_{10} consistently above 100 µg/m³ for most months in the industrial/residential area, mainly due to road dust and handling practices.

A total of 13 groundwater samples (1, 5, and 10 km in four directions plus one control at 15 km east) were analyzed. Results indicate widespread deterioration with hardness, TDS, and fluoride above desirable limits. The SE direction (near Dump Yard–I) showed the highest impact with hardness (up to 1444 mg/L), TDS (up to 3700 mg/L), chlorides (900–1010 mg/L), and fluoride (2 mg/L), confirming leachate influence. NW and SW (Dump Yard–II) showed moderate but fluctuating contamination, while NE (Dump Yard–II) indicated relative improvement at 5–10 km and was even better than the control sample. Heavy metals analysis revealed only zinc and iron.

Agricultural land exists within 200 m of Dump Yard–I and adjacent to Dump Yard–II, but fields were observed cropped without visible distress. Data on crop yield and soil health card is awaited from the Agriculture Department. Health records from Marble City Hospital (last 5 years) show no significant increase in respiratory cases. Visitor feedback at Dump Yard–I also reported no air-pollution related complaints.

Both yards are equipped with dykes, plantation belts, and internal roads. However, issues were noted like accumulation of water at Dump Yard–II without decant wells, rain-cut damage at Dump Yard–I dykes requiring repair, and absence of decanted water reuse systems. KMA enforces penalties for illegal slurry dumping, operates road sweepers, and supplies dried slurry to Gujarat tile units for reuse.

5.0 Recommendation:

i. Kishangarh Marble Association (KMA) shall deploy mechanical sweeping machines on industrial area roads, with proper planning

to ensure regular removal of road dust generated from transportation activities.

ii. KMA shall carry out excavation of deposited marble powder from Dump Yard-I only during night hours, after closure to visitors, and shall deploy water misting systems at suitable locations to further improve air quality.

KMA shall repair the rain-cut damage observed at Dump Yard-I and ensure proper decanting of accumulated water on the northern slope of Dump Yard-II through appropriate measures.

iv. KMA shall establish a system for reuse of decanted water.

v. KMA shall engage an agency to undertake a detailed dyke stability study.

vi. KMA, in coordination with RSPCB and the Revenue Department, shall conduct a detailed survey to identify illegal slurry dumping sites.

vii. Revenue Department shall take necessary action against owners of such illegal dump sites and ensure that slurry is disposed of only at the designated dumping yards."

22. We direct the Respondent/Kishangarh Marble Association that the recommendations submitted by the Joint Committee must be strictly observed with and the State PCB has to inspect at regular intervals and take necessary actions in case of violations, if any. The air quality must be within the prescribed limit and it is on the State PCB to examine it at certain intervals and to take remedial measures.

23. It is further directed that preparation and approval of "Guidelines for utilization of marble slurry and to prevent its unregulated dumping on land or low-lying areas or otherwise" be completed by the Central Pollution Control Board within a reasonable time and the same to be implemented by the Respondent No.6/Kishangarh Marble Association

in letter and spirit. The State PCB shall monitor the compliance of above directions.

24. With these observations, the **Original Application No.81/2025(CZ)** and **Original Application No.86/2025(CZ)** alongwith pending **I.As.,** if any, stand **disposed of** accordingly.

Sheo Kumar Singh, JM

Sudhir Kumar Chaturvedi, EM

07th January, 2026,
Original Application No.81/2025(CZ)
(Earlier O.A. No.217/2025-PB)
Withs
Original Application No.86/2025(CZ)
(I.A. No.87/2025)
AK