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REPORT (INTERIM) OF THE COMMITTEE CONSTITUTED BY HON'BLE NGT VIDE ORDER DATED 12.8.2021 PASSED IN OA NO. 93/2021 MUKESH KUMAR AGGARWAL VS. CENTRAL POLLUTION CONTROL BOARD AND ANOTHER.

REPORT (INTERIM) OF THE COMMITTEE CONSTITUTED BY HON'BLE NGT PRINCIPAL BENCH, NEW DELHI VIDE ORDER DATED 12.8.2021 IN OA No. 93/2021 Mukesh Kumar Aggarwal Vs. Central Pollution Control Board & Anr.

1. The Hon'ble NGT vide order Dated: 12.08.2021 passed in the above-noted case has directed as under:

(A) Brick kilns operating in violation of environmental norms - without consent, in violation of consent conditions, in violation of siting criteria, beyond carrying capacity be forthwith closed, following due process of law, exercising statutory powers by the State PCB.

(B) The State PCB in coordination with the District Magistrate and the Air Quality Monitoring Committee headed by Secretary Environment may ensure setting up of air quality monitoring stations at appropriate locations and also take other steps for effective monitoring of compliance of air quality norms in the area in question.

(C) Consent given to all the brick kilns be reviewed by the State PCB in the light of CPCB directions as well as the air quality norms, siting criteria and carrying capacity. Shortlisting as per carrying capacity may be done on the basis of technology used, inter se distance, distance from sensitive locations and comparative level of compliance.

(D) Tunnel kiln technology with PNG may be appropriately encouraged in the interest of reduction of pollution load..

(E) Five-member Committee is constituted **to undertake further study of carrying capacity of the area in terms of number of brick kilns which can be sustained applying right parameters and based on relevant data of air quality, overcoming deficiencies pointed out hereinabove.**

2. **Five-member Committee comprises of the following:**

i. **Justice Anil Kumar Sharma,** former Judge of Allahabad High Court now available at Mathura **- Chairman.**

ii. Representative of CPCB: Dr. RK Singh, Regional Director (N) CPCB Lucknow – **Member.**

iii. **Professor Mukesh Khare,** former Prof. IIT Delhi – **Member.**

iv. Member Secretary, SEIAA, UP - **Member.**

v. Chief Engineer Environment, UP State PCB – **Member.**

The Hon'ble NGT has directed that the CPCB and the State PCB will be the nodal agency for coordination and compliance. It has been inter alia directed that the Committee may visit the site and study the available data of air quality and location of the brick kilns. **The Committee would be free to consult any other expert /institution.** It has been further directed that the Committee may give its report within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR support PDF and not in the form of Image PDF.

3. After coordinating with members of the Committee the **first physical meeting** was held on **6.9.2021 in PWD Inspection House, Mathura, at 11 a.m.** wherein following members were present :-

i. **Justice Anil Kumar Sharma, Chairman**
II. **Sri R. K. Singh, Chief Environment Officer, UPPCB, Lucknow**
III. **Prof. Mukesh Khare, IIT, Delhi**
IV. **Dr. Harsha Kota, Associate Prof. IIT Delhi**
V. **Sri Arvind Kumar, RO UPPCB, Mathura**
VI. **Sri Shubham Sharma, Research Asstt., IIT Delhi**

Representative of CPCB, Dr. R K Singh, Regional Director (N) CPCB Lucknow attended the meeting through video conferencing, however, Member-Secretary SEIAA, U.P. was not present.

4. After deliberations, the IIT Delhi team led by Prof Khare had offered to undertake the study/task as per the directions of the Hon'ble Tribunal. The officers of the PCB and CPCB had no objection for the assignment of the work to IIT Delhi team. Considering all the facts and circumstances, Prof Khare had been requested to carry out the project. He informed that the project would be undertaken by Dr.Harsha Kota, Asstt Prof. and his team of researchers/project staff under his guidance. Prof. Khare detailed about the total cost of the project, but the Chairman of the Committee stressed that the site is not far from Delhi and the volume of the work is not much and its like working for the Almighty as Mathura is the birth place of Lord Krishna so the IIT team should be generous in preparing the cost estimate of the project. Prof Khare graciously agreed to this preposition and assured the Committee that the cost of the project would be on lower side as compared to the other projects undertaken by the IIT Delhi. The minutes of the meeting are appended at **Annexure-1.**

5. The **2nd meeting** of the committee through VC was held on 24.9.2021 presided over by the Chairman, in which various issues were discussed about carrying out the study by the IIT Delhi. Inter alia it was observed that the study of carrying capacity shall be kept between November, 2021 to May, 2022 i.e. for post-monsoon, winter and pre-monsoon season as the brick kilns will be operational from March to June every year. The minutes of the meeting are appended at **Annexure-2.**

6. The **3rd meeting** of the Committee was held on 1.10.2021 through video conferencing, wherein various decisions regarding selection of representative locations for ambient air quality monitoring after observing due protocol to be carried out by the UPPCB and CPCB were taken. UPPCB RO, Mathura was directed to collect meteorological data from Mathura Refinery and transmit the same to Dr. Kota. The revised estimation of carrying capacity duly vetted by Prof. Khare **(Annexure-3)** was considered in the meeting and since no objection was raised by any of the members of the committee; therefore, it was principally accepted and approved and UPPCB was directed to complete the official formalities in obtaining funds for the project. The Chairman of the Committee drew attention of the officers of the CPCB and UPPCB that both of them are nodal agencies for the study and are part of decision making process, so early action by all concerned is the need of the hour to ensure on time compliance of Hon'ble NGT order. The minutes of the meeting are appended at **Annexure-4.**

7. In the 4th **meeting** of the Committee held on 11.10.2021 through VC, presided by the Chairman, RD CPCB Lucknow clarified that the UPPCB RO Mathura with the help of CPCB PO Agra will carry out ambient air monitoring at all the designated locations following due protocol. Dr. Kota stressed the need of signing of MoU, whereupon the CEO-UPPCB directed UPPCB RO, Mathura to get the MoU signed before 18.10.2021. Regarding collection of appropriate meteorological data from IOCL, the CEO UPPCB directed UPPCB RO, Mathura to contact IOCL authorities for collection of the data on 18.10.2021 under due conversation with Dr Kota. The minutes of the meeting are appended at **Annexure-5.**

8. After signing of the MoU **(Annexure-6)** between UPPCB and the IITD, Prof. Khare held meeting with his team and the representative of UPPCB, Mathura in IIT, Delhi on 23.10.2021 and after discussion sampling locations/stations for PM_{10} sampling in Chhata and Mant Tahsils of Mathura were finalized and the sampling as per CPPCB norms would commence from 27.10.2021. The minutes of the meeting are appended at **Annexure-7.**

9. As per the decision taken in the meeting presided by Prof. Khare ambient air quality monitoring/sampling was carried out on 27.10.2021 on selected locations by joint team of UPPCB, Mathura and CPCB Project Office, Agra by observing due standard protocol. The detailed report of the monitoring/sampling has been submitted by RO. Mathura to the team IIT Delhi team on 8.11.2021, which are appended at **Annexure-8.**

10. The IIT Delhi team has submitted Preliminary Data Analysis report **Annexure-9** along with plan of activities from September 2021 to May, 2022, which are appended at **Annexure-10** . .

11. The 5th **meeting** of the Committee was held through VC on **15.11.2021**, in which the core issues for discussion were funding of the project to IIT Delhi as also extension of time for submission of final report of the study by July, 2022. The CEO UPPCB apprised the Chairperson that IIT Delhi Team who is doing this project, vide e-mail dated 02.11.2021 has pointed out to seek time extension from the Hon'ble NGT on following points:

1. Seasonal sampling of ambient PM_{10} is to be carried out in Mant and Chhata regions where currently no data is available.
2. Further since the formation of committee no brick kiln are under operation in Mant and Chhata region due to monsoon and regulations by the UP Pollution Control Board.
3. To estimate the contribution of brick Kilns to PM_{10} pollution load carrying capacity of the area, detailed PM_{10} emission inventory for Mant and Chhata regions should be prepared.

This view of IIT Delhi Team found support from an e-mail of Dr. R. K. Singh, RD CPCB, Lucknow dated November 2, 2021, which reads as under :-

"I endorse your approach, which seems quite reasonable and proposed extension for Report submission to Hon'ble NGT. As regard this and other issues raised, we may deliberate on-line as per earliest convenience post Deepawali 2021"

Er. R. K. Singh CEO UPPCB on behalf of UPPCB also consented to the above prepositions. **In these circumstances, the Committee feel it imperative that to ensure a reasonable execution of a representative study as per the directions of the Hon'ble NGT vide order dated 12.8.2021, the time to submit final report of the study may be extended up to July, 2022.**

12. As regards funding of the study, the IIT Delhi team has submitted revised budget of Rs. 32,14,320.00 (including 18% GST) vide Annnexure-3 The CEO UPPCB apprised the Committee that after receiving the proposed budget needed for carrying capacity study from IIT Delhi, the Member Secretary U.P. Pollution Control Board vide its letter dated 06.10.2021 **(Annexure-11)** has requested Member Secretary CPCB for giving consent to utilize EC funds. In response whereof CPCB vide letter dated 13.10.2021 **(Annexure-12)** has directed that the funding of projects should be done by the UPPCB from their "own resources". The CEO UPPCB informed the Committee that the Board is facing acute financial crisis, therefore, the Board would be filing an application before the Hon'ble NGT for permission to utilize EC funds available with UPPCB for execution of this project by the IIT, Delhi. He assured that the problem of funding to IIT Delhi will be sorted out very soon. The Chairperson taking serious view of this issue directed that the funding issue should be sorted out at the earliest so that the project work does not suffer. **Since the UPPCB is yet to take steps after receipt of the letter of CPCB dated 13.10.2021 for any clarification or permission to use the EC funds, therefore, the Committee request the Hon'ble NGT to kindly issue necessary directions to the UPPCB for utilisation of EC funds available with them.** The minutes of the Committee meeting are appended at **Annexure-13.**

13. On 13.11.2011 the IIT Delhi team submitted preliminary data analysis **(Annexure-9)** of the meteorological data and PM_{10} concentrations data for the months of September and October, 2021 taken from CPCB's online data dissemination portal for the station Omex Eternity, Vrindavan – UPPCB. This station is around 5 Km from Chhata boundary and 1 Km from Mant boundary.

14. It has been further reported by the IIT Delhi Team that the measurement of day and night PM_{10} and $PM_{2.5}$ concentrations and meteorological parameters in the identified locations of the Mant and Chatta will be **done by UPPCB for winter (December, 2021) and pre-monsoon seasons (during peak operation of brick kilns in April/May 2022).** Based on the measured concentrations and notified standards of PM_{10}, the current pollution load and carrying capacity, respectively, will be calculated for Mant and Chatta regions.

PRAYER

In view of what has been said and done above, the Committee earnestly request the Hon'ble NGT, as under :-

i) To direct UPPCB to make payment of the budget amount of the project amounting to INR 32,14,320.00 (including 18% GST) to IIT-Delhi at the earliest because they have clearly stipulated that the proposed duration of the project (seven months) will begin from the date on which funds are received from UPPCB. **(Reasons given in Para-12)**

ii) To graciously extend the time for submission of final report of the study by the Committee till July, 2022. **(Reasons given in para-11)**

The interim report is submitted for kind perusal of the Hon'ble NGT and necessary orders/directions.

(Dr. Mukesh Khare)
Former Prof.IIT, Delhi

(Dr. R. K. Singh)
Regional Director CPCB, Lucknow

(Justice Anil Kumar Sharma)
Chairman of the Committee
18.11.2021

November 18, 2021.

RAM KUMAR SINGH
Digitally signed by RAM KUMAR SINGH
Date: 2021.11.18 11:26:27 +05'30'

(Er R. K. Singh)
CEO-4, UPPCB Lucknow

(Ajay Kumar Sharma)
Member-Secretary, SEIAA, UP, Lucknow

ANNEXURE-1

(6)

MINUTES OF THE NGT MEETING

Dated: 06.09.2021 in compliance of Hon'ble National Green Tribunal (NGT) order Dated: 12.08.2021 in the matter of O A No. 93/2021, Mukesh Kumar Agarwal vs Central Pollution Control Board & Anr.

The Hon'ble NGT vide order Dated: 12.08.2021 has directed as under :-

(A) . Brick kilns operating in violation of environmental norms - without consent, in violation of consent conditions, in violation of siting criteria, beyond carrying capacity be forthwith closed, following due process of law, exercising statutory powers by the State PCB.

(B) The State PCB in coordination with the District Magistrate and the Air Quality Monitoring Committee headed by Secretary Environment may ensure setting up of air quality monitoring stations at appropriate locations and also take other steps for effective monitoring of compliance of air quality norms in the area in question.

(C) Consent given to all the brick kilns be reviewed by the State PCB in the light of CPCB directions as well as the air quality norms, siting criteria and carrying capacity. Shortlisting as per carrying capacity may be done on the basis of technology used, inter se distance, distance from sensitive locations and comparative level of compliance.

(D) Tunnel kiln technology with PNG may be appropriately encouraged in the interest of reduction of pollution load..

(E) Five-member Committee is constituted ***to undertake further study of carrying capacity of the area in terms of number of brick kilns which can be sustained applying right parameters and based on relevant data of air quality, overcoming deficiencies pointed out hereinabove.***

Five-member Committee comprises of the following:

i. ***Justice Anil Kumar Sharma,*** *former Judge of Allahabad High Court now available at Mathura* ***- Chairman.***

ii. Representative of CPCB: Dr. RK Singh, Regional Director (N) CPCB Lucknow – ***Member.***

iii. ***Professor Mukesh Khare****, former Prof. IIT Delhi –* ***Member.***

iv. Member Secretary, SEIAA, UP - ***Member.***

v. Chief Engineer Environment, UP State PCB – ***Member.***

5. The Hon'ble NGT has directed that the CPCB and the State PCB will be the nodal agency for coordination and compliance.. It has been inter alia directed that the Committee may visit the site and study the available data of air quality and location of the brick kilns. **The Committee would be free to consult any other expert /institution.**

6. In compliance of the Hon'ble National Green Tribunal, Principal Bench, New Delhi order Dated: 12.08.2021, a meeting was held on 06.09.2021, 11:00 AM to 02:00 PM at P.W.D. Inspection House, Mathura. Following members attended the meeting

I, Justice Anil Kumar Sharma, Chairman
II. Sri R. K. Singh, Chief Environment Officer, UPPCB, Lucknow
III Prof. Mukesh Khare, IIT, Delhi
IV. Dr. Harsha Kota, Associate Prof. IIT Delhi
V. Sri Arvind Kumar, RO UPPCB, Mathura
VI Sri Shubham Sharma, Research Asstt., IIT Delhi

7. Representative of CPCB, Dr. RK Singh, Regional Director (N) CPCB Lucknow attended the meeting through video conferencing, however,**Menber Secretary SEIAA U.P. was not present.**

8. After the introduction of the Committee members, the RO UPPCB Mathura gave brief introduction about the case i.e. Original Application No. 93/2021, Mukesh Kumar Aggarwal vs Central Pollution Control Board & Anr. He appraised the Committee about Hon'ble NGT order Dated: 13.04.2021 and 12.08.2021 informing that NGT constituted three members committee comprising DM Mathura, RO UPPCB, Mathura and representative from CPCB.. Based on collected information, field visit and monitoring reports of Brick Kiln units in both the clusters report was prepared and uploaded on CPCB website (www.cpcb.nic.in) for public objections, if any. Objection on inspection report was raised by Mukesh Kumar Agarwal S/o Shri. Bhagwat Prasad Aggarwal, Kosikalan, Tehsil Chhata, District-Mathura (U.P.) and after hearing NGT passed order on 12.08.2021.

9. . The IIT Delhi team led by Prof Khare has offered to undertake the task as per the directions of the Hon'ble Tribunal. the officers of the PCB and CPCB have no objection for the assignment of the work to IIT Delhi team. Considering all the facts and circumstances, Prof Khare has been requested to carry out the project. He has informed that the project would be undertaken by Dr.Harsha Kota, Asstt Prof. and his team of researchers/project staff.under his guidance. Prof. Khare detailed about the total cost of the project, but the Chairman of the Committee stressed that the site is not far from Delhi and the volume of the work is not much and its like working for the Almighty as Mathura is the birth place of Lord Krishna so the IIT team should be generous in preparing the cost estimate of the project. Prof Khare graciously agreed to this preposition and assured the Committee that the cost of the project would be on lower side as compared to the other projects undertaken by the IIT Delhi

10. Thereafter the IITD group made presentation before the Committee and comprehensive discussions were made on following points :-

10.1. No. of brick kilns and how many of them are Hydra/Zig Zag technology in both Mant and Chhata clusters separately.

10.2. After discussion, the Committee in terms of order of Hon'ble NGT dated 12.8.2021 decided that only Chhata and Mant areas will be the study area for Carrying Capacity estimation based on the data collected in these regions.

10.3. Availability of the meteorological data from nearest station i.e. Mathura Refinery. The data needed are Wind Speed and Direction, Humidity, Solar Radiation, Mixing height, Ambient Temperature. Raw Hourly data are preferred for 2020 (January to December).

10.4. The number of bricks manufactured per day in both the areas separately;

10.5 Written clarification from competent authority regarding notified standard of brick kiln emission load to be used for the study.

10.6 As per directions of the NGT, the UPPCB will in coordination with NGT Committee and IIT Delhi will establish a few manual PM monitoring stations in Chhata and Manta areas along with the weather station at accessible and safe sites where regular power supply is ensured or otherwise made available by generator.

11. The writ complainant alleged that there 350 brick kilns are installed and operative throughout the year in Tahsil Mant and Chhata of District Mathura, but the Committee finds the allegations are incorrect and baseless..

12. The RO, is directed to ensure compliance of all points mentioned above (except 10.2) at the very earliest and intimate the IITD Team.

13, On query of Prof. Mukesh Khare it was clarified that the pollution control technology of zig-zag and hydra are same. **RO UPPCB Mathura informed that as per the existing directions all the brick klins are to be operated by zig-zag or Hydra technology to control the air pollution from March to June (four months only) every year.**

14, It was discussed that in Mant and Chhata clusters each at least one online ambient air quality monitoring station should be installed, howeve Chief Environment Officer, UPPCB Sh. R K Singh informed the Committee that installation of 02 no. CAAQMS in Mant and Chhata will incur big financial burden on UPPCB, so after taking necessary financial approval and permission from the competent authority, installation process will be carried out. Chairman of the committee suggested that it would be much better if monitoring of the ambient air quality is carried out in any temple or Tahsil premises of Mant and Chhata where continuous power supply is available may be through generator and safety and security of the machines/devices is ensured.

15. Prof. Mukesh Khare suggested to UPPCB that applicable present notified standard i.e. 750 mg/Nm_3 for brick kilns may be obtained from the CPCB in written format.

16. Revenue survey map of Tahsil Mant and Chhata, online ambient air quality data of year-2020 (January to Decmber), stack emission monitoring of one brick kiln based on old technology and one brick kiln based on zig-zag technology after rainy season in each Tahsil must be carried out and data should be shared with IIT Delhi. Chairman directed RO UPPCB Mathura that online ambient air quality data from Mathura refinery for year-2020, and Revenue survey map of Tahsil Mant and Chhata be procured as noted in point no. 10(3) above and after identifying suitable ambient air quality monitoring locations at Mant and Chhata Tahsil must be provided to Prof. Mukesh Khare IIT Delhi within fortnight.

17, The IIT Team was requested to submit estimate of the Project as discussed above in the meeting at the earliest. The RO will take steps to obtain administrative approval and the budget for transmission to the Team IIT Delhi.

18. No other point was raised or discussed in the meeting.. The RO PCB, Mathura made excellent arrangement for the meeting as also tea-biscuits etc.

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19. Vote of thanks was presented by RO UPPCB Mathura to all members of the meeting at the end with due permission of the Chairman of Committee.

20. Let minutes of the meeting be sent to all concerned through e-mail for compliance and signed hard copy be kept on record of the Committee.

(Arvind Kuma)
R.O., PCB, Mathura

ANNEXURE-2.

(12)

Minutes of second meeting in compliance of Honb'le NGT Order dated 12.08.2021 in the matter O.A. No. 93/2021, Mukesh Kumar Aggrawal Vs Central Pollution Control Board & Anr.-Reg.

The meeting was held through Video conferencing on dated 24.09.2021 under the Chairmanship of Hon'ble Justice Mr. Anil Kumar Sharma, Former Judge Allahabad High Court. The under named committee members were also present during the meeting to discuss relevant issues:

i- Dr. R.K. Singh, Regional Director, CPCB, Lucknow
ii- Professor Mukesh Khare, Former, Prof. IIT, Delhi
iii- Mr. Ajay Kumar Sharma, Member Secretary, SEIAA, U.P.
iv- Er. R.K. Singh, CEO, Circle-4, UPPCB, Lucknow
v- Mr. Arvind Kumar, Regional Officer, UPPCB Mathura
vi- Dr. Harsha Kota, Ass. Prof. IIT Delhi

The Hon'ble Chairman discussed about the minutes of meeting dated 06.09.2021 held at Mathura. The members present unanimously confirmed the minutes of meeting dated 06.09.2021.

The following issues were discussed with the permission of chairperson:-

S.No.	Issues to be discussed	Conclusion
1-	Brick kilns operating in violation of environmental norms - without consent, in violation of consent conditions, in violation of siting criteria, beyond carrying capacity be forthwith closed, following due process of law, exercising statutory powers by the State PCB.	The compliance of this issue must be ensured by PCB/ Regional Officer UPPCB Mathura under statutory powers of the board.
2-	Identification of representative locations of ambient air quality monitoring stations in the study area	So far as identification of representative locations are concerned the committee was of the view that this exercise shall be completed by UPPCB Mathura and Project Officer CPCB Agra. The team shall select at least two (probable) locations up wind and four (probable) locations down wind side at Tehsil-Chhata and Mant. The locations should be easily accessible and safe. This exercise shall be completed before next meeting proposed to be held on 01.10.2021. After identification of probable locations, six each at Tehsil Chhata and Mant, a team of IIT D shall visit the area for finalisation of four locations in each of the above Tehsil.
3-	Initiating ambient air quality 24 hr round the clock. Such monitoring be conducted uninterrupted for a period of 72 hrs before, during and after the designated period of operation of brick kilns i.e. March-June	The ambient air quality at selected locations must be carried out by UPPCB Mathura and CPCB Agra following the due protocol of such monitoring. The Committee was of the view to

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		initiate such exercise after selection of monitoring locations duly approved by team of IIT Delhi. In keeping with constraints of uninterrupted power supply for 72 hours, the monitoring shall be undertaken for 24 hours on three different days in quick succession.
4-	Collection of Metrological data from the nearest locations	The Committee decided that the Metrological data shall be collected by Regional Officer UPPCB Mathura from IOC Mathura. The Officers of UPPCB shall arrange conversation between Prof. Khare and Officials of Mathura Refinery while collecting the data so that clarification regarding mixing zone, wind directions and other relevant parameters regarding Metrological data may be clarified then and there. The officers of UPPCB Mathura will ensure this exercise before next proposed meeting.
5-	Clarification regarding high CEPI score	R.D. Lucknow explained on this issue that he will seek the clarification regarding high CEPI scores/revision thereof (if any) with due consultation at CPCB head office at the earliest possible.
6-	Based on proposal submitted by esteemed IIT-D, invite proposals from other Institutions of Repute (NEERI, IISC B'lore etc.) following due Standard procedures/online govt. portal, for conducting Assimilative Capacity/Carrying Capacity which shall come out with a conclusive recommendation on number of brick kilns which can be sustained applying right parameters and based on relevant data of air quality. Selection of competitive and best suited proposal and review on its execution be entrusted to the present Justice Sharma Committee.	The Chairperson and committee was of the view that proposal earlier provided by IIT Delhi to carry out the study of carrying capacity may be revised in cost and timeline shall be kept between Nov, 2021 to May, 2022. Prof. Khare is requested to vet the revised estimation on behalf of the Committee and certify about its genuineness and reasonableness considering the size, magnitude, nature, scope and duration of the project. The study may be conducted for pre monsoon, winter and post monsoon season for assessment. The Hon'ble NGT has allowed brick kilns to operate March to June every year, so as and when the revised proposal will be made available to PCB/CPCB, the Board in consultation with CPCB will take prior permission for funding the project from CPCB or Hon'ble NGT as the case may be. The Chairman was of the view that since the honorarium to the Chairman and Prof. Khare is to be paid by the PCB out of 'consent fund' (as directed by Hon'ble NGT), the cost of the project is also to be borne by UPPCB from that fund. R.D. CPCB will seek the clarification for utilization of EC amount to be made available in advance to IIT Delhi for study purpose. The moment UPPCB will

		get the clarification for funding the project, the revised proposal and extension of timeline request shall be submitted before Hon'ble NGT through Hon'ble Chairperson of the Committee. R.D. has assured the Chairman to do the needful at the earliest.
7-	The Brick kilns are currently closed and to be operated from March-June. Hence request be submitted to Hon'ble NGT to allow a further period of 06 months from January 2022	Discussed. Request be made at the appropriate time.
8-	The referenced Order has mentioned about honorarium but provision for funding Project is not clear. Hon'ble NGT may be requested for specific provision of financial resources for the said Project.	As per contents of Point No.-6
9-	Any other issue as suggested with the permission of chairperson.	-

As per the direction of the Hon'ble chairperson the Committee will again meet on next **Friday 1st Oct, 2021 at 4:00 PM** through Video Conference to review the progress. The meeting was organised nicely to take up the issues speedily and ended with vote of thanks to chair.

(Arvind Kumar)
Regional Officer, UPPCB,
Mathura

ANNEXURE-3.

(15)

ESTIMATION OF PM_{10} CARRYING CAPACITY FOR MANT AND CHHATA REGIONS OF MATHURA DISTRICT

by

Dr. Sri Harsha Kota and Prof. Mukesh Khare

Department of Civil Engineering, IIT Delhi

Introduction:

Air pollution is a matter of serious concern for the developed, developing and the underdeveloped nations as it is a local as well as a global issue. Air pollution can be described as contamination of the atmosphere by gaseous, liquid, or solid wastes or by-products which endanger human health and welfare of plants and animals, attack materials, reduce visibility or produce undesirable odours. The most important components of emissions to air include carbon dioxide, carbon monoxide, sulphur oxides (SO_x), methane, non-methane volatile organic compounds and nitrogen oxides (NO_x), Particulate matter (PM), ions and heavy metals associated with PM. While some pollutants are released by natural sources like volcanoes, coniferous forests, and hot springs, most of them are emitted by burning of fossil fuels, industrial sources, power and heat generation, waste disposal and the operation of internal combustion engines, etc. The increased air pollution levels can be mainly attributed to the rapid industrialization and urbanization. Most cities in the country continue to face the air pollution problem. Indian cities have experienced a phenomenal increase in population, industry, and vehicles. Given the current rapid rate of economic development of India, the further degradation of air quality is likely to occur in future and hence preventive measures become imperative. It becomes extremely necessary to make use of scientific tools available for the decision making. Some of these tools are the air pollutant emission inventory and air quality modelling. Emission Inventory provides the fundamental knowledge for understanding local and regional air pollution, its transport, and impacts. Emission Inventory (EI) is a structured collection of information about emissions of pollutants in a specified area. Emission inventories with highly resolved temporal and spatial information are urgently needed to combat the increasing urban and regional air pollutions. An exhaustive and a quality emission inventory should be able to provide reliable estimate of total emissions of different pollutants, their spatial and temporal distribution, identification, and characterization of main sources and tracking

progress towards air pollution control. In addition, emission inventory can be used for air quality modelling for developing air pollution control strategies for attaining air quality standards. Policymakers and researchers face challenges in forming effective air quality management strategies in absence of a structured emission inventory. This information on emission inventory is an essential input to air quality models for developing strategies and policies. Thus, preparation of emission inventories with highly resolved temporal and spatial information should be the first step to be undertaken to combat the increasing urban and regional air pollutions. The goal of the planning process is to identify and achieve emission patterns for deriving pollution control policies.

Carrying/Assimilative capacity can be defined as the ability of the environment or a portion of the environment (such as a stream, lake, air mass, or soil layer) to carry waste material without adverse effects on the environment or on users of its resources. As the environment is degraded, carrying capacity shrinks, leaving the environment with no ability to support even the number of people who could formerly have lived in the area on a sustainable basis. Thus, the estimation of carrying capacity provides regulators with useful information that can be used to develop mitigations strategies to maintain the ambient air quality standards in a region.

Need for the study:

Air pollution in the Indo Gangetic plains has come up as one of the biggest challenges that requires immediate attention. Mathura district has been an area of concern and is facing high concentrations of particulates. The Central Pollution Control Board of India Comprehensive Environment Pollution Index (CEPI) score of 91.10 to Mathura district in its report in 2018 which categorises Mathura as critically polluted area. Significant area of the Mathura district falls under the Taj Trapezium Zone (TTZ) where no red and orange category industries can be allowed to be setup. In the National Green Tribunal report (Application No: 93/2021), the regions of Mathura district which do not lie in the TTZ, such as Mant and Chatta (Figure 1) are suffering poor air quality as majority of the small and medium scale industries and located in these regions. However, due to lack of air quality monitoring stations in these regions, there is no available data of the pollutant concentrations in these regions. Thus, there is a need to carry out an emission inventory study for these areas and estimate the carrying capacity of these regions so that steps can be taken to ensure that the standards prescribed by CPCB are met.

Figure 1. Map of Mathura district

Objectives of the study:

The main objective of the proposed project is to estimate the contribution of various sources such as brick kilns, vehicles, crop residue burning etc. to the total $PM_{2.5}$ and PM_{10} emissions in the regions of Mant and Chhata in the Mathura district and to estimate the carrying capacity of these regions. It is proposed to meet this main objective through the following sub objectives:

i. Preparation of an exhaustive emission inventory of PM_{10} from various sources for the Mant and Chhata areas. This area will be divided into grid systems into 2 km x 2 km size of the digitized maps.

ii. Estimation of contribution of various sources to PM_{10} carrying capacity of Mant and Chhata regions.

iii. Preparation of action plans to reduce the excess pollution load in the Mant and Chhata regions.

18

Methodology:

The source activities for air pollution in this region can be broadly classified as: transport sector (motor vehicles), commercial activities, industrial activities, domestic activities, and fugitive sources. Under industrial activities, brick kilns clusters are the most prevailing sources for air pollution. Diesel driven tractors are the dominant sources of transportation in the region.

In addition to industrial and automobile pollution, there are emissions from domestic cooking using cheap fuels like wood, coal, biomass etc. Clusters of small and medium scale industries are also responsible for the air pollution. Garbage burning may be a common practice; it can be an important contributor to air pollution. The road condition may cause non-exhaust road dust emission in a significant amount as significant roads are unpaved. An overall project methodology is presented in Figure 2.

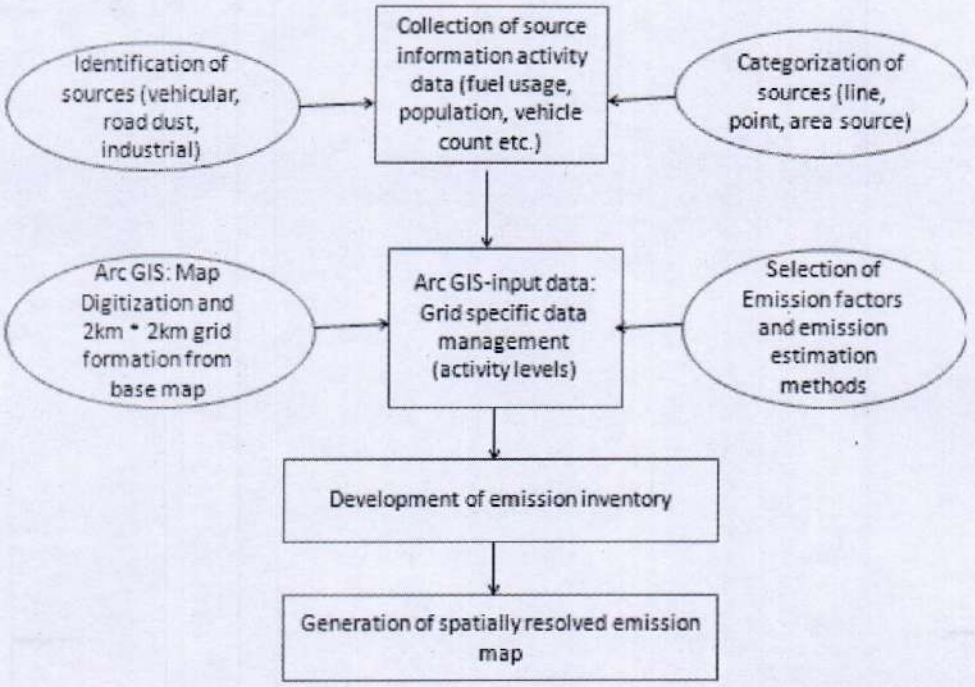


Figure 2. Overall Methodology for Emission Inventory

ArcGIS will be used for this study because of it is user friendly and is frequently used by the local authorities and research institutions for air pollution management. The topographical map, of cities will be geo-coded as the base maps in the form of polygons for geo-referencing the other maps. The other maps (e.g., land use, road, and railway intersection) and ward

boundary will be geo-referenced. Various thematic layers of gridded maps (2 km x 2 km) will be generated in GIS (e.g., road maps, population map).

Based on primary data from field surveys, major sources of air pollutants will be classified as:

(1) industries
(2) vehicles,
(3) domestic fuel burning,
(4) open burning (agricultural residue and garbage burning),
(5) hotel and restaurant fuel use,
(6) diesel generator (DG) sets
(7) road dust
(8) other sources (e.g., other fugitive sources).

All these sources can broadly be classified into three categories:

i. point sources,
ii. area sources and
iii. line sources.

The methodology can be divided into two phases:

1. Phase 1:

In this phase, in coordination with UPPCB, *locations* for setting up ambient air quality monitoring instruments to measure PM_{10} and $PM_{2.5}$ in Mant and Chatta regions will be identified. The measurement of day and night PM_{10} and $PM_{2.5}$ concentrations and meteorological parameters in the identified locations of the Mant and Chhata will be done by UPPCB for ten days during post-monsoon (during stubble burning period in the months of November), winter (December) and pre-monsoon seasons (during peak operation of brick kilns in April-May).

Further, the primary and the secondary data will be provided to IIT Delhi by Uttar Pradesh Pollution Control Board (UPPCB). All the requisite survey forms for each source will be provided by IIT Delhi.

The following data is to be provided to IIT Delhi for this phase:

- Boundary maps of Mant and Chhata to be provided.
- One-year meteorological data (Wind speed, wind direction, relative humidity, temperature, and mixing layer height) from the nearest weather station in Mathura Refinery.
- Collection of activity data for industrial and domestic emissions including fugitive and non-point sources.
- Traffic survey at roads selected by IIT Delhi.
- Road dust sampling at roads selected by IIT Delhi.

2. **Phase 2:**

Digitization of all the data and maps provided by UPPCB and preparation of gridded PM10 emission inventory of Mant and Chatta regions, will be carried out in this phase. Based on the measured concentrations and CPCB standards of PM10, the current pollution load and carrying capacity, respectively, will be calculated for Mant and Chhata regions. This along with the emission inventory developed in this phase of the project will help in estimating the contribution of different sources to PM10 carrying capacity of these areas.

3. **Phase 3:**

Using the developed emission inventory, estimated current pollution load and carrying capacity in Phase 2, action plans would be formulated to reduce the excess current pollution load, if any. Different scenarios used in these action plans include but not limited to:

i. Converting all the brick kilns in the region to zigzag technology.
ii. Phase wise conversion of Fixed Chimney Bull's Trench Kiln (FCBTK) to zigzag technology.
iii. Converting all the unpaved roads to paved roads around the brick kilns.

Project deliverables/Expected outcomes:

(i) An exhaustive emission inventory for the regions of Mant and Chhata regions will be developed.
(ii) PM_{10} carrying capacity of Mant and Chhata regions will be estimated.
(iii) Probable contribution of individual sources to PM_{10} carrying capacity of Mant and Chhata regions will be estimated.
(iv) Formulating action plans to reduce excess pollution load, if any.

Duration:

The proposed duration is seven months. Zero date of the project is the date on which funds are received from UPPCB.

Timeline:

S. No.	Description	Nov 2021	Dec 2021	Jan 2021	Feb 2022	March 2022	April 2022	May 2022
1.	Identification of monitoring sites							
2.	Monitoring of pollutant concentrations and meteorological parameters							
3.	Conducting surveys and data collection by UPPCB							
4.	Digitization of maps and data collected							
5.	Preparation of emission inventory							
6.	Interim Report							
7.	Carrying Capacity estimation							
8.	Final report submission							

Note: The timeline starts from November with an expectation that the zero date of the project is in October.

The monitoring of pollutant concentrations and meteorological parameters to be used for the estimation of carrying capacity needs to be done for November, December, and April-May. As per UPPCB, the brick kilns are only allowed to operate during the months of March to June, with peak operation in April and May. Therefore, it becomes necessary for the project duration to be up to May 2022 as pollutant concentration and meteorological monitoring is required to be carried out for the period when brick kilns are operational.

Budget:

The proposed budget including 18% GST is Rs. 32,14,320. The break-up of this budget is given below.

S. No.	Head	Description	Amount (INR)	Justification
1.	Manpower	Honorarium (Lead: Dr. Sri Harsha Kota)	700000	Conceptualization, emission inventory development and monitoring.
		Honorarium (Co-lead: Prof. Mukesh Khare)	Nil*	Data interpretation and overall supervision.
		Honorarium (Research Scholar)	240000	Data analysis, inventory development, and meteorological modelling
		Junior Project Assistant	150000	Data collection and preliminary analysis
		Project Assistant	180000	Data digitization
		Junior Research Fellow	2,25,000	Digitization of inventory in GIS software.
2.	Travel, Food and Stay		2,00,000	Site visits for research group for

				project related activities.
3.	Computational Charges		3,50,000	Computational charges include the charges for running models on the High-Performance Computing facility at IITD.
4.	Contingency		50,000	Unforeseen costs related to project activities
4.	Overheads		6,29,000	As per IITD rules (50% of Honorarium (PI)+ 20 % of costs other than PI's honorarium)
	Total (Excluding taxes)		27,24,000	

*Honorarium @1.5 lakhs per month is being paid as per NGT orders.

It is to certify that the proposal titled "Estimation of PM10 Carrying Capacity for Mant and Chhata regions of Mathura District" as developed by IIT Delhi team, under the guidance of Hon'ble Chairman Justice Anil Sharma and myself along with other members of NGT committee is technically realistic and correct. All the objectives are aligning with the NGT requirements as per its order 93/2021. Further, it is to endorse that the budget, as quoted by Dr. Sri Harsha Kota, Associate Professor, Department of Civil Engineering, IIT Delhi for the project is genuine and reasonable considering the size, magnitude, nature, scope and duration of the study.

Submitted for further necessary action.

Prof. Mukesh Khare (Member, NGT committee)

Chairman (NGT Committee)

ANNEXURE-4

24

Minutes of Third Meeting of the Committee dated October 01, 2021 in compliance of Hon'ble NGT Order dated 12.08.2021 in the matter O.A. No. 93/2021, Mukesh Kumar Aggrawal Vs Central Pollution Control Board &Anr.-Reg.

The meeting was held through Video conferencing on dated 01.10.2021 under the Chairmanship of Hon'ble Mr Justice Anil Kumar Sharma, Former Judge Allahabad High Court. The under named Committee members were present during the meeting to discuss relevant issues. Prof. Mukesh Khare, Former Prof. IIT Delhi could not attend the meeting with prior information to the Chairman of the Committee.

i- Mr. Ajay Kumar Sharma, Member Secretary, SEIAA, U.P.
ii- Dr. Harsha Kota, Associate Professor, Department of Civil Engg., IIT Delhi
iii- Dr. R.K. Singh, Regional Director (RD), CPCB, Lucknow
iv- Er. R.K. Singh, CEO, Circle-4, UPPCB, Lucknow
v- Mr. Arvind Kumar, Regional Officer, UPPCB Mathura
vi- Mr. Kamal Kumar, Project Officer CPCB Agra

The Hon'ble Chairman discussed about the minutes of meeting dated 24.09.2021 held through Video conferencing. The members present unanimously confirmed the minutes of meeting dated 24.09.2021.

The Member Secretary, UPPCB Lucknow under taken the following issues with the permission of Chairman of the Committee:-

S.No.	Issues to be discussed	Conclusion
1-	About progress on identification of representative locations the Committee was of the view that this exercise shall be completed by UPPCB Mathura and Project Officer CPCB Agra. The team shall select at least two (probable) locations up wind and four (probable) locations down wind side at Tehsil- Chhata and Maant. The (Probable) locations should be easily assessable and safe. This exercise shall be completed before next meeting proposed to be held on 01.10.2021. After identification of the (probable) locations, six each at Tehsil Chatta and Tehsil Maant, a team of IIT D	The Member Secretary, SEIAA apprised the Committee, that 12 probable locations, 06 each at Chhata and Mant Tehsil had been identified by a joint team of UPPCB Mathura and CPCB Project Office, Agra and the Report along with list of probable locations had been forwarded to Prof. Kota for revisiting the site along with officials of the Board for final selection of the points where ambient monitoring will be done for 24 hours. The Hon'ble Chairman of the Committee directed Prof. Kota to make an early programme for visiting the locations of monitoring points for finalisation of 4 locations (one upwind and three down wind) each at

	shall visit the area for finalisation of four locations each at Tehsil Chatta and Tehsil Maant,	Chhata and Maant Tehsil, so that monitoring could be initiated at the earliest possible. Prof. Kota assured to do so as early possible. The Chairman of the Committee directed that effort should be made to complete this exercise (site finalisation) within 02 weeks.
2-	Clarification on the ambient air quality at selected locations must be carried out by UPPCB Mathura and CPCB Agra following the due protocol of such monitoring. The Committee was of the view to initiate such exercise after selection of monitoring locations duly approved by team of IIT Delhi. In keeping with constraints of uninterrupted power supply for 72 hrs., the monitoring shall be undertaken for 24 hrs on three different days in quick succession.	So far as the clarification on the ambient air quality at selected points is concerned, RD CPCB, Lucknow, explained that CPCB observes due protocol of monitoring. The P.O. Agra shall provide the Protocol for carrying out ambient air quality monitoring at Chhata and Maant, District Mathura in compliance of the referenced order of Hon'ble NGT.
3-	The Committee decided that the Metrological data shall be collected by Regional Officer UPPCB Mathura from IOCL Mathura. The Officers of UPPCB shall arrange conversation between Prof. Khare and Officials of Mathura Refinery while collecting the data so that clarification regarding mixing zone, wind directions and other relevant parameters regarding Metrological data may be clarified then and there. The officers of UPPCB Mathura will ensure this exercise before next proposed meeting.	The Regional Officer UPPCB, Mathura has informed that he has collected the Metrological data from IOCL Mathura and sent to Dr Harsha Kota. If any clarification will be required in future, he will facilitate interaction between Prof. Kota and concerned Officers of IOCL Mathura.
4-	Clarification regarding high CEPI score.	The RD CPCB, Lucknow, clarified that the

		CEPI scores were based on the study in the year 2018. The CEPI scores were calculated based on the sub component of Air Score, Water Score and soil (land) Scores. He mentioned that no further study for recalculation of CEPI score was carried out after 2018.
5-	The Committee was of the view that estimation earlier provided by IIT Delhi to carry out the study of carrying capacity needs revision in costs and timeline shall be kept between Nov.2021 to May 2022. The study may be conducted for pre monsoon, winter and post monsoon season for assessment. The Hon'ble NGT has allowed brick kilns to operate from March to May, so as and when the revised proposal is made available to PCB/CPCB, the Board in consultation with CPCB will take steps for funding the project from CPCB or Hon'ble NGT as the case may be. R.D. CPCB will seek the clarification for utilization of EC amount to be made available in advance to IIT Delhi for study purpose. The moment UPPCB will get the clarification for funding the project, the revised proposal and extension of timeline request shall be submitted before Hon'ble NGT through.. R.D., Lucknow has assured the Chairman to coordinate and do the needful at the earliest.	Further to the point of discussion regarding revision of proposal by IIT Delhi, CEO UPPCB Lucknow apprised the Committee that the Revised Proposal submitted by IIT Delhi has been received. RD CPCB, Lucknow apprised the Committee about CPCB Guidelines for consideration of proposals for financial support under EC Funds. RD CPCB, Lucknow further informed that in order to consider the Proposal by CPCB, it has to carry acceptance and recommendation by the Committee. Since no objection has been raised by any of the members of the Committee on the revised estimation of IIT Delhi submitted by Dr Kota duly vetted and verified by Prof. Khare all the members principally agreed to their revised estimation, therefore, it is accepted and approved. The UPPCB will please formally forward the proposal to CPCB for funding the budget at the earliest as the study is to begin from November, 2021 and a report is to be submitted by the Committee to the Hon'ble NGT during that month. In view of the above, the Chairman of the Committee directed UPPCB to send the proposal to CPCB along with all the minutes of the Committee's meetings. for priority

		consideration in the light of the referenced order of Hon'ble NGT, with a copy to R.D CPCB Lucknow for coordination and follow up. The UPPCB assured that this exercise will be done in the next week. **(Prof Harsh Kota recused the discussion on this point.)** The Chairman of the Committee drew the kind attention of the CPCB and PCB that under the directions of Hon'ble NGT as contained in the referenced order dated 12.8.2021, they both are the nodal agencies for coordination and compliance of the Committee/project, and they are part of the decision making process of the Committee as well, so early action by all concerned is the need of the hour to ensure compliance of the directions of Hon'ble NGT..

The meeting ended with vote of thanks to the Chair. **The next virtual meeting of the Committee shall be held on 8.10.2021 (Friday) at 4 pm.** All the members of the committee as also Dr Harsh Kota and Sri Kamal Kumar are requested to attend the meeting on time.

(Arvind Kumar)
Regional Officer, UPPCB, Mathura

ANNEXURE-5

28

Minutes of 4th Meeting in compliance of Hon'ble NGT Order dated 12.08.2021 in the matter O.A. No. 93/2021, Mukesh Kumar Aggrawal Vs Central Pollution Control Board &Anr.-Reg.

The meeting was held through Video conferencing on **dated 11.10.2021** under the Chairmanship of Hon'ble Justice Mr. Anil Kumar Sharma, Former Judge Allahabad High Court. The under named Committee members were present during the meeting to discuss relevant issues. Mr. Ajay Kumar Sharma, Member Secretary, SEIAA, U.P. could not attend the meeting with the prior permission of the Chairman of the Committee.

i- Professor Mukesh Khare, Former Prof. IIT Delhi
ii- Dr. R.K. Singh, Regional Director (RD), CPCB, Lucknow
iii- Dr. Harsha Kota, Associate Professor, Department of Civil Engg., IIT Delhi
iv- Er. R.K. Singh, CEO, Circle-4, UPPCB, Lucknow
v- Mr. Arvind Kumar, Regional Officer, UPPCB Mathura

The Hon'ble Chairman discussed about the minutes of meeting dated 01.10.2021 held through Video conferencing. The members present unanimously confirmed the minutes of meeting dated 01.10.2021.

The CEO, UPPCB Lucknow under taken the following issues with the permission of Chairman of the Committee:-

S.No.	Issues to be discussed	Conclusion
1-	Discussion on the finalisation of monitoring locations at Chhata and Maant.	With the permission of the Chairperson CPCB RD Lucknow clarified that the UPPCB RO Mathura with the help of CPCB PO Agra will carry out ambient air monitoring at all the designated locations following due protocol. He requested Prof. Kota to finalise the representative monitoring locations for an early action. On this point Prof. Khare raised the issue of appropriate Meteorological data to prepare windrows diagrams before selection of representative locations. Prof Khare, further stressed that IIT Delhi will co-ordinate with UPPCB and CPCB but they have compulsion of MoU between UPPCB and IIT Delhi. The CEO present in the meeting clarified that MoU will be signed very shortly. The CEO assured that the signing of MoU will be ensured in coming week.
2-	Discussion regarding signing of MoU	The CEO has clarified that the UPPCB will sign

	between IIT, Delhi and UPPCB.	the MoU. The CEO has directed R.O. Mathura to expedite this matter so that MOU is signed latest by October 18, 2021.
3-	Regarding collection of appropriate Meteorological data from IOCL Mathura.	On this point Prof. Kota and Prof. Khare explained to the chair that the data provided by R.O. Mathura are not sufficient to go ahead and they need the Meteorological data for at least 01 year. The CEO has directed R.O. Mathura to contact IOCL on 18th October, 2021 to collect the appropriate data. He should also ensure to arrange conversation between Prof. Kota and IOCL Officials to clear the issues.
4-	By the Hon'ble Chairman	The Hon'ble Chairman invited attention of all the members to the order of Hon'ble NGT dated 12.8.2021, which has required the Committee to submit its report within three months and emphasized that the report of the Committee is to be uploaded on the website of NGT positively by November 19, 2021, so he requested all concerned to complete their respective task keeping in mind the above time-line. All the members present assured to adhere the scheduled time-line in coordination with each other.

The meeting ended with vote of thanks to the Chair.

(Arvind Kumar)
Regional Officer, UPPCB Mathura

ANNEXURE-6

30

Indian Institute of Technology Delhi
Industrial Research & Development Unit
Hauz Khas, New Delhi – 110 016, INDIA
Tel. 91-11-26591799, 26597156 Fax : 91-11-26584715
Email : arird@admin.iitd.ac.in

STANDARD TERMS AND CONDITIONS OF CONTRACT FOR CONSULTANCY

Title of the Consultancy Job :
Estimation of PM_{10} Carrying Capacity for Mant and Chhata regions of Mathura district

Name & Address of the Client :
UTTAR PRADESH POLLUTION CONTROL BOARD, MATHURA, UP

Name and Dept./Centre of the Consultant Incharge :
Sri Harsha Kota (CI), Department of Civil Engineering, IIT Delhi

The Institute through the CI/Co-CI will plan the Project in consultation with the Client. These terms and conditions govern projects for the development of products, processes, field studies, model studies, calculations, economic and technical consulting and other forms of project of specific interest to the client. The conditions are binding unless otherwise agreed upon in a separate signed document.

1. **DECLARATION:** All work undertaken by the Consultant Incharge (CI)/Co-Consultant Incharge (Co-CI) at IIT Delhi as part of the project will be in good faith and based on material/data/other relevant information given by the client requesting for the work.

2. **RESPONSIBILITY/LIABILITY** : The Institute through CI/Co-CI undertakes to carry out the project as conscientiously as conditions allow, but accepts no economic responsibility whatsoever, should the work not lead to expected results. IIT Delhi shall not be held liable for any loss, damage, delay or failure of performance, resulting directly or indirectly from any cause, which is beyond its reasonable control (Force Majeure). The liability of IIT Delhi shall be limited to the funds received for the project.

3. **DISCRETION** : The Institute through CI/Co-CI undertakes to handle with discretion reports, results, the identity of the Client and all material specifically treated/marked confidential which the client places at the disposal of the CI/Co-CI in connection with the project at IIT Delhi, subject to Right to Information rules/regulations.

4. **SUB-CONTRACTING** : The Institute reserves the right to allow any work in connection with the project, experimental or otherwise, to be carried out by a third party as per Institute norms and procedures, provided this does not result in the danger of information of a confidential nature coming into the hands of unauthorized persons.

5. **RESULT OF THE PROJECT:** The results of all work done at the Institute by the CI/Co-CI in connection with the project, incorporated in written reports shall remain the property of the Client. Results arrived at with little or no involvement on the part of the Client are available free of charge for the Client's own use. However, the CI/Co-CI/Institute reserves the right to use such results in connection with activities outside the scope of the project. If the Client consists of several individuals, all questions of Client, rights between the Clients must be settled between such individuals, and are of no concern to the CI/Co-CI/Institute. Unless otherwise agreed, all reports are to be sent to the Client. The CI/Co-CI/Institute has the right to retain a copy.

K. Sri Harsha

Name & Signature of Consultant Incharge

Name & Signature of Client

6. **INTELLECTUAL PROPERTY RIGHTS** : All rights pertaining to any intellectual property generated/ created/invented in the due course of the project, will be the joint property of IIT Delhi and the Client. Terms and conditions regarding transferring/assigning/selling these rights to the Client shall be governed by a separate written agreement if required.

7. **PUBLISHING THE RESULTS/OUTCOME OF THE CONSULTANCY** : The results/outcome of the consultancy shall not be exploited by the Client organization for its business interests by using IIT Delhi's name/logo through press advertisement/publicity material or in any other manner. Manuscripts of academic papers, brochures, advertisements or other form of published material which refer to or quote the proprietary results of the project shall be vetted by both parties before publication.

8. **COMMUNICATION OF RESULTS TO A THIRD PARTY** : The CI/Co-CI may not, without the written agreement of the Client, communicate the results of the project to a third party. The Client shall arrange the necessary written agreement of all parties on the Client's side who may have publication rights with respect to the project.

9. **PROJECTS FOR OTHER CLIENTS** : The Institute may undertake other projects in the same field provided – to the best of its knowledge and belief – there exists no danger of information of a confidential nature coming into hands of a third party.

10. **APPARATUS** : Instruments and/or equipment obtained in connection with the project and charged to the client remain the property of IIT Delhi, unless otherwise it is specifically agreed to by the Institute.

11. **TERMINATION OF THE PROJECT** : The Client has a right to terminate the project at any time, but shall be liable for all reasonable expenses incurred in connection with halting work already in progress according to the agreed work programme. The decision of IIT Delhi shall be final as far as reasonableness of the expenses is concerned. The Institute has also the right to terminate the project at any time except where otherwise agreed upon. The Client in this case will not be liable for any expenses incurred after the termination.

12. **PAYMENT** : The payment of consultation charges to IIT Delhi are to be made in advance and in full before the start of the project, ***through Bank Transfer/ a demand draft drawn in favour of the Registrar, IIT Delhi and sent to the Consultant. Payments through cheque will not be accepted.*** The charges will also include any applicable tax as prescribed by the Government of India or the Government of Delhi (or any other statutory body) from time to time.

13. **DISPUTES** : In the event of any dispute or difference between the parties hereto, such dispute or differences shall be resolved amicably by mutual consultation. If such resolution is not possible, then the unresolved dispute or difference shall be referred to a sole arbitrator to be nominated by the Director of the Institute for a reasoned Award. The seat of arbitration shall be within the campus of IIT Delhi and the language of arbitration shall be English. The Award of the arbitrator shall be binding on the parties to the dispute.

14. **DISCLAIMER** : The report on the consultancy project is the technical opinion of the CI/Co-CI based on his/their expertise in the particular area of research and in no way reflects the view(s) of IIT Delhi. IIT Delhi is not responsible for the accuracy or completeness of the report and the role of the Institute is limited to providing administrative support to the project.

15. **Goods and Services Tax** : As per GST Act 2017, the Goods and Services Tax will be levied on total consultancy charges and this amount is to be borne by the Client (The applicable GST is @ 18% w.e.f. 01.07.2017).

K. Sri Harsha

Date: 12/10/21 — Name & Signature of Consultant Incharge — Name & Signature of Client

Place: NEW DELHI — (with office seal) — (with office seal)

Dr. Sri Harsha Kota
Associate Professor
Department of Civil Engineering
Indian Institute of Technology Delhi
Hauz Khas, New Delhi-110016, India

ANNEXURE-7

32

Study on Brick Kilns in Chhata and Mant, regions Mathura: Meeting with IIT Delhi and U P Pollution Control Board, Mathura

Reference: Honorable NGT order dated 12-08-2021, in matter O.A. No. 93/2021, Mukesh Kumar Aggarwal Vs. Central Pollution Control Board & Anr.

Date of Meeting: 23 October 2021

Venue: Room No. # 201, Block V, IIT Delhi.

Members Present:

IIT Delhi

1. Professor Emeritus Mukesh Khare, NGT Committee Member.
2. Associate Professor, Dr. Sri Harsha Kota, Department of Civil Engineering.
3. Mr. Shubham Sharma, Research Scholar, Civil Engineering Department.

UP Pollution Control Board (UPPCB), Mathura

Mr. Dev Kumar Gupta, Assistant Engineer

Agenda:

1. **Discussion and finalization of Sampling Locations/Stations for PM10 sampling in Chhata and Mant, Regions, Mathura.**
2. **Weather station data on wind speed, wind direction, temperature and humidity during the sampling/project duration (hourly data).**

As per the meeting held on 24-09-2021, UPPCB, Mathura proposed 12 locations in Mant and Chatta, regions for PM10 sampling. After comprehensive deliberations using UPPCB survey data and IIT Delhi KML file data, the following locations have been decided. Subsequently, it has also been decided that Mr. Gupta, Assistant Engineer, UPPCB, will visit **only** these identified locations to freeze the site where the Respirable Dust Sampler (PM10) will be kept along with other logistics needed for running the sampling campaign. It was also agreed that all final sampling locations should be accessible, safe, having facilities for power to run the equipment and should follow the norms of CPCB as far as possible.

A. **In Mant Region**

North

SKD Inter college or alternatively any appropriate location in **village Tilak Garhi** is to be identified as the sampling station.

East

Any one appropriate location in villages **Khayra** or **Aasafabad** or **Amanulla** is to be identified as the representative station.

South

Any one appropriate location in villages **Harnaul** or **Sirausa** to be identified as representative station.

West

The location **Pani Ki Tanki (Water Tank), in Village Sahzadpur, Thana Chatta**, Mathura, as proposed by UPPCB, has been identified and finally selected.

B. **In Chatta Region**

North

Any one appropriate location in villages **Ainch** or **Shahpur** is to be identified as representative station.

West

Any appropriate location in villages **Phalain** or **Paigaon** is to be identified as representative station. **Jawahar Navodya Vidyalaya in village Paigon** was seen to be the most appropriate location which will be inspected by the UPPCB and freezed if all logistical requirements are met, otherwise any appropriate alternative location in **village Paigaon** will be identified.

South

Any one appropriate location in villages **Ladpur** or **Ranhera** is to be identified as representative station.

East

The location **Pani Ki Tanki (Water Tank), in Village Sahzadpur, Thana Chatta**, Mathura, as proposed by UPPCB has been identified and finally selected.

This station would be common for Chhata and Mant regions in the East and West directions, respectively.

C. **Weather data**

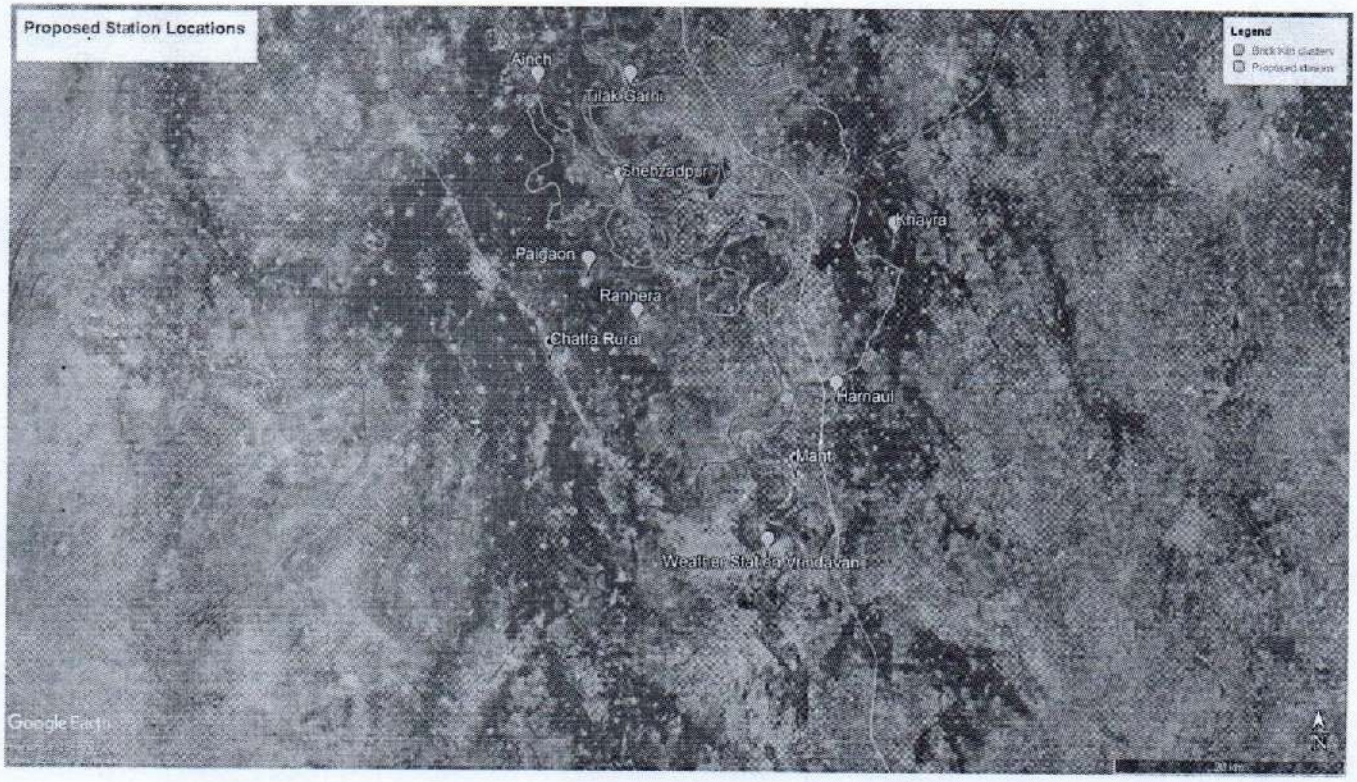
It was decided that the UPPCB, Mathura will provide the hourly data of wind speed, wind direction, temperature and humidity from the CAAQMS, located in Vrindavan as an when needed by IIT Delhi during the project duration.

It was decided that the UPPCB will finalize the locations as identified in the meeting by 25-10-2021 and team from IIT Delhi, led by Dr. Sri Harsha Kota along with Mr. Shubham Sharma, will visit these sites on 26-10-2021.

In order to take approvals from IIT Delhi for the above visit to finalize the sampling locations, it is required that Mr. D. K. Gupta will confirm the tentative finalization of the locations by evening of 25-10-2021.

The PM10 sampling, as per the CPCB norms, will commence from 27-10-2021.

Map of the proposed locations has been presented below:



ANNEXURE-8

35

क्षेत्रीय कार्यालय
उ0 प्र0 प्रदूषण नियन्त्रण बोर्ड
65 ए, बल्देव पुरी, महोली रोड
मथुरा

पत्रांकः 747 | 0-72/2021 दिनांकः 08/11/21

सेवा में,

सदस्य सचिव महोदय,
उ0प्र0 प्रदूषण नियंत्रण बोर्ड,
लखनऊ।

विषयः **माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में योजित ओ0ए0 सं0–93/2021 मुकेश कुमार अग्रवाल बनाम केन्द्रीय प्रदूषण नियंत्रण बोर्ड एवं अन्य में पारित आदेश दिनांक 12.08.2021 के सम्बन्ध में।**

महोदय,

कृपया उपरोक्त विषय सन्दर्भ ग्रहण करने का कष्ट करें। उक्त के सम्बन्ध में माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में योजित ओ0ए0 सं0–93/2021 मुकेश कुमार अग्रवाल बनाम केन्द्रीय प्रदूषण नियंत्रण बोर्ड एवं अन्य में पारित आदेश दिनांक 12.08.2021 के अनुपालन में इस कार्यालय के श्री डी0के0 गुप्ता, सहायक पर्यावरण अभियन्ता द्वारा प्रोफेसर, श्री मुकेश खरे, आई0आई0टी0, दिल्ली एवं श्री हर्षा कोटा, आई0आई0टी0, दिल्ली के साथ दिनांक 23.10.2021 को जनपद मथुरा के तहसील मॉट एवं छाता क्षेत्र में स्थापित/संचालित ईंट भटठों से हो रहे वायु प्रदूषण को दृष्टिगत रखते हुए परिवेशीय वायु अनुश्रवण किये जाने हेतु स्थल चयन किए जाने सम्बन्धी बैठक आई0आई0टी0, दिल्ली के परिसर/कार्यालय में की गयी। बैठक के पश्चात् प्राप्त निर्देशों के अनुक्रम में दिनांक 25.10.2021 को केन्द्रीय प्रदूषण नियंत्रण बोर्ड, आगरा एवं क्षेत्रीय कार्यालय, उ0प्र0 प्रदूषण नियंत्रण बोर्ड, मथुरा द्वारा तहसील–मॉट एवं छाता में परिवेशीय वायु गुणता की जॉच हेतु स्थल चयन किए गये, जिसकी सूचना आई0आई0टी0, दिल्ली एवं केन्द्रीय प्रदूषण नियंत्रण बोर्ड, लखनऊ को दे दी गयी। तत्पश्चात चयनित स्थल पर दिनांक 27.10.2021 को केन्द्रीय प्रदूषण नियंत्रण बोर्ड, आगरा एवं उ0प्र0 प्रदूषण नियंत्रण बोर्ड, मथुरा की संयुक्त टीम द्वारा परिवेशीय वायु गुणता अनुश्रवण कार्य किया गया, जिसकी विश्लेषण आख्या संलग्न कर आपके अवलोकनार्थ एवं अग्रिम आवश्यक कार्यवाही हेतु सादर प्रेषित।

भवदीय

संलग्नकः उपरोक्तानुसार।

(अरविन्द कुमार)
क्षेत्रीय अधिकारी

प्रतिलिपिः निम्नलिखित को सादर सूचनार्थ प्रेषित।

1. मा0 न्यायमूर्ति श्री अनिल कुमार शर्मा (रिटायर्ड), हाई कोर्ट, इलाहाबाद।
2. प्रोफेसर, श्री मुकेश खरे, आई0आई0टी0, दिल्ली।
3. श्री हर्षा कोटा, आई0आई0टी0, दिल्ली।
4. श्री आर0के0 सिंह, क्षेत्रीय निदेशक, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, लखनऊ।
5. मुख्य पर्यावरण अधिकारी (वृत्त–4) उ0प्र0 प्रदूषण नियंत्रण बोर्ड, लखनऊ।
6. श्री प्रदीप मिश्रा, बोर्ड अधिवक्ता, नोएडा।

क्षेत्रीय अधिकारी

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REGIONAL LABORATORY & OFFICE
UP POLLUTION CONTROL BOARD
65 A- Baldevpuri, Mathura

AMBIENT AIR QUALITY MONITORING REPORT

DATE	Name of monitoring station	Shift	P.M.-10 µg/m³	24 Hrs Average µg/m³
27.10.2021	Shri Mahendra singh (Pradhan), Sahapur Khadar, Vill-Chaundas, Chhata, Mathura.	I	236.74	329.33
		II	451.82	
		III	299.45	
27.10.2021	S.D.S. College, Phalain(Paigaon), Chhata, Mathura	I	472.49	543.38
		II	318.84	
		III	838.83	
27.10.2021	Shri Ram singh Mahadevi juinior High school, Vill-Ranhera, Chhata, Mathura.	I	378.41	313.56
		II	344.19	
		III	218.09	
27.10.2021	Pani Ki Tanki (Water Tank), in Village Sahzadpur, Chatta, Mathura,	I	332.72	312.07
		II	374.65	
		III	228.86	
27.10.2021	CMS Public School, Vill-Mithaulli, Mant, Mathura	I	375.38	369.3
		II	514.54	
		III	218.0	
27.10.2021	Shri Bacchu Singh S/O Shri Panna Lala near Shiv Mandir, Vill-Hafnaual Mant, Mathura.	I	639.56	527.39
		II	533.05	
		III	409.57	
27.10.2021	Shri Papu Singh S/O Shri Kalicharan(Pradhan), Vill-Khayra, Mant, Mathura.	I	266.13	296.7
		II	364.42	
		III	259.57	

STANDARD: Arithmetic mean for Industrial, Residential, Rural and Other Area (notified by Central Government)

(As per National Ambient Air Quality Standard Notification No. 217 dated - 18th Nov. 2009)

	Annual Average		24 Hrs Average
SO_2	20µg/m³		80µg/m³
NO_2	30µg/m³		80µg/m³
PM 10	60µg/m³		100µg/m³

F.A/J.R.F./Mon/Lab Assistant

08/11/2021
Scientific Assistant

Regional Officer

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File No:...203/0-72/2021 Dated: 21.102021

Office Order

As per the decision in the meeting held on dated: 11.10.2021 through VC of committee constituted by the Hon'ble National Green Tribunal (NGT) in the matter of Original Application No. 93/2021, Mukesh Kumar Aggarwal vs Central Pollution Control Board & Anr. , ambient air quality monitoring is proposed at 08 locations of Mant and Chhata Tehsil, Mathura.

Following team members of UPPCB, Mathura and CPCB, Agra are deputed for the monitoring as per schedule below:

Team Members	Location	Date	Purpose
1. Mr. Rajendra Kumar, FA (UPPCB, Mathura) 2. Mr. Harsh Verma, JRF (UPPCB, Mathura) 3. Mr. Jitendra Kumar, FA (UPPCB, Mathura)	03 Locations at Mant	27.10.21	Ambient air quality monitoring
1. Mr. Adarsh Kumar, S.S.A. (CPCB Agra), 2. Mr. Sudhanshu Yadav, SRF (CPCB Agra), 3. Shalesh Maurya, MA (UPPCB, Mathura) 4. Surendra Pratap, LA (UPPCB, Mathura)	04 Locations at Chhata		

Members of monitoring teams, UPPCB and CPCB are directed to monitor ambient air quality as per standard protocol and submit the samples with all field details.

Yours

(Arvind Kumar)
Regional officer,
UPPCB Mathura

Copy to: For information, please

- Honourable Chairman, NGT Committee
- Prof. Mukesh Khare, IIT Delhi
- Member Secretary, UPPCB Lucknow
- RD, CPCB, Lucknow
- CEO UPPCB, Lucknow
- In charge, CPCB PO Agra-please depute above 02 team members of CPCB PO Agra for monitoring purpose.

(Regional officer)

केन्द्रीय प्रदूषण नियंत्रण बोर्ड

(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)
परियोजना कार्यालय
04, धौलपुर हाउस,एम०जी० रोड, आगरा–282001
दूरभाष : 0562–2421568(फैक्स),4005877, 2421548
ई–मेल : cpcbagra@rediffmail.com, poagra.cpcb@nic.in

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सं. परि.का.आ / प्रशा. / एन.जी.टी. मथुरा / 149(iii)–16 / 162 दिनांक 22.10.2021

कार्यालय आदेश

माननीय राष्ट्रीय हरित अधिकरण, नई दिल्ली में योजित ओ०ए० सं०–93 / 2021 मुकेश कुमार अग्रवाल बनाम केन्द्रीय प्रदूषण नियंत्रण बोर्ड एवं अन्य में पारित आदेश के अनुक्रम में गठित उच्चाधिकार समिति के निर्णय के अनुपालन में एवं उ०प्र० प्रदूषण नियंत्रण बोर्ड, क्षेत्रीय कार्यालय, मथुरा के पत्रांक सं० 694 / 0–72 / 2021, दिनांक 20.10.2021 के अनुक्रम में उ०प्र० प्रदूषण नियंत्रण बोर्ड, मथुरा एवं केन्द्रीय प्रदूषण नियंत्रण बोर्ड, आगरा की संयुक्त टीम द्वारा जनपद–मथुरा के तहसील–छाता एवं मॉट में परिवेशीय वायु गुणता अनुश्रवण का कार्य किया जाना है। उपरोक्त हेतु परियोजना कार्यालय, आगरा के निम्नानुसार कर्मचारियों को नियुक्त किया जाता है।

दिनांक	कर्मचारी	प्रायोजन
27.10.2021	श्री आदर्श कुमार, एस०एस०ए० श्री सुधांशु यादव, एस०आर०एफ०	संयुक्त टीम के साथ परिवेशीय वायु गुणता अनुश्रवण का कार्य

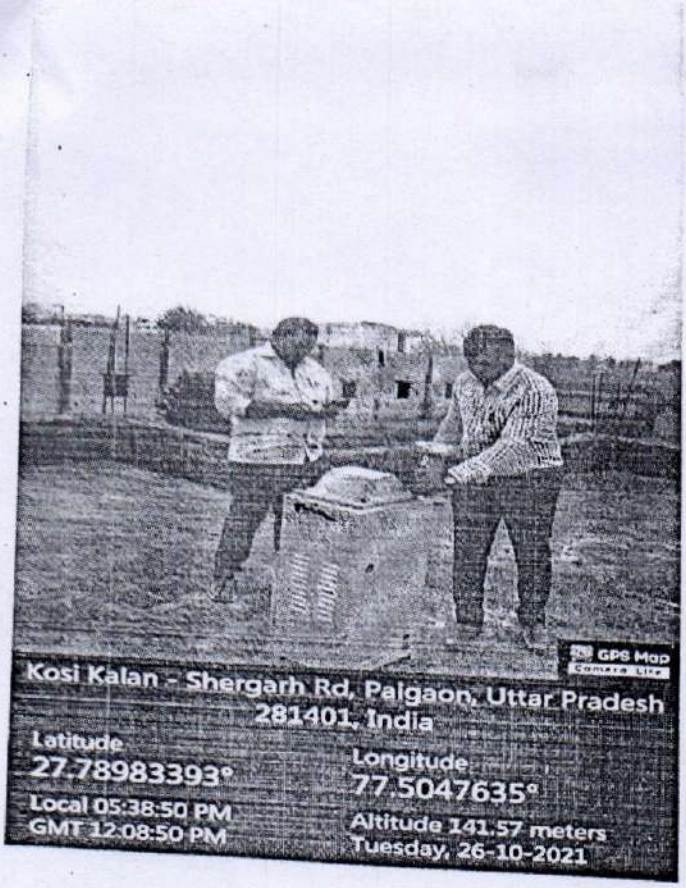
संभी संबन्धित अधिकारी / कर्मचारियों को निर्देशित किया जाता है कि उपरोक्तानुसार एस.ओ.पी. के अनुसार प्रबोधन कार्य सुनिश्चित करें।

22/10/21
(कमल कुमार)
प्रभारी अधिकारी

प्रतिलिपि :–

- सभी संबंधित कर्मचारी।
- वैज्ञानिक 'ख' – समन्वय हेतु।
- क्षेत्रीय निदेशक, के०प्र०नि० बोर्ड, क्षेत्रीय निदेशालय (उ०), लखनऊ–सादर सूचनार्थ प्रेषित।
- कार्यालय प्रति।

22/10/21
(प्रभारी अधिकारी)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Longitude
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Local 05:38:50 PM
GMT 12:08:50 PM
Altitude 141.57 meters
Tuesday, 26-10-2021


GPS Map Camera Lite
RHX4+MG8, Shahzadpur Bangar, Uttar Pradesh 281401, India
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Longitude
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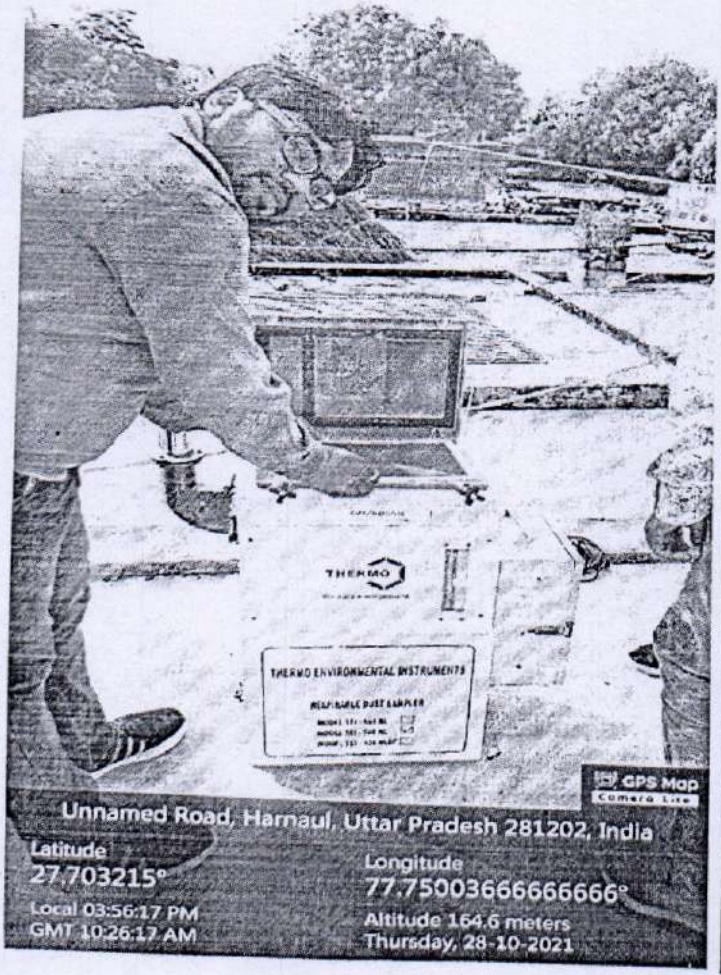
THERMO
THERMO ENVIRONMENTAL INSTRUMENTS
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Longitude
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GMT 10:26:17 AM
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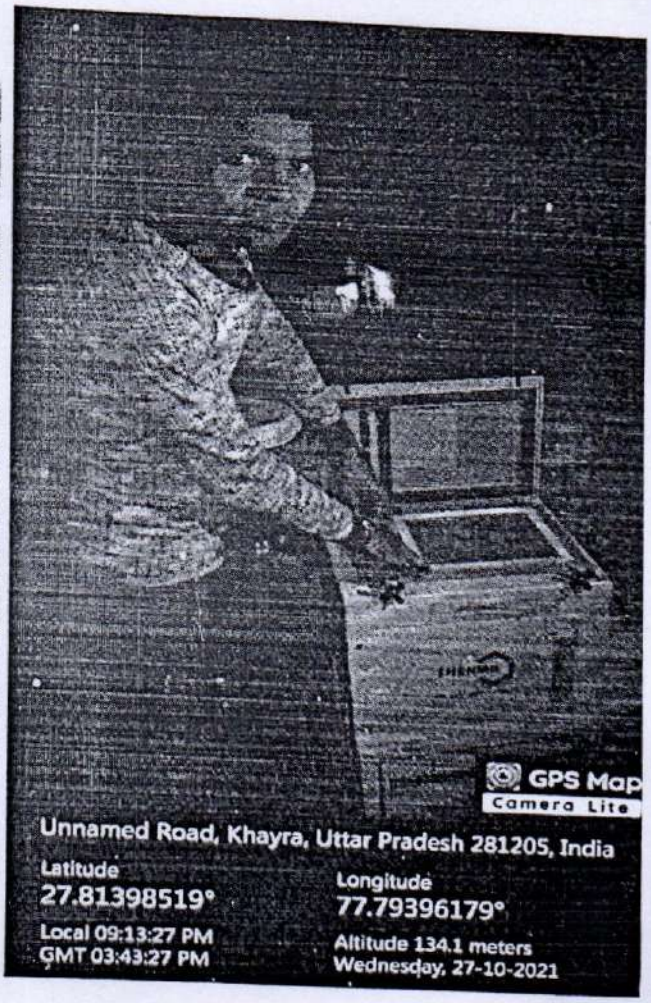
Thursday, 28-10-2021


GPS Map Camera Lite
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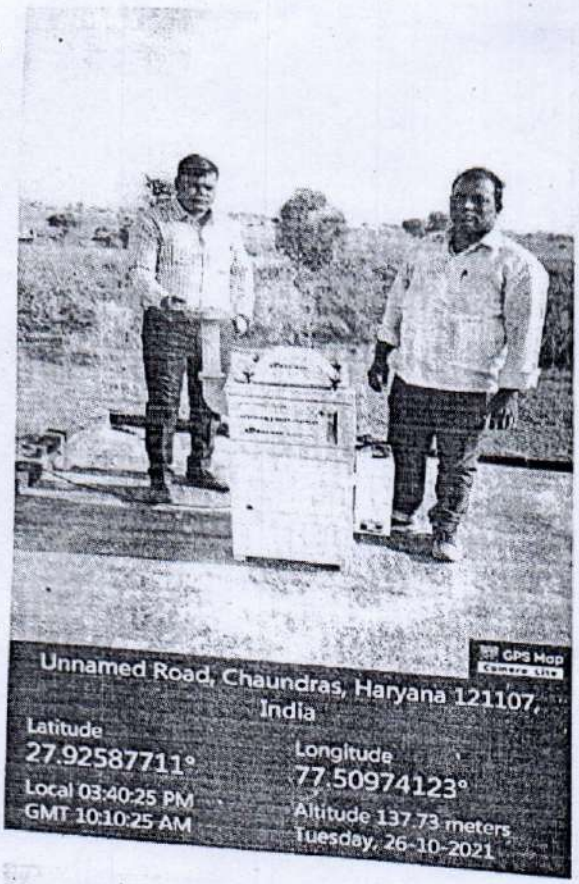
Longitude
77.79396179°
Local 09:13:27 PM
GMT 03:43:27 PM
Altitude 134.1 meters
Wednesday, 27-10-2021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Camera Lite
Unnamed Road, Chaundras, Haryana 121107, India
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Longitude
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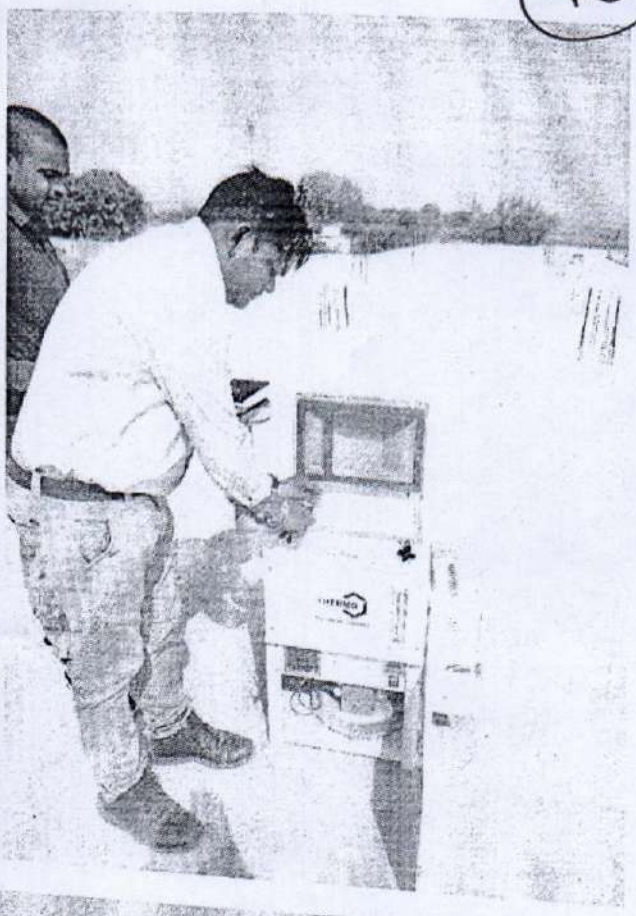
Local 03:40:25 PM
GMT 10:10:25 AM
Altitude 137.73 meters
Tuesday, 26-10-2021


THERMO


CMS PUBLIC SCHOOL


THERMO

ANNEXURE-9

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Preliminary Data Analysis

For the preliminary data analysis the meteorological data and PM_{10}concentration data for the months of September and October, 2021 have been taken from CPCB's online data dissemination portal (https://app.cpcbccr.com/ccr/#/caaqm-dashboard-all/caaqm-landing) for the station Omex Eternity, Vrindavan – UPPCB. This station is around 5 Km from Chatta boundary and 1 Km from Mant boundary.

- **Meteorological data analysis:**
  Wind rose plots for September and October, 2021 using meteorological data collected fromCAAQMS Vrindavan:

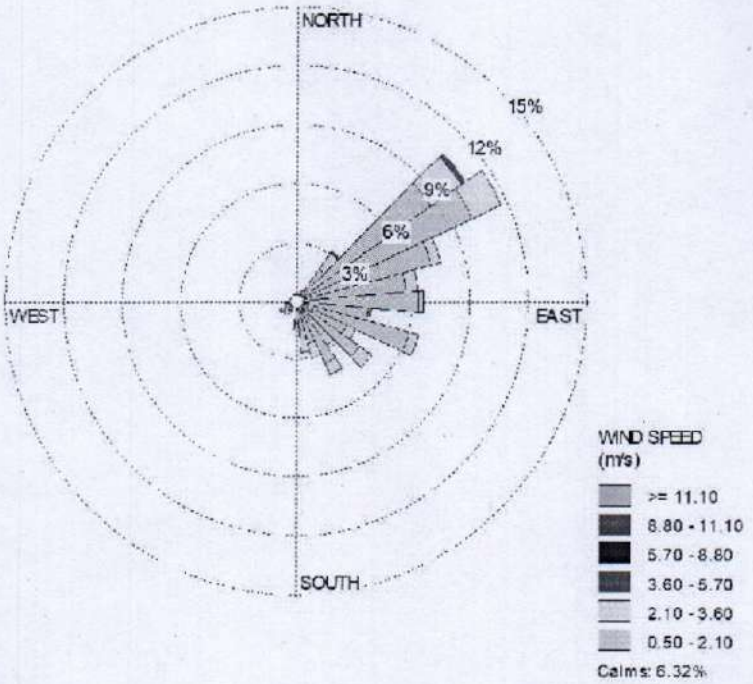

Fig. 1 Wind rose plots for September 2021

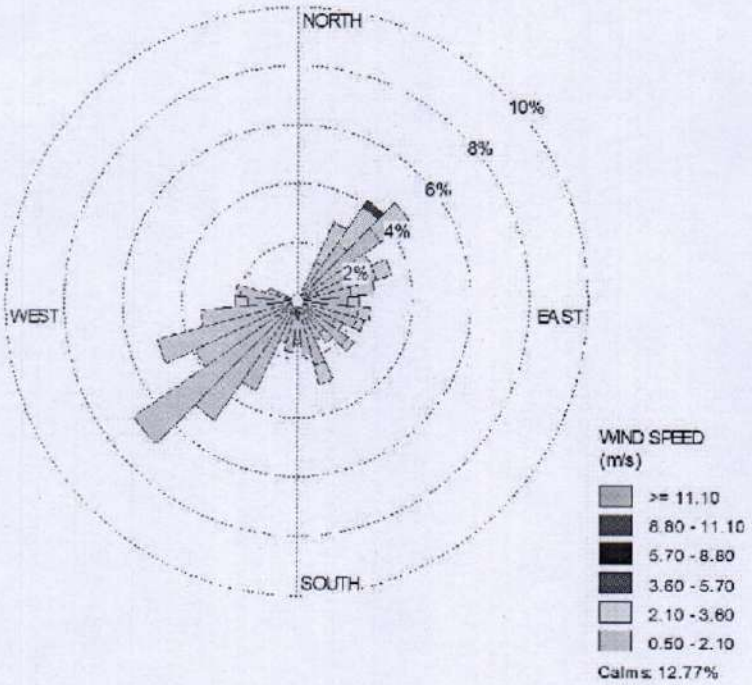

Fig. 2 Wind rose plots for October 2021

- **PM_{10} concentration data analysis:**
  Sampling at the seven selected locations were carried out on 27thOctober 2021 by UPPCB. Figure 3 shows the locations of the stations on google map. The measured concentrations at the sampling locations are shown in the Table 1.

Table 1: PM_{10}concentrations as monitored at the seven sampling locations in Chatta and Mant on 27th October 2021

S. No.	Name of sampling station	Station ID	24-Hrs Average PM_{10} Concentration(µg/m^3)
1.	Shri Mahendrasingh (Pradhan),Sahapur Khadar, Vill-Chaundas,Chatta, Mathura.	CHN	329.33
2.	S.D.S. College, Phalain(Paigaon), Chatta, Mathura	CHW	543.38
3.	Shri Ram singh Mahadevi juiniorHigh school, Vill-Ranhera,Chatta, Mathura.	CHS	313.56
4.	Pani Ki Tanki (Water Tank), in Village Sahzadpur, Chatta, Mathura	CHE	312.07
5.	CMS Public School, Vill-Mithaulli, Mant, Mathura	MTN	369.30
6.	Shri Bacchu Singh S/O Shri Panna Lala near Shiv Mandir, Vill-HarnaualMant, Mathura.	MTS	527.39

7.	Shri Papu Singh S/O ShriKalicharan(Pradhan), Vil-Khayra, Mant, Mathura.	MTE	296.70

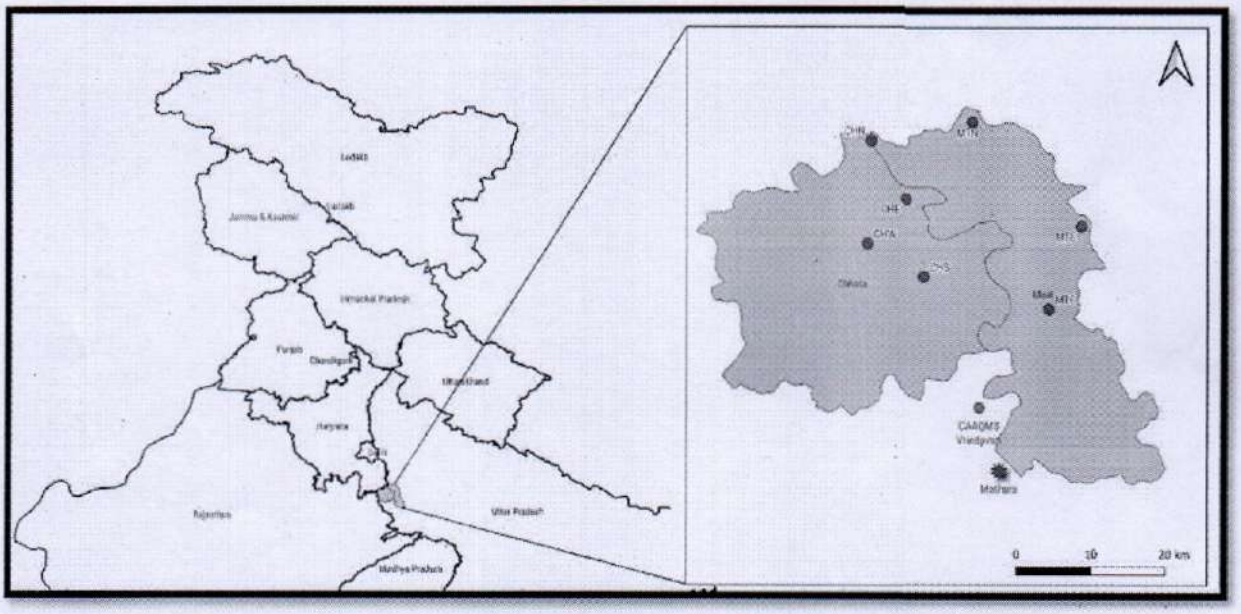

Fig. 3 Seven selected sampling locations in Chatta and Mant.

Discussion

- From the wind rose plots, it can be inferred that the major wind direction during the month October is southwest. This clearly shows that Mathura does not lie in the downwind of Mant and Chatta during October 2021. Further, the wind speeds recorded for the winds blowing from the Southwest direction were generally low (0.5-2.1 m/s).
- From Table 1, it is evident that the PM_{10}concentrations in Chatta and Mantat the sampling locations were observed to exceed the standards by 3 to 5 times on 27thOctober 2021. These high concentrations are despite the non-operation of brick kilns in these regions. Thus, to estimate the contribution of brick kilns to PM10 in this region, detailed emission inventory along with seasonal sampling needs to be carried out. This would help in properly estimating the carrying capacity of these regions. More details about the methodology to be adopted are given below.

Carrying capacity estimation:

The measurement of day and night PM_{10} and $PM_{2.5}$ concentrations and meteorological parameters in the identified locations of the Mant and Chatta will be **done by UPPCB for post-monsoon (during stubble burning period in the month of October, 2021), winter (December, 2021) and pre-monsoon seasons (during peak operation of brick kilns in April/May 2022).**Based on the measured concentrations and CPCB standards of PM_{10}, the current pollution load and carrying capacity, respectively, will be calculated for Mant and Chatta regions.

The carrying capacity calculations will be done using the following steps(based on the methodology adopted by CPCB as given in**O.A. No. 1016/2019**):

i. **Estimation of total existing PM_{10} load:**
   - Total area of a district in Km^2 = a
   - Average Atmospheric Mixing Height during a particular month in Km = b
   - Total Volume of air in the district during a particular month in Km^3 = a × b = c Km^3
   - Average PM_{10} Concentration if ambient air in the district for a particular month in Kg/Km^3 = d
   - Total estimated load of PM_{10} in ambient air of a district during a particular month = c × d = ***x Kg***

ii. **Assimilative Carrying Capacity w.r.t PM_{10}:**
   - Total Volume of Air in a district during a particular month in Km^3 = c
   - PM_{10} required to keep Ambient air quality at satisfactory Level/Prescribed NAAQ Standard = 100µg/m^3i.e. 100 Kg/Km^3
   - Assimilative Capacity w.r.t. PM_{10} in ambient air of a district during a particular month (y) = c × 100 = ***y Kg***

iii. **Estimation of Supportive Capacity w.r.t. PM_{10}:**
   - Supportive Carrying Capacity (**z**) Kg = Assimilative Carrying Capacity (***y***) –Total Estimated Load (***x***)

ANNEXURE-10

Plan of Activities from September 2021:

S. No.	Description	Sep 2021	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	March 2022	April 2022	May 2022
1.	Committee Meetings									
2.	Identification of monitoring sites									
3.	Monitoring of pollutant concentrations and meteorological parameters									
4.	Conducting surveys and data collection									
5.	Digitization of maps and data collected									
6.	Preparation of emission inventory									
7.	Carrying Capacity estimation									
8.	Final report submission									

ANNEXURE-II

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उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड
UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ संख्या- HOL-72 /C-4/NGT/133/2021 दिनांक- 6/10/21

To,

Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
Delhi-110032.

Subject: Regarding compliance of Honb'le NGT Order dated 12.08.2021 in the matter O.A. No. 93/2021, Mukesh Kumar Aggrawal Vs Central Pollution Control Board & Anr.-Reg.

Dear Sir,

The Hon'ble NGT has passed following orders in the matter of O.A. No. 93/2021, Mukesh Kumar Aggrawal Vs Central Pollution Control Board & Anr.- reg. The operating Para of the order is quoted as below:-

------ 17. Our directions are summed up as follows:

(A). Brick kilns operating in violation of environmental norms - without consent, in violation of consent conditions, in violation of sitting criteria, beyond carrying capacity be forthwith closed, following due process of law, exercising statutory powers by the State PCB.

(B) The State PCB in coordination with the District Magistrate and the Air Quality Monitoring Committee headed by Secretary Environment may ensure setting up of air quality monitoring stations at appropriate locations and also take other steps for effective monitoring of compliance of air quality norms in the area in question.

(C) Consent given to all the brick kilns be reviewed by the State PCB in the light of CPCB directions as well as the air quality norms, sitting criteria and carrying capacity. Short listing as 56 per carrying capacity may be done on the basis of technology used, inter se distance, distance from sensitive locations and comparative level of compliance.

(D) Tunnel kiln technology with PNG may be appropriately encouraged in the interest of reduction of pollution load.

(E) Five-member Committee is constituted to undertake further study of carrying capacity of the area in terms of number of brick kilns which can be sustained applying right parameters and based on relevant data of air quality, overcoming deficiencies pointed out hereinabove. The Committee will comprise of the following:

i. Justice Anil Kumar Sharma, former Judge of Allahabad High Court now available at Mathura - Chairman.

ii. Representative of CPCB of the level not below Additional Director – Member.

iii. Professor Mukesh Khare, former Prof. IIT Delhi – Member.

iv. Member Secretary, SEIAA, UP - Member.

v. Chief Engineer Environment, UP State PCB – Member.

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The CPCB and the State PCB will be the nodal agency for coordination and compliance. The Committee may visit the site and interact with the stakeholders. The Committee may meet within 15 days from today to take stock of the situation. Thereafter, it may visit the site and study the available data of air quality and location of the brick kilns. It will be free to conduct proceedings online except for visit to the site which may be undertaken by all or such members as may be decided by the Chairman of the Committee. The Committee will be free to consult any other expert/institution. The Committee may give its report to this Tribunal within three months by e-mail at judicialngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. The report may be uploaded on the website and it will be open to any aggrieved party to file their response, if any, before the next date. Justice Anil Kumar Sharma will be entitled for honorarium @ Rs. 2 lac per month and Prof. Mukesh Khare will be entitled for honorarium @ Rs. 1.5 lac per month. The said honorarium will be payable by the State PCB out of the 'consent funds' available with it. Logistic support may be provided by CPCB/State PCB/District Magistrate to enable the Committee to complete its task.

A copy of this order be forwarded to Justice Anil Kumar Sharma, former Judge of Allahabad High Court now available at Mathura, CPCB, Professor Mukesh Khare, Member Secretary, SEIAA, UP District Magistrate UP, Environment Secretary, UP and UP State PCB by e-mail for compliance.

A copy of the order be also sent to Chief Secretary UP for information and being forwarded to any other concerned department including the GST department for appropriate remedial action.

List for further consideration on 16.12.2021.

In compliance of the Hon'ble NGT orders three meetings of the committee have been conducted to discuss the relevant issues on dated 06.09.2021, 24.09.2021 and 01.10.2021. The minutes of the meeting are being enclosed for your ready reference. IIT Delhi has submitted the revised proposal for study of carrying capacity of the Chhata and Maant Tehsil, which is being forwarded to you for your kind approval as considered by the committee members and Hon'ble chairperson of the committee to make the arrangement of the funds to be incurred through Environmental Compensation fund.

Yours Sincerely,

(Ajay Kumar Sharma)
Member Secretary

Encl: i- Minutes of the meeting
ii- Proposal submitted by IIT Delhi

Copy to: R.D., CPCB Lucknow for information and necessary action pl.

Member Secretary

6/10/2021

ANNEXURE-12

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केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

CPCB/IPC-V/NGT/OA-93/2021

October 13, 2021

To

The Member Secretary
Uttar Pradesh Pollution Control Board
Building No. TC-12V, Vibhuti Khand
Gomti Nagar
Lucknow-226010 (Uttar Pradesh)

Sub: Project Proposal received from IIT-Delhi for execution of "Estimation of PM_{10} Carrying Capacity for Mant and Chhata Regions of Mathura District" for issue the funds under EC funds with CPCB in compliance of Hon'ble NGT (PB) order dated 12/8/2021 in O. A. No. 93/2021, Mukesh Kumar Aggarwal Vs Central Pollution Control Board & Anr.– Reg.

Sir,

This has reference your letter dated 6/10/2021, forwarding a proposal received from IIT-Delhi for execution of "**Estimation of PM_{10} Carrying Capacity for Mant and Chhata Regions of Mathura District",** for approval as considered by the committee members and Hon'ble Chairperson of the Committee to make arrangement of the funds to be incurred through Environmental Compensation Fund.

In this regard, it is mention that the matter is related to operation of brick kilns in Mathura Districts and UPPCB is the regulatory agency, therefore the funding of the project should be done by the UPPCB from their own resources.

This issue with approval of Competent Authority, CPCB.

Yours faithfully

(S.K. Gupta)
AD & Div. Head, IPC-V

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली- 110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032
दूरभाष/Tel : 43102030, 22305792, वेबसाईट/Website : www.cpcb.nic.in

ANNEXURE-13

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Minutes of 5th Meeting in compliance of Hon'ble NGT Order dated 12.08.2021 in the matter O.A. No. 93/2021, Mukesh Kumar Aggrawal Vs Central Pollution Control Board &Anr.-Reg.

The meeting was held through Video conferencing on **dated 15.11.2021** under the Chairmanship of Hon'ble Mr Justice Anil Kumar Sharma, Former Judge Allahabad High Court. The under named Committee members were present during the meeting to discuss relevant issues. Mr. Ajay Kumar Sharma, Member Secretary, SEIAA, U.P. could not attend the meeting as he is in Hon'ble Supreme Court on account of Air Pollution issues.

i- Professor Mukesh Khare, Former Prof. IIT Delhi
ii- Dr. R.K. Singh, Regional Director (RD), CPCB, Lucknow
iii- Er. R.K. Singh, CEO, Circle-4, UPPCB, Lucknow
iv- Mr. Shivam Sharma, Research Scholor with Associate Prof. Dr. Harsha Kota, IIT D.
v- Mr. Arvind Kumar, Regional Officer, UPPCB Mathura

The Hon'ble Chairman discussed about the minutes of meeting dated 11.10.2021 held through Video conferencing and the meeting held by Prof. Mukesh Khare with UPPCB and team IIT Delhi on 23.10.2021. The members present unanimously confirmed the minutes of meeting dated 11.10.2021 and 23.10.2021 respectively.

The CEO, UPPCB Lucknow under taken the following issues with the permission of Chairman of the Committee:-

S.No	Issues to be discussed	Conclusion
1.	Review of updated status regarding monitoring at different locations and preparation of reports.	The CEO apprised to Chairperson that UPPCB Mathura and CPCB Agra has conducted the ambient Air quality monitoring at seven different locations in Chhata and Maant Tehsil at downwind directions. R.O. Mathura has submitted its report to IIT Delhi on the basis where of preliminary data IIT Delhi has prepared the preliminary Data Analysis Report.
2.	Progress of funds to be paid to IIT Delhi after signing the MoU.	The CEO apprised the Chairperson that after receiving the estimation report for carrying capacity study, from IIT Delhi, the Member Secretary U.P. Pollution Control Board vide its letter dated 06.10.2021 has requested Member Secretary CPCB for giving consent to utilize EC funds. In response whereof CPCB vide letter dated 13.10.2021 has directed that the funding of projects should be done by the UPPCB from their own resources. The CEO informed the Committee

		that the Board is facing the financial problem of funds therefore the Board is filing an application before the Hon'ble NGT for utilization of EC funds for this project. He assured that the problem of funding to IIT Delhi will be sorted out very soon. The Chairperson taking serious view of this issue directed that the funding issue shall be sorted out at the earliest so that the project work does not suffer.
3.	Request for extension of time from Hon'ble NGT for submission of complete carrying capacity study.	The CEO apprised the Chairperson that Prof. Mukesh Khare vide e-mail dated 02.11.2021 has pointed out to seek time extension from the Hon'ble NGT on following points: 1. *Seasonal sampling of ambient PM_{10} is to be carried out in Mant and Chhata regions where currently no data is available.* 2. *Further since the formation of committee no brick kiln are under operation in Mant and Chhata region due to monsoon and regulations by the UP-Pollution Control Board.* 3. *To estimate the contribution of Brick Kilns to carrying capacity of the area, detailed PM_{10} emission inventory for Mant and Chhata regions should be prepared.* This view of Dr. Khare found support from the mail of Dr. R. K. Singh, RD CPCB, Lucknow dated November 2, 2021, which reads as under :- *"I endorse your approach, which seems quite reasonable and proposed extension for Report submission to Hon'ble NGT. As regard this and other issues raised, we may deliberate on-line as per earliest convenience post*

		Deepawali 2021" On behalf of UPPCB, Er. R. K. Singh CEO-4 also consented to the above prepositions. It is relevant to point out that in order to complete the whole study, IIT Delhi has proposed that monitoring in three stages will be required. The first phase had already been completed, the second phase monitoring will be done in the month of December 2021 and finally the third phase monitoring will be conducted during the period when Brick kilns are in operation from March to May,2022. The IIT Delhi has submitted its Project Proposal for activities from September 2021 to May 2022 (to be extended upto July 2022) so as to submit the final report. Therefore it would be appropriate to seek time extension upto July, 2022 from Hon'ble NGT so as to complete whole exercise.
4.	Selection of monitoring location at upwind directions.	R.D. Lucknow has pointed out that all the seven locations where ambient Air monitoring has been conducted are at downwind directions, so it would be appropriate to select one monitoring location at upwind direction as reference points. Prof. Khare immediately accepted the proposal and later suggested through e-mail dated 15.11.2021 that the CAAQMS Vrindavan which is the Southwest direction (upwind) of the seven sampling locations, can be used as a baseline station. On the similar pattern in all future monitoring activities in the subject matter, predominant wind direction shall be ascertained and air quality data of the nearest CAAQMS station in the upwind direction shall be considered as reference data. The Regional Officer Mathura has assured that he will complete this task within one week.

The meeting ended with a vote of thanks to the Chair.

(Arvind Kumar)
Regional Officer, UPPCB Mathura