

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

Original Application No. 304/2019

**ACTION TAKEN REPORT FILED BY THE CHAIRMAN KERALA
STATE POLLUTION CONTROL BOARD IN ORIGINAL
APPLICATION NO. 304/2019.**

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

Original Application No. 304/2019

Applicant (s) : Mr. Haridasan and Others

Vs

Respondent : State of Kerala & Others

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Dated this the 17th December, 2019

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

Original Application No. 304/2019

Applicant (s) : Mr. Haridasan and Others

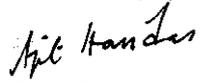
Vs

Respondent : State of Kerala & Others

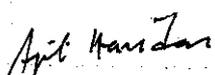
REPORT FILED BY CHAIRMAN, KERALA STATE POLLUTION
CONTROL BOARD AS PER THE ORDER DATED 09/10/2019 IN THE
ABOVE APPLICATION.

I, Ajit Haridas , aged 60 years S/o. M.Haridas , Chairman, Kerala State Pollution Control Board, Thiruvananthapuram, file this report on behalf of the Board. I know the facts and circumstances of the case. The factual submissions made here under are true and correct to the best of my knowledge, information and belief. In the circumstances, it is just and necessary that this Hon'ble Tribunal may be pleased to accept the accompanying report on file and it is so humbly prayed in the interests of justice in this case.

Hon'ble National Green Tribunal has vide Order dated 09/10/2019 in the above OA directed State Pollution Control Board to revisit the existing criteria for quarrying. It was also directed by Central Pollution Control Board to give its view in the matter to the State Pollution Control Board in the light of available expert studies on the subject.


DR. AJIT HARIDAS
CHAIRMAN

1. In compliance with the order mentioned above, it is respectfully submitted that Central Pollution Control Board has forwarded the views vide letter dated 24/10/2019. Copy of the letter no CPCB/1PI-II/NGT-OA 304-2019/2019 dated 24/10/2019 is produced herewith as Annexure (1), Central Pollution Control Board informed that they have not conducted any study on the subject of quarrying to suggest the distance criteria norms. But suggested to consider the technology used and techniques employed to minimize the pollution due to quarrying and to refer DGMS technical circular while revisiting the criteria regarding stone quarry.
2. It is respectfully submitted that the Board has convened a meeting with Directorate of Mining & Geology, PESO's Deputy Chief Controller of Explosive, Directorate of Factories & Boilers on 20/11/2019. Copy of the minutes of meeting dated 20/11/2019 is produced here with and marked as Annexure (2). The Controller of Explosives, PESO informed that their mandate is limited to storage of explosives and the DGMS shall be addressed to gather information regarding this statutory aspects while stone quarrying /mining is being conducted.
3. A meeting was again conducted on 10/12/2019 with the Deputy Director General, Directorate General of Mines Safety, Bengaluru. Copy of the minutes of the meeting is produced herewith and marked as Annexure (3).
4. Based on the views of Central pollution Control Board and the meetings conducted as mentioned above, the State Pollution Control Board is respectfully submitting the following points/ suggestion;
 1. Scientific mining methods shall be carried out in the quarrying area.
 2. Department of Mining & Geology has to be strengthened with the induction of Mining Engineer having 10 years of field experience.
 3. Quarrying permit for one year or lesser period shall not be issued; instead, it shall be given for a longer period of time.
 4. Proper mine plan having proposal for mine closure shall be submitted with lease.


DR. AJIT HARIDAS
CHAIRMAN

5. Quarrying shall be carried out in the presence of a Mine Manager, certified by Directorate General of Mines Safety.
6. Wet drilling method shall be promoted.
7. Owner should submit copy of the lease to Directorate General of Mines Safety.
8. For Dust control, Water sprinkling shall be done for blasting, breaking and transportation operations.
9. Maximum 2 kg explosive/ hole shall be allowed only with DGMS written permission.
10. Shock tube detonation system alone should be followed in the quarries
11. Stemming with wet material and water cartridge should be used in quarries with limited distance from sensitive locations
12. Ergonomically designed Pneumatic drills machines with dust collector attachment only to be used in case of small diameter holes.
13. Wire mesh with sand bag shall be used for avoiding fly rocks. The quarrying area shall be wetted before quarrying in soil overburden areas.
14. Compressor shall have noise enclosure.

It is respectfully submitted that prevailing distance criteria of 50m can be maintained if above conditions are satisfied.

Dated this the 17th December 2019



Ajit Haridas

CHAIRMAN

**DR. AJIT HARIDAS
CHAIRMAN**



SPEEDPOST

No. CPCB/IPC-II/NGT-OA 304 of 2019/2019/

October 24, 2019

To,
The Member Secretary,
Kerala State Pollution Control Board,
Head Office, Pattom P.O.,
Thiruvananthapuram - 695 004
KERALA

Sub.: CPCB views in the matter of Hon'ble NGT OA No. 304/2019 order dated-09.10.2019-reg.

Ref.: Hon'ble NGT OA-304/2019 order dated-09.10.2019 (copy enclosed).

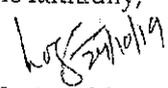
Sir,

Hon'ble NGT in its order dated-09.10.2019 in OA No. 304/2019 directed CPCB to give its view in the matter to the SPCB on the subject. CPCB views are as follow:

1. Kizhakkancherry II village, Palakkad District, Kerala mentioned in Hon'ble NGT order dated-09.10.2019 in the Original Application No. 304/2019 seems to be part of Western Ghats, notified as Ecologically Sensitive Area (ESA) by MoEF&CC about which MoEF&CC had issued direction dated-13.11.2013 (copy enclosed). Therefore, it may be ensured to comply with MoEF&CC Direction (if applicable), which prohibits certain category of activities.
2. There is no study of CPCB available on the subject of stone quarrying to suggest or prescribe minimum distance between any road/habitation and stone quarry to be maintained. Therefore, the following points may be considered while revisiting the criteria regarding stone quarry and other issues raised in the application:
 - i. The technologies used and the techniques employed to minimise pollution in the mining/quarrying/cracking and crushing activities in the drilling, blasting, transportation etc.
 - ii. DGMS technical circular(s) regarding public information about blasting and ensuring sheltering and safety of people in the danger zone by the mine managers/operators.

Further, CPCB has prepared a guidelines regarding pollution control in stone crushers (COIND) and Central Government has notified standard for Stone Crushers. Copy of guidelines available on website (<https://cpcb.nic.in/publication.php>) and copy of standards are enclosed for ready reference. The standards notified by Central Government do not prescribe any common stone crusher siting criteria for the country and stone crusher siting criteria is generally prescribed by State Governments/SPCBs based on local needs and conditions.

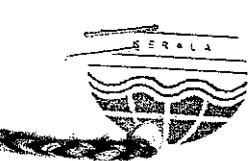
Yours faithfully,


(Nazimuddin)

Divisional Head - IPC - II

Encl.: As above

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



KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Pattom P.O., Thiruvananthapuram - 695 004
പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/EE4/NGT/O.A No.304/2019

Date: 25/11/2019

From
The Chairman

- To
1. Dr. P.K Rana
Controller of Explosives
C2-3rd Floor, CGO Complex,
Kakkanad, Ernakulam
 2. Shri.P Pramod
Director,
Directorate of Factories and Boilers
Kumarapuram, Kannamoola Road,
Kumarapuram, Thiruvananthapuram -695011
 3. The Chief Environmental Engineer
Regional Office,
Thiruvananthapuram/Ernakulam/Kozhikode



Sub:- OA 304/2019- of the Hon'ble NGT- Functioning of stone quarries
and crushers in Palakkad District-reg.

Ref:- Minutes of the meeting conducted on Order dated 20/11/2019

Sir/Madam,

Copy of the minutes of the meeting conducted on 20/11/2019 is enclosed
herewith for information.

Yours faithfully,

Apt Haridas

CHAIRMAN

e/c

Copy to:
Senior Environmental Engineer - 3
(Technical Section)

MINUTES OF THE MEETING CONDUCTED IN CONNECTION WITH OA.304/2019 OF THE HON'BLE NGT -FUNCTIONING OF STONE QUARRIES AND CRUSHERS ON 20/11/2019 IN THE CHAMBER OF CHAIRMAN, KERALA STATE POLLUTION CONTROL BOARD.

The meeting started at 2 pm. Chairman welcomed all the invitees to the meeting. The Member Secretary was present in the meeting. The following officers attended the meeting.

1. Sri. Pramod.P : Director
Factories and Boilers
2. Dr. P.K Rana : Controller of explosive
PESO, Kochi
3. Sri. Baburajan P.K : Chief Environmental Engineer
Head Office, Thiruvananthapuram
4. Sri. M.A Baiju : Chief Environmental Engineer
Regional Office, Ernkulam
(Video) Conference
5. Smt. Sheeba M.S : Chief Environmental Engineer
Regional Office, Kozhikode
6. Smt. Sindhu Radharkrishnan : Chief Environmental Engineer
Regional Office, Thiruvananthapuram
7. Sri. Sajeev K.G : Senior Environmental Engineer ,
Head Office, Thiruvananthapuram
8. Smt. Bindu V. Gopal : Environmental Engineer -4,
Head Office, Thiruvananthapuram.
9. Sri. Thrideep Kumar. M. P : Environmental Engineer -1,
Head Office, Thiruvananthapuram.

10. Smt. Saritha. R. : Assistant Environmental Engineer,
Head Office, Thiruvananthapuram.
11. Smt. Parvathy Sajeev : Assistant Engineer, Head Office,
Thiruvananthapuram.

The Chairman informed that the Hon'ble NGT vide order dated 9/10/2018 has instructed the Kerala State Pollution control Board to revisit the distance criteria and norms adopted for stone quarrying. The type of blasting adopted, the explosives used, the control measures taken and the minimum distance from habitats and other structures, water bodies etc shall be discussed with. The Chairman enquired about the type of explosives allowed by the PESO. The controller of explosives, PESO informed that the list of approved explosive is available in the website of PESO. He informed that loose explosives shall not be allowed to use. The PESO mandate is limited to storage and transportation of explosives only. There is no specific limitation for permission of explosives for quarry. There is specification for storage of explosives. The Director, Directorate of Factories & Boilers informed that the department shall bring new special rules on capture of silica dust from crusher units by engineering control measures and administrative control measures. Their jurisdiction is only for crusher unit. Quarrying along with crushers also come under their jurisdiction.

Decisions:-

1. The DGMS shall be addressed to gather information on the types of explosives used, method of blasting and the details regarding inspection for ensuring compliance.
2. Gather the list of authorized explosives from PESO.
3. All possible operational changes as well as control measures to reduce sound and dust pollution from quarry and crusher operation shall be explored and listed. These shall be tested for ensuring the standards for ambient sound level and particulate matter. Damages to nearby structures of quarries and crusher units shall also be verified.
4. Guidelines for operation of quarries and crusher units shall be framed and the same shall be attached with the ICE & ICO issued by the Board.
5. The DGMS shall be invited for discussion on the matter of hazards involved on the use of explosives and various methods of vibration and noise as a result of quarrying.
6. Previous study report on fixing 100 m distance shall be examined.

Meeting came to an end at 4.pm

Ajit Kumar Jais

CHAIRMAN

ATTENDANCE LIST - MEETING ON 20/11/19.

in connection with OA 304/2019 at the Head office of Kerala State Pollution Control Board, Trivandrum.

Sl. No.	Name	Designation	Contact No.	Signature
1)	Baburajan P.K	CEE KSPCB	9447975732	
2)	Praveen . P	Director (C&B)	544 23444 87	
3.	Dr. P K Rama	CE, PESO, Kochi	9962596117	
4	Sheeba . M . S	CEE, RO, KKD	9447975712	
5	Sindhu Radhakeshman	CEE RO TUM.	9447975735	
6	Bondu V. Gopal	EE, HO	9447975743	
7.	K.G. Sajeev	SEE, HO, TUM	9447975728	
8.	M.P. Thirideep Kumar	EE, HO, TUM	9447975739.	

MINUTES OF THE MEETING CONVENED IN CONNECTION WITH OA.304/2019 OF THE HON'BLE NGT – FUNCTIONING OF STONE QUARRIES AND CRUSHERS ON 10/12/2019 IN THE CHAMBER OF CHAIRMAN, KERALA STATE POLLUTION CONTROL BOARD WITH THE DIRECTORATE GENERAL OF MINE SAFETY OFFICIAL.

The meeting started at 11.00 am. Chairman welcomed officials to the meeting. The Member Secretary was present in the meeting. The following officers attended the meeting.

1. Dr. Ajit Haridas : Chairman,
Kerala State Pollution Control Board
2. Smt.S Sreekala : Member Secretary
Kerala State Pollution Control Board
3. Sri. G Vijayakumar : Deputy Director General,
DGMS, Bengaluru
4. Sri. Baburajan P.K : Chief Environmental Engineer
Head Office, Thiruvananthapuram
5. Sri. Sajeev K.G : Senior Environmental Engineer ,
Head Office, Thiruvananthapuram
6. Smt. Bindu V. Gopal : Environmental Engineer -4,
Head Office, Thiruvananthapuram.
7. Smt. Saritha. R. : Assistant Environmental Engineer,
Head Office, Thiruvananthapuram.
8. Smt. Parvathy Sajeev : Assistant Engineer, Head Office,
Thiruvananthapuram.

The Chairman informed that the Hon'ble NGT vide order dated 9/10/2018 has instructed the Kerala State Pollution control Board to revisit the distance criteria and norms adopted for stone quarrying. The type of blasting adopted, the explosives used, the control measures taken and the minimum distance from habitats and other structures, water bodies etc were discussed.

Shri. G. Vijaya Kumar, Director, DGMS pointed out the following. DGMS is an enforcement agency. It is mandatory that the owner of the quarry shall submit a Notice Opening one month before the proposed date of Opening and also within one week after the actual opening along with copy of lease agreement to DGMS. But very few people are complying to the same and unless the lease granting authority informs, DGMS cannot know such information. In most of the State Mining Departments including Kerala, there are no Mining Engineers, only Geologists are being appointed. A mine shall work only with a duly qualified manager whose appointment is also to be notified to the DGMS. Blasting shall be done in quarries by a holder Blaster certificate Mate and Blaster certificates are issued by DGMS only. The Mine Manager, Foreman, Mate and Blaster certificate are issued by DGMS under the Metalliferous Mine Regulations, 1961. PESO is allowing the magazine license holder supply explosives even without Mine Managers, which is creating the problems and accidents. A mechanism is to be established in the PESO to counter this and in the same manner the DMG Shall not issue

dispatch/transport permits to the mines without manager. He also suggested that the final land use shall be pre-decided such as afforestation, water reservoir etc. He also suggested to give large leases having a proper shape with larger tenure to allow the owner to create infrastructure. If it is on a hillock, whole hillock shall be given as one lease to allow. Otherwise, it is not practicable to conduct safe scientific, environmentally friendly mining with conservation.

As per the MMR, 1961 Quarrying can be done within a distance of 50 m from structures, only with written permission for the Chief Inspector of Mines. This permission will be granted only after a scientific study conducted by a scientific agency and based on its report regarding pattern of holes, depth, explosives charge/delay Peak Particle Velocity (ppv) recorded, noise, air direction, etc. However, in un-organised sector in view of the lack of proper and sufficient statutory person, this limit is generally restricted to 100m . Without this permission, the collective explosive charge per round shall not exceed 2kg when any structures are with the danger zone of blasting which is 300m as per the MMR and 500m as per a Technical Circular issued by the DGMS in the past.

Chairman informed that at present Board is issuing consent to quarries by observing the distance criteria of 50 m. But pollution occurred in the ambient including noise has to be addressed more precisely during drilling, breaking, blasting and transportation.

Deputy Director General has given the following recommendations.

- 1) Mining lease has to be issued for 30 years
- 2) Mining shall not be allowed for small areas. Atleast 10 hector should be there or cluster altogether having 10 hector.
- 3) After mining, the large leased land can be utilized for other purposes.
- 4) Prior to carry out mining/issue lease, detailed study has to be conducted.
- 5) Mining should be done scientifically, safely and in an eco-friendly manner, with maximum possible exploitation of mineral and the end profile of the mining should be such that the land can be re-used for useful purposes.
- 6) For blasting 3 methods are normally there (1) ordinary blasting which is the oldest method in which safety fuse is being used for initial firing (initiation) (2) blasting using electric detonators (3) blasting using non-electric detonators. In these, non-electric detonator (Shock tube system), fragmentation is good for environment and dwellings as sound, vibration etc. are less in this method. There are chances of ammonium nitrate fumes formation if the dwellings are very close. In order to control flyrock, wire mesh with wet sand bags can be used during blasting.

The stemming material packed after the explosive or explosive cartridge should be wet. For further dust and noise control, water cartridge can be used.

As per the MMR, 1961, Quarrying can be done with a distance of 50 m from structure, only with written permission from the Chief Inspector of Mines. This permission will be granted only after a scientific study conducted by a scientific agency and based on its report regarding pattern of holes, depth, explosives charge/delay, Peak Particle Velocity (ppv) recorded, noise, air direction, etc. However in un-organised sector in view of the lack of proper and sufficient statutory persons, this limit is generally restricted to 100m. Without this permission, the collective explosive charge per round shall not exceed 2kg when any structures are with the danger zone of blasting which is 300m as per the MMR and 500m as per a Technical Circular issued by the DGMS in the past.

- 7) Drilling –At present all are using dry pneumatic drilling machine which are very sound, vibration and airborne dust producing. Wet drilling machine is an environmentally safe drilling method and also for the health of the driller. (Ergonomically designed, dry drilling machine with an attachment of dust collectors are also available now in the market. They produce less sound, vibration and with dust).
- 8) In order to avoid dust during transportation, water spray has to be provided on benches and on blasted are. Some permanent arrangements like pipe lines with sprinklers shall be made at the mines.

- 9) Mine manager should be appointed in quarries without which the mine shall not be allowed to work.

Based on the recommendations, it is decided to include the following points/suggestions in the report to be filed before the Hon'ble National Green Tribunal.

Decisions:-

Prevailing distance criteria can be maintained by complying the following suggestions.

1. Scientific mining methods shall be carried out in the quarrying area.
2. Department of Mining & Geology has to be strengthened with Mining Engineer.
3. Quarrying permit for one year or lesser period or shall not be issued.
4. Proper mine plan having proposal for mine closure shall be submitted with lease.
5. Quarrying shall be carried out in the presence of a Mine Manager, certified by DGMS.
6. Wet drilling method shall be promoted.
7. The occupier of quarry should submit copy of the lease to DGMS.
8. Dust control and water sprinkling shall be done during blasting breaking and transportation operations.

9. Maximum 2 kg explosive/ hole shall be allowable only with DGMS written permission.
10. Shock tube detonation system alone should be followed in the quarries
11. Stemming with wet material and water cartridge should be used in quarries with limited distance from sensitive locations
12. Ergonomically designed Pneumatic drills machines with dust collector attachment only to be used in case of small diameter holes.
13. Wire mesh with sand bag shall be used for avoiding fly rocks. The quarrying area shall be wetted before quarrying in soil overburden areas.
14. Compressor shall have noise enclosure.

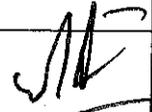
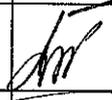
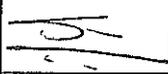
Meeting came to an end at 12.15pm

Apil Kaur Jais

CHAIRMAN

ATTENDANCE LIST - MEETING ON 10/12/2019

DGMS official in
 in connection with OA No. 304/2019 regarding the revision of the
 quarry norms in the Chamber of CHAIRMAN at
 KERALA STATE POLLUTION CONTROL BOARD, TRIVANDRUM.

Sl. No.	Name	Designation	Contact No.	Signature
1	M. Sreekala S	Member Secretary		
2	G. Vijaya Kumar	DDG, DGMS, S2 Kerala		
3	Baburajan P.K	CEE		
4	Bondu V. Lopal	EE, HO		
5	K.G. Sajeev	SEE, HO, Tum		
6	D. Aji Hanides	Chairman, KSPCB		
7	Saritha R	AE, HO		
8	PARVATHY SAJEEV	AE, HO		