

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

**ORIGINAL APPLICATION NO.87 OF 2015 (SZ)**

In the matter of:

Sri. Ramakrishnan N. : Applicant(s)

Vs

Union of India & Others : Respondent(s)

**REPORT FILED BY THE COMMITTEE FORMED VIDE NGT  
ORDER DATED 24.09.2020**

Adv. Rema Smriti.

ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT:

---

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL**

**PRINCIPAL BENCH, NEW DELHI**

ORIGINAL APPLICATION NO 87 of 2015 (SZ)

Sri.Ramakrishnan.N : Applicant(s)

Vs

Union of India & Others : Respondent(s)

**Index**

SL No	Description	Pages
1	Report	1-9
2	<b>Annexure (1)</b> - Copy of compliance status of conditions given in mining lease deed.	10-12
3	<b>Annexure (2)</b> - Details of working days submitted by M/S.Kerala clays and ceramic products ltd, Karindalam.	13
4	<b>Annexure (3)</b> - Calculation of Pollution index value for laterite quarry.	14-15
5	<b>Annexure (4)</b> - Calculation of Rupee factor(R) value for laterite quarry.	16-19

**Smt. Sheeba.M.S**

Chief Environmental Engineer,  
Kerala State Pollution Control Board,  
Regional Office, Kozhikode, Kerala

Place : Kozhikode

Date : 05.11.2020

1

REPORT OF COMMITTEE TO IMPOSE ENVIRONMENTAL COMPENSATION IN THE MATTER OF ORIGINAL APPLICATION NO. 87 OF 2015, SRI. RAMAKRISHNAN Vs UNION OF INDIA AND OTHERS SUBMITTED BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL PRINCIPAL BENCH.

**1.0 Preamble**

In the matter of original application No. 87 of 2015, Sri. Ramakrishnan N Vs Union of India & Others the National Green Tribunal Principal Bench, New Delhi has passed an order dated July 3<sup>rd</sup> 2019 and directed to

*“Constitution of a committee comprising of (i) Senior Engineer from Central Pollution Control Board, (ii) Senior Engineer from State pollution Control Board and (iii) An expert from the department of Mines and Geology, Kerala, the nodal agency shall be the State Pollution Control Board. The committee shall undertake a study to assess the damage caused by the mining in the area in question, the cost of remediation and the cost to be incurred towards restoration of the mined out area. The entire exercise be completed within one month and report sent to the Tribunal by e-mail. Copy of the report be handed over to the applicant and other parties”.*

In compliance of the above mentioned order, following officials were nominated by the respective department as member of committee.

- i. Mrs. H.D. Varalaxmi, Sc.E/AD, Central Pollution Control Board, Regional Directorate (South), Bangalore.
- ii. Sri. V. Divakaran, Senior Geologist, Department of Mining & Geology, Civil Station, Kasaragod.
- iii. Smt. Sheeba M.S., Chief Environmental Engineer, Kerala State Pollution Control Board, Regional Office, Kozhikode

The committee visited the quarry site of 20.242 hectares of land comprised in Re – Survey No. 89/1A/Part of Karindalam Village of Hosdurg Taluk Kasaragode district of M/s Kerala Clay and Ceramics (hereinafter referred to as the company) on July 19, 2019 and submitted report to the Hon'ble NGT on September 7, 2019. Upon hearing the matter, Hon'ble NGT passed order dated 6/3/2020 stating ' The joint committee has been directed to file the report regarding the imposition of environmental compensation. So adjournment was granted considering the circumstances mentioned

H.D. Varalaxmi      Sheeba M.S.      Divakaran

by the counsel'.Based on the site visit and referring to the various statutes obtained by the M/s Kerala Clays and Ceramic Products Ltd.,the committee has again submitted a report to the Hon'ble NGT on 24.09.2020.

## 2.0 Summary of the details filed in the previous reports

### 2.1 Statutory clearances obtained by M/s Kerala Clays and Ceramic Products Ltd.,

- ✓ Sanction from the Govt.of Kerala vide G.O (MS) No. 111/2004/ID in September 25,2004for extracting laterite mineral for a period of twenty years over an area of 20.242 hectares of land comprised in Re- Survey No. 89/1A/Part of Karindalam Village of Hosdurg Taluk of Kasaragod District. The company was directed to execute mine lease deed in Form K and to obtain approval of mining plan by the authority empowered within 6 months of the grant of the order.
- ✓ The temporary permit was issued vide G.O (Rt) No. 1130/2004/ID in November 20, 2004to the company for mining and transportation of laterite from the mine for a period of two months as a special case, in consideration of the fact that both the Mining Company and beneficiary Company are State Public Sector Undertakings.
- ✓ The temporary permit was further extended for a period of 3 month from March 6, 2005 vide G.O. (Rt) No. 192/2005/IDby considering the situation stated by the M/s. Kerala Clay and Ceramics
- ✓ Mining Lease deed was executed on March 15, 2005 for the term of 20 years in an area of 20.242 hectares bearing cadastral Resurvey Nos 89/1A/part at Karindalam Village, Hosdurg Taluk,Kasargod District.

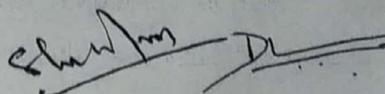
H.D. Zhu

*[Handwritten signature]*

*[Handwritten signature]*

- ✓ Mine plan was approved vide letter no. 6726/M1/04 dated 19.01.2010. As per the mining plan, mining should be carried out by open cast method, total thickness ( depth) of 4.5 m in three benches of 1.5 m thickness. As per the plan, mining should be performed in east-west direction, the annual production for 2006-2007 was budgeted for 30,000 MT and from 2007 onwards lessee proposes to produce 45,000 to 50,000 metric tons of laterite. The mining plan approved for five years i.e 2006 – 2011 for total quantity of 2,10,000.00 MT.
- ✓ During the course of mining, they have encountered Bauxite of 10,000.00 MT which contains more than 30 % of  $Al_2O_3$  and the same was mined and stacked separately. The company had requested to grant temporary permit to dispose the bauxite in compliance with special conditions imposed in G.O (MS) No. 111/2004/ID in September 25, 2004. The Government had examined the matter and issued order vide G.O (M.S) No. 103/2013/Ld of August 27, 2013 to take urgent steps to include this in the mining lease. Based on above mentioned GO, the company has accorded sanction for the inclusion of bauxite in the existing mining lease for a period of one year vide order No. G.O (Ms) No. 134/2014/10 of September 25, 2014.
- ✓ The Company has obtained Explosive license in requisite form in April 22, 2015 which was valid upto March 31, 2019 and applied for renewal vide their letter dated 22.03.2019.
- ✓ The Company had applied for the Consent to Establish of the Board under the Air (Prevention & Control of Pollution) Act 1981 for the laterite mining on August 5, 2005 at District Office at Kannur. However a complaint was received by the Head Office of the Board on July 21, 2005 against indiscriminate use of explosives and odour of the chemicals during explosion and the same was forwarded to District

H.D. Zhuo

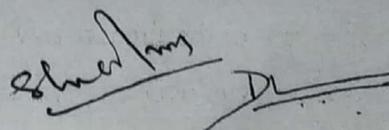


Office, Kannur for investigation and necessary action on August 8, 2005. A report on the investigation was forwarded to head Office vide letter on December 3, 2005, the company has not yet obtained the Consent of the Board.

## 2.2 Over all findings and Conclusions of committee:

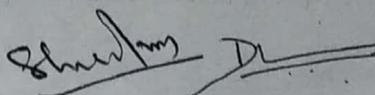
- a. During inspection no mining activity was observed in Survey no. 89/1A(Part) leased mining area and no machineries were found in the area.
- b. The company posses the valid lease agreement accorded by the Government of Kerala vide their letter G.O (MS) No. 111/2004/ID in September 25, 2004 for 20 years i.e from March 15, 2005 to March 14, 2025.
- c. The company has obtained approved mine plan vide letter no. 6726/M1/04 dated 19.01.2010, to carry laterite mining by open cast method for total thickness ( depth) of 4.5 m in three benches of 1.5 m thickness. The mining plan approved for five years i.e 2006 – 2011 for total quantity of 2,10,000.00 MT. However it is observed that without renewal of mining plan, the mining of Laterite and Bauxite was carried out till 2015 and extracted was 1,73,000 MT of Laterite and 88647.2 MT of Bauxite. However, the company claims that "Even though the mining plan was submitted to the concerned authorities (Director of Mining and Geology) early in 2005 the mining plan was approved only in 2010. The production plan for first five years (from 2006-2007 to 2010-2011) was detailed in the mining plan. In page 22 of the mining plan is clearly stated that the annual production for the remaining years is the same as above, here remaining years means till the period of mining lease granted i.e. March 14, 2025" .The committee has looked in to the explanation and has verified the statement in the mine plan.

H.D. Jho



- d. Based on depth measured by using Distometer, the average depth of mined area was found 2.9 m which is less than permitted depth (4.5 m) of mining
- e. The Company has obtained the explosive license from Petroleum and Explosives Safety Organisation (PESO), the validity of licence was found expired on March 31, 2019 and the same was applied for renewal on 22.03.2019.
- f. As per the information provided by Department of Mining & Geology, Kasargod the total quantity of Laterite mined was 1,73,000 MT against the approved quantity of 2,10,000 MT for a period from 2006-2011, though the mining operation was carried out for a period of 10 years. The committee is of opinion that quantity of laterite mined for ten years is within the quantity approved in the mine plan as it is stated in the mine plan that the average production per year is 45000 MT. Also the company in its explanation has informed that "Mining operations carried out on the strength of lease order granted by Government and the lease deed executed therein. The moving of mineral mined out from the mine is carried out on the strength of movement permits issued by the District Geologist, Kasaragode. Usually movement permit is issued for a period of 2 months and according to the requirement, the company was continuously obtained movement permit till 2015."
- g. The total quantity of Bauxite mined was 88647.2 MT against the approved quantity of 10,000 tonnes as per the G.O.(MS) No. 103/2013/ID dated 27.08.2013. The explanation for this was enquired by the committee and in reply the company informed "As per rule, any mineral other than mineral granted in the lease encountered during mining shall not be disposed of without including the said mineral in the mining lease. As the process of including bauxite in the existing mining lease is a time consuming process, and as the company has furnished

H.D. Zhu



an affidavit stating that bauxite will not be used for any metallurgical purpose and will be solely used as cement grade bauxite, Government have sanctioned a temporary permit vide G.O.(MS) No. 103/2013/ID dated 27.08.2013. In para 6 of the said order it is clearly stated that the extraction of bauxite during the mining will continue and hence steps to be taken for inclusion of the same in the mining lease. The authority under which 78647.2 MT (10000 less of 88647.2) of bauxite extracted is GO (MS) No. 134/2014/ID dated 25.09.2014. As bauxite also is included in the existing mining lease vide this order further sanction is not required.”

- h. The Committee could not asses any seepages in the mining area due to on going rainy season.
- i. As per the mine closure plan the company supposed to be carryout 2.8 hectares of land during first five years, pit generated due to mining should be backfilled by the waste generated during mining. The mined out land should be reclaimed and afforested in a phased manner as and when the laterite is extracted to its full thickness. However the company executed backfilling and plantation in 1.5 acres only.
- j. There are no stacked mine waste in the area. As no chemicals were used at the site, the pumping of rain water from the pit during the mining period would not affect the water quality of any water sources.
- k. *As per the verbal statement given by the applicant Sri. Ramakrishnan N, the committee surprised to hear that applicant is not aware about the legal case against the company, only he was signed in mass compliant against the mining activity which indicates that some one has filed the case using his name may be with malfide intensions. However the claim of complainant about cracks in wall (resembles like air crack) and water level in his open well*

H.D. Jho

Shankar

*about 2 m below ground level also confirms the mafide intension.*

- l. The Compliance status of conditions given in Mining Lease deed is annexed as **Annexure -1**. The committee has observed that there is no excess quantity of laterite mining, and environmental damages
- m. The company executed the mining of Laterite and Bauxite without obtaining the Consent for Establish and Consent to operate under Water and Air Act from Kerala State Pollution Control Board which is a violation of Water (Prevention and Control of Pollution Act), 1974 and Air (Prevention and Control of Pollution Act), 198.
- n. The Kerala Minor Mineral Concession, Rules was amended in February 7, 2015 which mandated the requirement of Environmental Clearance for laterite quarry, except for that of building stone laterite quarries. As per the details of working days in the period July 2011 to February 2015 submitted by the company (**Annexure 2**), it is observed that the mine has worked only for a period of 7 days after the said amendment was made. As the working days are not considerable, it is considered that the same may be ignored,

### **3.0. Calculation of amount of compensation recoverable**

Based on the orders of The Hon'ble National Green Tribunal, in the matter of O.A.593 of 2011, CPCB has developed a "Methodology for Assessing Environmental Compensation and Action Plan to Utilize the Fund". The methodology developed by the CPCB for Assessing Environmental Compensation for not obtaining statutory clearances is as follows:

$$EC = PI \times N \times R \times S \times LF$$

Where,

EC - Environmental Compensation in Rs.

H.D. Zhu

*[Signature]*

*[Signature]*

- PI - Pollution index of industrial sector
- N - Number of days for which violation took place is the period between the day of violation observed/due date of direction's compliance and the delay of compliance verified.
- R - Factor in Rupees, which may be a minimum of 100 and maximum of 500.
- S - Factor for scale of operation (suggested to take 0.5 for micro and small, 1 for medium and 1.5 for large units)
- LF-Location factor based on population of city/town and location of Industrial unit with in Municipal boundary or up to 10 km distance for the municipal boundary of city/town (1 for less than 1 million population, 1.25 for population 1 million to < 5 million, 1.5 for population 5 million to less than 10 million and 2 for population 10 million and above.)

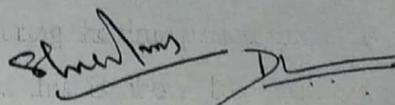
As in the previous report submitted by the committee to the Hon'ble NGT on 24.09.2020, Kerala State Pollution Control Board has formed committee to calculate the Pollution Index value (P.I.) for laterite quarry and 'R' value for this case. The P.I. value arrived by the committee is reported vide **Annexure 3** and 'R' value vide **Annexure 4** respectively. The company has submitted the no. of working days during the time period from July 2011 to February 2015 and this is about 1049(**Annexure 2**). Hence the value for each term to be substituted in the equation are given below

Pollution Index, PI – 37.5 (as per the **Annexure -3**)

Number of working days, N – 1049 days (as per the **Annexure-2**)

Factor in Rupees, R – 250 (As per the calculation in **Annexure-4**)

H.D. Jho



Neelaeswaram municipality, where the quarry is located is having less than one million population), hence the EC is,

$$EC = 37.5 \times 1049 \times 250 \times 0.5 \times 1$$

$$= \text{Rs. } 49, 17,187.5 \text{ /-}$$

#### 4.0 Recommendation of the Committee

The committee has observed that even though there are no environmental damages caused due to the mining and no excess quantity of laterite mined the company has not acquired all the required statutes for the mining, as they have not obtained the Consent to Operate of the Kerala State Pollution Control Board for the mining. Hence the environmental compensation of Rs.49,17,188/- calculated above shall be levied on the company for the violation.

#### Signature of Committee Member

*H.D. Varalaxmi*

(Mrs. H.D. Varalaxmi)  
Sc. E/AD, CPCB,  
Regional Directorate,  
Bengaluru

*Sheeba M.S.*

(Mrs. Sheeba.M.S)  
Chief Environmental  
Engineer,  
Regional Office,  
Kerala State Pollution  
Control Board,  
Kozhikode

*Sri V. Divakaran*

(Sri V. Divakaran)  
Senior Geologist,  
Department of Mining  
& Geology

## The Compliance status of conditions given in Mining Lease deed

Sl. No.	Conditions in Part III of the Lease deed	Observations of the committee
1.	No building or thing shall be erected set up or placed and no surface operations shall be carried on in or upon any public pleasure ground burning or burial ground or place held sacred by any class of persons or any house or village site public road or other place which the State Government may determine as public ground nor in such a manner as to injure or prejudicially effect any buildings works property or rights of other persons and no land shall be used or surface operations which is already occupied by persons other than the State Government for works or purposes not included in this lease. The lessees shall not also interfere with any right of way, well or tank.	As specified in the point the lessee has not constructed or erected any building or done any surface operations upon any public pleasure ground, burial ground or place held sacred by any class of persons or any house or village or public road. The lessee has constructed an office building and weigh bridge in their own lease land. These are not functioning now and the buildings are empty. The lessee has not interfered with the right of way, well or tank. It is also observed that the mining operation has not caused any effect or damage to any building works or property. The cracks in the wall alleged by the applicant of this case seem to be fine air line cracks. <b>Complied</b>
2.	Before using for surface operations any land which has not already been used for such operations, the lessees shall give to the Director of Mining and Geology two calendar months previous notice in writing specifying the name or other description of the situation and the extent of the land proposed to be so used and the purposes for which the same is required and the said land shall not be so used if objection is issued by the Director of Mining and Geology within two months after the receipt by him of such notice unless the objections so stated shall no reference to the State Government be annulled or waived	The company has informed that copy of the lease granting order has already been marked to the District Collector and being a Government company, officials of the company has met the District Collector personally and obtained oral permission to carry out the work mentioned in the lease grant order. <b>Complied</b>
3.	The lessees shall not without the express sanction of the Director of Mining and Geology cut down or injure any timber or trees on the said lands but may without such sanction clear away any brushwood or undergrowth which interferes with any	It is observed that only grass was seen at the site and felling of trees was not required for commencing mining operations. <b>Complied</b>

	<p>operations authorised by these presents. The Director of Mining and Geology or the State Government may require the lessees to pay for any trees or timber felled and utilized by them at the rates specified by the Director of Mining and Geology.</p>
<p>4. Notwithstanding anything in this Schedule contained the lessees shall not enter upon any reserved forest included in the said lands without previous sanction in writing of the District Forest Officer nor fell cut and use any timber or trees without obtaining the sanction in writing of that officer nor otherwise than in accordance with such conditions as the State Government may prescribe</p>	<p>No reserved forests are included in the lease land</p> <p><b>Complied</b></p>
<p>5. The lessees shall not work or carry or allow to be worked or carried on any mining operations at or to any point within a distance of 50 meters from any railway line except with the previous written permission of the Railway Administration concerned on under or beneath any rope way or any rope way trestle or station except under and in accordance with the written permission of the authority owning the rope way of from any reservoir, canal or other public works such as public roads and buildings or inhabited site except with the previous written permission of the Director of Mining and Geology or any other officer authorised by the State Government in this behalf and otherwise than in accordance with such instructions, restrictions and conditions either general or special which may be attached to such permission. The said distance of 50 metres shall be measured in the case of railway, reservoir or canal horizontally from the outer toe of the bank or the outer edge of the cutting except with the previous permission of the Director of Mining and Geology or any other officer duly authorised by the State Government in this behalf and otherwise than in accordance with such directions, restrictions and additions, either general or special, which may be attached to such permission</p>	<p>The lessee has not carried out any mining operations within a distance of 50.0m from any railway line, reservoir, canal, public road, public buildings or inhabited site. There are no village roads within a distance of 50.00m from the site of mining.</p> <p><b>Complied</b></p>
<p>6. The lessees shall allow existing and future holders of Government licenses or leases over any land which is comprised in or</p>	<p>The committee has not received any such complaint from the applicant.</p>

over any land which is comprised in or adjoins or is reached by the land held by the lessees reasonable facilities of access thereto. Provided that no substantial hindrance or interference shall be caused by such holders of licenses or leases to the operations of the lessees under these presents and fair compensations (as may be mutually agreed upon or in the event of disagreement as may be decided by the State Government) shall be made to the lessees for loss or damage sustained by the lessees by reason of the exercise of this liberty.

**Complied**

## KERALA CLAY AND CERAMIC PRODUCTS LTD KARINDALAM

WORKING DAYS: 20/7/2011 TO 09/02/2015

Year	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOVE	DECE	JANU	FEB	MARCH	TOTAL
2011-2012				4	25	24	26	24	27	24	25	27	206
2012-2013	25	26	17	19	23	25	26	26	26	25	24	26	288
2013-2014	26	26	25	27	22	24	25	25	26	27	24	26	303
2014-2015	22	26	25	24	25	23	23	25	26	26	7		252

PAPPINISSERI  
15/09/2020

For KERALA CLAY &amp; CERAMIC PRODUCTS LTD.

*S. P. S. M.*  
Managing Director

18/09/2020 തീയതിയിലെ കാറ്റഗറൈസേഷൻ കമ്മിറ്റി മീറ്റിംഗ്

18/09/2020 തീയതിയിൽ കാറ്റഗറൈസേഷൻ കമ്മിറ്റി മീറ്റിംഗ് ചേരുകയുണ്ടായി. താഴെപ്പറയുന്ന കമ്മിറ്റി അംഗങ്ങൾ മീറ്റിംഗിൽ പങ്കെടുത്തു.

1. മെമ്പർ സെക്രട്ടറി
2. ചീഫ് എൻവയോൺമെന്റൽ എഞ്ചിനീയർ, ഹെഡ് ഓഫീസ്, തിരുവനന്തപുരം
3. ചീഫ് എൻവയോൺമെന്റൽ എഞ്ചിനീയർ, മേഖലാ ഓഫീസ്, തിരുവനന്തപുരം
4. സീനിയർ എൻവയോൺമെന്റൽ എഞ്ചിനീയർ 3, ഹെഡ് ഓഫീസ്, തിരുവനന്തപുരം

മെമ്പർ സെക്രട്ടറി (കാറ്റഗറൈസേഷൻ കമ്മിറ്റി ചെയർമാൻ) ഏവരെയും മീറ്റിംഗിലേക്ക് സ്വാഗതം ചെയ്തു. Laterite Quarry-കളെ കാറ്റഗറൈസ് ചെയ്യണമെന്ന് ആവശ്യപ്പെട്ടുകൊണ്ട് കോഴിക്കോട് മേഖലാ ഓഫീസുകളിൽ നിന്നും അപേക്ഷ ലഭിച്ചതായി സീനിയർ എൻവയോൺമെന്റൽ എഞ്ചിനീയർ അറിയിച്ചു. കാറ്റഗറൈസ് ചെയ്യേണ്ട യൂണിറ്റിനെ സംബന്ധിച്ച് കമ്മിറ്റി അംഗങ്ങൾ ചർച്ച ചെയ്യുകയും ബന്ധപ്പെട്ട ജില്ലാ ഓഫീസുകളുടെ അഭിപ്രായം പരിഗണിക്കുകയുണ്ടായി.

വിശദമായ ചർച്ചയ്ക്കും അഭിപ്രായത്തിനും ശേഷം കമ്മിറ്റി തയ്യാറാക്കിയ യൂണിറ്റിന്റെ കാറ്റഗറി സംബന്ധിച്ച വിവരങ്ങൾ ചുവടെ ചേർക്കുന്നു.

Sl. No	Name of unit	Proposed category	Remarks
1	Laterite Quarry	Green	Laterite Quarry കളെ കാറ്റഗറൈസ് ചെയ്യുന്നതിനായി കോഴിക്കോട് മേഖലാ ഓഫീസിൽ നിന്നും കത്ത് ലഭിച്ചു. ഇത്തരം യൂണിറ്റുകളിൽ Particulate Matter Emission ഉണ്ടാകാനുള്ള സാധ്യത വളരെ കൂടുതലാണ്. പ്രസ്തുത യൂണിറ്റിൽ നിന്നും ഉണ്ടാകുന്ന വായു മലിനീകരണം കണക്കാക്കി Air Pollution Score: 15 (A1D) പരിഗണിക്കുമ്പോൾ Normalized score :37.5 ആണ് ലഭിക്കുന്നത്. ആയതിനാൽ Green കാറ്റഗറിയിൽപ്പെടുന്നു.

മേൽ ശുപാർശകളോടെ കമ്മിറ്റി മീറ്റിംഗ് അവസാനിച്ചു.

1. മെമ്പർ സെക്രട്ടറി
2. ചീഫ് എൻവയോൺമെന്റൽ എഞ്ചിനീയർ, ഹെഡ് ഓഫീസ്, തിരുവനന്തപുരം
3. ചീഫ് എൻവയോൺമെന്റൽ എഞ്ചിനീയർ, മേഖലാ ഓഫീസ്, തിരുവനന്തപുരം
4. സീനിയർ എൻവയോൺമെന്റൽ എഞ്ചിനീയർ, ഹെഡ് ഓഫീസ്, തിരുവനന്തപുരം

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

## CATEGORISATION COMMITTEE MEETING DATED 18.09.2020

Categorisation committee meeting was held on 18/09/2020. Following committee members attended the meeting.

- 1) Member Secretary
- 2) Chief Environmental Engineer, Head Office, Trivandrum
- 3) Chief Environmental Engineer, Regional Office, Trivandrum
- 4) Senior Environmental Engineer-3, Head Office, Trivandrum.

All members were welcomed by the Member Secretary (Categorisation Committee Chairman) to the meeting. Senior Environmental Engineer informed that various requests regarding the categorisation of laterite quarry were received from offices under the Kozhikode region. Detailed discussion regarding the unit to be categorised was held among the committee members and the suggestion sby the district offices was also considered.

The details prepared by the committee regarding the category of the unit after detailed discussion is attached below.

SL NO	NAME OF UNIT	PROPOSED CATEGORY	REMARKS
1	Laterite quarry	Green	A letter was received from the Kozhikode regional office regarding the categorisation of laterite quarry. The possibility of occurrence of particulate matter emission is higher in these units. Considering the air pollution from these units and taking air pollution score as 15(AID), the normalised score obtained is 37.5. Hence, it comes under green category.

Committee meeting ended with the above recommendations

- 1) Member Secretary : Sd/-
- 2) Chief Environmental Engineer, : Sd/-  
Head Office, Trivandrum
- 3) Chief Environmental Engineer, : Sd/-  
Regional Office, Trivandrum
- 4) Senior Environmental Engineer-3, : Sd/-  
Head Office, Trivandrum.



General: 0471-2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151  
E-mail: ms.kspcb@gov.in FAX: 0471-2318134, 2318152 web: www.keralapcb.nic.in

**KERALASTATE POLLUTION CONTROL BOARD**  
കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്  
Pattom P.O., Thiruvananthapuram - 695 004  
പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/SEE3/TECH/48/2019

Date: 25/09/2020

From

The Member Secretary

To

The Chief Environmental Engineer,  
Regional Office,  
Kozhikode

Sub: - Calculation of Rupee Factor (R) for Laterite Quarry - Reg.

Ref:- Your office letter no. PCB/RO/KKD/GEN/O.A.87-2015/108/2019  
dated 16/09/2020.

Madam,

With reference to the letter cited above, a note has been prepared on calculating Rupee Factor (R) in cases of imposing Environmental Compensation for Laterite Quarry. Copy of the same is enclosed herewith for further necessary action.

Yours faithfully,

MEMBER SECRETARY

Encl: As above

Copy to:

The Environmental Engineer,  
Legal Cell, Head Office

## Note on calculating Rupee factor (R)

### Calculation of Environmental Compensation

As per CPCB guideline Environmental Compensation is calculated using the following formula:

$$EC = PI \times N \times R \times S \times LF$$

PI = Pollution Index of Industrial Sector

N = No. of days of violation

R = A factor for Rupee for EC

S = Factor for scale of operation

LF = Location Factor

- a. The industrial sectors have been categorized into Red, Orange and Green, based on their Pollution Index in the range of 60 to 100, 41 to 59 and 21 to 40, respectively. It was suggested that the average pollution index of 80, 50 and 30 may be taken for calculating the Environmental Compensation for Red, Orange and Green categories of industries, respectively.
- b. N, number of days for which violation took place is the period between the day of violation observed/due date of direction's compliance and the day of compliance verified by CPCB/SPCB/PCC.
- c. R is a factor in Rupees, which may be a minimum of 100 and maximum of 500. It is suggested to consider R as 250, as the Environmental Compensation in cases of violation.
- d. S could be based on small/medium/large industry categorization, which may be 0.5 for micro or small, 1.0 for medium and 1.5 for large units.
- e. LF, could be based on population of the city/town and location of the industrial unit. For the industrial unit located within municipal boundary or up to 10 km distance from the municipal boundary of the city/town, following factors (LF) may be used:

S. No.	Population* (million)	Location Factor* (LF)
1	1 to <5	1.25
2	5 to <10	1.5
3	10 and above	2.0

### Calculation of Rupee Factor (R factor)

As per CPCB guideline R has to be in the range of 100 to 500 and usually taken as 250.

The R factor shall be calculated based on the Number of working days per year (No of days of violation ( $N_a$ ), Category of the activity ( $C_r$ ), Factor for Scale of the unit ( $S_r$ ).

$$R = 100 + 21.75(N_a \times C_r \times S_r)$$

The minimum value of R may be taken as 250.

#### Factor for No of days of violation ( $N_a$ )

It is the number of working days ie, Number of days for which violation is observed.

Consider  $N_a$  factor as 1 up to 365 days, 2 for 365 to 730 days, 3 for 730- 1095 days and 3.5 above 1095 days

$N_a$ ( number of working days) factor	Value
up to 365 days	1.0
365 to 730 days	2.0
730-1095 days	3.0
Above 1095 days	3.5

This  $N_a$  value is applicable only for R factor calculation

#### Category Score ( $C_r$ )

$C_r$  (category score) may be taken as 0.5, 1.0 & 1.5 for Green, Orange & Red respectively.

Category	Category score ( $C_r$ )
Green	0.5
Orange	1.0
Red	1.5

#### $S_r$ (Scale factor)

$S_r$  (scale factor) may be taken as 1.0, 2.5 & 3.5 for small (< 5 crore), Medium (5-10 crore) & Large Scale (>10 crore) respectively.

Scale	$S_r$ Factor
Small (< 5 crore)	1.0
Medium (5-10 crore)	2.5
Large (>10 crore)	3.5

### Calculation of R factor for Laterite Quarries

#### **In case of Laterite Quarries**

Unauthorized operation of laterite quarries result in large scale environmental degradation. It also results large financial loss to the exchequer.

Hence severe penalties have to implemented to prevent such violations in future.

Moreover the Board is at liberty to make the norms more severe. It is considered under ~~Green~~ Category.

**Eg:-**

If the laterite quarry considered is Small scale and if the number of violation days observed ie total number of working days is 320, then

$$N_a = 1, C_r = 0.5, S_r = 1$$

#### **Rupee Factor (R)**

$$R = 100 + 21.75(N_a \times C_r \times S_r)$$

$$\text{R factor, } R = 100 + 21.75(N_a \times C_r \times S_r)$$

$$= 100 + 21.75(1 \times 0.5 \times 1)$$

$$= 100 + 10.875$$

$$= \underline{110.875}$$

The minimum value of R may be taken as 250 and hence the R factor may be taken as 250 in the above case.

  
CHAIRMAN