

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,  
SOUTHERN BENCH, CHENNAI**

**IN**

**ORIGINAL APPLICATION NO 12/2020 (SZ)**

**Tribunal on its own motion  
Suo Motu based on the news  
item in Mathrubhumi, Malayalam  
Newspaper dt: 19.01.2020,  
"The removal of debris in Maradu not  
according to Norms – National Green Tribunal" : Applicant(s)**

**Verses**

**The Chief Secretary, Kerala & others : Respondent(s)**

**REPORT FILED BY THE CHIEF ENVIRONMENTAL ENGINEER, REGIONAL  
OFFICE, ERNAKULAM FOR AND ON BEHALF OF THE KERALA STATE  
POLLUTION CONTROL BOARD**



Dated this the 8<sup>th</sup> day of December 2022

**Adv. Rema Smrithi,  
ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT**

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,  
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Dated this the 8<sup>th</sup> day of December 2022

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ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT

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**REPORT FILED BY THE CHIEF ENVIRONMENTAL ENGINEER,  
REGIONAL OFFICE, ERNAKULAM FOR AND ON BEHALF OF THE  
KERALA STATE POLLUTION CONTROL BOARD IN  
COMPLIANCE TO THE ORDER DATED 17.11.2022**

I, Baburajan P K, 52 years, S/o. Late P. A. Kuttappan, now working as the Chief Environmental Engineer, Regional Office, Kerala State Pollution Control Board, Ernakulam. I am competent to and duly authorized to represent the Board. I know the facts and circumstances of the cases. The factual



  
**BABURAJAN P.K.**  
Chief Environmental Engineer

submissions made here under are true and correct to the best of my knowledge, information and belief. In these 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.

1. I may humbly submit that the Board had taken earnest efforts in the matter of removal of debris from the four demolition sites and necessary directions were issued to the Secretary, Maradu Municipality to comply with the Construction and Demolition Waste Management Rules, 2016 and to mitigate the dust and sound pollution emanating from the demolition sites. The Board officials had conducted periodical inspections in the four demolition sites and effectively monitored to minimise the nuisance to the nearby residents during the transfer of materials. The Board has prepared the chronological events/actions taken by the Board as directed by the Hon'ble Tribunal and the copy of the same is produced herewith and marked as **Annexure 1.**

2. It may also be noted that the Joint Committee constituted by this Tribunal as per the order dated 22.01.2020 has prepared an action plan on 10.02.2020 based on the direction of the Hon'ble State Level Monitoring Committee in the first committee meeting held on 03.02.2020 and monitored the progress of the debris removal from the demolition sites.

3. Maradu Municipality had submitted a brief plan on utilization/ disposal of demolition waste on 31.01.2020 to the Environmental Engineer, Kerala State Pollution Control Board. In the action plan the following details are furnished:



  
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**Chief Environmental Engineer**

*As per the quantity of demolished concrete waste in site, the total quantity of debris from all the four flats demolished is 76,350 tonnes. Assuming specific gravity of concrete debris as 1.8, it would be approximately 42417 m<sup>3</sup> of building waste. Assuming 15 m<sup>3</sup>/truck load, we will be removing a total quantity of 2828 truck loads. Prompt enterprises have already removed 400 truck loads of debris from the site pre-demolition which was utilized for basement filling and road formation purpose in an industrial estate near Pallippuram, Alleppey District and nearby areas.*

*The existing debris can be categorized in to two. The debris from Jain Coral Cov (26,400tonnes) and Holy faith H2O(21,450tonnes) are pure concrete debris as no red bricks was used in construction as against the other 2 flats, Alfa Serene -2 towers(21,400 tonnes) and Golden Kayaloram(7,100 tonnes).*

*Prompt enterprises are planning to send the pure concrete debris to a crusher for downsizing and to be reused for making hollow blocks and paving tile purpose. This we are planning to be done in 2 areas,*

- 1. In their yard using rubble master RM80 (a mobile crusher which can downsize the debris to 6 mm, 12mm aggregates and M Sand.*
- 2. At various granite crushers, to cover it into sand and aggregates to reuse it for making building hollow blocks and road paving tiles.*

*The debris from the other 2 apartments will be utilized for road formation and basement filling purpose. This debris will be utilized only at sites which has absolute dry land status.*

- 1. Prompt enterprises informed that a part has shown us interest in acquiring 500loads at a godown site in Anachal, Aluva.*



  
**BABURAJAN P.K.**

**Chief Environmental Engineer**

2. *Another 300loads will be used for road formation and basement filling purpose in Varappuzha, Ernakulam.*
3. *They are sending 100 loads to KSIDC industrial estate at Pallippuram, Cherthala, Alleppey for various basement filling and road formation purpose.*
4. *The rest of the loads will be used for the usage of the local dwellers in and around the flats for their purpose only after verifying the land as dry land.*

*The loads from Alfa Serene and Golden Kayaloram will be send only in smaller trucks and tippers considering the narrow roads and high density of houses nearby. Maradu Municipality strictly insisted to Prompt enterprises should have strictly following the guidelines given to us by the National green tribunal and pollution Control board, abiding the C & D Waste Management Rules,2016 in removing and utilizing the debris from all the four sites. They are watering the roads and the debris before removing to eliminate maximum dust in the site. All vehicles will be covered while moving the debris. Prompt enterprises have at present our yard at Aroor Panchayath, Alleppey District which was vetted by the PCB and technical committee of Maradu Municipality. They have identified one more yard at Kumbalam Panchayath which is much nearer to the demolition sites.*

Further on 07.02.2020, Maradu Municipality submitted an action plan and action taken report on the debris removal stating that

*Maradu Municipality expects a total of 3000 Torres loads from the four demolition sites of Maradu. Out of which we have removed 450torres pre demolition of the flats. A total of 290 Torres and 461Eischer loads have been removed post demolition till 6<sup>th</sup> of February 2020.Considering one Torres load*



  
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**Chief Environmental Engineer**

is 4 Eischer trucks(approximation),prompt enterprises are yet to remove 2150 Torres loads from the four sites. Considering that the demolition contractor will exit by 20<sup>th</sup> of March. After segregation, prompt enterprises are getting approximately 15 loads per site every 3-4 days. Prompt will take 60 loads per day from all the four sites. Considering the above approximation, they will get a total 11 working days before the exit of the demolition contractor such as Edifice Engineering and Vijay Steels.

By the exit of the demolition contractor by 20<sup>th</sup> of March, another 650 loads will be removed from the sites (60 loads per day for 11 days working). The remaining 1500 loads will be removed by us in 25 days from the date of exit of the demolition contractor (considering 60 loads be removed in 25 days). The demolition contractor can finish the work by 20<sup>th</sup> March 2020 and the debris removal will be completed by the latest of 15<sup>th</sup> April 2020 by Prompt enterprises.

On 07.03.2020, Maradu Municipality submitted the progress of debris removal including the following details:

***No.of days worked on each site as on 07.03.2020 post demolition:***

<i>Golden Kayaloram</i>	<i>H2O Holy faith</i>	<i>Jain Coral Cove</i>	<i>Alfa Serene</i>
<i>10</i>	<i>16</i>	<i>14</i>	<i>17</i>



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**Chief Environmental Engineer**

***Total quantity of debris removed per site in Tonnes***

<i>Golden Kayaloram</i>	<i>H2O Holy faith</i>	<i>Jain Coral Cove</i>	<i>Alfa Serene</i>
<i>3789</i>	<i>14850</i>	<i>13125</i>	<i>10339</i>

*As on 07.03.2020, we have removed 42,102 Tonnes from all the four flats post demolition, which adds up to 53443 Tonnes cumulatively including the debris removed pre demolition.*

***Amount of Debris (%) remaining, number of days required to remove the remaining debris and expected finish date (approximation)***

<i>Sites</i>	<i>% debris left</i>	<i>No.of working days required</i>	<i>Expected finish date</i>
<i>Golden Kayaloram</i>	<i>10</i>	<i>7</i>	<i>15.03.2020</i>
<i>H2O Holy faith</i>	<i>10</i>	<i>7</i>	<i>20.03.2020</i>
<i>Jain Coral Cove</i>	<i>15</i>	<i>10</i>	<i>25.03.2020</i>
<i>Alfa Serene</i>	<i>15</i>	<i>8</i>	<i>25.03.2020</i>

The Secretary, Maradu Municipality submitted consolidated statement of the debris removal on 18.06.2020. In the report it is stated that from all the dumpsite the total expected tonnage was 76300 tonnes approximately, but when the work was finished the actual tonnage of debris removed was approximately 69600tonnes and the site was cleared by the service provider.



  
**BABURAJAN P.K.**  
**Chief Environmental Engineer**

The consolidation of tonnage removed from each site is as follows:

Sites	No. of loads removed	Vehicle type	Loads in tonnes
Alfa Serene	3260	Eicher	20375
H2O Holy faith	818	Torres	20450
Jain Coral cove	863	Torres	21575
Golden Kayaloram	1153	Eicher	7206

4. It is submitted that the officials from the District Offices of the Board had conducted inspections at certain disposal sites such as Maalikapeedika, Varapuzha, Madavana, Irumpanam, Palluruthy etc. and found that the waste was used for land development, sub surface road filling etc. and they had not used it for any illegal activities. The Board officials had also conducted inspection in M/s. Chundamala Granites, Choondamala in Vengola Gramapanchayath, Ernakulam where the Municipality had informed that there would be processing which was verified. It is also to be noted that the Board had issued authorisation to the agency who obtained contract for the removal of debris from the demolition site on 28.01.2020 to set up and operate 500Tonnes/day of construction and demolition waste processing facility, but no material was transferred to that site pointing out some complaints from local people.

5. It is respectfully submitted that the contractor had transferred all the debris from the demolition sites and managed the debris without causing any harm to the environment and the same was verified by the committee and Board officials even though the Municipality or the service provider had not submitted any action plan to the Board prior to demolition. It is also submitted



  
**BABURAJAN P.K.**

that the Hon'ble Tribunal directed the Board to assess the Environmental Compensation for the shortcomings noticed in the debris removal as per the Solid Waste Management Rules, 2016. The only shortcoming noticed is that the Municipality had not submitted any prior action plan for the removal of debris from the demolition sites.

6. It is submitted that as per the CPCB guidelines for levying the Environmental Compensation, the equation for calculating Environmental Compensation is as follows:

$$EC = \text{Capital Cost Factor} \times \text{Marginal Average Cost for Waste Management} \times (\text{Per day waste generation} - \text{Per day waste disposed as per the Rules}) + \text{O\&M Cost Factor} \times \text{Marginal Average O\&M Cost} \times (\text{Per day waste generation} - \text{Per day waste disposed as per the Rules}) \times \text{Number of days violation took place} + \text{Environmental Externality} \times N$$

Where; Waste Quantity in tons per day (TPD) N = Number of days from the date of direction of CPCB/SPCB/PCC till the required capacity systems are provided by the concerned authority.

$$\text{Simplifying; } EC \text{ (Lacs Rs.)} = 2.4(\text{Waste Generation} - \text{Waste Disposed as per the Rules}) + 0.02 (\text{Waste Generation} - \text{Waste Disposed as per the Rules}) \times N + \text{Marginal Cost of Environmental Externality} \times (\text{Waste Generation} - \text{Waste Disposed as per the Rules}) \times N$$

In this case the total quantity of debris generated during the demolition is 69600 tonnes and total quantity of wastes disposed by the service provider is also 69600 tonnes. Waste Generation - Waste Disposed = 0 and hence EC



calculated as per the above approved procedure of CPCB is nil. Hence the Hon'ble Tribunal may be pleased to accept the report on file and dispose the application in the interests of justice.

All the facts stated above are true to the best of my knowledge, information and belief.

Dated this the 8<sup>th</sup> November 2022.



  
CHIEF ENVIRONMENTAL ENGINEER  
**BABURAJAN P.K.**  
Chief Environmental Engineer

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**VOLUME 2**

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Dated this the 8<sup>th</sup> day of Decemberr 2022

**Adv. Rema Smrithi,**  
ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT

CHRONOLOGICAL EVENTS/ ACTIONS OF KSPCB

SL.No.	Date	Events
1	08.05.2019	The Hon'ble Supreme Court of India ordered five apartments in Maradu Municipality in Kerala to be demolished within one month, for violation of Coastal Regulation Zone (CRZ) rules.
2	07.09.2019	Letter was issued by the Environmental Engineer to Maradu Municipality directing to report the measures proposed to be taken to comply with the Construction and Demolition Rules, 2016 regarding the demolition of Maradu Flats.
3	05.10.2019	A technical committee was constituted as per Government order to assist the demolition works of the flats in Maradu Municipality, in which Environmental Engineer, Kerala State pollution Control board is a member.
4	29.10.2019	Letter was issued by the Environmental Engineer to Maradu Municipality to obtain authorisation of the Board under Construction and Demolition Rules, 2016 for handling and disposal of the salvages and debris generated during the demolition activity.
5	29.10.2019	Constituted a committee by the Board to monitor the Air and Water Quality before and after demolition
6	07.01.2020	Nine monitoring stations were fixed
7	09.01.2020	Water samples from the back waters collected for analysis for ensuring the quality before demolition.
8	10.01.2020	Air quality monitoring was conducted prior to demolition to obtain a base data.
9	11.01.2020 & 12.01.2020	Unauthorised flats situated in Maradu Municipality was demolished. Water samples from the backwater collected for analysis

10	13.01.2020	Letter issued to Secretary, Maradu Municipality directing to coordinate the debris removal activity strictly as per the C & D Waste Management Rules, 2016 and to submit the action plan and action taken report in regular basis.
11	16.01.2020	Inspection was conducted at the sites where construction debris are accumulated after demolition activities.
12	17.01.2020	Suggestions issued to the Secretary, Maradu Municipality based on the inspection conducted on 16.01.2020
13	18.01.2020	Action plan regarding the disposal of concrete debris was submitted by the service provider to the Member Secretary
14	18.01.2020	The Hon'ble Chairman, State Level Monitoring Committee (NGT) visited the demolition site at Maradu along with Chief Environmental Engineer, Regional Office.
15	19.01.2020	Report published in Mathrubumi, Malayalam news paper under the caption" The removal of debris in Maradu not according to Norms- National Green Tribunal"
16	21.01.2020	Directions issued to Vijaya Steels and Ediface Engineering (flat demolition agencies) to install water sprinkler system in all the four sites to suppress the dust dissemination from the sites.
17	22.01.2020	The Hon'ble NGT constituted a Joint Committee comprising of District Collector- Ernakulam, Sub Collector-Fort Kochi, Secretary -Mradu Municipality and Chief Environmental Engineer,KSPCB to supervise the removal works of Construction & demolition wastes.
18	21.01.2020 - 25.01.2020	Sound and Air monitoring conducted
19	23.01.2020	Water monitoring conducted to check whether the water quality of backwater is deteriorated due to demolition activities.
20	24.01.2020	State Level Monitoring Committee (SLMC) meeting was held in relation to the removal of demolition waste of the apartment complexes in Maradu.
21	25.01.2020	Inspection was conducted by the Board officials in the demolition sites

22	28.01.2020	Letter was issued to Secretary, Maradu Municipality to initiate actions on post demolition activities as per the relevant provisions of the C & D waste Management Rules, 2016 and also directed to submit the action taken report.
23	30.01.2020	The Secretary, Maradu Municipality submitted a brief plan regarding the removal and utilisation of debris generated by the demolition of flats
24	30.01.2020	Conducted inspection by the surveillance team.
25	01.02.2020	Instructions given to Secretary, Maradu Municipality to prevent further pollutin chances due to the demolition activities
26	02.02.2020	Board Officials inspected the site
27	03.02.2020	1st Meeting convened by the Joint Committee constituted by the Hon'ble NGT to supervise the removal of debris from the demolition sites.
28	05.02.2020	Inspection conducted by the surveillance team
29	05.02.2020-10.03.2020	Air and Sound monitoring conducted
30	05.02.2020	Letter issued to Secretary, Maradu Municipality , Vijay Steel & Prompt Enterprises ( service providers for concrete and steel debris removal )to submit the action taken report & proper action plan for the safe removal of debris
31	5.02.2020	The Secretary, Maradu Municipality informed that, the Prompt Enterprises removed a certain quacity of debris to the site at Anachal,Karumallur for basement filling of a godown at Anachal.
32	06.02.2020	Chief Environmental Engineer, Regional Office, KSPCB submitted interim report before the State Level Monitoring Committee (SLMC)

33	07.02.2020	Maradu Municipality Submitted an action plan report for the debris removed by Prompt Enterprises
34	07.02.2020	Conducted joint Committee meeting and after detailed discussion committee prepared
35	10.02.2020	The Secretary, Maradu Municipality submitted an action taken report ( Action taken reports of Vijaya steels & Ediface Engineering) and calendar of events regarding the removal of debris of Maradu Flat demolition and informed that the removed waste was sent to the yard of agency in Chandiroor, Alappuzha. From the yard it was taken to various godown sites at Pallippuram ,Alappuzha.
36	19.02.2020	Directions issued to Alappuzha & Ernakulam district offices to inspect the waste disposed site and to submit the report
37	19.02.2020	Inspections conducted at the sites at Madavana and Irumpanam as a part of post demolition debris disposal monitoring
38	10.02.2020,17.02.2020, 25.02.2020 & 12.03.2020	Conducted joint Committee meeting and monitored the progress of debris removal from demolition sites
39	04.03.2020	Inspections conducted at the sites at Madavana, Irumpanam and Palluruthy as a part of post demolition debris disposal monitoring
40	12.03.2020	Joint Committee filed the first report before the Hon'ble NGT
41	17.06.2020	Joint committee visited the site and instructions were given to Secretary, Maradu Municipality to ensure that entire waste fallen in the backwater were removed and transferred to the disposal locations.
42	18.06.2020	Conducted joint committee meeting
43	18.06.2020	Secretary, Maradu Municipality informed that, the debris from the demolished four flats in Maradu were completely removed and also submitted the Debris removal report including total quantity of waste removed & no of vehicles used for removal, consolidated reports & certificate of completion along with the letter.
44	15.07.2020	To check the quality of water, sample were collected from the different stations in the backwater.

45	15.07.2020	A letter was sent to the Member Secretary requesting advice and to obtain specific directions from the CPCB regarding assessment of Environmental Compensation as per the C & D Waste Management Rules,2016.
46	20.07.2020	Regarding assessment of Environmental Compensation a letter was sent to SLMC Chairman for remarks and instructions obtained from the SLMC Chairman on 24.7.2020
47	24.07.2020	Joint Committee filed the action taken report before the Hon'ble NGT
48	24.07.2020	Enquiry was conducted by the Board officials on 24.07.2020 at the site of Alfa Serene-Tower 2, Maradu and search was made in the backwater where debris has fallen due to demolition of said apartment
49	27.10.2020	Report filed by the Committee before the Hon'ble NGT
50	26.07.2020	Letter was sent to SLMC Chairman regarding the findings of inspection conducted by the Board officials on 24.07.2020
51	1.09.2020,3.09.2020,4.09.2020,8.09.2020,12.09.2020	Periodical Inspections conducted by the Board Officials to verify the progress of removal of debris from the backwater.
52	24.09.2020	Letter issued to Secretary, Maradu Municipality to submit timely action plans/ action taken reports on the removal of debris from the kayal and transferring such waste to other disposal sites.
53	30.09.2020	Hon'ble Justice A.V.Ramakrishna Pillai visited the site along with Chief Environmental Engineer, Regional office and during inspection it was convinced that the waste that fell into the kayal was completely removed.
54	13.10.2020	Secretary, Maradu Municipality informed that all the wastes were removed from the site as well as the backwater.
55	22.10.2020	Joint Committee meeting was convened to discuss the future course of action to be initiated in this case and to finalize the report of the committee.