

NEXT DATE OF HEARING: 22.03.2023
BEFORE THE NATIONAL GREEN TRIBUNAL PRINCIPAL
BENCH NEW DELHI

ORIGINAL APPLICATION NO. 147/2022

IN THE MATTER OF:

KRISHNA DAS K.V

... PETITIONER

Versus

STATE OF KERALA

... RESPONDENT

ACTION TAKEN REPORT FILED BY THE ADDITIONAL CHIEF
SECRETARY

| S. No. | <u>INDEX</u> PARTICULARS | PAGE NO |
|--------|---|---------|
| 1 | Action taken report filed by the Additional Chief Secretary. | 1-5 |
| 2 | ANNEXURE A/1 Meeting held by the Chief Secretary with the stake holder department and authorities on 3.02.2023. | 6-13 |
| 3 | ANNEXURE A/2 Field visit by this committee was conducted in Vembanad lake and the surrounding area to assess the progress on 23.02.2023. | 14-22 |
| 4. | ANNEXURE A/3 Meeting with stake holders | 23-25 |

| | | |
|----|---|---------|
| 5. | ANNEXURE A/4 Copy of the minutes | 26-30 |
| 6. | ANNEXURE A/5 Format of the action taken plan prepared by the Member Secretary | 31-34 |
| 7 | ANNEXURE A/6 Copy of the restoration plan | 35-67 |
| 8 | ANNEXURE A/7 Minutes of the meeting dated 10.02.2023 and 16.02.2023 | 68-70 |
| 9 | ANNEXURE A/8 List of units in Ernakulam District | 71-82 |
| 10 | ANNEXURE A/9 Details of fine imposed. | 83-88 |
| 11 | ANNEXURE A/10 Notice under section 33A | 89-115 |
| 12 | ANNEXURE A/11 Intimation to CPCB regarding the pollution | 116-117 |
| 13 | ANNEXURE A/12 Waste treatments on house boats and action taken against unregistered house boats. | 118-119 |
| 14 | ANNEXURE A/13 A copy of the letter | 120-123 |
| 15 | ANNEXURE A/14 A copy of the minutes and letter for further action to be taken | 124-127 |

| | | |
|----|---|---------|
| 16 | ANNEXURE A/15 Steps to be taken to finalize coastal zone management plans | 128-129 |
| 17 | ANNEXURE A/16 Materials removed from Ashtamudi and Vembanadu lake. | 130-132 |
| 18 | ANNEXURE A/17 The projects initiated by the local self Government for abating pollution. | 133-157 |
| 19 | ANNEXURE A/18 Analysis report for Vembanad Lake for the year 2022. | 158-165 |
| 20 | ANNEXURE A/19 Latest analysis report of Ashtamudi lake for the month of February 2023 | 166 |

FILED BY: NISHE RAJEN SHONKER FOR STATE OF KERALA



Action Taken Report filed by Additional Chief Secretary to Government, Environment Department, Government of Kerala, before the Hon'ble National Green Tribunal in OA No.147 /2022.

Krishna Das K.V Applicant

Versus

State of Kerala Respondent

It is submitted that this Hon'ble NGT vide order dated 6-1-2023 in OA 147 of 2022 directed the State Government to submit a meaningful and effective action taken report showing compliance to the order dated 23.08.2022 effectively and steps taken by it on the ground level.

2. It is submitted that taking stock of the importance of the situation and to evolve a restoration plan , earnest efforts were taken / being taken at Chief Secretary and Additional Chief Secretary (Environment) level for the abatement of pollution of Ashtamudi and Vembanadu Wetlands . Vemaband lake and Ashtamudi lake are situated in the urbanized area of the Kerala State. One Corporation, seven Municipalities and 35 panchayaths are situated near the Vembanad lake and One Corporation and 11 panchayaths are situated near to the Ashtamudi lake.

3. The monitoring Committee was constituted vide G.O (Rt)No.95/2022/Envvt. dated 13.12.2022 as per order of this Hon'ble NGT dated 23.08.2022 . The Committee meetings were conducted on 21.12.2022, 4.1.2023, 23.01.2023 and 25.2.2023. A meeting was held by Chief Secretary with the stake holder departments and authorities on 3.2.2023 in this regard (**Minutes in Annexure-1**) . Field visit by this committee was conducted in Vembanad lake and the surrounding area to assess the progress on 23.02.2023. A copy of the field visit report is attached as **Annexure-2**).

4. It is submitted that since the issue requires multi departmental level intervention, meetings with the stakeholders namely Kerala State Pollution Control Board(KSPCB), Kerala Water Authority(KWA) Sewerage circle, Irrigation Department, Regional Joint Director Of Urban Affairs, Ernakulam, Harithakeralam Mission, Suchitwa Mission, Greater Cochin Development Authority (GCDA), Kochi Municipal Corporation, Kochi Metro Rail Limited (KMRL), Kalamassery Municipality were conducted on 11.01.2023 and 21.01.2023(**Annexure-3**). Public awareness programme was also conducted on 21.01.2023 for creating awareness among the Kerala Hotel & Restaurant Association (KHRA), Residents Associations Apex Council and representatives of the Establishments/Residential apartments on the need to protect water bodies.

Copy of the minutes is submitted as **Annexure- 4.**

5. It is submitted that a format for action plan for restoration of two Ramsar sites was prepared by the Member Secretary, Kerala State Pollution Control Board , and circulated among Kochi and, Kollam Corporation, Municipalities, and Gramapanchayaths vide letter dated 18.1.2023(**Annexure- 5**) .Separate restoration plan was prepared for each urban local bodies and for Gramapanchayaths. Copy of the restoration plan is attached as **Annexure-6.** Meetings via video conferencing conducted by KSPCB for all municipalities and Grama panchayaths and the urgent need to provide proper waste management facilities was brought to their attention on 10.02.2023 & 16. 02.2023. Minutes of the meeting is attached as **Annexures- 7.**

6. It is submitted that in order to stop the discharge of untreated waste water from establishments, inspections were conducted by the local bodies and the KSPCB to identify the apartments/establishments located along the banks of the canals and along the banks of the drains leading to the canal. Notices were issued by the local bodies and the KSPCB to flats, commercial establishments, hotels, resorts, house boats, industrial units etc., which have not provided sewage treatment facilities to ensure that liquid waste is treated to the prescribed standards. Board has taken actions in this regard and 1176 notices under the provisions of Water Act has been issued to apartments/ hotels/ houseboats/ industrial units for not having valid consent from the Board/ no sewage treatment plant / non functional sewage treatment plant so far. In Alappuzha district a total of 790 notices were issued including Closure Intention Notice and Consent Withdrawal Intention Notice were issued to 624 houseboats, 112 Closure Intention Notices and 54 Show Cause Notices were issued to other units including peeling shed/ resorts/ hotels for illegal discharge (unauthorized units) coming into the water bodies reaching Vembanad lake. A total of 167 apartments/ restaurants are served notice in Ernakulam district. The list of the units in Ernakulam district is submitted as **Annexure-8.** In Kottayam notices were issued to 215 units including 106 house boats and 109 apartments/ hotels/ restaurants/ auditorium/ lodge/ service station/ nursing homes. In Kollam district ,2 Closure Intention Notice and 2 show cause notices were issued to units functioning without Consent & not having proper STP. Direction was also issued to Secretary, Neendakara Grama Panchayath as wastewater discharge was noticed from fish peeling sheds in Neendakara.

7. It is submitted that 209 notices were issued by LSGIs based on the inspections conducted both day and night for not providing STP and not functioning STPs. 1939 illegal outlets were closed by LSGIs. A total amount of Rs.1,74,82,635/- was imposed as fine against illegal dumping of wastes ,single use plastic and illegal outlets . The details are given as **Annexure- 9.**

8. The Board issued Notice under Section 33A of the Water (Prevention and Control of Pollution) Act, 1974 to Kochi Corporation, Kollam Corporation and to seven Municipalities namely Vaikom, Thrippunithura, Marad, Cherthala, Alappuzha, Aluva and Kalamassery to show reasons for not levying Environmental Compensation for the failure to prevent the pollutants being discharged in water bodies and failure to implement waste management act/ rules, as per order of Hon'ble NGT in OA No. 593/2017(**Annexure-10**).

9. Setting up of waste treatment plants.

It is submitted that in the meeting held by Chief Secretary on 3.2.2023 decision was taken for the speedy implementation of STP / ETP / PSTP projects so as to treat the rubbish solid and liquid wastes at root level. The implementation of these projects (noted below), its progress etc, are reviewed on a monthly basis by Chief Secretary in the meeting of River Rejuvenation Committee and Stake holder Departments/ Authorities as per projects taken up in the matter of another NGT Order in OA No. 673 of 2018.

(a) 12 MLD STP Plant at Kurrepuzha.

It is submitted that steps have been initiated to remove the legacy waste at Kureepuzha, one of the major causes of pollution of Ashtamudi and it is in the final stage. 76 % of the work has been completed.

(b) STP at Elamkulam

It is submitted that in Kochi, besides the two septage treatment plants at Brahmapuram and Wellington island, there are two common STPs (5 MLD STP at Elamkulam of Kerala Water Authority and 750 KLD STP of GCDA at Kaloor) and at present only 3 MLD capacity is utilized in Elamkulam plant and 30 KLD in Kaloor plant. For the full utilization of common STPs at Elamkulam and Kaloor, actions taken by Kerala Water Authority and GCDA are progressing and expected to complete by 31.05.2023. Registration of private tankers for carrying sewage from establishments which have no treatment facility to the above common STPs has been started. Direction issued by the Government to complete the registration along with GPS tracking system by 13.04.2023. This will lead to reduction of untreated effluent reaching the lake thereby improving water quality. The matter is being closely monitored. Desilting of Edappalli canal is also progressing.

Railway station at Ernakulam Junction is identified as one of the major contributor of pollution in Perandoor canal. Though Integrated Consent to Operate was issued to Railway station at Ernakulam Junction valid upto 31/03/2023 with a condition to set the Sewage Treatment Plant, STP is not yet provided and also the area behind the loco shed situated in the South Railway station is contaminated with oil. Several instructions/ notices had been issued to the railway authorities from the Board. No action has been initiated for the remediation of oil contaminated area till date. The matter has been brought to the notice of the Central Pollution Control Board.(Annexure-11).

(c) House Boats

It is submitted that to find out unauthorized house boats, the Port office Alappuzha was instructed by the Board on 22.12.2022 for providing list of house boats and as per reply 821 houseboats are registered under Alappuzha and Kottayam district. Instruction was then given on 16/02/2023 to District Tourism Promotion Council Kollam, Alappuzha, Kottayam and Kerala Maritime Board to ensure treatment of wastewater generated in house boats and to take action against unregistered houseboats(Annexure-12). Meetings were also conducted



for stake holders namely, Tourism Department, KSPCB and all Houseboat Owners Association and decided that the food and plastic wastes from houseboats are to be collected by an authorized agency, appointed by DTPC.

(d) ETP in Railway stations

It is submitted that DPRs prepared by Kochi Metro Rail Limited duly vetted by CUBE-IIT Chennai for STPs and sewer line at Mullar, Perandoor, Vennala, Elankulam for an amount of Rs.324.28 Crore, Rs.232.68 Crore, Rs. 499.26 Crore, Rs.367.63 Crore respectively were forwarded to the Secretary, Ministry of Jal Sakti for the consideration of getting fund under NRCO. These STPs will lead to great improvement of water quality of the canals and water bodies connected to Vembanad lakes. Copy of the letter is attached as **Annexure-13**).

10. As per the order of Hon'ble NGT (SZ) in OA 27/2021 dated 02.02.2023, it is directed that temporary measure like Phytoid Wastewater Treatment Technology which is developed by the NEERI can be considered till the completion of permanent works. Accordingly NEERI was addressed for reporting whether the study can be taken up by NEERI and they expressed willingness to provide scientific and technical support. Further NEERI officials made an online presentation on 13.03.2023 to the officials of local bodies, Suchitwa mission and KSPCB. The Director, NEERI has been addressed for providing support by sending concerned Scientist to the state to study the suitability of such projects in Kerala condition. Copy of minutes and letter is submitted as **Annexure-14**. Further action is being taken in this regard.

11. Coastal Zone Management Plan-2019

It is submitted that steps are being taken to finalize coastal zone management plan of 10 coastal Districts in the state. The task has been assigned to NCESS (National Centre for Earth Science Studies). It is expected that NCESS shall submit the draft plan by the end of June 2023 (**Annexure-15**).

12. Materials removed from Ashtamudi and Vembanadu Lakes

It is submitted that the Clean Kerala Company Limited (CKCL) has collected legacy materials, recyclable materials from the local bodies surrounding Ashtamudi and Vembanadu Wetlands. The CKCL from 2020-21 to 2022-23 has collected a total of 977678 Kg from Ashtamudi and 2885475 Kg waste from Vembanadu lakes (**Annexure - 16**)

13. Projects by local body institutions.

The local self governments have initiated effective projects for abating pollution of Ashtamudi and Vembanadu lakes through various projects (**Annexure -17**).

14. Regarding monitoring of the plan, it is humbly submitted that earnest efforts were being taken to ensure the water quality of the lakes within limit on monthly basis by KSPCB as given below:

| Lake | Stations | Parameters | frequency |
|---------------|----------|-------------------------|-----------|
| Vembanad lake | 11 | pH, EC, DO, BOD, TC, FC | Monthly |

5659506/2023

| | | | |
|----------------|---|-------------------------|---------|
| Ashtamudi lake | 5 | pH, EC, DO, BOD, TC, FC | Monthly |
|----------------|---|-------------------------|---------|

15. The analysis report for Vembanad Lake for the year 2022 is attached as **Annexure-18**. As per the Primary Water Quality Criteria for Bathing Water, Fecal Coliform count of 500MPN/100ml is desirable, with a value of 2500MPN/100ml being maximum permissible limit. Thus with respect of annual average Fecal Coliform Count for the year 2022, all the locations can be classified as 'B', ie, for organized outdoor bathing. The latest analysis report of Ashtamudi lake for the month of February 2023 is attached as **Annexure-19**.

Thus it is humbly submitted that earnest efforts are being taken to safeguard the wetlands (including RAMSAR sites) and it is requested that the above action taken report in compliance to the orders dated 23.08.2022 and 6.01.2023 of this Hon'ble Tribunal may be accepted.

Dated this the 21st day of March 2023 .



[Handwritten Signature]
 Dr. [Name] IAS
 Additional Secretary
 Environmental Departments
 Government of Kerala
 Thiruvananthapuram

Minutes of the meeting chaired by the Chief Secretary on 03/02/2023 with regard to the pollution issues in Ashtamudi & Vembanad kol wetlands in view of the orders issued in O.A. 147 of 2022 by the Hon'ble NGT

The meeting commenced at 12:00 noon with the Chief Secretary presiding. The meeting was attended by the following officials: Principal Secretary, LSGD, Secretary, Water Resources Department, Managing Director, Kerala Water Authority, Directors of Panchayats, Urban Affairs, Inland Navigation & Tourism Departments, Commissioner, Land Revenue, District Collectors of Kollam, Kottayam & Thrissur, Deputy Collectors of Ernakulam & Alappuzha, CEO, Kerala Maritime Board, Chairman & Member Secretary, Kerala State Pollution Control Board, Secretaries of Kochi & Kollam Corporations and other officers concerned.

Vide order dated 06/01/2023 in O.A 147/2022 (PZ), the Hon'ble National Green Tribunal has granted 2 months time to the State for filing a meaningful and effective action taken report showing compliance of Tribunal's order dated 23.08.2022 and the steps taken at the ground level to curb the continued damage caused to the Astamudi & Vembanad lakes (Ramsar sites of international importance) and to come up with a restoration plan by the Monitoring Committee constituted by the Tribunal.

Chief Secretary reiterated the order dated 01.12.2022 of the Hon'ble NGT in O.A 606/2018 (PZ), wherein the Tribunal have refrained from imposing environmental compensation on the State on the basis of the commitments made by the State for bridging the gap in both solid & liquid waste management. The State is committed to implement the same and is also required to file 6 monthly reports before the Tribunal, the first report being due by the end of May, 2023. For filing the report the State has to achieve tangible results in waste management sector in a very short period.

Following decisions/suggestions were made after detailed discussions & deliberations:

1. Activities to be taken in Mission mode to bridge the gaps :

As the activities required to be taken up in bridging the gap in the waste (both liquid & solid) management sectors are very challenging in nature, the Chief Secretary insisted that all Departments & authorities concerned shall take up the matter in a mission mode. Principal Secretary, LSGD informed that the State is committed to complete 10 treatment plants by May 2023 and another 40 numbers by the end of December 2023. Chief Secretary directed that if consent of any related Department is not forthcoming for implementing projects the same shall be brought to the notice of higher authorities. The issues may be taken up at the cabinet level also to resolve the impasse, as the projects on waste management are of utmost importance.

(Action :LSGD, WRD, Evt, KWA, FIN)

2. STP at Elamkulam

MS, KSPCB informed that about 88 polluting sources were identified during KSPCB's inspection. Out of this, 50 units have no STPs and no consent from the Board. Many point sources are having land constraints in providing STPs. MS suggested that, as it may take about 1 year to lay the sewer network as informed by KWA during the meeting, to utilise the entire 5 MLD capacity of the plant (now established) at Elamkulam it may be practical to transport the wastewater (sewage & sullage) from the pollution sources now identified to the plant through the tankers for minimising the pollution load as a temporary measure until the construction of sewer network is completed and further plants being established by KWA. The NGT has asked the State Government to intervene and to find a solution for such issues, wherein establishments were constructed long back and have no STPs, vide order dated 02.01.2023 in O.A. No. 27 of 2021(SZ). The Chief Secretary directed the MD, KWA to consider the matter.

8

(Action: KSPCB, KWA, WRD, ENVT, Kochi Corporation)

3. CSTP of GCDA at Kaloor:

MS, KSPCB informed that the unit with plant capacity (750 kld) is underutilised (only 30 kld is utilised). Kochi Corporation and GCDA were instructed to fully utilize the plant by collecting wastewater through tankers from polluting sources. Now GCDA has entered into MOUs with agencies to utilise the balance capacity. Chief Secretary enquired whether GCDA can provide sewerage network to the existing plant for complete utilisation of the STP. Kochi Corporation & GCDA may look into that aspect as well.

(Action: Kochi Corporation, GCDA, KSPCB)

4. Registration of tankers and online tracking system:

Kochi Corporation shall take urgent steps to register all unregistered wastewater tankers plying in the area and to implement online tracking system.

(Action: Kochi Corporation, LSGD)

5. STP proposals of KMRL:

DPRs prepared by KMRL duly vetted by CUBE- IIT Chennai for four STPs [(A). Muttar- 16.5 MLD- ₹ 324.28 Cr. (B). Perandoor- 19 MLD- ₹ 232.68 Cr. (C). Vennala- 24 MLD- ₹ 499.26 Cr. (D). Elamkulam- 17.5 MLD- ₹ 367.63 Cr.] were forwarded to the Ministry of Jal Shakti for funding under NRCP scheme. Chief Secretary directed the Secretary, Water Resources Department to immediately follow up the matter with Ministry of Jal Shakti.

(Action: WRD, KMRL)

6. Proposed STPs at Kochi:

Secretary, Kochi Corporation informed that work was awarded under AMRUT scheme for an STP at Edakochi (Divison- 16). Public protest was there against the project. Mayor intervened and its now decided to move forward with the project. The proposed STP at Division 1-4 under Cochin Smart City was dropped due to the public protest. The proposed 2 MLD STP

is now to be implemented for 1 MLD capacity as sanction for only 1 MLD was issued by Suchitwa Mission. Chief Secretary directed the Departments/Authorities to expedite the procedures and complete the projects at the earliest.

(Action: LSGD, AMRUT, Suchitwa Mission, DC, Ernakulam, Kochi Corporation)

7. Pollution issues at Ernakulam South Railway and Loco sheds:

KSPCB reported that Railways were instructed to provide STP/ ETP and also to facilitate proper disposal of waste containing oil from loco shed.

(Action: KSPCB, Railways)

8. Waste management issues of houseboats:

KSPCB conveyed that 865 houseboats have board's consent. Presently only some quantity of wastewater is taken to CSTP of 90 KLD maintained by DTPC at Kumarakam, Kottayam. District Officer, KSPCB Kottayam informed that as per inspections done, it is seen that only a few houseboats are utilising the CSTP plant. Chief Secretary expressed dissatisfaction in the state of affairs and directed that urgent necessary action shall be taken by both the ports and KSPCB to address the issue. Chief Secretary directed the port authority to check the logbook details and ascertain the number of houseboats registered, quantity of waste generated and quantity of waste disposed at CSTP. The Maritime Board, Ports Department and KSPCB shall continuously inspect the waste management of houseboats on a routine basis. DTPC, Port Department and District Collectors concerned shall get the details of houseboats (numbers, registered, unregistered, consented, not consented), details of waste generated & disposed and the gist of data entered in the logbook and issue necessary directions as per the findings to bring the violators to book and to prevent further pollution of the waterways. CSTP at Alappuzha is to be made operational at the earliest. Action in this regard is to be expedited. DC, Alappuzha shall follow up the matter.

(Action: PORTS, DTPC Kottayam, KMB, KSPCB, District Collectors of Alappuzha, Kottayam, Ernakulam, Thrissur and Kollam)

9. FSTP at Cherthala :

Director, Urban Affairs conveyed that the FSTP project at Cherthala can be expected to take off by next week. Case against the project is pending before the Water Appellate Authority.

(Action: DUA, LSGD)

10. CETP Aroor:

Industries Directorate reported that stay continues in WPC. Action shall be taken immediately to get the stay vacated. Chief Secretary directed that such issues may be brought to the notice of NGT!

(Action: Industries Directorate)

11. STP at Kottayam:

Principal Secretary, LSGD informed that there is a proposal for an STP at Kottayam Medical College with almost three times the capacity of that required by the KMC. The facility may be helpful in catering to the needs of nearby localbodies as well and so LSGD has addressed Medical Education in this regard as the land is with DME. Chief Secretary directed the concerned to expedite the procedures and to materialise the project.

(Action: LSGD, H&FW, DC KTM)

12. Biomining at Kottayam Municipality:

District Collector informed that the biomining activity at Kottayam Municipality was halted long ago due to public protest. Chief Secretary directed the Departments/Authorities concerned to restart the biomining activities to ensure compliance to the Rules. DC shall look into the same and monitor progress.

(Action: LSGD, DUA, KSPCB, DC Kottayam, Kottayam Municipality)

13. STP at Kureappuzha:

KSPCB reported that 76 % of the STP work has been completed. The work related to the sewer network is still pending. MD, KWA informed that tender procedures have been initiated and even after splitting the sewer network project works, bidders have not shown interest. The Chief Secretary

directed MD, KWA to revise the rates after proper scrutiny. If new rate policies are required that may be taken up at appropriate levels with adequate details showcasing genuine reasoning.

(Action: KWA, WRD)

14. Cleaning of canals and closing of illegal outlets to the canal:

Progress made by Kochi Corporation in cleaning canals was noted. Chief Secretary directed that the LSGIs shall conduct regular monitoring of canals. The illegal outlets shall be closed. Legal actions against the perpetrators shall be initiated including levying of fine.

(Action: LSGD, LSGIs)

15. Solid Waste Management data collection & Notice and fine collected by local bodies:

The details of notices issued and fine collected by the local bodies adjacent to the Vembanad and Ashtamudi wetlands were presented. It is seen that many local bodies have not entered data in the spreadsheet provided for data collection on waste management. Chief Secretary directed Directors of Panchayats and Urban Affairs to follow up and ensure that the data provided by the LSGIs via google sheets/ spreadsheets are genuine. DDPs & Secretaries of LSGIs shall be instructed to look into this matter.

(Action: LSGD, DUA, Directorate of Panchayats, DDPs, LSGIs)

16. Environmental Compensation notice/direction issued by the Board:

KSPCB reported the details of Environmental Compensation notice/direction issued to the LSGIs as ordered by the NGT for violation of the Solid Waste Management Rules. It was noted that many of the notices were stayed by the Hon'ble High Court in WPCs filed by LSGIs. The Chief Secretary expressed dissatisfaction over filing WPCs by a Government Department/Authority against another Department/Authority without trying to resolve the disputes, if any, through the committee of Secretaries of Government as instructed in State Government Orders already in force. The

State Government have issued orders constituting dispute resolution committee for settlement of disputes between various Departments/PSUs/Corporations/Local Self Government Institutions. This was intended to avoid unnecessary litigations and to save time and effort in that regard and also to prevent revenue loss to government exchequer.

In the above case, the Chief Secretary directed the LSGD to enquire whether such formalities have been complied to and to take necessary action based on the enquiry report.

(Action: LSGD, DUA, LSGIs, KSPCB)

17. Awareness programs:

Chief Secretary directed the Departments/Authorities concerned to conduct awareness programs/ workshops/ seminars/ presentations/ group discussions/quiz programs etc for the students at schools in the State on the importance of conservation of nature, handling of various types of wastes, legal forums/framework/ authorities related to environmental management (their roles & responsibilities), complaint redressal mechanisms, the role and duties of individuals in waste management etc. The fundamental duty of the citizen to protect the environment shall be highlighted. The field visit to the waste management facilities from schools shall also be considered/encouraged. The service of subject experts can be availed for the above activities. Sensitising the public and children in the sensitive areas wherein protests against setting up of waste management projects have erupted may be helpful in conveying the message on good initiatives in waste management.

(Action: LSGD, GED, LSGIs, Suchitwa Mission, KSPCB)

18. Filing report before the Tribunal:

The Environment Department may file a detailed action taken report as instructed vide order dated 06/01/2023 of NGT in OA No. 147/2022 (PZ). The Monitoring Committee may meet as required and shall review the actions and shall come up with necessary restoration plan. Personal appearance of the

ACS, Emt is also sought by NGT.

(Action: ENVT)

Meeting came to a close by 01:00 PM

Dr. V. P Joy

Report on Site Visit conducted by Committee members on 23-2-2023 in connection with orders of Hon'ble National Tribunal in OA 147/2022 on Vembanad lake and Ashtamudi lake

The Committee members visited the Vembanad lake and its surrounding area on 23-2-2023. Member Secretary, Kerala State Pollution Control Board; Director, Directorate of Environment and Climate Change, who is also the Member Secretary of SWAK and Kerala Coastal Regulation Zone; Directorate of Urban local bodies; Directorate of Panchayaths; District officials from Pollution Control Board, Industries department, local bodies were present during site visit. Prior information regarding the site visit was already conveyed to all committee members. All members except representatives from Tourism and Central Pollution Control Board were present. Central Pollution Control Board informed the inability to attend the meeting due to short notice.

1. Pallathuruthy, House boat landing area, Alappuzha Municipality(Fig.1)

The committee visited the houseboat landing area at Pallathuruthy. During visit, it was reported that Muthoot is having nine houseboats of which five are operational and the wastewater is collected in a collection tank and is diverted to sewage treatment plant for treatment. For the other houseboats, no such arrangements are provided at the site. Health official from the Alappuzha Municipality informed that they had already arranged a meeting with Houseboat association and Pollution Control Board on 24-2-2023. It was instructed to have arrangements for treatment of waste water from houseboats and to make arrangements for the collection of segregated solid waste from landing area to authorised collectors namely Haritha Karma Sena.



Fig. 1 Houseboat landing area, Pallathuruthy, Alappuzha

2. DEWATS system, Chathanad(Fig.2)

DEWATS system provided at Chathanad was visited. It is a decentralised waste water treatment system provided for a slum area with fifty houses. It consists of Anaerobic Baffle Reactor and constructed wetland and the maintenance cost is very low for such system. This system is operating for more than three years continuously. Health official of Alappuzha Municipality informed that they are providing such system at Alissery slum and Zakariah Bazar.

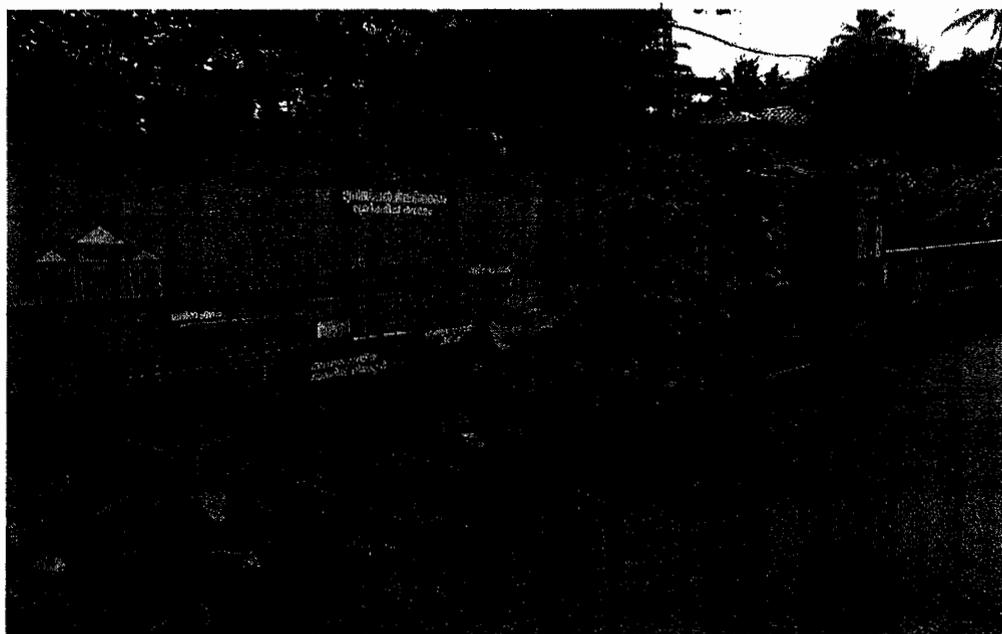


Fig.2 DEWATS, Chathanad, Alapuzha

3. Punnamada Finishing point of DTPC

There was no official from DTPC present at the site and hence was not able to discuss with them on the issues. The Officials from Alappuzha municipality were present at the site. Many big houseboats were seen landed in this area. The lake water in this area was seen polluted with waste water and plastic. The information regarding the disposal of waste water from these houseboats could not be collected due to the absence of officials of DTPC. Though a shed for thumboormuzhi was provided by Municipality in the premises, it was seen not utilised.

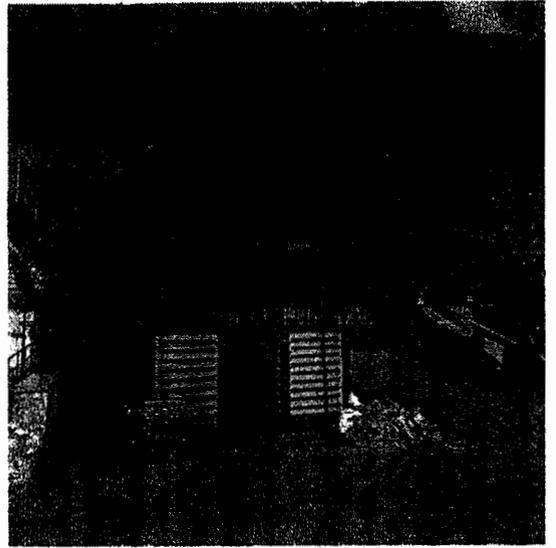


Fig.3 Houseboat landing area, Punnamada

4. Alappuzha Cherthala Canal

Alappuzha Cherthala Canal was seen covered with vegetation and there was no flow of water in this canal.

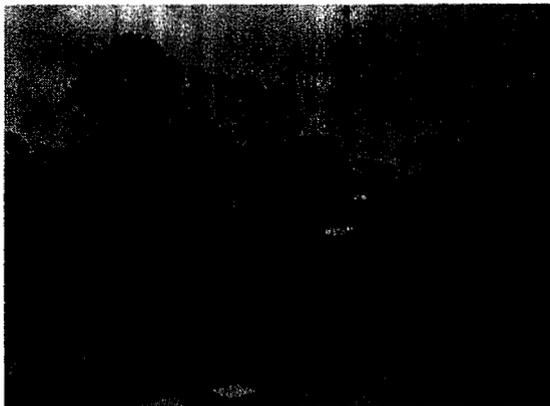


Fig.4 Alappuzha-Cherthala Canal

5. Faecal Sludge treatment plant, Cherthala (Fig.5)

The President, Vice President, Council Member and officials of Cherthala Municipality were present at the site. The construction of FSTP started and it was informed that the plant will be commissioned in eight to ten months. Material collection facility of

Municipality is seen provided near the site and electric auto was also seen provided for the conveyance of plastic waste.

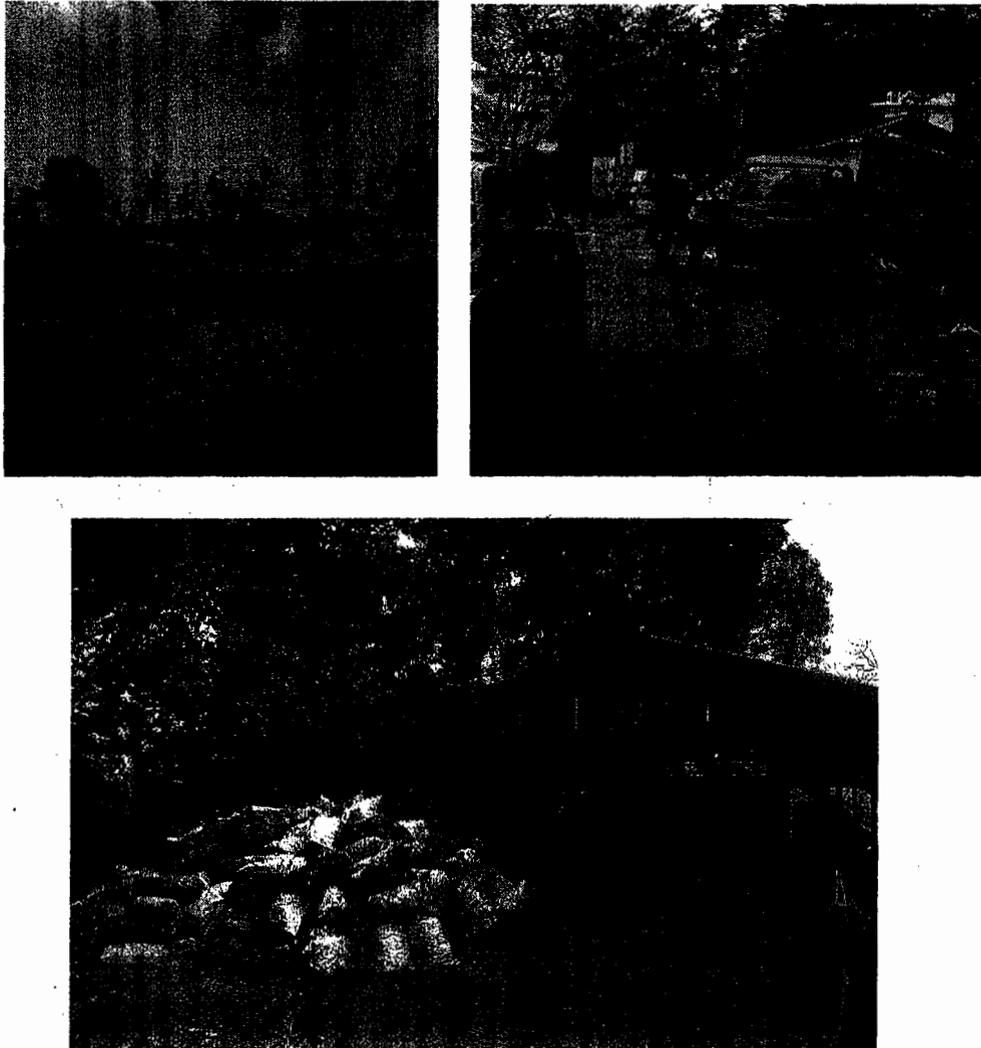


Fig. 5 Cherthala Municipality FSTP, MCF, e-auto

6. Mega Food Park, Aroor-2 MLD CETP(Fig.6)

The committee members visited the Mega Food Park of KSIDC at Aroor. It is a 2MLD plant consisting of chemical addition, MBBR and filter press. Five factories have already been connected to this treatment plant and 500KLD is treated in CETP. The representative informed that action is taken to divert waste water from other factories to CETP. They were asked to report on the utilization of treated effluent.

18

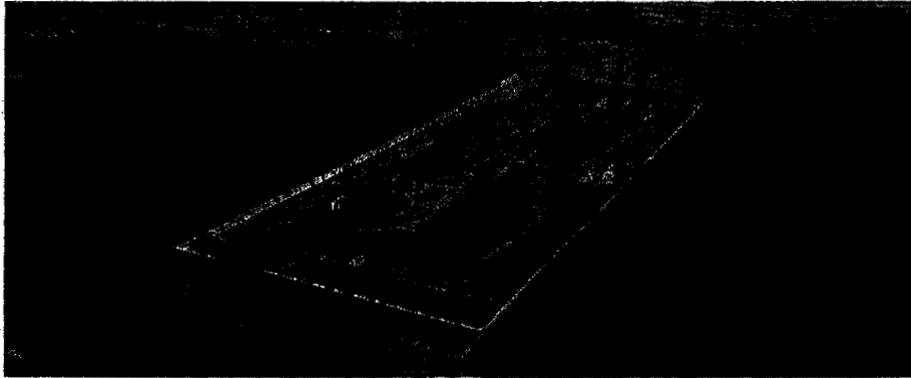


Fig.6 CETP Mega food park, Aroor

7. Littering on road sides

Littering of solid wastes was observed on the road sides of Eramalloor paanchayath, Thykkattussery, and Chandiroor and also observed on the road sides of Oachira Municipality and also at Thammanam near HO petrol pump of Kochi Corporation.

8. Sea food factory, Keltron kadavu (Fig.7)

The committee members visited the CETP of sea food factory at Keltron Kadavu. It is also working underutilized.



Fig.8 Sea food factory-CETP, Aroor

9. Vembanad lake, Keltron kadavu(Fig.8)

Keltron kadavu of Vembanad lake, which is one of the water quality monitoring stations was visited. Some peeling units are situated near the drain in this area. This is an area having tidal influence.

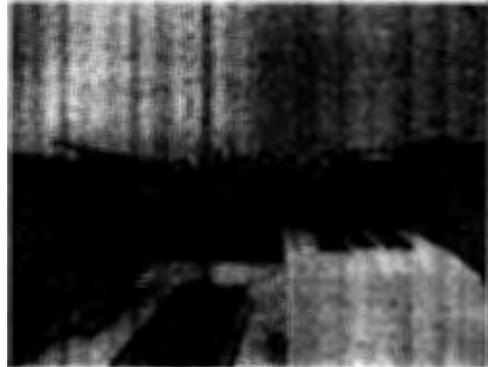
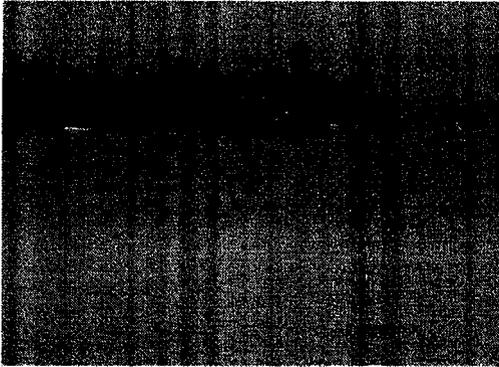


Fig.8 Vembanad lake-Keltron kadavu

10. Aroor Industrial estate

The official from Aroor panchayath informed that there is discharge of waste water from the units in this area. It was instructed to have a joint inspection of Pollution Control Board, DIC and Panchayath in these units and to take action accordingly.

11. Apartment near Edappally thodu (Fig.9)

The Committee members visited an apartment near Edappally thodu, which was constructed before 2006 and having space limitation. The resident of the apartment informed that they have blocked the discharge into the canal. Also they informed that area near the lake has been acquired for the project of Water Metro.

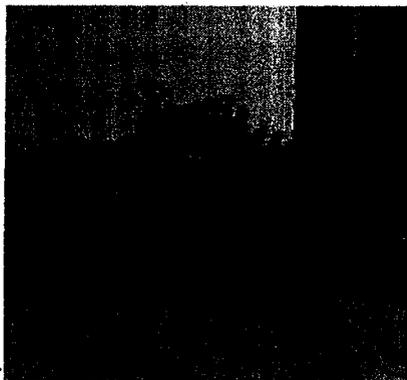


Fig. 9 Apartment near Edappally canal

12. 750KLD GCDA plant, Kalloor (Fig.10)

The Committee members visited the GCDA plant at Kalloor. It is a 750 KLD plant of which only they are getting 30KLD. As they were taking waste water from hotels, high content of oil, maida created problems to their plant and is being rectified. Kochi Corporation officials and GCDA were asked to take action for the complete utilization of CSTP. The Additional Secretary, Kochi Corporation was asked to explore the possibility of full utilisation of CSTP by bringing waste water from nearby flats and hotels. Additional Secretary, Kochi Corporation informed that byelaw for registration of tankers and online tracking will be placed in the Council meeting on 28th February, 2023 and after that action will be taken for registering tankers.



Fig.10 CSTP GCDA, Kalloor

13. 5MLD plant of Kerala Water Authority at Elamkulam (Fig.11)

5 MLD plant of Kerala Water Authority at Elamkulam was visited. 3MLD waste water is reaching this plant and the plant is seen underutilized with a gap of 2 MLD. The Additional Secretary, Kochi Corporation was asked to explore the possibility of full utilisation of CSTP by bringing waste water from nearby flats and hotels. KWA official reported that Administrative sanction was obtained for dilution tank and will be commissioned by 31.05.2023 by modifying existing tank. The Additional Secretary Kochi Corporation informed that Counsel meeting for bye law of online tracking will be held on 28.02.2023 and after that action will be taken for registering unregistered tankers.

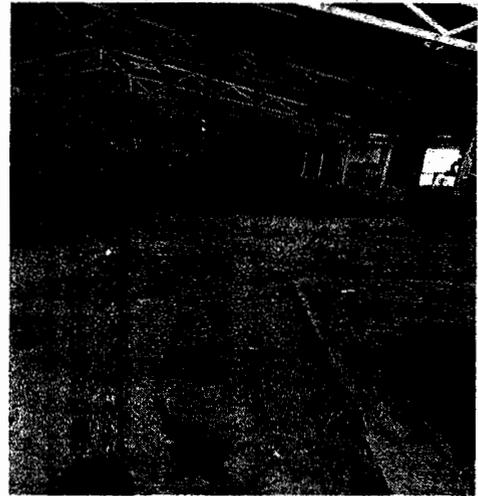
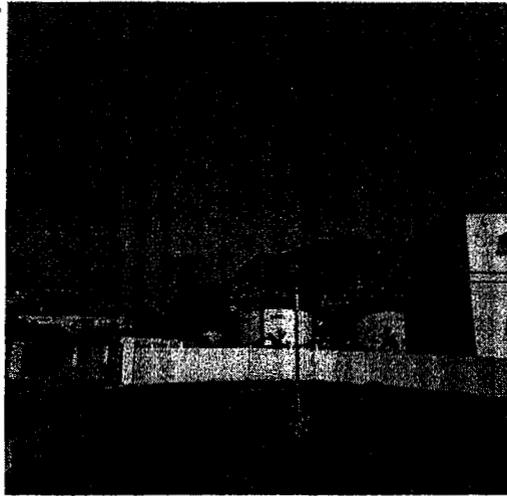


Fig. 11 CSTP of KWA, Elamkulam

14. Thanneermukkom barrage (Fig.12)

In the area near Thanneermukkom barrage, a large quantity of plastic wastes were seen littered. There was no bin provided the street vendors in this area. As per the Solid waste management rules, bins are to be provided by street vendors and the collected waste is to be collected by the concerned local body.

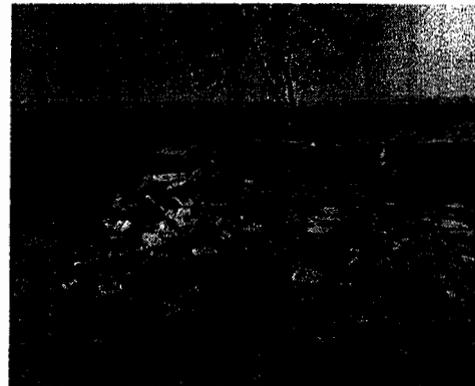
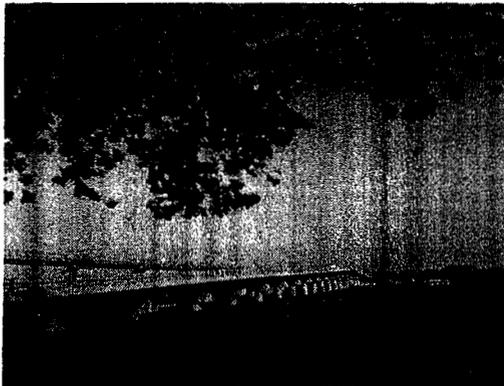


Fig.12 Thanneermukkom barrage

15. Common STP at Kumarakom for houseboats

Common STP for houseboats is having a capacity of 125 KLD. But only 25 KLD is treated here. This CSTP is also seen underutilized.

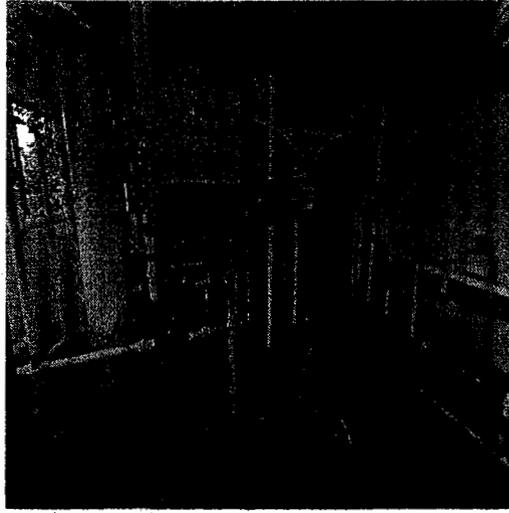


Fig.13 Common STP for houseboats at Kumarakom

Major observations:

1. CSTP of Kerala Water Authority at Elamkulam; CSTP of GCDA at Kaloor; CSTP at Kumarakom and CETP of Megafood park and Sea food park are seen underutilised and the same are to be made fully utilized.
2. Action is to be taken for the abatement of pollution from industrial units namely sea food processing units in Alappuzha by the joint efforts of DIC, PCB and local bodies.
3. Urgent action is required in the case of houseboats on the disposal of waste water and solid wastes by DTPC.

27-2-2023

Shiraj
Member Secretary

Minutes of the Meeting conducted at 2.00 pm on 11/01/2023 regarding Perandoor Canal in O.A No. 27/2021

The meeting commenced at 2.00 pm with the Chairman presiding. The following officers were present:-

- | | | |
|---------------------------|---|---|
| 1. Dr. Sheela A M | - | Member Secretary |
| 2. Sri. Baburajan P.K. | - | Chief Environmental Engineer, Regional Office, Ernakulam |
| 3. Smt. Bindhu V. Gopal | - | Senior Environmental Engineer-1, HO |
| 4. Smt. Sreelakshmy P. B. | - | Environmental Engineer, DO-I, Ernakulam |
| 5. Smt. Ramya G | - | Environmental Engineer-1, HO |
| 6. Smt. Bincy B.S. | - | Environmental Engineer-3, HO |
| 7. Smt. Pravitha P.K. | - | Assistant Environmental Engineer-1, HO |
| 8. Smt. Shahna | - | Assistant Environmental Engineer, RO |
| 9. Smt. Nazni N | - | Assistant Engineer-17, HO |

The Chairman discussed about the latest NGT order dated 02/01/2023. Hon'ble NGT has directed the concerned authorities to file report before 02/02/2023. The Environmental Engineer, District Office-I, Ernakulam informed that there is no industrial discharge to Perandoor Canal. Only sewage contamination has been reported in the canal, for which the local body should initiate action. The Member Secretary enquired about the units namely flats, hotels, hospitals, malls for which the Board issued consent and on compliance status of such units. Environmental Engineer, DOI informed that some units are complying with standards. It was informed that Ernakulam Railway (South) has not provided waste water treatment plant and also pollution problems exists from their Locomotive plant. The Member Secretary informed that Kochi Corporation was earlier directed to ensure that there are no waste water outlet pipes into the drains in connection with direction of OA 147/2022 which pertains to Vembanad lake. Regarding the utilization of existing sewage treatment plants at Elamkulam of Kerala Water Authority and that of GCDA at two places namely Kaloor and Palarivattom, it was reported that same is only partially utilized. Waste

water from flats, hotels in nearby areas can be brought to these STPs for full utilization. Environmental Engineer DO1 reported that action has been taken to prevent the discharge of any waste water from Kaloor slaughter house, as the same is taken to Brahmipuram Septage plant through tankers. The need to give separate treatment for sewage and sullage so that fecal coliform is not reaching the canals was suggested. The Chief Environmental Engineer, Regional office informed that Assistant Engineer from Regional office, Ernakulam can be engaged for the works relating to NGT order. Chairman suggested to conduct meeting with the concerned departments and stakeholders to work out the way forward in case of old flats who do not possess the consent of the Board. The following decisions were taken in the meeting.

1. Conduct public awareness program on 21/1/2023 that includes stake holders, Kerala Water Authority and Kochi Metro as directed in the order. Both former Justice Ramakrishna Pillai, SLMC Chairman and former NGT Justice K. Ramakrishnan are to be invited for the meeting. The departments can sit together after hearing the stakeholders and chart out a feasible program.
2. Issue notice to Divisional Office of Railway for non compliance of directions for installation of STP. Status of compliance of all railway stations is to be reported by concerned sections.
3. Prepare list of flats/hospitals/malls that are complying, partially complying and non complying with Board's directions/consent conditions along the banks of T.P canal. The quantification of effluent generated from the establishments namely flats, hospitals, high rise buildings is to be assessed in connection with the usage of common STPs.
4. Action taken by Corporation against unregistered tankers is to be collected.
5. Issue notice to all hotels and other establishments for non compliance.

25

6. Report the status of the 23 establishments mentioned in the NGT order that are given notices by Board.
7. Feasibility of remedial measures to be adopted for discharge of waste water from flats suggested by EE, DO-1, EKM is to be checked.
8. Solid waste management shall be as per Solid Waste Management Rules, 2016 and Plastic Waste Management Rules, 2016. Measures shall be taken to prevent the entry of any plastic waste into the canals.
9. The progress on the projects of agencies like KMRL is to be ascertained.
10. The CEE will support the District Office by providing a staff for the works.
11. The above activities are to be brought to the notice of the District Collector, Ernakulam and its progress is to be reviewed regularly. Meeting came to a close at 3.30



CHAIRMAN

26

A105
14

Report of the Awareness Programme held on 21/01/2023 at Kerala State Pollution Control Board, Regional Office, Ernakulam in connection with OA no.27 of 2021 as per the Order of Hon'ble National Green Tribunal dated 02.01.2023

The Awareness programme commenced at 11.00 A.M at the auditorium and training centre, Regional Office, Kerala State Pollution Control Board, Ernakulam. Former Judicial Member, National Green Tribunal (SZ) Justice. K. Ramakrishnan was the chief guest for the programme. The Chairman, Kerala State Pollution Control Board, the Member Secretary, Kerala State Pollution Control Board and the Additional Secretary, Environment Department, Government of Kerala were present. Officials from Kerala State Pollution Control Board, Kerala Water Authority(KWA) Sewerage circle, Irrigation Department, Regional Joint Director Of Urban Affairs, Ernakulam, Harithakeralam Mission, Suchitwa Mission, Greater Cochin Development Authority (GCDA), Kochi Municipal Corporation, Kochi Metro Rail Limited (KMRL), Kalamassery Municipality and other officers concerned were present to provide their valuable inputs. The programme was attended by representatives from Kerala Hotel & Restaurant Association (KHRA), Residents Associations Apex Council and representatives of the Establishments/Residential apartments along the bank of the Perandoor & Edappally canal. Attendance sheets of the participants are attached as **Annexure-1.**

Sri. Baburajan P K, Chief Environmental Engineer, KSPCB, Regional Office, Ernakulam welcomed all the participants to the meeting and gave brief introduction about the origin of the Original Application no.27 of 2021. He conveyed that the above original application was taken on its motion "Suomotu" based on a Newspaper report published in the Hindu E-paper Edition dated 28.01.2021 under the caption "faecal Contamination high in Perandoor, Edappally canals". Hon'ble NGT through its order dated 05.02.2021 constituted a Joint committee towards the effective implementation of different regulatory mechanisms. He also informed that Hon'ble NGT through its latest order dated 02.01.2023 made some comments which are as follows "*We regret to state that even after almost 23 months, no concrete steps have been taken and the action that are so far taken by the respective authorities are going only at a snail's pace.*"

He added that NGT consider this as a serious issue and that NGT may take drastic measures against the violators. Also the Hon'ble NGT has directed to conduct an awareness programme in this matter

27

and hence this programme was arranged to discuss the measures to be taken to avoid the pollution of Perandoor & Edappally canals.

Sri. Pradeep Kumar A.B., Chairman, Kerala State Pollution Control Board, explained about the importance of conducting the awareness programme. He added that even though the Board has taken several steps to comply with various directions given by the NGT, but not yet reached in a permanent solution. Some of the Establishments near the bank of the Perandoor & Edappally canal operating without proper treatment facility and discharging waste water directly to the canal. NGT may take strict action against the violators. He informed that this programme is mainly arranged to provide an awareness to those persons about the management of sewage and other waste water in compliance with the environmental laws.

He added the following points:

- Before purchasing a new flat the buyer should check whether all the clearances are obtained from statutory authorities.
- Coliform level is high in Edappally and Perandoor canal and this will lead to the occurrence of various diseases. To avoid this situation waste generated should be disposed in compliance with the environmental laws.
- Board issued several directions/notice to the Establishments/Residential Apartments operating without proper treatment facility and discharging waste water directly to the Perandoor & Edappally canal. But the response is very poor and Board will be forced to initiate legal actions against the violators.
- Kochi Metro Rail Limited (KMRL) have been entrusted the work of Integrated Urban Regeneration and Water Transport System (IURWTS) in Kochi by the Government of Kerala. The proposed project envisages the rejuvenation of the 5 canals and installation of 4 STPs. The major aim of the project is to regenerate the urban area in and around the canals. But this is a time consuming project. Hence there is need to arrange temporary measures to prevent further contamination of water bodies.
- As a temporary measure, he asked about the possibility of transportation of sewage/waste water through containers to the existing treatment plants that are not operating at full capacity under Kerala Water Authority/GCDA.

28

He also informed that a meeting will be conducted after the awareness program with the officials to chart out the action plans for O.A. 27/2021

Justice. K. Ramakrishnan, Retired Judicial Member, National Green Tribunal (SZ) gave key note address in which he briefly explained about the importance of waste management system and duties and responsibilities of waste generators. He opined that the person who is generating waste should dispose it in a scientific manner and it is the responsibility of public to protect the environment.

He added the following points:

- The effluent flowing through the outlets of establishments into Edappally & Perandoor canal ultimately reaches to the various canals and this will lead to the contamination of water bodies.
- Local bodies should take initiative to collect the waste including biodegradable waste from each and every house.
- Secretaries of Association of residential apartment must ensure that the apartments are functioning in compliance with the environmental laws, having proper STP and consent to operate of the Board.
- Residence associations have their own responsibility to implement the waste management in an effective manner.
- Local Self Government Department shall conduct the Gramasabha meeting and problems faced by public related to waste management should be discussed in the meeting.
- Importance of protecting environment and Importance of rain water harvesting.

As part of protecting the environment, the Board should take actions to close down the Establishments/Units that are operating without complying Environmental laws and without having proper treatment facility.

He also included the following points regarding the effective utilization of waste materials.

- Water hyacinth found in the water bodies can be used to make various products
- Plastic waste can be recycled and reused

29

- Certain percentage of compost from the biodegradable wastes of households can be used as manure. Local bodies have the responsibility to supervise this.

The Chairman, Kerala State Pollution Control Board requested the participants to share the various problems faced by them for providing proper waste management and complying with the statutes

- Sri.Rangadasa Prabhu, President, Ernakulam District Residents Associations Apex Council (EDRAAC) informed that, environment should be protected and for this education program is needed and Apex council will initiate actions for the same, and requested support from the Kerala State Pollution Control Board .
- One of the flat representative enquired that, if there are any government consultancy for STP management as they are facing many difficulties while approaching the private agencies.
- Sri,Jeevan, Association president, Dream Flower Bonita apartment informed that since they have space limitations and not having enough space for gardening they cannot reuse the treated water.
Justice. K. Ramakrishnan suggested that gardening can be done effectively by using commercially available grow bags, and planting grass around the ground. Effective methods like vertical gardens also can be used.
- Sri.Saju, flat representative, informed that their apartment was built in 1997. Since it is an old complex space limitations are there and it is very difficult to maintain the clearance as per PCB norms. He also suggested that common STP should be constructed at all possible places and increase the capacity of Elamkulam STP and he complained that there are many houses on the bank of Perandoor canal discharging waste water directly to the canal, but the PCB taking action against the flats only.
Justice K. Ramakrishnan replied that as the quantity of waste generation from the flats is more compared to houses and hence waste water from flats should be addressed.
- Sri.Kumar, flat representative complained that daily garbage collection is not often done and garbage is collected in weekly only. He opined that the Corporation is responsible for this. Also he suggested that awareness program should be given to the individual houses through the councilors.
- Sri.Ajith Kumar, Secretary, Ernakulam District Residents Associations Apex Council

30

(EDRAAC), informed that lack of coordination between various departments will affect the successful implementation of projects. He opined that, local bodies should issue licenses to the waste collection vehicles to avoid the dumping of waste near the road side/public areas etc.

- The Executive Engineer, Kerala Water Authority reported that they are providing assistance to all the Municipalities and Corporations who are cooperating with the Water Authority for the implementation of underground sewage system projects and she informed that a master plan has been prepared for Kochi Corporation and currently a 5MLD treatment plant is operational at Elamkulam. DPR for pipe network is prepared. Another 5MLD proposal has been submitted under Amrut Scheme. She informed that DPR preparation of STP projects of KMRL in Elamkulam, Perandoor, and Muttar is completed.

After the discussion former Justice. K. Ramakrishnan put forward the following suggestions.

- Underground sewage system must be implemented and it should be connected to all the individual houses and sewage charge should be collected from each house.
- Methods like Phytoremediation can be utilized to clean the drain.

Dr. Sheela A.M., Member Secretary, Kerala State Pollution Control Board concluded the programme requesting the cooperation of all the stakeholders for the protection of water bodies. As Kerala Water Authority reported that around 3.5MLD of wastewater collected through pipelines are discharged to the newly installed 5MLD STP at Elamkulam and GCDA reported under utilization of 750 kLD plant at Kaloor, action is to be taken by Kochi Corporation, Kerala Water Authority and GCDA for the diversion of waste water from old flats which are having space limitation. The Member Secretary, KSPCB requested the Kerala Water Authority and GCDA officials to report the possibility of treatment of wastewater in the underutilized sewage treatment plants. Kochi Corporation was also requested to implement the licensing of unregistered tankers. Online tracking system from wastewater tankers as done in Thiruvananthapuram has to be provided for proper tracking of registered vehicles, in order to avoid unauthorized discharge of waste water to the water bodies. She thanked all the officials from various stakeholder departments and gathered representatives of various residential apartments/establishments.

The meeting concluded by 1.00pm.

A. Padayachi
CHAIRMAN

☎: 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



KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

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

PCB /HO/EE3/NGT/O.A No.147/2022/06/2022 (3)

Date:18/01/2023

From

The Member Secretary

TOP PRIORITY

To

The Secretary
Corporation of Kochi

Sub:- ~~O.A.No.~~ O.A 147/2022 (PB)- Vembanad Lake - before the Hon'ble
National Green Tribunal

Ref:- 1) Order dated 23/08/2022 in O.A. 147/2022

2) This office letter No. PCB/HO/EE4/NGT/O.A 147/2022-2 dated 31/12/2022

3) Order dated 02/01/2023 in O.A.27/2021

Sir,

As per the order dated 06.01.2023, in OA 147/2022 of Hon'ble NGT directed State of Kerala to submit a meaningful action taken report within two months .

The action plan in this regard has prepared and forwarded via email. You are requested to update/fill the details regarding liquid and solid waste management coming under your jurisdiction & also the action taken report in the format attached and return urgently. Please take this as most urgent.

Yours faithfully,

Shree P.S.

MEMBER SECRETARY

Copy to :1) The Chief Environmental Engineer
Regional Office, Ernakulam
2) The Environmental Engineer
District Office-1, Ernakulam



☎: 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

KERALA STATE POLLUTION CONTROL BOARD
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PCB /HO/EE3/NGT/O.A No.147/2022/06/2022 (4)

Date:18/01/2023

From
The Member Secretary

TOP PRIORITY

To

1. The Secretary
Municipalities of Vaikom/Thrippunithura/Cherthala/Alappuzha/Maradu

2. The Secretary
Panchayath of Aroor /Arpookkara/ Arukutty /Aryad/Aymanam /Chempu
/Chellanam/Chennam/Elankunnapuzha/Ezhikkara/Ezhupunna/ Kadamakkudy/
Kainakiri Kodamthuruth/Kottuvally /Kumbalam/ Kumbalangy /Kuthiyathode
/Maravanthururth /Mannancherry /Mulayukadu/Muhamma /Mulavukadu/
Pallipuram/Panavally/Perumpanam/Thaikattussery/Thalayazham/Thanneermu
kkam/Thuravur/TVPuram/Udayanapuram/Udayamperoor/Valayar/Varapuzha/
Vechoor/Munrothuruthu/ Neendakara /Thekkumbhagam/ Thevalakkara
/Thekkumbhagam/West Kallada

Sub:- ~~Q.A.No.~~ O.A 147/2022 (PB)- Vembanad Lake - before the Hon'ble
National Green Tribunal

Ref:- 1) Order dated 23/08/2022 in O.A. 147/2022

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Yours faithfully,



MEMBER SECRETARY

- Copy to :
- 1) The Chief Environmental Engineer
Regional Office, Ernakulam
 - 2) The Chief Environmental Engineer
Regional Office, Thiruvananthapuram
 - 3) The Environmental Engineer
DO-1, Ernakulam
 - 4) The Environmental Engineer
District Office, Kollam
 - 5) The Environmental Engineer
District Office, Alapuzha



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

KERALA STATE POLLUTION CONTROL BOARD
കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

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 പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB /HO/EE3/NGT/O.A No.147/2022/06/2022 (7)

Date:18/01/2023

From

The Member Secretary

To

1. The Secretary
 Corporation of Kollam

2. The Secretary
 Panchayath of Munrothuruthu /Neendakara/ Thekkumbhagam/ Thevalakkara
 West Kallada /Chavara /East Kallada/ Panayam /Perayam /Perinadu

TOP PRIORITY

Sub:- ~~O.A.No.~~ O.A 147/2022 (PB)- Ashtamudi Lake - before the Hon'ble National
 Green Tribunal

Ref:- 1. Order dated 23/08/2022 in the O.A. 147/2022

2. Letter No. PCB/HO/EE4/NGT/O.A.147/2022-1 dated 31.12.2022

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As per the latest order dated 06.01.2023, ✓ Hon'ble NGT in O A 147/2022 directed State of Kerala to submit a meaningful action taken report within two months. The action plan in this regard has prepared and forwarded via email. You are requested to update /fill the details related to liquid & solid waste management coming under your jurisdiction, & also the action taken report in the format attached and return urgently. Please take this as most urgent.

Yours faithfully,

Star An

MEMBER SECRETARY

Copy to :1) The Chief Environmental Engineer
 Regional Office, Trivandrum
 2) The Environmental Engineer
 District Office, Kollam

35

| ACTION PLAN FOR THE ABATEMENT OF POLLUTION TO VEMBANAD LAKE AND ITS CANALS IN KOCHI CORPORATION | | | | | | | |
|---|--|---------|---|---|--------|-----------|--|
| 1 Liquid and solid waste management Kochi Corporation I. Short term measures | | | | | | | |
| No. | Activity | Gap | Proposed activity | Implementing agency | Budget | Timeline | Action so far taken |
| 1.1 | Full utilisation of common sewage treatment plants | | 1.1.1. Identification of flats, hotels, establishments from which waste water can be diverted to said common STP | Kochi Corporation KWA Suchitwa Mission | | 31-3-2023 | Elamulam STP plant has been commissioned |
| | 1.1.a Elamkulam 5 MLD | 1.5 MLD | 1.1.2 Quantification of waste water generated from these establishments from water consumption from KWA | | | | Wellington plant is treating septage |
| | 1.1.b Wellington FSTP 100KLD | | 1.1.3 To make unregistered tankers to registered tankers | | | | Brahmapuram plant is also treating leachate from Brahmapuram plant |
| | 1.1.c Brahmapuram FSTP 100KLD | | 1.1.4 Online system shall be implemented to ensure disposal of waste water including septage at treatment plant and thus tracking of vehicles can be done | | | | Plant is working |
| | 1.1.d GCDA, Kadavanthra 0.45MLD | | | | | | Plant is working |
| | 1.1.e GCDA, Kaloor 0.75 MLD | | | | | | |
| 1.2 | Stop the discharge of waste water in to the canals and lakes and for ensuring adoption of treatment measures by flats, high rise buildings, hotels, commercial buildings, hospitals, shops, households, workshops, service stations etc. | | 1.2.1 Inspection to be conducted for the removal of waste water outlet pipes into the canals and lakes | Kochi Corporation Irrigation department KWA | Nil | 31-3-2023 | |
| | | | 1.2.2 Inspection to be conducted for checking sewage and sullage treatment facilities in the units | Suchitwa Mission | | 31-3-2023 | |

36

| | | | | | |
|--|--|---|--|-----------|--|
| | | | | | |
| | | 1.2.3 Levying of fine from unauthorised units | | 31-3-2023 | |
| | | 1.2.4 Issue of notice to unauthorised units | | 31-3-2023 | |
| | | 1.2.5 Retrofitting measures are to be ensured in those units | | 31-3-2023 | |
| | | 1.2.6 Number of units for which retrofitting measures provided | | | |
| | | 1.2.7 Ensure that existing sewerage network of Kerala Water Authority for Elamkulam is leakage free and entire waste water is reaching common sewage treatment plant and also sewerlines are laid across canals | | 31-3-2023 | |
| | | 1.2.8 Permanent solution to prevent overflow through manholes, pipelines and pumping stations | | 31-3-2023 | |
| | | 1.2.9 Adequacy of sewer line is to be checked. The quantity of water consumption in this area and the quantity of sewage reaching common STP is to be ascertained | | 31-3-2023 | |
| | | 1.2.10 Number of Houses and establishments connected to the existing sewer network and the houses and establishments not connected to sewer network are to be identified and | | 31-3-2023 | |

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| | | ensure that they are having proper sewage and sullage treatment facility | | | | |
| 1.3 | Inspection of flats, high rise buildings, hospitals, hotels, educational institutions, hostels, lodges, commercial establishments, markets, worship places etc in Corporation catchment | 1.3.1 Identification of complying, partially complying and non-complying units List of the units and compliance status is to be provided | KSPCB Kochi Corporation | | 31-3-2023 | |
| | | 1.3.2 Ascertain the possible remedial measures to be adopted in the case of partially and non-complying units | KSPCB Suchitwa Mission, KWA | | 31-3-2023 | |
| | | 1.3.3 Inspection of workshops and service stations and on disposal of waste oil from such units | KSPCB | | 31-3-2023 | |
| | | 1.3.4 Strict monitoring of waste disposal (sewage, sullage, biodegradable waste, non-biodegradable waste) in flats, offices, educational institutions, shops, lodges, auditoriums, hospitals in the canal catchment | | | 31-3-2023 | |
| | | 1.3.5 Verify whether consent to operate of the Board exists | | | 31-3-2023 | |
| | | 1.3.6 Verify on compliance of consent conditions in the consent to operate | | | 31-3-2023 | |
| | | 1.3.7 Treated sample should be taken from the flats/establishments once in a month. | | | 31-3-2023 | |

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|-----|---|---|----------------------------|--|-----------|--|
| | | 1.3.8 Ensure proper treatment and disposal facility for sewage, sullage and garbage in the flats and establishments | | | 31-3-2023 | |
| | | 1.3.9 Monthly progress report is to be submitted by the District Office to Head Office | | | 31-3-2023 | |
| | | 1.3.10 Issue of instructions for providing remedial measures | KSPCB | | 31-3-2023 | |
| | | 1.3.11 Levying of environmental compensation in case of continuing non-compliance to the Board's instructions | KSPCB | | 30-4-2023 | |
| 1.4 | Railway South Ernakulam | 1.4.1 Sewage treatment plant of railways | Railways KSPCB | | | |
| | | 1.4.2 Waste management in locomotive shed of railway | | | | |
| 1.5 | Slaughter house, Kaloor | 1.5.1 Ensure that waste water is not discharged into canals and it is diverted to Brahmapuram plant | Kochi Corporation KSPCB | | | |
| 1.6 | HOUSE BOATS | 1.6.1 Identification of houseboats having consent from the Board | Tourism DTPC | | | |
| | | 1.6.2 Whether complying with consent conditions | | | | |
| | | 1.6.3 Treatment facility for waste water from houseboats | | | | |
| | | 1.6.4 Treatment of biodegradable and non biodegradable wastes | | | | |
| 1.7 | Solid waste management in households and establishments namely hospitals, worship places, hotels, educational institutions, hostels, lodges, commercial | 1.7.1 Ensure segregation of biodegradable and non biodegradable waste at source | Kochi Corporation | | 31-3-2023 | |
| | | 1.7.2 Whether biodegradable waste is taken by authorised collectors to places | Kochi Corporation | | 31-3-2023 | |

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|------|--|--|-----------------------|--|-----------|--|
| | establishments, markets, worship places etc in Corporation catchment | having consent of the Board or they have provided any onsite facilities for treatment of biodegradable | | | | |
| | | 1.7.3 Whether waste from all chicken stalls diverted to rendering plants in Ernakulam | Kochi Corporation | | 31-3-2023 | |
| | | 1.7.4 Whether initiatives taken for diversion of sanitary wastes like diaper to common biomedical waste facility | | | | |
| | | 1.7.5 Initiatives for construction and demolition wastes | | | | |
| | | 1.7.7 Whether non-biodegradable waste namely plastic waste is taken by authorised collectors like harithakarmasena who are taking waste to units having consent of the Board | Kochi Corporation | | 31-3-2023 | |
| | | 1.7.8 Ensure that no waste shall be thrown to canals or dumped on land | Kochi Corporation | | 31-3-2023 | |
| | | 1.7.9 Check for the implementation of single use plastic ban order and fine levied | Kochi Corporation | | 31-3-2023 | |
| 1.8 | Solid waste management in Railways | Whether segregation at source; treatment facility of biodegradable waste exists; segregated non biodegradable waste is given to aut | KSPCB | | | |
| 1.9 | Cleaning of canals for removing of wastes and to prevent stagnation | Desilting of canals is to be done. Wastes removed are to be taken away from canal banks and are to be disposed safely | Irrigation department | | | |
| 1.10 | Take measures to protect canals | Fencing to canals, CCTV | Irrigation department | | | |
| 1.11 | Fining the unauthorised units discharging waste water into canals | Fining and reporting | Irrigation department | | | |

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| | and lakes | | | | | |
| 1.12 | Documentation of the activities undertaken and submission to the Hon'ble NGT, Urban department and KSPCB | All the above activities are to be monitored systematically | Kochi Corporation | | 31-3-2023 | |
| 1.13 | Water Quality Monitoring | Monitoring of lake and canals | KSPCB | | | Board is monitoring water quality |
| 1.14 | Awareness programmes | Awareness to stakeholders | | | | |
| | II. Long term measures | | | | | |
| 2.1 | STPs under KMRL's Integrated Water Transport System project at Elamkulam, Vennala, Muttar, Perandur of a total capacity of 31MLD | STP at Elamkulam-10MLD | KMRL | | | |
| | | STP at Muttar-7MLD | KMRL | | | |
| | | STP at Perandur-4 MLD | KMRL | | | |
| | | STP at Vennala-10MLD | KMRL | | | |
| 2.2 | STP at Kochi Corporation Division-16 | | Amruth | | | |
| 2.3 | STP at Kochi Corporation Division 1-4 | | Cochin Smart city | | | |
| 2.4 | STP at Kochi Urban Agglomeration -2 MLD | | | | | |
| 2.5 | Slaughter house at Kaloor | Provision for treating the generated waste water is established and working | Kochi Corporation | | | |
| 2.6 | Waste to energy plant | Biomining of dumpsite is being carried out at Brachmapuram and that place is identified for Waste to energy plant | | | | Biodegradable wastes from Kochi Corporation is taken to Common Windrow compost plant exists at Brahmapuram, Ernakulam |

3. ANY OTHER PROPOSED ACTIVITIES WITH TIMELINE, FUNDING AND IMPLEMENTING AGENCY

| ACTION PLAN FOR THE ABATEMENT OF POLLUTION TO VEMBANAD LAKE AND ITS CANALS IN THRIPPUNITHURA MUNICIPALITY | | | | | | | |
|--|--|-----|--|---|--------|-----------|---------------------|
| 1 | Liquid and solid waste management | | | | | | |
| | 1. Thrippunithura Municipality -short term measures | | | | | | |
| No. | Activity | Gap | Proposed activity | Implementing agency | Budget | Timeline | Action so far taken |
| 1.1 | Stop the discharge of waste water in to the canals and lakes and for ensuring adoption of treatment measures by flats, high rise buildings, hotels, commercial buildings, hospitals, shops, households, workshops, service stations, households etc. | | 1.1.1 Inspection to be conducted for the removal of waste water outlet pipes into the canals and lakes | Thrippunithura Municipality Irrigation department KWA | Nil | 31-3-2023 | |
| | | | 1.1.2 Inspection to be conducted for checking sewage and sullage treatment facilities in the units | Suchitwa Mission | | 31-3-2023 | |
| | | | 1.1.3 Levying of fine from unauthorised units | | | 31-3-2023 | |
| | | | 1.1.4 Issue of notice to unauthorised units | | | 31-3-2023 | |
| | | | 1.1.5 Retrofitting measures are to be ensured in those units | | | 31-3-2023 | |
| | | | 1.1.6 Number of units for which retrofitting measures provided | | | | |
| | | | 1.1.7 Number of houses for which facility provided for treatment of sewage | | | | |
| | | | 1.1.8 Number of houses for which facility provided for treatment of | | | | |

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| | | sullage. | | | |
| 1.2 | Inspection of flats, high rise buildings, hospitals, hotels, flats, offices, educational institutions, shops, lodges, auditorium, worship places, educational institutions, hostels, lodges, commercial establishments, markets in the catchment | 1.2.1 Identification of complying, partially complying and non-complying units. List of the units and compliance status is to be provided | KSPCB Thrippunithura Municipality | | 31-3-2023 |
| | | 1.2.2 Ascertain the possible remedial measures to be adopted in the case of partially and non-complying units | KSPCB Suchitwa Mission, KWA | | 31-3-2023 |
| | | 1.2.3 Inspection of workshops and service stations and on disposal of waste oil from such units | KSPCB | | 31-3-2023 |
| | | 1.2.4 Strict monitoring of waste disposal (sewage, sullage, biodegradable waste, non-biodegradable waste) in flats, offices, educational institutions, shops, lodges, auditoriums, hospitals in the catchment | KSPCB | | 31-3-2023 |
| | | 1.2.5 Verify whether consent to operate of the Board exists | KSPCB | | 31-3-2023 |
| | | 1.2.6 Verify on compliance of consent conditions in the consent to operate | KSPCB | | 31-3-2023 |

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| | | | | | | |
| | | 1.2.7 Treated sample should be taken from the flats/establishments once in a month. | KSPCB | | 31-3-2023 | |
| | | 1.2.8 Remedial action to be taken is to be intimated to these units | KSPCB | | 31-3-2023 | |
| | | 1.2.9 Ensure proper treatment and disposal facility for sewage, sullage and garbage in the flats and establishments | KSPCB | | 31-3-2023 | |
| | | 1.2.10 Monthly progress report is to be submitted by the District Office to Head Office | KSPCB | | 31-3-2023 | |
| | | 1.2.11 Issue of instructions for providing remedial measures | KSPCB | | 31-3-2023 | |
| | | 1.2.12 Levying of environmental compensation in case of continuing non-compliance to the Board's instructions | KSPCB | | 30-4-2023 | |
| 1.3 | Railway Thrissur | 1.3.1 Sewage treatment plant of railways | Railways KSPCB | | 31-3-2023 | |
| | | 1.3.2 Waste management in locomotive shed of railway | | | | |
| 1.4 | Solid waste management in households and establishments namely hospitals, worship places, hotels, educational institutions, hostels, lodges, offices, commercial establishments, markets in Municipality area | 1.5.1 Ensure segregation of biodegradable and non biodegradable waste at source | Thrissur Municipality | | 31-3-2023 | |
| | | 1.5.2 Whether biodegradable waste is taken by authorised collectors to places having consent of the Board or they have provided any onsite facilities for treatment of | Thrissur Municipality | | 31-3-2023 | |

44

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| | | biodegradable | | | |
| | | 1.5.3 Whether waste from all chicken stalls diverted to rendering plants in Ernakulam | Thrippunithura Municipality | | 31-3-2023 |
| | | 1.5.4 Whether initiatives taken for diversion of sanitary wastes like diaper to common biomedical waste facility | Thrippunithura Municipality | | |
| | | 1.5.5 Initiatives for construction and demolition wastes | Thrippunithura Municipality | | |
| | | 1.5.6 Whether non-biodegradable waste namely plastic waste is taken by authorised collectors like harithakarmasena who are taking waste to units having consent of the Board | Thrippunithura Municipality | | 31-3-2023 |
| | | 1.5.7 Ensure that no waste shall be thrown to canals or dumped on land | Thrippunithura Municipality | | 31-3-2023 |
| | | 1.5.8 Check for the implementation of single use plastic ban order and fine levied | Thrippunithura Municipality | | 31-3-2023 |
| 1.5 | Solid waste management in Railways | Whether segregation at source; treatment facility of biodegradable waste exists; segregated non biodegradable waste is given to aut | KSPCB | | |
| 1.6 | Cleaning of canals for removing of wastes and to prevent stagnation | Desilting of canals is to be done. Wastes removed are to be taken away from canal banks and are to be disposed safely | Irrigation department | | |
| 1.7 | Take measures to protect waterbodies | Fencing to canals, CCTV | Irrigation department | | |
| 1.9 | Fining the unauthorised units discharging waste water into canals and | Fining and reporting | Irrigation department | | |

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|------|--|---|-----------------------------|--|-----------|---|
| | lakes | | | | | |
| 1.10 | Documentation of the activities undertaken and submission to the Hon'ble NGT, Urban department and KSPCB | All the above activities are to be monitored systematically | Thrippunithura Municipality | | 31-3-2023 | |
| 1.11 | Water Quality Monitoring | Monitoring of lake and canals | KSPCB | | | Board is monitoring water quality |
| 1.12 | Awareness programmes | Awareness to stakeholders | | | | |
| | III. Long term measures | | | | | |
| 2.1 | Waste to energy plant | Biomining of dumpsite is being carried out at Brachmapuram and that place is identified for Waste to energy plant | | | | Biodegradable wastes from Kochi Corporation is taken to Common Windrow compost plant exists at Brahmapuram, Ernakulam |

3. ANY OTHER PROPOSED ACTIVITIES WITH TIMELINE, FUNDING AND IMPLEMENTING AGENCY

| ACTION PLAN FOR THE ABATEMENT OF POLLUTION TO VEMBANAD LAKE AND ITS CANALS IN VAIKOM MUNICIPALITY | | | | | | | |
|--|--|--|--|---|--------|-----------|---------------------|
| 1 | Liquid and solid waste management Vaikom Municipality I. Short term measures | | | | | | |
| No. | Activity | Gap | Proposed activity | Implementing agency | Budget | Timeline | Action so far taken |
| 1.1 | Stop the discharge of waste water in to the canals and lakes and for ensuring adoption of treatment measures by flats, high rise buildings, hotels, commercial buildings, hospitals, shops, households, workshops, service stations, households etc. | | 1.1.1 Inspection to be conducted for the removal of waste water outlet pipes into the canals and lakes | Vaikom Municipality Irrigation department KWA | Nil | 31-3-2023 | |
| | | | 1.1.2 Inspection to be conducted for checking sewage and sullage treatment facilities in the units | Suchitwa Mission | | 31-3-2023 | |
| | | | 1.1.3 Levying of fine from unauthorised units | | | 31-3-2023 | |
| | | | 1.1.4 Issue of notice to unauthorised units | | | 31-3-2023 | |
| | | | 1.1.5 Retrofitting measures are to be ensured in those units | | | 31-3-2023 | |
| | | | 1.1.6 Number of units for which retrofitting measures provided | | | | |
| | | | 1.1.7 Number of houses for which facility provided for treatment of sewage | | | | |
| | | | 1.1.8 Number of houses for which facility provided for treatment of sullage | | | | |
| 1.2 | | Inspection of flats, high rise buildings, hospitals, | | 1.2.1 Identification of complying, partially | KSPCB | | 31-3- |

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|---|---|--------------------------------|--|-----------|--|
| hotels, flats, offices, educational institutions, shops, lodges, auditorium, worship places, educational institutions, hostels, lodges, commercial establishments, markets in the catchment | complying and non-complying units. List of the units and compliance status is to be provided | Vaikom Municipality | | 2023 | |
| | 1.2.2 Ascertain the possible remedial measures to be adopted in the case of partially and non-complying units | KSPCB Suchitwa Mission, KWA | | 31-3-2023 | |
| | 1.2.3 Inspection of workshops and service stations and on disposal of waste oil from such units | KSPCB | | 31-3-2023 | |
| | 1.2.4 Strict monitoring of waste disposal (sewage, sullage, biodegradable waste, non-biodegradable waste) in flats, offices, educational institutions, shops, lodges, auditoriums, hospitals in the catchment | KSPCB | | 31-3-2023 | |
| | 1.2.5 Verify whether consent to operate of the Board exists | KSPCB | | 31-3-2023 | |
| | 1.2.6 Verify on compliance of consent conditions in the consent to operate | KSPCB | | 31-3-2023 | |
| | 1.2.7 Treated sample should be taken from the flats/establishments once in a month. | KSPCB | | 31-3-2023 | |
| | 1.2.8 Remedial action to be taken is to be | KSPCB | | 31-3- | |

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| | | intimated to these units | | | 2023 | |
| | | 1.2.9 Ensure proper treatment and disposal facility for sewage, sullage and garbage in the flats and establishments | KSPCB | | 31-3-2023 | |
| | | 1.2.10 Monthly progress report is to be submitted by the District Office to Head Office | KSPCB | | 31-3-2023 | |
| | | 1.2.11 Issue of instructions for providing remedial measures | KSPCB | | 31-3-2023 | |
| | | 1.2.12 Levying of environmental compensation in case of continuing non-compliance to the Board's instructions | KSPCB | | 30-4-2023 | |
| 1.3 | Railway Vaikom | 1.3.1 Sewage treatment plant of railways | Railways KSPCB | | 31-3-2023 | |
| | | 1.3.2 Waste management in locomotive shed of railway | | | | |
| 1.4 | Solid waste management in households and establishments namely hospitals, worship places, hotels, educational institutions, hostels, lodges, offices, commercial establishments, markets in Municipality area | 1.4.1 Ensure segregaton of biodegradable and non biodegradable waste at source | Vaikom Municipality | | 31-3-2023 | |
| | | 1.4.2 Whether biodegradable waste is taken by authorised collectors to places having consent of the Board or they have provided any onsite facilities for treatment of biodegradable | Vaikom Municipality | | 31-3-2023 | |
| | | 1.4.3 Whether waste from all chicken stalls diverted to rendering plants in Ernakulam | Vaikom Municipality | | 31-3-2023 | |
| | | 1.4.4 Whether initiatives taken for diversion of sanitary wastes like diaper to common biomedical waste facility | Vaikom Municipality | | | |
| | | 1.4.5 Initiatives for construction and demolition wastes | Vaikom Municipality | | | |
| | | 1.4.6 Whether non-biodegradable waste | Vaikom | | 31-3- | |

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|------|--|--|-----------------------|--|-----------|-----------------------------------|
| | | namely plastic waste is taken by authorised collectors like harithakarmasena who are taking waste to units having consent of the Board | Municipality | | 2023 | |
| | | 1.4.7 Ensure that no waste shall be thrown to canals, lake or dumped on land | Vaikom Municipality | | 31-3-2023 | |
| | | 1.4.8 Check for the implementation of single use plastic ban order and fine levied | Vaikom Municipality | | 31-3-2023 | |
| 1.5 | Solid waste management in Railways | Whether segregation at source; treatment facility of biodegradable waste exists; segregated non biodegradable waste is given to aut | KSPCB | | | |
| 1.6 | Cleaning of canals for removing of wastes and to prevent stagnation | Desilting of canals is to be done. Wastes removed are to be taken away from canal banks and are to be disposed safely | Irrigation department | | | |
| 1.7 | Take measures to protect canals | Fencing to canals, CCTV | Irrigation department | | | |
| 1.8 | Fining the unauthorised units discharging waste water into canals and lakes | Fining and reporting | Irrigation department | | | |
| 1.9 | Documentation of the activities undertaken and submission to the Hon'ble NGT, Urban department and KSPCB | All the above activities are to be monitored systematically | Vaikom Municipality | | 31-3-2023 | |
| 1.10 | Water Quality Monitoring | Monitoring of lake and canals | KSPCB | | | Board is monitoring water quality |
| 1.11 | Awareness programmes | Awareness to stakeholders | | | | |
| | II. Long term measures | | | | | |

3. ANY OTHER PROPOSED ACTIVITIES WITH TIMELINE, FUNDING AND IMPLEMENTING AGENCY

50

| ACTION PLAN FOR THE ABATEMENT OF POLLUTION TO VEMBANAD LAKE AND ITS CANALS IN MARADU MUNICIPALITY | | | | | | | |
|---|--|-----|--|---|--------|-----------|---------------------|
| 1 | Liquid and solid waste management Maradu Municipality | | | | | | |
| | I. Short term measures | | | | | | |
| No. | Activity | Gap | Proposed activity | Implementing agency | Budget | Timeline | Action so far taken |
| 1.1 | Stop the discharge of waste water in to the canals and lakes and for ensuring adoption of treatment measures by flats, high rise buildings, hotels, commercial buildings, hospitals, shops, households, workshops, service stations, households etc. | | 1.1.1 Inspection to be conducted for the removal of waste water outlet pipes into the canals and lakes | Maradu Municipality Irrigation department KWA | Nil | 31-3-2023 | |
| | | | 1.1.2 Inspection to be conducted for checking sewage and sullage treatment facilities in the units | Suchitwa Mission | | 31-3-2023 | |
| | | | 1.1.3 Levying of fine from unauthorised units | | | 31-3-2023 | |
| | | | 1.1.4 Issue of notice to unauthorised units | | | 31-3-2023 | |
| | | | 1.1.5 Retrofitting measures are to be ensured in those units | | | 31-3-2023 | |
| | | | 1.1.6 Number of units for which retrofitting measures provided | | | | |
| | | | 1.1.7 Number of houses for which facility provided for treatment of sewage | | | | |
| | | | 1.1.8 Number of houses for which facility provided for treatment of sullage | | | | |
| 1.2 | Inspection of flats, high rise buildings, hospitals, | | 1.2.1 Identification of complying, partially | KSPCB | | 31-3- | |

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|---|---|--------------------------------|--|-----------|--|
| hotels, flats, offices, educational institutions, shops, lodges, auditorium, worship places, educational institutions, hostels, lodges, commercial establishments, markets in the catchment | complying and non-complying units. List of the units and compliance status is to be provided | Maradu Municipality | | 2023 | |
| | 1.2.2 Ascertain the possible remedial measures to be adopted in the case of partially and non-complying units | KSPCB Suchitwa Mission, KWA | | 31-3-2023 | |
| | 1.2.3 Inspection of workshops and service stations and on disposal of waste oil from such units | KSPCB | | 31-3-2023 | |
| | 1.2.4 Strict monitoring of waste disposal (sewage, sullage, biodegradable waste, non-biodegradable waste) in flats, offices, educational institutions, shops, lodges, auditoriums, hospitals in the catchment | KSPCB | | 31-3-2023 | |
| | 1.2.5 Verify whether consent to operate of the Board exists | KSPCB | | 31-3-2023 | |
| | 1.2.6 Verify on compliance of consent conditions in the consent to operate | KSPCB | | 31-3-2023 | |
| | 1.2.7 Treated sample should be taken from the flats/establishments once in a month. | KSPCB | | 31-3-2023 | |
| | 1.2.8 Remedial action to be taken is to be | KSPCB | | 31-3- | |

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|-----|---|--|------------------------|--|-----------|--|
| | | intimated to these units | | | 2023 | |
| | | 1.2.9 Ensure proper treatment and disposal facility for sewage, sullage and garbage in the flats and establishments | KSPCB | | 31-3-2023 | |
| | | 1.2.10 Monthly progress report is to be submitted by the District Office to Head Office | KSPCB | | 31-3-2023 | |
| | | 1.2.11 Issue of instructions for providing remedial measures | KSPCB | | 31-3-2023 | |
| | | 1.2.12 Levying of environmental compensation in case of continuing non-compliance to the Board's instructions | KSPCB | | 30-4-2023 | |
| 1.3 | Railway Vaikom | 1.3.1 Sewage treatment plant of railways | Railways KSPCB | | 31-3-2023 | |
| | | 1.3.2 Waste management in locomotive shed of railway | | | | |
| 1.4 | Solid waste management in households and establishments namely hospitals, worship places, hotels, educational institutions, hostels, lodges, offices, commercial establishments, markets in Municipality area | 1.4.1 Ensure segregation of biodegradable and non biodegradable waste at source | Maradu Municipality | | 31-3-2023 | |
| | | 1.4.2 Whether biodegradable waste is taken by authorised collectors to places having consent of the Board or they have provided any onsite facilities for treatment of biodegradable | Maradu Municipality | | 31-3-2023 | |
| | | 1.4.3 Whether waste from all chicken stalls diverted to rendering plants in Ernakulam | Maradu Municipality | | 31-3-2023 | |
| | | 1.4.4 Whether initiatives taken for diversion of sanitary wastes like diaper to common biomedical waste facility | Maradu | | | |
| | | 1.4.5 Initiatives for construction and demolition wastes | Maradu Municipality | | | |
| | | 1.4.6 Whether non-biodegradable waste | Maradu | | 31-3- | |

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|------|--|--|-----------------------|--|-----------|-----------------------------------|
| | | namely plastic waste is taken by authorised collectors like harithakarmasena who are taking waste to units having consent of the Board | Municipality | | 2023 | |
| | | 1.4.7 Ensure that no waste shall be thrown to canals, lake or dumped on land | Maradu Municipality | | 31-3-2023 | |
| | | 1.4.8 Check for the implementation of single use plastic ban order and fine levied | Maradu Municipality | | 31-3-2023 | |
| 1.5 | Solid waste management in Railways | Whether segregation at source; treatment facility of biodegradable waste exists; segregated non biodegradable waste is given to aut | KSPCB | | | |
| 1.6 | Cleaning of canals for removing of wastes and to prevent stagnation | Desilting of canals is to be done. Wastes removed are to be taken away from canal banks and are to be disposed safely | Irrigation department | | | |
| 1.7 | Take measures to protect canals | Fencing to canals, CCTV | Irrigation department | | | |
| 1.8 | Fining the unauthorised units discharging waste water into canals and lakes | Fining and reporting | Irrigation department | | | |
| 1.9 | Documentation of the activities undertaken and submission to the Hon'ble NGT, Urban department and KSPCB | All the above activities are to be monitored systematically | Maradu Municipality | | 31-3-2023 | |
| 1.10 | Water Quality Monitoring | Monitoring of lake and canals | KSPCB | | | Board is monitoring water quality |
| 1.11 | Awareness programmes | Awareness to stakeholders | | | | |
| | II. Long term measures | | | | | |

3. ANY OTHER PROPOSED ACTIVITIES WITH TIMELINE, FUNDING AND IMPLEMENTING AGENCY

54

| ACTION PLAN FOR THE ABATEMENT OF POLLUTION TO ASHTAMUDI LAKE AND ITS CANALS IN KOLLAM CORPORATION | | | | | | | |
|---|--|-----|---|---|--------|-----------|--|
| 1 | Liquid and solid waste management Kollam Corporation I. Short term measures | | | | | | |
| No. | Activity | Gap | Proposed activity | Implementing agency | Budget | Timeline | Action so far taken |
| 1.1 | Full utilisation of common sewage treatment plant of 12MLD being constructed at Kureepuzha | | <p>1.1.1 Completion of common STP at Kureepuzha Phase I and II</p> <p>1.1.1. Identification of flats, households, hotels, establishments from which waste water can be diverted to said common STP</p> <p>1.1.2 Quantification of waste water generated from these households and establishments from water consumption from KWA</p> <p>1.1.3 To make unregistered tankers to registered tankers</p> <p>1.1.4 Online system shall be implemented to ensure disposal of waste water including septage at treatment plant and thus tracking of vehicles can be done</p> | Kollam Corporation KWA Suchitwa Mission | | 31-3-2023 | <p>72% of the work has been completed. Works are under progress.</p> <p>21358 house sewer connections are envisaged as per the new sewer work added (balance of KSUDP)</p> |

| | | | | | | |
|-----|--|--|--|-----|-----------|-----------|
| 1.2 | Stop the discharge of waste water in to the canals and lakes and for ensuring adoption of treatment measures by flats, high rise buildings, hotels, commercial buildings, hospitals, shops, households, workshops, service stations etc. | 1.2.1 Inspection to be conducted for the removal of waste water outlet pipes into the canals and lakes | Kollam Corporation Irrigation department KWA Suchitwa Mission | Nil | 31-3-2023 | |
| | | 1.2.2 Inspection to be conducted for checking sewage and sullage treatment facilities in the units | | | 31-3-2023 | |
| | | 1.2.3 Levying of fine from unauthorised units | | | 31-3-2023 | |
| | | 1.2.4 Issue of notice to unauthorised units | | | 31-3-2023 | |
| | | 1.2.5 Retrofitting measures are to be ensured in those units | | | 31-3-2023 | |
| | | 1.2.6 Number of units for which retrofitting measures provided | | | | |
| | | 1.2.7 Number of Houses and establishments connected to the existing sewer network and the houses and establishments not connected to sewer network are to be identified and ensure that they are having proper sewage and sullage treatment facility | | | | 31-3-2023 |
| 1.3 | Inspection of flats, high rise buildings, hospitals, hotels, educational institutions, hostels, lodges, | 1.3.1 Identification of complying, partially complying and non-complying units. List of the units and | KSPCB Kollam Corporation | | 31-3-2023 | |

56

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|---|---|-----------------------------------|--|-----------|--|
| commercial establishments, markets, worship places etc in Corporation catchment | compliance status is to be provided | | | | |
| | 1.3.2 Ascertain the possible remedial measures to be adopted in the case of partially and non-complying units | KSPCB Suchitwa Mission, KWA | | 31-3-2023 | |
| | 1.3.3 Inspection of workshops and service stations and on disposal of waste oil from such units | KSPCB | | 31-3-2023 | |
| | 1.3.4 Strict monitoring of waste disposal (sewage, sullage, biodegradable waste, non-biodegradable waste) in flats, offices, educational institutions, shops, lodges, auditoriums, hospitals in the canal catchment | KSPCB | | 31-3-2023 | |
| | 1.3.5 Verify whether consent to operate of the Board exists | KSPCB | | 31-3-2023 | |
| | 1.3.6 Verify on compliance of consent conditions in the consent to operate | KSPCB | | 31-3-2023 | |
| | 1.3.7 Treated sample should be taken from the flats/establishments once in a month. | KSPCB | | 31-3-2023 | |
| | 1.3.8 Ensure proper treatment and disposal facility for sewage, sullage and garbage in the flats and establishments | KSPCB | | 31-3-2023 | |
| | 1.3.9 Monthly progress report is to be | KSPCB | | 31-3- | |

| | | | | | | |
|-----|--|--|-----------------------------|--|-----------|--|
| | | submitted by the District Office to Head Office | | | 2023 | |
| | | 1.3.10 Issue of instructions for providing remedial measures | KSPCB | | 31-3-2023 | |
| | | 1.3.11 Levying of environmental compensation in case of continuing non-compliance to the Board's instructions | KSPCB | | 30-4-2023 | |
| 1.4 | Railway Kollam | 1.4.1 Sewage treatment plant of railways | Railways | | | |
| | | 1.4.2 Waste management in locomotive shed of railway | KSPCB | | | |
| 1.5 | Slaughter house, Kollam | 1.5.1 Ensure that waste water is treated | Kollam Corporation KSPCB | | | |
| 1.6 | HOUSE BOATS | 1.6.1 Identification of houseboats having consent from the Board | Tourism DTPC | | | |
| | | 1.6.2 Whether complying with consent conditions | | | | |
| | | 1.6.3 Treatment facility for waste water from houseboats | | | | |
| | | 1.6.4 Treatment of biodegradable and non biodegradable wastes | | | | |
| 1.7 | Solid waste management in households and establishments namely hospitals, worship places, hotels, educational institutions, hostels, lodges, commercial establishments, markets, worship places etc in Corporation catchment | 1.7.1 Ensure segregation of biodegradable and non biodegradable waste at source | Kollam Corporation | | 31-3-2023 | |
| | | 1.7.2 Whether biodegradable waste is taken by authorised collectors to places having consent of the Board or they have provided any onsite facilities for treatment of biodegradable | Kollam Corporation | | 31-3-2023 | |
| | | 1.7.3 Whether waste from all chicken stalls diverted to rendering plants | Kollam Corporation | | 31-3-2023 | |
| | | 1.7.4 Whether initiatives taken for | | | | |

58

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|------|--|--|-----------------------|--|-----------|-----------------------------------|
| | | diversion of sanitary wastes like diaper to common biomedical waste facility | | | | |
| | | 1.7.5 Initiatives for construction and demolition wastes | | | | |
| | | 1.7.7 Whether non-biodegradable waste namely plastic waste is taken by authorised collectors like harithakarmasena who are taking waste to units having consent of the Board | Kollam Corporation | | 31-3-2023 | |
| | | 1.7.8 Ensure that no waste shall be thrown to canals or dumped on land | Kollam Corporation | | 31-3-2023 | |
| | | 1.7.9 Check for the implementation of single use plastic ban order and fine levied | Kollam Corporation | | 31-3-2023 | |
| 1.8 | Solid waste management in Railways | Whether segregation at source; treatment facility of biodegradable waste exists; segregated non biodegradable waste is given to aut | KSPCB | | | |
| 1.9 | Cleaning of canals for removing of wastes and to prevent stagnation | Desilting of canals is to be done. Wastes removed are to be taken away from canal banks and are to be disposed safely | Irrigation department | | | |
| 1.10 | Take measures to protect canals | Fencing to canals, CCTV | Irrigation department | | | |
| 1.11 | Fining the unauthorised units discharging waste water into canals and lakes | Fining and reporting | Irrigation department | | | |
| 1.12 | Documentation of the activities undertaken and submission to the Hon'ble NGT, Urban department and KSPCB | All the above activities are to be monitored systematically | Kollam Corporation | | 31-3-2023 | |
| 1.13 | Water Quality Monitoring | Monitoring of lake and canals | KSPCB | | | Board is monitoring water quality |

| | | | | | | |
|------|--|--|--|--|--|---|
| 1.14 | Awareness programmes | Awareness to stakeholders | | | | |
| | II. Long term measures | | | | | |
| 2.1 | Sewer network for common STP at Kureepuzha | Sewer line for common STP at Kureepuzha | | | | 72% of common STP completed |
| 2.2 | Waste to energy plant | Biomining of dumpsite. is completed that place is identified for Waste to energy plant | | | | Biodegradable wastes from Kollam Corporation is taken to Common Windrow compost plant |

3. ANY OTHER PROPOSED ACTIVITIES WITH TIMELINE, FUNDING AND IMPLEMENTING AGENCY

**ACTION PLAN FOR THE ABATEMENT OF POLLUTION TO ASHTAMUDI LAKE AND ITS CANALS IN
-----PANCHAYATH**

| | | | | | |
|------------|---------------|--------------|---------------|--------------|---------------|
| Panchaayth | Chavara | East Kallada | Panayam | Perayam | Perinadu |
| | Munrothuruthu | Neendakara | Thekkumbhagam | Thevalakkara | Thekkumbhagam |
| | West Kallada | | | | |

| 1 | Liquid and solid waste management | | | | | | |
|----------|--|-----|--|--|--------|-----------|---------------------|
| | I. Short term measures | | | | | | |
| No. | Activity | Gap | Proposed activity | Implementing agency | Budget | Timeline | Action so far taken |
| 1.1 | Stop the discharge of waste water in to the canals and lakes and for ensuring adoption of treatment measures by flats, high rise buildings, hotels, commercial buildings, hospitals, shops, households, workshops, service stations, households etc. | | 1.1.1 Inspection to be conducted for the removal of waste water outlet pipes into the canals and lakes | ----- Panchayath Irrigation department KWA | Nil | 31-3-2023 | |
| | | | 1.1.2 Inspection to be conducted for checking sewage and sullage treatment facilities in the units | Suchitwa Mission | | 31-3-2023 | |
| | | | 1.1.3 Levying of fine from unauthorised units | | | 31-3-2023 | |
| | | | 1.1.4 Issue of notice to unauthorised units | | | 31-3-2023 | |
| | | | 1.1.5 Retrofitting measures are to be ensured in those units | | | 31-3-2023 | |
| | | | 1.1.6 Number of units for which retrofitting | | | | |

| | | | | | | |
|-----|--|---|-----------------------------------|--|-----------|--|
| | | measures provided | | | | |
| | | 1.1.7 Number of houses for which facility provided for treatment of sewage | | | | |
| | | 1.1.8 Number of houses for which facility provided for treatment of sullage | | | | |
| 1.2 | Inspection of flats, high rise buildings, hospitals, hotels, flats, offices, educational institutions, shops, lodges, auditorium, worship places, educational institutions, hostels, lodges, commercial establishments, markets in the catchment | 1.2.1 Identification of complying, partially complying and non-complying units. List of the units and compliance status is to be provided | KSPCB ----- Panchayath | | 31-3-2023 | |
| | | 1.2.2 Ascertain the possible remedial measures to be adopted in the case of partially and non-complying units | KSPCB Suchitwa Mission, KWA | | 31-3-2023 | |
| | | 1.2.3 Inspection of workshops and service stations and on disposal of waste oil from such units | KSPCB | | 31-3-2023 | |
| | | 1.2.4 Strict monitoring of waste disposal (sewage, sullage, biodegradable waste, non-biodegradable waste) in flats, offices, educational institutions, shops, lodges, auditoriums, hospitals in the catchment | KSPCB | | 31-3-2023 | |
| | | 1.2.5 Verify whether consent to operate of the Board exists | KSPCB | | 31-3-2023 | |
| | | 1.2.6 Verify on compliance of consent conditions in the consent to operate | KSPCB | | 31-3-2023 | |

62

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|-----|---|--|---------------------|--|-----------|--|
| | | 1.2.7 Treated sample should be taken from the flats/establishments once in a month. | KSPCB | | 31-3-2023 | |
| | | 1.2.8 Remedial action to be taken is to be intimated to these units | KSPCB | | 31-3-2023 | |
| | | 1.2.9 Ensure proper treatment and disposal facility for sewage, sullage and garbage in the flats and establishments | KSPCB | | 31-3-2023 | |
| | | 1.2.10 Monthly progress report is to be submitted by the District Office to Head Office | KSPCB | | 31-3-2023 | |
| | | 1.2.11 Issue of instructions for providing remedial measures | KSPCB | | 31-3-2023 | |
| | | 1.2.12 Levying of environmental compensation in case of continuing non-compliance to the Board's instructions | KSPCB | | 30-4-2023 | |
| 1.3 | Railway Station, if any | 1.3.1 Sewage treatment plant of railways | Railways KSPCB | | 31-3-2023 | |
| | | 1.3.2 Waste management in locomotive shed of railway | | | | |
| 1.4 | Solid waste management in households and establishments namely hospitals, worship places, hotels, educational institutions, hostels, lodges, offices, commercial establishments, markets in Municipality area | 1.4.1 Ensure segregation of biodegradable and non biodegradable waste at source | ----- Panchayath | | 31-3-2023 | |
| | | 1.4.2 Whether biodegradable waste is taken by authorised collectors to places having consent of the Board or they have provided any onsite facilities for treatment of biodegradable | ----- Panchayath | | 31-3-2023 | |
| | | 1.4.3 Whether waste from all chicken stalls diverted to rendering plants in Ernakulam | ----- Panchayath | | 31-3-2023 | |
| | | 1.4.4 Whether initiatives taken for diversion of sanitary wastes like diaper to common biomedical waste facility | ----- Panchayath | | | |
| | | 1.4.5 Initiatives for construction and | ----- | | | |

| | | | | | | |
|------|--|--|-----------------------|--|-----------|-----------------------------------|
| | | demolition wastes | Panchayath | | | |
| | | 1.4.6 Whether non-biodegradable waste namely plastic waste is taken by authorised collectors like harithakarmasena who are taking waste to units having consent of the Board | ----- Panchayath | | 31-3-2023 | |
| | | 1.4.7 Ensure that no waste shall be thrown to canals, lake or dumped on land | ----- Panchayath | | 31-3-2023 | |
| | | 1.4.8 Check for the implementation of single use plastic ban order and fine levied | ----- Panchayath | | 31-3-2023 | |
| 1.5 | Solid waste management in Railways | Whether segregation at source; treatment facility of biodegradable waste exists; segregated non biodegradable waste is given to aut | KSPCB | | | |
| 1.6 | Cleaning of canals for removing of wastes and to prevent stagnation | Desilting of canals is to be done. Wastes removed are to be taken away from canal banks and are to be disposed safely | Irrigation department | | | |
| 1.7 | Take measures to protect canals | Fencing to canals, CCTV | Irrigation department | | | |
| 1.8 | Fining the unauthorised units discharging waste water into canals and lakes | Fining and reporting | Irrigation department | | | |
| 1.9 | Documentation of the activities undertaken and submission to the Hon'ble NGT, Urban department and KSPCB | All the above activities are to be monitored systematically | ----- Panchayath | | 31-3-2023 | |
| 1.10 | Water Quality Monitoring | Monitoring of lake and canals | KSPCB | | | Board is monitoring water quality |
| 1.11 | Awareness programmes | Awareness to stakeholders | | | | |
| | II. Long term measures | | | | | |

84

3. ANY OTHER PROPOSED ACTIVITIES WITH TIMELINE, FUNDING AND IMPLEMENTING AGENCY

**ACTION PLAN FOR THE ABATEMENT OF POLLUTION TO VEMBANAD LAKE AND ITS CANALS IN
-----PANCHAYATH**

| | | | | | | | |
|------------|----------------|----------------|------------|--------------|-----------------|----------------|--------------|
| Panchaayth | Aroor | Arpookkara | Arukutty | Aryad | Aymanam | Chempu | Chellanam |
| | Chennam | Elankunnapuzha | Ezhikkara | Ezhupunna | Kadamakkudy | Kainakiri | Kodamthuruth |
| | Kottuvally | Kumbalam | Kumbalangy | Kuthiyathode | Maravanthururth | Mannancherry | Mulavukadu |
| | Muhamma | Mulavukadu | Pallipuram | Panavally | Perumpanam | Thaikattussery | Thalayazham |
| | Thanneermukkam | Thuravur | TV Puram | Udayanapuram | Udayamperoor | Valayar | Varapuzha |
| | Vechoor | | | | | | |

| 1 | Liquid and solid waste management | | | | | | |
|----------|--|-----|--|---|--------|-----------|---------------------|
| | I. Short term measures | | | | | | |
| No. | Activity | Gap | Proposed activity | Implementing agency | Budget | Timeline | Action so far taken |
| 1.1 | Stop the discharge of waste water in to the canals and lakes and for ensuring adoption of treatment measures by flats, high rise buildings, hotels, commercial buildings, hospitals, shops, households, workshops, service stations, households etc. | | 1.1.1 Inspection to be conducted for the removal of waste water outlet pipes into the canals and lakes | Panchayath Irrigation department KWA Suchitwa Mission | Nil | 31-3-2023 | |
| | | | 1.1.2 Inspection to be conducted for checking sewage and sullage treatment facilities in the units | | | 31-3-2023 | |
| | | | 1.1.3 Levying of fine from unauthorised units | | | 31-3-2023 | |
| | | | 1.1.4 Issue of notice to unauthorised units | | | 31-3-2023 | |
| | | | 1.1.5 Retrofitting measures are to be ensured in those units | | | 31-3-2023 | |

| | | | | | |
|-----|--|---|-----------------------------------|--|-----------|
| | | 1.1.6 Number of units for which retrofitting measures provided | | | |
| | | 1.1.7 Number of houses for which facility provided for treatment of sewage | | | |
| | | 1.1.8 Number of houses for which facility provided for treatment of sullage | | | |
| 1.2 | Inspection of flats, high rise buildings, hospitals, hotels, flats, offices, educational institutions, shops, lodges, auditorium, worship places, educational institutions, hostels, lodges, commercial establishments, markets in the catchment | 1.2.1 Identification of complying, partially complying and non-complying units. List of the units and compliance status is to be provided | KSPCB ----- Panchayath | | 31-3-2023 |
| | | 1.2.2 Ascertain the possible remedial measures to be adopted in the case of partially and non-complying units | KSPCB Suchitwa Mission, KWA | | 31-3-2023 |
| | | 1.2.3 Inspection of workshops and service stations and on disposal of waste oil from such units | KSPCB | | 31-3-2023 |
| | | 1.2.4 Strict monitoring of waste disposal (sewage, sullage, biodegradable waste, non-biodegradable waste) in flats, offices, educational institutions, shops, lodges, auditoriums, hospitals in the catchment | KSPCB | | 31-3-2023 |
| | | 1.2.5 Verify whether consent to operate of the Board exists | KSPCB | | 31-3-2023 |
| | | 1.2.6 Verify on compliance of consent conditions in the consent to operate | KSPCB | | 31-3-2023 |

| | | | | | | |
|-----|---|--|---------------------|--|-----------|--|
| | | 1.2.7 Treated sample should be taken from the flats/establishments once in a month. | KSPCB | | 31-3-2023 | |
| | | 1.2.8 Remedial action to be taken is to be intimated to these units | KSPCB | | 31-3-2023 | |
| | | 1.2.9 Ensure proper treatment and disposal facility for sewage, sullage and garbage in the flats and establishments | KSPCB | | 31-3-2023 | |
| | | 1.2.10 Monthly progress report is to be submitted by the District Office to Head Office | KSPCB | | 31-3-2023 | |
| | | 1.2.11 Issue of instructions for providing remedial measures | KSPCB | | 31-3-2023 | |
| | | 1.2.12 Levying of environmental compensation in case of continuing non-compliance to the Board's instructions | KSPCB | | 30-4-2023 | |
| 1.3 | Railway Station, if any | 1.3.1 Sewage treatment plant of railways | Railways | | 31-3-2023 | |
| | | 1.3.2 Waste management in locomotive shed of railway | KSPCB | | | |
| 1.4 | Solid waste management in households and establishments namely hospitals, worship places, hotels, educational institutions, hostels, lodges, offices, commercial establishments, markets in Municipality area | 1.4.1 Ensure segregation of biodegradable and non biodegradable waste at source | ----- Panchayath | | 31-3-2023 | |
| | | 1.4.2 Whether biodegradable waste is taken by authorised collectors to places having consent of the Board or they have provided any onsite facilities for treatment of biodegradable | ----- Panchayath | | 31-3-2023 | |
| | | 1.4.3 Whether waste from all chicken stalls diverted to rendering plants in Ernakulam | ----- Panchayath | | 31-3-2023 | |
| | | 1.4.4 Whether initiatives taken for diversion of sanitary wastes like diaper to common biomedical waste facility | ----- Panchayath | | | |
| | | 1.4.5 Initiatives for construction and demolition | ----- | | | |

| | | | | | | |
|------|--|--|-----------------------|--|-----------|-----------------------------------|
| | | wastes | Panchayath | | | |
| | | 1.4.6 Whether non-biodegradable waste namely plastic waste is taken by authorised collectors like harithakarmasena who are taking waste to units having consent of the Board | ----- Panchayath | | 31-3-2023 | |
| | | 1.4.7 Ensure that no waste shall be thrown to canals, lake or dumped on land | ----- Panchayath | | 31-3-2023 | |
| | | 1.4.8 Check for the implementation of single use plastic ban order and fine levied | ----- Panchayath | | 31-3-2023 | |
| 1.5 | Solid waste management in Railways | Whether segregation at source; treatment facility of biodegradable waste exists; segregated non biodegradable waste is given to aut | KSPCB | | | |
| 1.6 | Cleaning of canals for removing of wastes and to prevent stagnation | Desilting of canals is to be done. Wastes removed are to be taken away from canal banks and are to be disposed safely | Irrigation department | | | |
| 1.7 | Take measures to protect canals | Fencing to canals, CCTV | Irrigation department | | | |
| 1.8 | Fining the unauthorised units discharging waste water into canals and lakes | Fining and reporting | Irrigation department | | | |
| 1.9 | Documentation of the activities undertaken and submission to the Hon'ble NGT, Urban department and KSPCB | All the above activities are to be monitored systematically | ----- Panchayath | | 31-3-2023 | |
| 1.10 | Water Quality Monitoring | Monitoring of lake and canals | KSPCB | | | Board is monitoring water quality |
| 1.11 | Awareness programmes | Awareness to stakeholders | | | | |
| | II. Long term measures | | | | | |

3. ANY OTHER PROPOSED ACTIVITIES WITH TIMELINE, FUNDING AND IMPLEMENTING AGENCY

68

A/7

**OA 147/2022 -Hearing minutes of local bodies of Ernakulam district conducted by
Kerala State Pollution Control Board on 10.02.2023.**

The hearing commenced online at 2:30 pm under the chairmanship of the Board member Secretary Dr. Sheela .A. M .

The list of those who participated in the hearing is attached.

Member secretary welcomed all the participants and explained the order of Hon'ble Green Tribunal in OA : 147/2022. In the context of this case , Board has already shared the format of action plan and action taken report prepared for the local bodies bordering Ashtamudi & Vembanad Lake. Instruction was already given to furnish the report to the Board .This hearing is convened to review the status of action taken report. According to the NGT order dated 23.08.2022, the level of fecal coliform in the Vembanad lake is high. Therefore source of pollution (liquid/solid waste) should be identified and action taken should be reported. A monitoring committee is constituted as per the NGT order dated 23.08.2022. According to the order of Hon'ble NGT dated 06.01.2023, the State has to file report before 22.03.2023. Therefore all local bodies should submit action plan and action taken report on time. The possibility of bio-digester instead of septic tanks should be considered in areas with high ground water level.

The time line to achieve 100% door to door waste collection from houses and institutions etc and biomining in dumpsites has already over. In addition to the facilities provided by the local bodies it is important to find out the other waste management systems in residences institutions and reporting the same so as to reduce the gap in production and treatment. The Localbodies shall ensure that religious places, tourists centers and other establishments segregate solid waste at source and handover non – biodegradable waste to authorized agencies such as Haritha karma sena . It is the duty of the local bodies to inform the Board about their current status and ensure that when the waste is handed over to the agencies, as if it reaches authorized places . The Member Secretary also opined that the municipal authorities should check whether the repeat offenders have permission from the board.

All localbodies are bound to submit the annual report under the Solid Waste and Plastic Waste Management Rules on or before 30th April every year. The service providers should also submit annual report to the local bodies.

The respective secretaries explained the waste management in their jurisdiction.

1. Secretary, Chellanam Grama Panchayat

90% of the fish farming centres are located within the boundaries of the panchayat. Notices have been issued to those illegally dumping waste into the backwaters. Illegal outlets have been closed. Haritha karma sena members work efficiently for waste management. Inorganic waste is handed over to Clean Kerala Company. There are shrimp processing companies and small resorts are operating in the region. It was informed that there are waste management systems in these places.

2. Secretary, Elangunnapuzha Grama Panchayat

Wards no 5 to 13 in panchayat bordering the Lake. There are 23 wards. 43 Haritha karma sena are working in these wards. Inorganic waste is handed over to Clean Kerala Company.

3. Secretary, Ezhikkara Grama Panchayat

28 Haritha Karma Sena members are working in 14 wards. Vembanad backwaters passes through 2 more wards. The panchayat has constructed toilets with septic tanks for 270 houses. In the panchayat, there are no tourist centres.

4. Secretary, Kadamakudi Grama panchayat

Since it is CRZ area, no permission is given to new buildings. Retrofitting of 600 houses has been done. Construction MCF is going on. Steps are taken to implement 'Haritha mithram' QR code.

5. Secretary, Koduvalli Grama panchayat

Tributary of vembanad backwater also passes through the 18th ward. Door to door waste collection is 85 % in household. 100% door to door collection has been achieved in 2 wards. There is 1 MCF. In the panchayat, there are no tourist centres.

6. Secretary, Kumbalam Grama panchayat

There are 36 Haritha karma sena members in 18 wards. Door to door waste collection is 76% in households and 48% in institutions. 92% has been achieved in 2 wards. Dumping of toilet waste from nearby areas has been monitored and steps have been taken to install CCTV cameras and Rupees 9 lakh was paid to PWD. Illegal resorts are operating. Green task force members are also collecting garbage from the resorts.

7. Secretary, Mulavukaadu Grama panchayat

70

The outlet from the houses to the lake has been found and closed. Notices have been issued to the houses. Door to door garbage collection is 80%.

8. Secretary , Udayamperoor Grama panchayat

Haritha karma sena members are working well. As it is a CRZ area no construction works are done. Inorganic waste is given to an agency called 'Northams'.

9. Secretary , Varappuzha Grama Panchayat

A total of 32 Haritha karma sena members are working in 16 wards. There are 3 mini MCF. 6 new mini MCF projects have been submitted. A meeting of traders and businessmen has been called and informed that the institutions should include green task force workers service. The panchayat also has no tourist centers or..... A pilot project has also been submitted.

Based on the hearing, following decisions were taken by the Member Secretary.

- According to the Solid Waste Management Rules, door to door waste collection from households and institutions should be achieved at 100%.
- In addition to the facilities provided by the local bodies, waste management systems installed in homes and institutions are to be identified and reported. The gap in waste generation and treatment management can be reduced.
- Survey can be done with Haritha Karma Sena whether septic tank or retrofitting is required.
- The waste shall be handed over to authorized collection agents and localbodies shall ensure the waste is disposed in authorized place. Even if it is an authorized place, the municipal authorities should also ensure that the wastes are being reached there. Private waste collection agencies must submit an annual report to the local body before April 30 every year. Also the local body should submit an annual report to the state Municipal board and the secretary of the Urban Development department before June 30.
- Annual report and action plan related to waste management should be submitted in time in all local bodies.
- Haritha karma sena service should be ensured at tourist places, religious places, trading areas etc. Bins should be placed.

The meeting concluded at 4:00 pm.

20/02/2023


MEMBER SECRETARY

Annexure I

| Details of establishments / units for which notice issued as per Minutes of Meeting held on 25/02/2023 on the matter of OA 147/2022 | | | | | | | | |
|---|------------|---|---|-----------|---------------|-------------------|--------------------|--------|
| Sl No | Date | Company | Type of unit(Apartment/ Commercial building/Hotel/ Resort/Industry others) | District | PCB office | LSGI | Findings | Notice |
| 1 | 01.03.2023 | M/s Century terrace Yuvajana Samajam road,kadavatra 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 2 | | M/s ABM Tower behind GCDA, Kadavantra 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 3 | | M/s Penta queen apartment B2 Padivattom, Edapally - 682024 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 4 | | M/s Penta queen apartment B3 Padivattom, Edapally - 682024 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 5 | | M/s Penta queen apartment A Padivattom, Edapally - 682024 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 6 | | M/s Penta queen apartment C Padivattom, Edapally - 682024 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 7 | | Galaxy Arcade Peediakkal road SRM Road - 682018 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 8 | | M/s West Rock One Apartment P J Anony Road Pachalam - 682012 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 9 | | M/s Watermelon Apartment Kathrikadavu, Kaloore 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 10 | | Vigyana sagar hostel Marine engineering training institute Giri nagar, Shipyards Ltd. | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 11 | | Vanshika Apartments Vidhta nagar road Panampilly nagar- 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 12 | | The tapioca restaurant mylady chambers, pottakuzhi rd. kaloore- 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 13 | | Star homes south star Kathrikadavu, Kaloore 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |

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|----|---|-----------|-----------|---------------|----------------------|-----------------------------|--------|
| 14 | Skyline Zircon Apartment panampilly link road, Kadavantra 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 15 | Skyline Marble Arch Apartment owners, Kattakar road west, Kathrikadavu 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 16 | Galaxy Wintage Apartment Aryapadam Lane, Mamangalam Elamakkara, 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 17 | J K Royal House Kathrikadavu, Kaloor 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 18 | J M Manor Link avenue road, Kaloor 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 19 | Little Soi. Aditya tower Panampilly nagar 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 20 | NB Spring Terrace Apartment Tagore lane, Elamakkara 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 21 | PMJ Towers Vidhya nagar, Kadavantra 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 22 | Presidency Homes Journalist Colony, Kathrikadavu 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 23 | Skyline Belair Apartment Shihab Thangal Road Panampilly nagar, 682036 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 24 | Dadd's Extended stay Canal road, Gandhinagar | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 25 | D D Rose Gate Kadavantra, Ernakulam 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 26 | Vinayaka Boys hostel Bancrji road, Kaloor 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 27 | The wood Ford Yuvajana samajam road. Kadavantra 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, STP not working | Issued |
| 28 | Namasita Apartment, Vidhya nagar road, Panampilly nagar, 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |

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| 29 | | Skyline Primrose, Pachalam, Pottakuzhi road, Mamangalam- 682018 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, STP not working | Issued |
| 30 | | Kalpaka Rajmahal Apartments, BTS Roadd. Edapally 682024 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 31 | | Amar Samrat Apartments, Kathrikadavu- 682017 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, STP not working | Issued |
| 32 | | ACE Homes, Kaloor, Kochi- 682017 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, STP not working | Issued |
| 33 | | Jewel.Oak Field, SRM Road, Kaloor, Kochi, 682012 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, STP not working | Issued |
| 34 | | Mandalay Point Flat, Edappally, NH 66 Service road. 682024 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 35 | | Dreamflower Bonira Owners Association (DBOA), Green Ripple Road, Swamipadi, Elamakkara, Ernakulam - 682026 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, STP not working | Issued |
| 36 | | Malabar Gate Apartments, Marottichodu Road, Edapally – 682 026 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 37 | | Galxy Homes Galaxy Dane Vidya Nagar Panampilly nagar, 682036 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, STP not working | Issued |
| 38 | | Galaxy Marvel Apartment, Edapally Raghavan pilla road 682026 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 39 | | Rds Avenue One, Shihab Thangal Road Near Passport Office Panampilly Nagar, 682036 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 40 | | The Salt Restaurant, 16/1444, Thoppumpady, Kochi, Ernakulam – 682 005 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 41 | | Galaxy Hamilton, Galaxy Kingston, Galaxy Winston, Chilavannoor Road, Chilavannoor, Kadavanthra, Kochi – 682 020 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 42 | 15.03.2023 | BLUE LAGOON APARTMENT, VMRR - 110, MARKET ROAD VADUTHALA 682023 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 43 | | HORIZON DAFFODILS,PADAM ROAD, VADUTHALA, ERNAKULAM, 682023 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 44 | | J.M HABITAT,SHASTRI ROAD, VADUTHALA ERNAKULAM, 682023 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 45 | | J.M TOWERS ,VADUTHALA ERNAKULAM, 682023 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 46 | | J.M GARDEN,VADUTHALA, ERNAKULAM, 682012 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |

74

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| 47 | ORIENT PARK, POPULAR ROAD, VADUTHALA KOCHI, 682012 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 48 | LORDS COTTAGE, KARSHAKA ROAD, VADUTHALA ERNAKULAM, 682012 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 49 | GALAXY METRO EDAPPALLY RAGHAVAN PILLAI RD, ELAMAKKARA, ERNAKULAM, KERALA - 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 50 | SPARKLE SCAPES APARTMENTS, TAGORE LANE. ELAMAKKARA, ERNAKULAM, 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 51 | MON AMOUR APARTMENTS, ELAMAKKARA, KOCHI, 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 52 | MON COEUR, VIVEKANANDA NAGAR ROAD. ELAMAKKARA, ERNAKULAM - 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 53 | LOTUS ENCLAVE Puthukkalavattom Rd, Elamakkara, Kochi, 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 54 | ANASWARA SOUPARNIKA Puthukkalavattom Rd, Elamakkara, Kochi, Kerala 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 55 | RDS FLAIR, EDAPPALLY RAGHAVAN PILLAI RD, ELAMAKKARA, ERNAKULAM - 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 56 | CVC CALISTA EDAPPALLY RAGHAVAN PILLAI RD, ELAMAKKARA, ERNAKULAM - 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 57 | DREAM FLOWER SONATA Mercy Lane 2, Elamakkara, Ernakulam, Kerala 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 58 | DREAM FLOWER ZETA Punnakkal Mercy Lane, Punnakkal, Elamakkara, Kochi, Kerala 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 59 | GOOD EARTH HEAVEN, Perandoor Rd, Mamangalam, Elamakkara, Ernakulam, Kerala 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 60 | VB ROYAL, opp. Gayathri Kalayanamadapam, Edappally, Ernakulam, Kerala 682024 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 61 | KALPAKA CASTLE, Subhash Nagar Elamakkara, Subhash Nagar Road, Ponekkara, Edappally, Kochi, Kerala 682024 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 62 | ABAD OLYMPUS APARTMENT, Near Madom Junction, Edappally Ragavanpillai Road, Edappally P. O., Kochi, Kochi, Kerala 682024 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 63 | ORION APARTMENT, OPP. AL AMEEN PUBLIC SCHOO, CHERANALLOOR, EDAPPALLY | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 64 | NATIONAL AVENUE, National Avenue, Manimala Cross Road, Ponekkara, Edappally, Ernakulam, Kerala 682024, | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 65 | NATIONAL NANDANAM, Edappally Palace Rd, Ponekkara, Edappally, Ernakulam, Kerala 682024 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |

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| 66 | ANASWARA SOUPARNIKA APARTMENT Puthukkalavattom Rd. Elamakkara, Kochi, Kerala 68202A | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 67 | SI flat, Kurishupally Rd, Ravipuram, Perumanoor, Ernakulam, Kerala 682036 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 68 | KB plaza flat, K B PLAZA OWNERS ASSOCIATION ELAMMAKARA ROAD EDAPPALLY, Kerala is 682024 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 69 | Pooja flat, Thamburatti Parambu Rd, Mamangalam, Elamakkara, Ernakulam, Kerala 682565 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 70 | Galaxy cherry wood, Kaloór, Kochi, Kerala 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 71 | OLIVE GARDENS, NH BYPASS, NEAR OBERON MALL, PADIVATOM, EDAPPALLY, ERNAKULAM, 682024 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 72 | REGAL APARTMENTS, STADIUM ROUND, JAWAHARLAL NEHRU INTERNATIONAL STADIUM, KALOOR, KOCHI, 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 73 | REGAL PALMS, ERAMATH W RD, CHEMBUMUKKU, EDAPPALLY, ERNAKULAM, 682037 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 74 | JM Crescent Apartments, P.J. Antony Road, Sonia Nagar, Mamangalam, Edappally, Ernakulam - 682024 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 75 | Infra Splendor Apartments, Edappally, Ernakulam - 682565 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 76 | Sky park residency, Janatha Rd, Mamangalam, Elamakkara, Kochi - 682025 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 77 | Mayura Apartments, 3rd Cross Rd, Girinagar Housing colony: Giri Nagar, Kadavanthra - 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 78 | Galaxy vesta 2845+R39, Punathil Padam Rd, Sonia Nagar, Padivattom, Palarivattom, Kochi, Kerala 682024 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 79 | Garden court 277W+XJC, Elamakkara, Kochi, Kerala 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 80 | Sapphire heights Vennala, Ernakulam, Kerala 682028, | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |

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| 81 | Kent illam Vennala, Ernakulam, Kerala 682028 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 82 | National empress Garden apartments 33/442D, Vennala High School Rd. Arakkakadavu, Vennala, Kakkannad, Kerala 682028 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 83 | Yeshoram tejus apartments 283C+FP5, Vennala High School Rd. Vennala, Ernakulam, Kerala 682028 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 84 | Panjos apartments 2869+8MV, Civil Line Rd. Chembumukku, Edappally, Ernakulam, Kerala 682021 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 85 | Halton heights 2848+4JV, Alinchuvadu Road. Vennala, Kochi, Kerala 682028 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 86 | Kanchenjunga Apartments 2836+H7V, Civil Line Rd. Kesaveccyam, Palarivattom, Ernakulam, Kerala 682025 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 87 | Moon Stone Residency Nethaji Rd, Nethaji Nagar, Kadavanthra, Ernakulam, Kerala 682020 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 88 | Asset home Panampilly Nagar, Ernakulam, Kerala 682036 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 89 | Yashoram abode, Draupathy road X8M4+9CX, Thammanam - Pullepady Rd, Draupathi Lane, Thammanam, Ernakulam, Kerala 682032 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 90 | Unitac avonlea X8JF+4GP, Dhanya S Rd, Chalikkavattom, Vennala, Ernakulam, Kerala 682028 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 91 | Highway gardens, 1914, Mambra Rd, Ponnuranni, Vytila, Kochi, Kerala 682019 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 92 | Plum flower, Nursery school road X8JC+449, Ponnuranni, Vytila, Ernakulam, Kerala 682019 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |

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| 93 | Royal park, Service Rd, Ponnuranni East, Ponnuranni, Vyttila, Ernakulam, Kerala 682028 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 94 | Mather Serene Orchard X832+GJ9, Vidya Nagar Rd, Vidya Nagar, Kadavanthra, Kochi, Kerala 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 95 | Jewel planet, Vaikom road, Vyttila SH15, Vyttila, Ernakulam, Kerala 682019 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 96 | Santhi river dail, Vaikom road, Vyttila | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 97 | Vrindavan apartment, Vyttila junction | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 98 | Aiswarya Apartment, Chambakkara - Kannadikadu Road | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 99 | Lotus A/C city, Bhuvageswari Temple Rd, near Chambakkara, Chambakkara, Upasana Nagar, Maradu, Ernakulam, Kerala 682304 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 100 | Toch Retreat flat, Janatha road, Vyttila | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 101 | Choice garden, Toch road end, Vyttila | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 102 | Jewel homes, Vyttila Janatha road, near manamel temple | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 103 | DLF riverside, near manamel temple, Vyttila Janatha road | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 104 | Paradise tower, south Chittoor, Chittoor 682027 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 105 | Galaxy high field, Vidya nagar, Panampilly nagar 682036 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 106 | Metro paradise apartment, Chittoor Cheranalloor road, Amrita nagar, Edapally, Ernakulam 682024 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 107 | Sparcle scape apartment, Tagore lane, Elamakkar 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 108 | Zaatar Restaurant, HP 17, Main Avenue, Panampilly Nagar, Ernakulam, 682036 | Restaurant | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 109 | Fruitbae, Panampilly, 5th Cross Rd, K.V. Nagar, Panampilly Nagar, 682036 | Restaurant | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 110 | Starbucks, G-258, Main Avenue, MIG Housing Society, Panampilly Nagar, Kochi - 682036 | Restaurant | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |

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| 111 | Coldstone, Door No. 56/299, Panampilly Nagar, Main Avenue, Opp. Hotel Aryas, 682036 | Restaurant | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 112 | Kuinafa World, HIG.36 , Panampilly Nagar, Main Avenue, Kochi - 682036 | Restaurant | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 113 | Ali Baba and 41 Dishes, 27/701, Panampilly Main Rd, Opp. South Indian Bank, MIG Housing Socceity, 682036 | Restaurant | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 114 | Happy Cup Cafe, Main Avenue, MIG Housing Socceity, Panampilly nagar, kochi - 682036 | Restaurant | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 115 | Juicy, Panampilly Nagar, Service Rd, Main Avenue, 682036 | Restaurant | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 116 | Gokul Oottupura, Vegetarian Restaurant, Ground floor, Ittys Building, Main Avenue, MIG Housing Socceity, Panampilly Nagar, 682036 | Restaurant | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 117 | Bab Arabia, 56.2568, Opp. YES Bank, SBT Ave, Panampilly Nagar, 682036 | Restaurant | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 118 | Heatz - Healthy Eating Zone, Ambalathingal House, Kizhavana Road, Panampilly Nagar, 682036 | Restaurant | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 119 | Burger Junction, Kizhavana Rd, Above Union Bank, Panampilly Nagar, 682015 | Restaurant | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 120 | ABCG Midtown Pavamana Heights, Shihab Thangal Road, Panampilly Nagar, Ernakulam, Kerala 682015 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 121 | Mansion kharisma X73X+HGM, Shihab Thangal Road, Panampilly Nagar, Ernakulam, Kerala 682015 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 122 | Ac Pacific rose apartments X74X+3C7, Panampilly Nagar, Ernakulam, Kerala 682015 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 123 | Aurum Residences, SBT Ave, Panampilly Nagar, Kochi, Kerala 682036 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 124 | Skyline Royale X75X+33H, Panampilly Nagar Link Rd, LIG Housing Society, Panampilly Nagar, Ernakulam, Kerala 682036 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 125 | SS Enclave G278, Panampilly Nagar Ave, MIG Housing Society, Panampilly Nagar, Ernakulam, Kerala 682036 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |

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| 126 | Kairali Apartments X74W+4PF, Panampilly Nagar Ave, Panampilly Nagar, Kochi, Kerala 682036 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 127 | Royal Stadium Mansion Market Road, Market, near Kadavanthra, Gandhi Nagar, Kadavanthra, Ernakulam, Kerala 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 128 | Jewel homes Canal, Mamangalam, Elamakkara, Ernakulam, Kerala 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 129 | Holiday Grandeur X7HV+VW9, P.O. Chemmath Rd. Gandhi Nagar, Kaloore, Ernakulam, Kerala 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 130 | Marvel Mansions X7JX+W3Q, Thammanam - Pullepady Rd. Kathrikad Kaloore, Ernakulam, Kerala 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 131 | Pulickal Avenue, St Francis Xavier Church Rd, Kathrikadavu, Kaloore, Ernakulam, Kerala 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 132 | DD nest Pipeline Rd, Kathrikadavu, Thammanam, Ernakulam, Kerala 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 133 | IMA House Behind Jawaharlal Nehru International Stadium, Kathrikadavu, Palarivattom, Kochi, Kerala 682025 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 134 | jewel pearl X8Q2+99C, Vattaparambu West Lane, Kathrikadavu Kaloore, Ernakulam, Kerala 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 135 | Kent hail garden X8R2+7HM, Kathrikadavu, Kaloore, Ernakulam, Kerala 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 136 | Vismaya Apartments Kaloore, Kochi, Kerala 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 137 | Seiken Eastend Ponoth Rd, Kaloore, Ernakulam, Kerala 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |

| | | | | | | | |
|-----|---|-----------|-----------|---------------|-------------------|--------------------|--------|
| 138 | Vanchinad Residency Apartment Kaloor, Ernakulam, Kerala 682017 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 139 | Green city Orchid 275W+F8P, Pottakuzhi - Mamangalam Rd, Mamangalam, Elamakkara, Ernakulam, Kerala 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 140 | Dream Flower Celesta Vivekananda Nagar Rd Extention, Elamakkara, Ernakulam, Kerala 682026 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 141 | Orient Park Vaduthala 276J+V8X, Popular Road, Vaduthala, Kochi, Kerala 682012 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 142 | Kayaloram Apartments Thevara Ferry Road, Thevara, Ernakulam, Kerala 682013 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 143 | Seiken Sailwind W7PW+CW9, Pandit Karuppan Rd, Thevara, Ernakulam, Kerala 682013 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 144 | Chakotas Waterford Pandit Karuppan Rd, Thevara, Ernakulam, Kerala 682013 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 145 | Avern Pass W7PX+MV4, Thevara, Kochi, Kerala 682013 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 146 | Galaxy clifford Neptune Country, Chilavannoor, Ernakulam, Kerala 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 147 | Sylvan Heights X835+8C4, Chilavannur Rd, Vinoba Nagar, Chilavannoor, Ernakulam, Kerala 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 148 | Hecra Waters, X836+CQQ, Bund Rd, Chilavannoor, Ernakulam, Kerala 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 149 | Perals Gardens View, Amalabhavan Rd, near Kochu Kadavanthra, Vinoba Nagar, Chilavannoor, Kochi, Kerala 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |

| | | | | | | | |
|-----|--|-----------|-----------|---------------|----------------------|--------------------|--------|
| 150 | Yasoram Pancharatna Apartments X877+96J, Toc-H Rd, Near Janatha Road, Janatha, Vyttila, Ernakulam, Kerala 682019 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 151 | Yasoram Valluvassery Enclave X875+793, Water Land Rd, Chilavannoor, Kochi, Kerala 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 152 | Jomer Residency Apts Ravindran Rd, Chilavannoor, Ernakulam, Kerala 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 153 | Fern Icon Panchavati Colony, Vyttila, Ernakulam, Kerala 682019 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 154 | Panchavadi Apartment X8C5+FMV, Panchavati Colony, Vyttila, Kochi, Kerala 682019 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 155 | Pittappilly Enclave X8C5+F9R, Panchavati Colony Rd, Panchavati Colony, Kadavanthra, Kochi, Kerala 682019 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 156 | Orchid Court Apartment X8C5+FCX, Panchavati Colony Rd, Panchavati Colony, Vyttila, Ernakulam, Kerala 682019 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 157 | Blue moon pearl apartment X8F5+2P7, Vyttila, Kochi, Kerala 682019 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 158 | Abad Harmony Paradise Rd, Vyttila, Kochi, Kerala 682019 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 159 | Paradise Apartment PRRA-18, Vyttila, Kochi, Kerala 682019 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 160 | Betron Towers Elankulam, Ernakulam, Kerala 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |
| 161 | Jerusalem Residency Blossom Road, Elankulam, Ernakulam, Kerala 682020 | Apartment | Ernakulam | Ernakulam DOI | Kochi Corporation | No Consent, No STP | Issued |

| | | | | | | | |
|-----|---|-----------|-----------|---------------|----------------------|--------------------|--------|
| 162 | Golden Heights Apartments X79X+7RQ, Excel Rd, Elamkulam, Kochi, Kerala 682020 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 163 | Nakshatra Malika Apartment Kunjanbava Rd, Ponnuranni, Vyttila, Ernakulam, Kerala 682020 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 164 | Bluemoon Apartments Emerald and Ruby Ponnuranni, Vyttila, Ernakulam, Kerala 682020 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 165 | Skyline rosemount Kunjanbava Rd, Ponnuranni, Vyttila, Kochi, Kerala 682019 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 166 | Abad Silver Crest Subhash Chandra Bose Rd. Kadavanthara, Jawahar Nagar, Elamkulam, Ernakulam, Kerala 682020 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |
| 167 | Skyline City Park X8F2+R89, Jawahar Nagar Ave, Jawahar Nagar, Kadavanthra, Ernakulam, Kerala 682020 | Apartment | Ernakulam | Ernakulam DO1 | Kochi Corporation | No Consent, No STP | Issued |

ATR ON OA 147/2022 - BEFORE THE HON NATIONAL GREEN TRIBUNAL**PART A - BASIC DATA**

| | Name of the Urban Local Body ✓ | Kollam | Kochi | Alappuzha | Cherthala | Marad | Ettumanur | Changanassery | Kottayam | Vaikom | Thrissur | TOTAL |
|---|---|--------|---------|-----------|-----------|-------|-----------|---------------|----------|--------|----------|---------|
| | Health and Night Squads | | | | | | | | | | | |
| 1 | No. of inspections done by Health Squad in current FY | 794 | 399 | 176 | 129 | 59 | 14 | 52 | 4 | 80 | 76 | 1789 |
| 2 | Total amount of fine imposed against Single Use Plastic in current FY (in Rs) | 265000 | 721240 | 50000 | 25000 | 43000 | 31500 | 39800 | 0 | 40000 | 58730 | 1274270 |
| 3 | No. inspections done by Night Squads in current FY | 90 | 200 | 168 | 55 | 28 | 0 | 10 | 0 | 3 | 20 | 574 |
| 4 | Total amount of fine imposed against illegal dumping in public places and water bodies in current FY (in Rs) | 498735 | 2168930 | 165400 | 5000 | 72500 | 0 | 41380 | 0 | 8000 | 349270 | 3309215 |
| | Institutional STP enforcement | | | | | | | | | | | |
| 6 | No. of institutions having no STPs identified in above list as on date | 26 | 45 | 26 | 26 | 30 | 1 | 15 | 7 | 5 | 63 | 244 |

ATR ON OA 147/2022 - BEFORE THE HON NATIONAL GREEN TRIBUNAL

PART B - DATA FOR THE MONTHS JAN, FEB & MARCH 2023

| | Name of the Urban Local Body | Kollam | Kochi | Alappuzha | Chertala | Maradur | Ettumanur | Changanassery | Kottayam | Vaikom | Thrippunithura | TOTAL |
|---------------------------------------|---|--------|--------|-----------|----------|---------|-----------|---------------|----------|--------|----------------|--------|
| Health and Night Squads | | | | | | | | | | | | |
| 1 | No. of inspections done by Health Squad since January 2023 | 291 | 99 | 46 | 78 | 5 | 7 | 8 | 0 | 36 | 26 | 596 |
| 2 | Total amount of fine imposed against Single Use Plastic since January 2023 | 12500 | 30000 | 30000 | 50000 | 29000 | 11000 | 10540 | 0 | 20000 | 1000 | 194040 |
| 3 | No. inspections done by Night Squads since January 2023 | 30 | 99 | 32 | 4 | 5 | 0 | 4 | 0 | 2 | 5 | 181 |
| 4 | Total amount of fine imposed against illegal dumping in public places and water bodies since January 2023 | 40010 | 168560 | 34550 | 50000 | 34500 | 0 | 10330 | 0 | 3500 | 7000 | 348450 |
| Institutional STPs enforcement | | | | | | | | | | | | |
| 5 | No. of closure notices issued to those institutions which have no institutional STPs since Jan 2023 | 26 | 45 | 0 | 38 | 0 | 1 | 0 | 0 | 5 | 63 | 178 |

NGT OA 147 അപ്ലയ്ക്കി വേമ്പനാട് കായൽ

| Sl no | name of gp | Health and Night Squads | | | | Institutional STPs - enforcement | | | Illegal outlets | | | |
|-------|---------------------|---|---|--|--|--|---|--|---|--|--|---|
| | | No. of inspections done by Health Squad in current FY | Total amount of fine imposed against Single Use Plastic in current FY (in Rs) | No. inspections done by Night Squads in current FY | Total amount of fine imposed against illegal dumping in public places and water bodies in current FY (in Rs) | No. of institutions having no STPs identified in above list as on date | No. of institutions having non-functional STPs as on date | No. of notices issued to institutions with no STPs and non-functional STPs in the last 12 months | Total No. of illegal outlets to the drainages & waterbodies identified by the ULB | No. of illegal outlets closed by the ULB in current financial year | Total amount of fine imposed against illegal outlets in current financial year (in Rs) | No. of prosecutions initiated by the ULBs against illegal outlets in current financial year |
| 1 | KUNDARA | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | CHAVARA | 118 | 1000 | 16 | 1000 | 0 | 0 | 0 | 53 | 18 | 0 | 0 |
| 3 | NEENDAKARA | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 20 | 0 |
| 4 | THRIKKARUVA | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 140 | 60 | 10000 | 0 |
| 5 | PERINADU | 25 | 11000 | 5 | 0 | 0 | 0 | 0 | 6 | 6 | 0 | 0 |
| 6 | PANAYAM | 10 | 3400 | 3 | 0 | 7 | 6 | 6 | 13 | 10 | 0 | 0 |
| 7 | THEKKUMBHAGAM | 8 | 1000 | 0 | 10000 | 0 | 0 | 0 | 450 | 24 | 10000 | 0 |
| 8 | PERAYAM | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | MUNTROTHURUTHU | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | EAST KALLADA | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | THEVALAKKARA | 84 | 4000 | 0 | 4000 | 0 | 0 | 0 | 80 | 5 | 0 | 0 |
| 12 | WEST KALLADA | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | MANNACHERRY | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 117 | 0 | 0 | 0 |
| 14 | CHENNAM PALLIPPURAM | 3 | 2500 | 0 | 41000 | 20 | 5 | 16 | 49 | 22 | 41000 | 0 |
| 15 | THANEERMUKKAM | 4 | 10000 | 0 | 10000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | MUHAMMA | 3 | 2750 | 0 | 1000 | 0 | 1 | 1 | 5 | 5 | 0 | 0 |
| 17 | KAINAKKARI | 4 | 500 | 0 | 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | ARoor | 6 | 0 | 0 | 10000 | 3 | 0 | 4 | 198 | 0 | 0 | 0 |
| 19 | EZHUPUNNA | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 5 | 50000 | 0 |

| | | | | | | | | | | | | |
|--------------|-----------------|------------|---------------|-----------|---------------|-----------|-----------|-----------|-------------|------------|---------------|----------|
| 20 | KODAMTHURUTHU | 4 | 18000 | 2 | 0 | 7 | 0 | 0 | 8 | 2 | 10000 | 0 |
| 21 | KUTHIYATHODE | 2 | 0 | 4 | 0 | | 0 | 0 | 365 | 195 | 0 | 0 |
| 22 | THURAVOOR | 4 | 11500 | 0 | 11500 | 0 | 0 | 0 | 24 | 24 | -34500 | 0 |
| 23 | VAYALAR | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 |
| 24 | PERUMBALAM | 1 | 4000 | 0 | 0 | 5 | 0 | 0 | 66 | 0 | 0 | 0 |
| 25 | ARUKUTTI | 4 | 3000 | 0 | 23000 | 1 | 0 | 1 | 51 | 4 | 23000 | 0 |
| 26 | PANAVALLY | 5 | 500 | 0 | 0 | 0 | 0 | 0 | 8 | 2 | 7000 | 0 |
| 27 | THAIKKATTUSSERI | 3 | 5000 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 10000 | 0 |
| 28 | ARYAD | 26 | 6000 | 0 | 0 | 4 | 0 | 0 | 28 | 28 | 0 | 0 |
| 29 | AYMANAM | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | THIRUVARPPU | 41 | 6000 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 |
| 31 | KUMARAKOM | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 8 | 0 | 0 |
| 32 | TV PURAM | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33 | UDAYANAPURAM | 18 | 0 | 2 | 0 | 0 | 0 | 0 | 7 | 7 | 0 | 0 |
| 34 | VECHHOOR | 7 | 2000 | 0 | 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | ARPOOKKARA | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 6 | 0 | 0 |
| 36 | MARAVANTHURUTHU | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 37 | THALAYAZHAM | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 3 | 3 | 0 | 0 |
| 38 | CHEMBU | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 6 | 0 | 0 |
| 39 | CHELLANAM | 1 | 0 | 0 | 10000 | 0 | 0 | 0 | 5 | 5 | 10000 | 0 |
| 40 | ELANKUNNAPUZHA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41 | EZHICKARA | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 42 | KADAMAKKUDY | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 43 | KOTTUVALLY | 4 | 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 44 | KUMBALAM | 15 | 5000 | 0 | 4000 | 28 | 0 | 0 | 67 | 10 | 4000 | 0 |
| 45 | KUMBALANGY | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| 46 | MULAVUKADU | 92 | 5000 | 0 | 0 | 3 | 0 | 0 | 110 | 12 | 0 | 0 |
| 47 | UDAYAMPEROOR | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 48 | VARAPPUZHA | 6 | 6000 | 2 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 |
| TOTAL | | 623 | 108650 | 35 | 128000 | 86 | 12 | 31 | 1910 | 514 | 209520 | 1 |

☎ General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151
E-mail: ms.kspcb@gov.in FAX: 0471 - 2318134, 2318152 web: www.kspcb.kerala.gov.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/EE3/NGT/O.A No.147/2022/06/2022

Date:16/03/2023

Regd. with A/D

SHOWCAUSE NOTICE

Sub: Non-compliance of Water (Prevention and Control of Pollution) Act 1974

- Ref: 1. Water (Prevention and Control of Pollution) Act, 1974
2. Environment Protection Act 1986
3. The Hon'ble NGT order dated 28.08.2019 in OA No.593/2017
4. Order dated 02/02/2023 in OA 27/2021 of Hon'ble NGT (SZ)
5. Order dated 06/01/2023 in OA 147/2022 of Hon'ble NGT (PZ)

WHEREAS the Central Government notified the Water (Prevention and Control of Pollution) Act, 1974 (hereafter referred to as Water Act) for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water;

WHEREAS as per Section 24 of Water Act disposal of polluting matter to stream or well is prohibited;

WHEREAS as per Section 24(a), no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any [stream or well or sewer or on land];

WHEREAS as per Section 24(b), no person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of the water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences;

90

WHEREAS it is observed that the quality of waterbodies in the Alappuzha Municipality is not conforming to standards prescribed under Environment Protection Rules, 1986;

WHEREAS high level of fecal coliforms in the waterbodies indicate the contamination due to improper treatment and disposal of sewage generated in the Municipality area;

WHEREAS there are case in Hon'ble NGT (OA 147/2022) on deterioration of water quality of Vembanad lake ;

WHEREAS the Hon'ble National Green Tribunal vide Order dated 22/02/2021 in OA 593/2017 laid down compensation scale for continued failure in implementation of Act and Rules;

WHEREAS in various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A. No.117/2014, 499/2014 and 102/2014 (ref. 16) the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act,1974 are entitled to assess and recover damages as "Polluter Pay's Principle" in exercise of incidental powers to protect environment";

WHEREAS as per Hon'ble NGT order dated 23/09/2019 in O.A.585/2018, if the rules are violated, the Pollution Control Board can independently proceed against local bodies who are not complying with the rules including initiation of prosecution of those person who are not complying with the same and assessment of damage caused to the Environment;

WHEREAS as per Hon'ble order of NGT dated 28/08/2019 in OA 593/2017 Environment Compensation shall be levied for failure of preventing the pollutants being discharged in water bodies and failure to implement waste management rules and Environment Compensation shall be estimated based on capital cost of STP as Rs. 1.75 Cr/MLD (marginal average cost); cost of conveyance system as Rs. 5.55 Cr/MLD (marginal average cost) and annual O&M cost as 10% of the combined capital cost;

91

AND WHEREAS it is noted that 19 MLD waste water (sewage&sullage) is generated in Municipality area based on population and the improper treatment and disposal of waste water has led to the deterioration of water quality in water bodies;

NOW THEREFORE, in exercise of the powers vested under Section 33 A of the Water (Prevention and Control of Pollution) Act, 1974 you are directed to show cause reasons within 15 days as to why Environmental compensation shall not be imposed as per the order of NGT in OA 593/2017, against the Municipality for the non-compliance of the Water Act.


CHAIRMAN

To

The Secretary,
Alappuzha Municipality
CCSB Road, Kodiveedu
Kerala-688001

Copy to:

1. The Additional Chief Secretary
Local Self Government Department
2. The Additional Chief Secretary
Environment Department
3. The District Collector, Alappuzha
4. The Director, Urban Directorate

(with covering letter)

5. The Chief Environmental Engineer, Regional Office, Thiruvananthapuram
6. The Environmental Engineer, District Office, Alappuzha

General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151
E-mail: ms.kspcb@gov.in FAX: 0471 - 2318134, 2318152 web: www.kspcb.kerala.gov.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/EE3/NGT/O.A No.147/2022/06/2022

Date:16/03/2023

Regd. with A/D

SHOWCAUSE NOTICE

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3. The Hon'ble NGT order dated 28.08.2019 in OA No.593/2017
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5. Order dated 06/01/2023 in OA 147/2022 of Hon'ble NGT (PZ)

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WHEREAS as per Section 24 of Water Act disposal of polluting matter to stream or well is prohibited;

WHEREAS as per Section 24(a), no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any [stream or well or sewer or on land];

WHEREAS as per Section 24(b), no person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of the water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences;

WHEREAS it is observed that the quality of waterbodies in the Aluva Municipality is not conforming to standards prescribed under Environment Protection Rules, 1986;

WHEREAS high level of fecal coliforms in the waterbodies indicate the contamination due to improper treatment and disposal of sewage generated in the Municipality area;

WHEREAS there are case in Hon'ble NGT (OA 147/2022) on deterioration of water quality of drains and Vembanad lake ;

WHEREAS the Hon'ble National Green Tribunal vide Order dated 22/02/2021 in OA 593/2017 laid down compensation scale for continued failure in implementation of Act and Rules;

WHEREAS in various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A. No.117/2014, 499/2014 and 102/2014 (ref. 16) the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act,1974 are entitled to assess and recover damages as "Polluter Pay's Principle" in exercise of incidental powers to protect environment";

WHEREAS as per Hon'ble NGT order dated 23/09/2019 in O.A.585/2018, if the rules are violated, the Pollution Control Board can independently proceed against local bodies who are not complying with the rules including initiation of prosecution of those person who are not complying with the same and assessment of damage caused to the Environment;

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AND WHEREAS it is noted that 3 MLD waste water (sewage&sullage) is generated in Municipality area based on population and the improper treatment and disposal of waste water has led to the deterioration of water quality in water bodies;

NOW THEREFORE, in exercise of the powers vested under Section 33 A of the Water (Prevention and Control of Pollution) Act, 1974 you are directed to show cause reasons within 15 days as to why Environmental compensation shall not be imposed as per the order of NGT in OA 593/2017, against the Municipality for the non-compliance of the Water Act.



CHAIRMAN

To

The Secretary,
Aluva Municipality
4955+GW7, PWD Quarters,
Periyar Nagar, Aluva,
Kerala 683101

Copy to:

1. The Additional Chief Secretary
Local Self Government Department
2. The Additional Chief Secretary
Environment Department
3. The District Collector, Ernakulam
4. The Director, Urban Directorate

(with covering letter)

5. The Chief Environmental Engineer, Regional Office, Ernakulam
6. The Environmental Engineer, District Office-1, Ernakulam



KERALA STATE POLLUTION CONTROL BOARD
കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

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

PCB /HO/EE3/NGT/O.A No.147/2022/06/2022

Date: 16/03/2023

Regd. with A/D

SHOWCAUSE NOTICE

Sub: Non-compliance of Water (Prevention and Control of Pollution) Act 1974

- Ref: 1. Water (Prevention and Control of Pollution) Act, 1974
2. Environment Protection Act 1986
3. The Hon'ble NGT order dated 28.08.2019 in OA No.593/2017
4. Order dated 02/02/2023 in OA 27/2021 of Hon'ble NGT (SZ)
5. Order dated 06/01/2023 in OA 147/2022 of Hon'ble NGT (PZ)

WHEREAS the Central Government notified the Water (Prevention and Control of Pollution) Act, 1974 (hereafter referred to as Water Act) for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water;

WHEREAS as per Section 24 of Water Act disposal of polluting matter to stream or well is prohibited;

WHEREAS as per Section 24(a), no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any [stream or well or sewer or on land];

WHEREAS as per Section 24(b), no person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of the water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences;

96

WHEREAS it is observed that the quality of waterbodies in the Cherthala Municipality is not conforming to standards prescribed under Environment Protection Rules, 1986;

WHEREAS high level of fecal coliforms in the waterbodies indicate the contamination due to improper treatment and disposal of sewage generated in the Municipality area;

WHEREAS there are cases in Hon'ble NGT (OA 27/2021 & OA 147/2022) on deterioration of water quality of drains and Vembanad lake ;

WHEREAS the Hon'ble National Green Tribunal vide Order dated 22/02/2021 in OA 593/2017 laid down compensation scale for continued failure in implementation of Act and Rules;

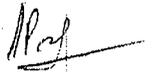
WHEREAS in various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A. No.117/2014, 499/2014 and 102/2014 (ref. 16) the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act,1974 are entitled to assess and recover damages as "Polluter Pay's Principle" in exercise of incidental powers to protect environment";

WHEREAS as per Hon'ble NGT order dated 23/09/2019 in O.A.585/2018, if the rules are violated, the Pollution Control Board can independently proceed against local bodies who are not complying with the rules including initiation of prosecution of those person who are not complying with the same and assessment of damage caused to the Environment;

WHEREAS as per Hon'ble order of NGT dated 28/08/2019 in OA 593/2017 Environment Compensation shall be levied for failure of preventing the pollutants being discharged in water bodies and failure to implement waste management rules and Environment Compensation shall be estimated based on capital cost of STP as Rs. 1.75 Cr/MLD (marginal average cost); cost of conveyance system as Rs. 5.55 Cr/MLD (marginal average cost) and annual O&M cost as 10% of the combined capital cost;

AND WHEREAS it is noted that 5 MLD waste water (sewage&sullage) is generated in Municipality area based on population and the improper treatment and disposal of waste water has led to the deterioration of water quality in water bodies;

NOW THEREFORE, in exercise of the powers vested under Section 33 A of the Water (Prevention and Control of Pollution) Act, 1974 you are directed to show cause reasons within 15 days as to why Environmental compensation shall not be imposed as per the order of NGT in OA 593/2017, against the Municipality for the non-compliance of the Water Act.


CHAIRMAN

To

The Secretary,
Cherthala Municipality
Cherthala Road, Near KSRTC Bus stand,
Kodathikavila, Kerala- 688524

Copy to:

1. The Additional Chief Secretary
Local Self Government Department
2. The Additional Chief Secretary
Environment Department
3. The District Collector, Alappuzha
4. The Director, Urban Directorate

(with covering letter)

5. The Chief Environmental Engineer, Regional Office, Thiruvananthapuram
6. The Environmental Engineer, District Office, Alappuzha

☎ General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151
E-mail: ms.kspcb@gov.in FAX: 0471 - 2318134, 2318152 web: www.kspcb.kerala.gov.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/EE3/NGT/O.A No.147/2022/06/2022

Date: 16/03/2023

Regd. with A/D

SHOWCAUSE NOTICE

Sub: Non-compliance of Water (Prevention and Control of Pollution) Act 1974

- Ref: 1. Water (Prevention and Control of Pollution) Act, 1974
2. Environment Protection Act 1986
3. The Hon'ble NGT order dated 28.08.2019 in OA No.593/2017
4. Order dated 02/02/2023 in OA 27/2021 of Hon'ble NGT (SZ)
5. Order dated 06/01/2023 in OA 147/2022 of Hon'ble NGT (PZ)

WHEREAS the Central Government notified the Water (Prevention and Control of Pollution) Act, 1974 (hereafter referred to as Water Act) for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water;

WHEREAS as per Section 24 of Water Act disposal of polluting matter to stream or well is prohibited;

WHEREAS as per Section 24(a), no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any [stream or well or sewer or on land];

WHEREAS as per Section 24(b), no person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of the water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences;

WHEREAS it is observed that the quality of waterbodies in the Kalamassery Municipality is not conforming to standards prescribed under Environment Protection Rules, 1986;

WHEREAS high level of fecal coliforms in the waterbodies indicate the contamination due to improper treatment and disposal of sewage generated in the Municipality area;

WHEREAS there are case in Hon'ble NGT (OA 147/2022) on deterioration of water quality of drains and Vembanad lake ;

WHEREAS the Hon'ble National Green Tribunal vide Order dated 22/02/2021 in OA 593/2017 laid down compensation scale for continued failure in implementation of Act and Rules;

WHEREAS in various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A. No.117/2014, 499/2014 and 102/2014 (ref. 16) the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974 are entitled to assess and recover damages as "Polluter Pay's Principle" in exercise of incidental powers to protect environment";

WHEREAS as per Hon'ble NGT order dated 23/09/2019 in O.A.585/2018, if the rules are violated, the Pollution Control Board can independently proceed against local bodies who are not complying with the rules including initiation of prosecution of those person who are not complying with the same and assessment of damage caused to the Environment;

WHEREAS as per Hon'ble order of NGT dated 28/08/2019 in OA 593/2017 Environment Compensation shall be levied for failure of preventing the pollutants being discharged in water bodies and failure to implement waste management rules and Environment Compensation shall be estimated based on capital cost of STP as Rs. 1.75 Cr/MLD (marginal average cost); cost of conveyance system as Rs. 5.55 Cr/MLD (marginal average cost) and annual O&M cost as 10% of the combined capital cost;

(00)

AND WHEREAS it is noted that 8 MLD waste water (sewage&sullage) is generated in Municipality area based on population and the improper treatment and disposal of waste water has led to the deterioration of water quality in water bodies;

NOW THEREFORE, in exercise of the powers vested under Section 33 A of the Water (Prevention and Control of Pollution) Act, 1974 you are directed to show cause reasons within 15 days as to why Environmental compensation shall not be imposed as per the order of NGT in OA 593/2017, against the Municipality for the non-compliance of the Water Act.


CHAIRMAN

To

The Secretary,
Kalamassery Municipality,
Changampuzha Nagar,
Thirunilath Housing Colony,
South Kalamassery,
Kerala 682033

Copy to:

1. The Additional Chief Secretary
Local Self Government Department
2. The Additional Chief Secretary
Environment Department
3. The District Collector, Ernakulam
4. The Director, Urban Directorate

(with covering letter)

5. The Chief Environmental Engineer, Regional Office, Ernakulam
6. The Environmental Engineer, District Office-1, Ernakulam



General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151
E-mail: ms.kspcb@gov.in FAX: 0471 - 2318134, 2318152 web: www.kspcb.kerala.gov.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/EE3/NGT/O.A No.147/2022/06/2022

Date:15/03/2023

Regd. with A/D

SHOWCAUSE NOTICE

Sub: Non-compliance of Water (Prevention and Control of Pollution) Act 1974

- Ref: 1. Water (Prevention and Control of Pollution) Act, 1974
2. Environment Protection Act 1986
3. The Hon'ble NGT order dated 28.08.2019 in OA No.593/2017
4. Order dated 02/02/2023 in OA 27/2021 of Hon'ble NGT (SZ)
5. Order dated 06/01/2023 in OA 147/2022 of Hon'ble NGT (PZ)

WHEREAS the Central Government notified the Water (Prevention and Control of Pollution) Act, 1974 (hereafter referred to as Water Act) for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water;

WHEREAS as per Section 24 of Water Act disposal of polluting matter to stream or well is prohibited;

WHEREAS as per Section 24(a), no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any [stream or well or sewer or on land];

WHEREAS as per Section 24(b), no person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of the water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences;

102

WHEREAS it is observed that the quality of waterbodies in the Kochi Corporation is not conforming to standards prescribed under Environment Protection Rules, 1986;

WHEREAS high level of fecal coliforms in the waterbodies indicate the contamination due to improper treatment and disposal of sewage generated in the Corporation area;

WHEREAS there are cases in Hon'ble NGT (OA 27/2021 & OA 147/2022) on deterioration of water quality of drains and Vembanad lake ;

WHEREAS the Hon'ble National Green Tribunal vide Order dated 22/02/2021 in OA 593/2017 laid down compensation scale for continued failure in implementation of Act and Rules;

WHEREAS in various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A. No.117/2014, 499/2014 and 102/2014 (ref. 16) the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974 are entitled to assess and recover damages as "Polluter Pay's Principle" in exercise of incidental powers to protect environment";

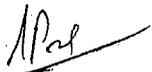
WHEREAS as per Hon'ble NGT order dated 23/09/2019 in O.A.585/2018, if the rules are violated, the Pollution Control Board can independently proceed against local bodies who are not complying with the rules including initiation of prosecution of those person who are not complying with the same and assessment of damage caused to the Environment;

WHEREAS as per Hon'ble order of NGT dated 28/08/2019 in OA 593/2017 Environment Compensation shall be levied for failure of preventing the pollutants being discharged in water bodies and failure to implement waste management rules and Environment Compensation shall be estimated based on capital cost of STP as Rs. 1.75 Cr/MLD (marginal average cost); cost of conveyance system as Rs. 5.55 Cr/MLD (marginal average cost) and annual O&M cost as 10% of the combined capital cost;

103

AND WHEREAS it is noted that 73 MLD waste water (sewage&sullage) is generated in Corporation area based on population and the improper treatment and disposal of waste water has led to the deterioration of water quality in water bodies;

NOW THEREFORE, in exercise of the powers vested under Section 33 A of the Water (Prevention and Control of Pollution) Act, 1974 you are directed to show cause reasons within 15 days as to why Environmental compensation shall not be imposed as per the order of NGT in OA 593/2017, against the Corporation for the non-compliance of the Water Act.


CHAIRMAN

To

The Secretary,
Kochi Corporation

Copy to:

1. The Additional Chief Secretary
Local Self Government Department
2. The Additional Chief Secretary
Environment Department
3. The District Collector, Ernakulam
4. The Director, Urban Directorate

(with covering letter)

5. The Chief Environmental Engineer, Regional Office, Ernakulam
6. The Environmental Engineer, District Office, Ernakulam

[04]

☎: General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151
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KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Pattom P.O., Thiruvananthapuram - 695 004

പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/EE3/NGT/O.A No.147/2022/06/2022

Date:16/03/2023

Regd. with A/D

SHOWCAUSE NOTICE

Sub: Non-compliance of Water (Prevention and Control of Pollution) Act 1974

Ref: 1. Water (Prevention and Control of Pollution) Act, 1974

2. Environment Protection Act 1986

3. The Hon'ble NGT order dated 28.08.2019 in OA No.593/2017

4. Order dated 02/02/2023 in OA 27/2021 of Hon'ble NGT (SZ)

5. Order dated 06/01/2023 in OA 147/2022 of Hon'ble NGT (PZ)

WHEREAS the Central Government notified the Water (Prevention and Control of Pollution) Act, 1974 (hereafter referred to as Water Act) for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water;

WHEREAS as per Section 24 of Water Act disposal of polluting matter to stream or well is prohibited;

WHEREAS as per Section 24(a), no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any [stream or well or sewer or on land];

WHEREAS as per Section 24(b), no person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of the water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences;

WHEREAS it is observed that the quality of waterbodies in the Kollam Corporation is not conforming to standards prescribed under Environment Protection Rules, 1986;

WHEREAS high level of fecal coliforms in the waterbodies indicate the contamination due to improper treatment and disposal of sewage generated in the Corporation area;

WHEREAS there are cases in Hon'ble NGT (OA 147/2022) on deterioration of water quality of drains and Ashtamudi lake ;

WHEREAS the Hon'ble National Green Tribunal vide Order dated 22/02/2021 in OA 593/2017 laid down compensation scale for continued failure in implementation of Act Rules;

WHEREAS in various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A. No.117/2014, 499/2014 and 102/2014 (ref. 16) the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act,1974 are entitled to assess and recover damages as "Polluter Pay's Principle" in exercise of incidental powers to protect environment".

WHEREAS as per Hon'ble NGT order dated 23/09/2019 in O.A.585/2018, if the rules are violated, the Pollution Control Board can independently proceed against local bodies who are not complying with the rules including initiation of prosecution of those person who are not complying with the same and assessment of damage caused to the Environment;

WHEREAS as per Hon'ble order of NGT dated 28/08/2019 in OA 593/2017 Environment Compensation shall be levied for failure of preventing the pollutants being discharged in water bodies and failure to implement waste management rules and Environment Compensation shall be estimated based on capital cost of STP as Rs. 1.75 Cr/MLD (marginal average cost); cost of conveyance system as Rs. 5.55 Cr/MLD (marginal average cost) and annual O&M cost as 10% of the combined capital cost;

(06)

AND WHEREAS it is noted that 43 MLD waste water (sewage&sullage) is generated in Corporation area based on population and the improper treatment and disposal of waste water has led to the deterioration of water quality in water bodies;

NOW THEREFORE, in exercise of the powers vested under Section 33 A of the Water (Prevention and Control of Pollution) Act, 1974 you are directed to show cause reasons within 15 days as to why Environmental compensation shall not be imposed as per the order of NGT in OA 593/2017, against the Corporation for the non-compliance of the Water Act.



CHAIRMAN

To

The Secretary,
Kollam Corporation
Kollam P.O- 691001

Copy to:

1. The Additional Chief Secretary
Local Self Government Department
2. The Additional Chief Secretary
Environment Department
3. The District Collector, Kollam
4. The Director, Urban Directorate

(with covering letter)

5. The Chief Environmental Engineer, Regional Office, Thiruvananthapuram
6. The Environmental Engineer, District Office, Kollam

General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151
E-mail: ms.kspcb@gov.in FAX: 0471 - 2318134, 2318152 web: www.kspcb.kerala.gov.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/EE3/NGT/O.A No.147/2022/06/2022

Date: 16/03/2023

Regd. with A/D

SHOWCAUSE NOTICE

Sub: Non-compliance of Water (Prevention and Control of Pollution) Act 1974

- Ref: 1. Water (Prevention and Control of Pollution) Act, 1974
2. Environment Protection Act 1986
3. The Hon'ble NGT order dated 28.08.2019 in OA No.593/2017
4. Order dated 02/02/2023 in OA 27/2021 of Hon'ble NGT (SZ)
5. Order dated 06/01/2023 in OA 147/2022 of Hon'ble NGT (PZ)

WHEREAS the Central Government notified the Water (Prevention and Control of Pollution) Act, 1974 (hereafter referred to as Water Act) for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water;

WHEREAS as per Section 24 of Water Act disposal of polluting matter to stream or well is prohibited;

WHEREAS as per Section 24(a), no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any [stream or well or sewer or on land];

WHEREAS as per Section 24(b), no person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of the water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences;

108

WHEREAS it is observed that the quality of waterbodies in the Maradu Municipality is not conforming to standards prescribed under Environment Protection Rules, 1986;

WHEREAS high level of fecal coliforms in the waterbodies indicate the contamination due to improper treatment and disposal of sewage generated in the Municipality area;

WHEREAS there are case in Hon'ble NGT (OA 147/2022) on deterioration of water quality of drains and Vembanad lake ;

WHEREAS the Hon'ble National Green Tribunal vide Order dated 22/02/2021 in OA 593/2017 laid down compensation scale for continued failure in implementation of Act and Rules;

WHEREAS in various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A. No.117/2014, 499/2014 and 102/2014 (ref. 16) the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974 are entitled to assess and recover damages as "Polluter Pay's Principle" in exercise of incidental powers to protect environment";

WHEREAS as per Hon'ble NGT order dated 23/09/2019 in O.A.585/2018, if the rules are violated, the Pollution Control Board can independently proceed against local bodies who are not complying with the rules including initiation of prosecution of those person who are not complying with the same and assessment of damage caused to the Environment;

WHEREAS as per Hon'ble order of NGT dated 28/08/2019 in OA 593/2017 Environment Compensation shall be levied for failure of preventing the pollutants being discharged in water bodies and failure to implement waste management rules and Environment Compensation shall be estimated based on capital cost of STP as Rs. 1.75 Cr/MLD (marginal average cost); cost of conveyance system as Rs. 5.55 Cr/MLD (marginal average cost) and annual O&M cost as 10% of the combined capital cost;

109

AND WHEREAS it is noted that 5 MLD waste water (sewage&sullage) is generated in Municipality area based on population and the improper treatment and disposal of waste water has led to the deterioration of water quality in water bodies;

NOW THEREFORE, in exercise of the powers vested under Section 33 A of the Water (Prevention and Control of Pollution) Act, 1974 you are directed to show cause reasons within 15 days as to why Environmental compensation shall not be imposed as per the order of NGT in OA 593/2017, against the Municipality for the non-compliance of the Water Act.


CHAIRMAN

To

The Secretary,
Maradu Municipality
Ernakulam - 682304

Copy to:

1. The Additional Chief Secretary
Local Self Government Department
2. The Additional Chief Secretary
Environment Department
3. The District Collector, Ernakulam
4. The Director, Urban Directorate

(with covering letter)

5. The Chief Environmental Engineer, Regional Office, Ernakulam
6. The Environmental Engineer, District Office-1, Ernakulam

110

☎ General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151
E-mail: ms.kspcb@gov.in FAX: 0471 - 2318134, 2318152 web: www.kspcb.kerala.gov.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/EE3/NGT/O.A No.147/2022/06/2022

Date:16/03/2023

Regd. with A/D

SHOWCAUSE NOTICE

Sub: Non-compliance of Water (Prevention and Control of Pollution) Act 1974

- Ref: 1. Water (Prevention and Control of Pollution) Act, 1974
2. Environment Protection Act 1986
3. The Hon'ble NGT order dated 28.08.2019 in OA No.593/2017
4. Order dated 02/02/2023 in OA 27/2021 of Hon'ble NGT (SZ)
5. Order dated 06/01/2023 in OA 147/2022 of Hon'ble NGT (PZ)

WHEREAS the Central Government notified the Water (Prevention and Control of Pollution) Act, 1974 (hereafter referred to as Water Act) for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water;

WHEREAS as per Section 24 of Water Act disposal of polluting matter to stream or well is prohibited;

WHEREAS as per Section 24(a), no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any [stream or well or sewer or on land];

WHEREAS as per Section 24(b), no person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of the water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences;

WHEREAS it is observed that the quality of waterbodies in the Thrippunithura Municipality is not conforming to standards prescribed under Environment Protection Rules, 1986;

WHEREAS high level of fecal coliforms in the waterbodies indicate the contamination due to improper treatment and disposal of sewage generated in the Municipality area;

WHEREAS there are case in Hon'ble NGT (OA 147/2022) on deterioration of water quality of drains and Vembanad lake ;

WHEREAS the Hon'ble National Green Tribunal vide Order dated 22/02/2021 in OA 593/2017 laid down compensation scale for continued failure in implementation of Act and Rules;

WHEREAS in various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A. No.117/2014, 499/2014 and 102/2014 (ref. 16) the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act,1974 are entitled to assess and recover damages as "Polluter Pay's Principle" in exercise of incidental powers to protect environment";

WHEREAS as per Hon'ble NGT order dated 23/09/2019 in O.A.585/2018, if the rules are violated, the Pollution Control Board can independently proceed against local bodies who are not complying with the rules including initiation of prosecution of those person who are not complying with the same and assessment of damage caused to the Environment;

WHEREAS as per Hon'ble order of NGT dated 28/08/2019 in OA 593/2017 Environment Compensation shall be levied for failure of preventing the pollutants being discharged in water bodies and failure to implement waste management rules and Environment Compensation shall be estimated based on capital cost of STP as Rs. 1.75 Cr/MLD (marginal average cost); cost of conveyance system as Rs. 5.55 Cr/MLD (marginal average cost) and annual O&M cost as 10% of the combined capital cost;

112

AND WHEREAS it is noted that 10 MLD waste water (sewage&sullage) is generated in Municipality area based on population and the improper treatment and disposal of waste water has led to the deterioration of water quality in water bodies;

NOW THEREFORE, in exercise of the powers vested under Section 33 A of the Water (Prevention and Control of Pollution) Act, 1974 you are directed to show cause reasons within 15 days as to why Environmental compensation shall not be imposed as per the order of NGT in OA 593/2017, against the Municipality for the non-compliance of the Water Act.

Map
CHAIRMAN

To

The Secretary,
Thrippunithura Municipality,
Thrippunithura, Kochi
Kerala-682301

Copy to:

1. The Additional Chief Secretary
Local Self Government Department
2. The Additional Chief Secretary
Environment Department
3. The District Collector, Ernakulam
4. The Director, Urban Directorate

(with covering letter)

5. The Chief Environmental Engineer, Regional Office, Ernakulam
6. The Environmental Engineer, District Office-1, Ernakulam

☎: General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151
E-mail: ms.kspcb@gov.in FAX: 0471 - 2318134, 2318152 web: www.kspcb.kerala.gov.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/EE3/NGT/O.A No.147/2022/06/2022

Date: 16/03/2023

Regd. with A/D

SHOWCAUSE NOTICE

Sub: Non-compliance of Water (Prevention and Control of Pollution) Act 1974

- Ref: 1. Water (Prevention and Control of Pollution) Act, 1974
2. Environment Protection Act 1986
3. The Hon'ble NGT order dated 28.08.2019 in OA No.593/2017
4. Order dated 02/02/2023 in OA 27/2021 of Hon'ble NGT (SZ)
5. Order dated 06/01/2023 in OA 147/2022 of Hon'ble NGT (PZ)

WHEREAS the Central Government notified the Water (Prevention and Control of Pollution) Act, 1974 (hereafter referred to as Water Act) for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water;

WHEREAS as per Section 24 of Water Act disposal of polluting matter to stream or well is prohibited;

WHEREAS as per Section 24(a), no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any [stream or well or sewer or on land];

WHEREAS as per Section 24(b), no person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of the water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences;

104

WHEREAS it is observed that the quality of waterbodies in the Vaikom Municipality is not conforming to standards prescribed under Environment Protection Rules, 1986;

WHEREAS high level of fecal coliforms in the waterbodies indicate the contamination due to improper treatment and disposal of sewage generated in the Municipality area;

WHEREAS there are case in Hon'ble NGT (OA 147/2022) on deterioration of water quality of drains and Vembanad lake ;

WHEREAS the Hon'ble National Green Tribunal vide Order dated 22/02/2021 in OA 593/2017 laid down compensation scale for continued failure in implementation of Act and Rules;

WHEREAS in various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A. No.117/2014, 499/2014 and 102/2014 (ref. 16) the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act,1974 are entitled to assess and recover damages as "Polluter Pay's Principle" in exercise of incidental powers to protect environment";

WHEREAS as per Hon'ble NGT order dated 23/09/2019 in O.A.585/2018, if the rules are violated, the Pollution Control Board can independently proceed against local bodies who are not complying with the rules including initiation of prosecution of those person who are not complying with the same and assessment of damage caused to the Environment;

WHEREAS as per Hon'ble order of NGT dated 28/08/2019 in OA 593/2017 Environment Compensation shall be levied for failure of preventing the pollutants being discharged in water bodies and failure to implement waste management rules and Environment Compensation shall be estimated based on capital cost of STP as Rs. 1.75 Cr/MLD (marginal average cost); cost of conveyance system as Rs. 5.55 Cr/MLD (marginal average cost) and annual O&M cost as 10% of the combined capital cost;

115

AND WHEREAS it is noted that 2.5 MLD waste water (sewage&sullage) is generated in Municipality area based on population and the improper treatment and disposal of waste water has led to the deterioration of water quality in water bodies;

NOW THEREFORE, in exercise of the powers vested under Section 33 A of the Water (Prevention and Control of Pollution) Act, 1974 you are directed to show cause reasons within 15 days as to why Environmental compensation shall not be imposed as per the order of NGT in OA 593/2017, against the Municipality for the non-compliance of the Water Act.


CHAIRMAN

To

The Secretary,
Vaikom Municipality,
Vaikom P.O,
Kottayam -686141

Copy to:

1. The Additional Chief Secretary
Local Self Government Department
2. The Additional Chief Secretary
Environment Department
3. The District Collector, Kottayam
4. The Director, Urban Directorate

(with covering letter)

5. The Chief Environmental Engineer, Regional Office, Ernakulam
6. The Environmental Engineer, District Office, Kottayam

Annexure-8

Annexure-8

☎ General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151

e-mail: ms.kspcb@gov.in, FAX: 2318152 web: www.kspcb.kerala.gov.in



KERALA STATE POLLUTION CONTROL BOARD

കേരളസംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Pattom P.O., Thiruvananthapuram - 695 004

പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/EE1/SOUTHERN RAILWAY/2023

Dated: 15/03/2023

From

The Member Secretary

To

The Member Secretary

IPC - VII, Central Pollution Control Board

Privesh Bhavan,

East Arjun Nagar,

Delhi - 110032

Sub: Status of compliance with consent conditions - Railway Stations in Kerala - reg.

- Ref: 1) Order of the Hon'ble NGT in O.A. No. 141/2014.
 2) Letter No. PCB/HO/EE1/SOUTHERN RAILWAY/2023 dated 16/01/2023 & 20/01/2023.
 3) Letter no. PCB/EKM/DO-1/OA 444/2015 dated 18/02/2021 & 20/12/2022 .
 4) Consent Revocation Intention Notice No.PCB/EKM/DO-1/GEN-07/2021 dated 21/11/2022.

Sir,

Kind attention is invited to the matter cited above. The order of the Hon'ble NGT in OA No. 141/2014 specifies that the Railway Stations fall under the ambit of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981 and the Environment (Protection) Act, 1986 and the rules framed there under. Hence all the major Railway Stations are required to obtain Consent of the Board. Based on the order of the Hon'ble NGT all the major Railway Stations of Kerala had applied for Board's consent and consent was issued

to most of the Railway Stations with a condition to install the ETP within a stipulated time frame. Now it is noted that many of the railway stations have failed to provide the ETP yet, thus violating the condition of the consent issued by the Board. It has also come to notice of the Board that failure of providing proper waste water treatment plant in such stations has resulted in pollution of water bodies in the State. Board has brought the matter to the notice of the Divisional Railway Manager vide letter dated 16/01/2023 & 20/01/2023.

Regarding Kochi, deterioration of water quality of drains of Vembanad lake is viewed seriously by Hon'ble NGT in OA 27/2021 (SZ) and OA 147/2022 (PZ). Ernakulam Junction which is a major railway station in Kerala is a contributor of pollution of water bodies in Kerala. This station is issued Integrated Consent to Operate valid upto 31/03/2023 with a condition to set up the Sewage Treatment Plant. But STP is not yet provided and also the area behind the diesel loco shed situated at the South Railway station is contaminated with oil. Though several instructions/ notices had been issued to the railways from the District Office of the Board, no action is initiated for the remediation of oil contaminated area till date. Since the site is severely contaminated with oil sludge which is hazardous in nature it was directed to take immediate action to remediate the area. Advice regarding methodology to be adopted for remediation work had also been issued. Despite the above facts neither the remediation work is taken up nor the STP is constructed. Since such inaction on the part of Railways may impair the quality of nearby water bodies the issue needs urgent resolution. It is requested that your good self may kindly intervene in the matter and necessary instructions to the concerned authorities may please be issued in this regard.

Yours faithfully,

S. S. A. J.

MEMBER SECRETARY

A/197

118



☎: General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151
E-mail: ms.kspcb@gov.in FAX: 0471 - 2318134, 2318152 web: www.kspcb.kerala.gov.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/EE3/NGT/OA NO. 147/2022/06/2022

Date:16.02.23

From

The Member secretary

To

The Chairman
Kerala Maritime Board
Wilmont Park, Door No.39/2790-B,
(New No.62/450) Warriam Road,
Eranakulam -682016

Sub: OA 147/2022 (PB)- Ashtamudi and Vembanadu Lake- before the Hon'ble National Green Tribunal.

- Ref: 1. Order dated 23.08.2022 OA 147/2022
 2. Order dated 06.01.2023 OA 147/2022
 3. Minutes of the meeting of Monitoring Committee held on 23.01.2023 in the matter of National Green Tribunal in OA No 147/2022

Sir,

As per the latest order dated 06.01.2023, in OA 147/2022 of Hon'ble NGT directed to take remedial action for the protection of Ashtamudi and Vembanadu-Kol Wetland. Action is to be taken against house boats to ensure treatment of waste water generated . Unregistered House Boats are to be identified and the list of all house boats should be given by the post.

Yours faithfully

MEMBER SECRETARY

Copy to :- EE DO ALPY/KTM/EKM/KLM-For urgent necessary action and report



KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

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

PCB /HO/EE3/NGT/O.A No.147/2022/06/2022

Date:16 /02/2023

From

The Member Secretary

To

- 1.The Secretary,
DTPC, Kollam
- 2.The Secretary,
DTPC, Alappuzha
- 3.The Secretary,
DTPC, Kottayam
4. The Secretary,
DTPC, Ernakulam

Sub:- O.A 147/2022 (PB)- Vembanad Lake & Ashtamudi Lake --
before the Hon'ble National Green Tribunal

- Ref:- 1.Order dated 23/08/2022 O.A.147/2022
2.Order dated 06/01/2023 O.A.147/2022
3. Minutes of the Meeting of Monitoring committee held on 23/01/2023 in
the matter of National Green Tribunal in OA No. 147/2022

Sir,

The Hon'ble NGT vide order dated 06/01/2023 in OA-147/2022 directed State of Kerala to submit a meaningful action taken report. Please ensure the treatment of waste including waste water and garbage generated from all house boats. You are requested to insist all house boat owners on taking necessary licences from the concerned authorities in a time bound manner. The details regarding the number of house boats, the quantity of waste water treated, quantity of garbage treated and disposed etc are to be submitted.

Yours faithfully,

Shan

MEMBER SECRETARY

Copy to,

- 1) The Environmental Engineer
District Office, Kollam/ Alapuzha/ Kottayam/Ernakulam

} for report

120

A/13¹⁹⁹

☎: General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151
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KERALA STATE POLLUTION CONTROL BOARD

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Pattom P.O., Thiruvananthapuram - 695 004

പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/EE3/OA NO-27/2021(SZ)/2021

Date: 18/03/2023

From

The Chairman

To

The Director ,
CSIR - NEERI,
Nehru Marg,
Vasant Nagar
Nagpur
Maharashtra

Sub:-Phytroid waste water treatment Technology-O A 27/2021,141/2021,147/2022 -
reg.

Ref :- 1)NGT Order of OA 141/2021 dated 16.02.2023
2) NGT Order of OA 27/2022 dated 02.02.2023

Sir,

Kind attention is invited to the subject matter. The Hon'ble NGT vide order under reference had directed to consider treatment system like Phytroid waste water treatment Technology. A Presentation was made by Dr. Rithesh Vijay with regard to this technology. To explore the possibility of using this technology in Kerala, it would be of great help if Dr. Rithesh Vijay can make a visit and understand the details of

various locations and the feasibility of technology in Kerala condition. Dr. Rithesh Vijay may kindly be permitted to visit Kerala, for the purpose. All arrangements for travel and accommodation shall be made by PCB.

Yours faithfully,


CHAIRMAN

Copy To: Dr. Rithesh Vijay, Senior Scientist & Head, NEERI
Chief Environmental Engineer, RO, Thiruvananthapuram
Chief Environmental Engineer, RO, Ernakulam
Senior Environmental Engineer-1, legal section, HO
Environmental Engineer, Alappuzha

122

**Minutes of the presentation by NEERI on 13.03.2023 regarding
Phytroid Waste Technology in the matter of
O.A. 27/2021 Perandoor Canal & OA 141/2021 Pallikkalar**

The meeting was convened via VC by the Chairman, Kerala State Pollution Control Board to view and assess the possibility of utilizing phytroid technology as a temporary measure for treatment of sewage as suggested by the NGT in the order dated 02.02.2023 on OA 27/2021 and in the order dated 16.02.2023 on OA 141/2021. Dr .Rithesh Vijay, Senior Principal Scientist and Head, NEERI ;Member Secretary KSPCB; Director, Waste Water Management Suchitwa Mission ;CEE ,Head office; CEE,RO, Trivandrum; CEE,RO, Ernakulam; Senior Environmental Engineer, Head Office, Environmental Engineers Kollam, Pathanamthitta, Alappuzha, Ernakulam, and representatives from Local Bodies namely Kadambanad, Pallickal, Thodiyoor, Poruvazhy attended the online presentation.

The Chairman, KSPCB at the outset gave a brief description about O A 141 and O A 27 and mentioned that as per the latest order NGT has observed that the methodology known as Phytoid Waste water Technology developed by NEERI was suggested to restore Pallikallar and Perandoor canal.

Dr .Rithesh Vijay , Senior Principal Scientist and Head ,NEERI presented the technology in powerpoint.

From the presentation it is presumed that only stones and aggregates along with plants are used in this technology. The existing and ongoing projects taken up by NEERI,with this technology was also shown, during the presentation.

Chairman enquired about the space requirement of the treatment plant and about the removal efficiency with respect to coliforms. Dr .Rithesh Vijay clarified that Scalability of this plant varies from 5.0 KLD to 50 Lakh litres per day, and upper portion works on aerobic principle and bottom portion works on anaerobic principle. So considerable reduction of coliforms will occur but disinfection is required after this.

The time period required for construction was reported as 3 to 4 months. The

123

Chairman further enquired whether any odour control facilities are associated with the method and Dr .Rithesh Vijay replied that sewage goes to subsurface and no water logging and stagnation and hence there will be no foul smell.

Dr. Praveen K S, Director Waste Water Management, Suchitwa Mission opined that NEERI is not executing any new projects and only gave consultancy service and they have empanelled agencies for execution. He enquired whether this method will be effective during flooding and Dr .Rithesh Vijay , NEERI replied that flooding will not affect the plant as this is constructed slightly above ground level.

The Chairman, KSPCB enquired about the total cost of construction and enquired whether it is a permanent method as NGT mentioned it as "a temporary measure". Dr .Rithesh Vijay , replied that though the initial cost for construction of RCC tank is high, the operational and maintenance cost is low and least .He also clarified that it can be considered as a permanent treatment solution and invited officials concerned for a site visit, to any of the visit where the system has been installed.

The Chairman concluded the meeting by stating that the matter would be informed to Additional Chief Secretary, Environment for filing the report to NGT and with permission, concerned officials can undertake a trip to the nearest such facility operated by NEERI.


CHAIRMAN

124

A/14 203

☎: General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2316150 Member Secretary: 2318151
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PCB/HO/EE3/OA NO-27/2021(SZ)/2021

Date: 18/03/2023

From

The Chairman

To

The Director ,
CSIR - NEERI,
Nehru Marg,
Vasant Nagar
Nagpur
Maharashtra

Sub:-Phytroid waste water treatment Technology-O A 27/2021,141/2021,147/2022 -
reg.

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Chief Environmental Engineer, RO, Thiruvananthapuram
Chief Environmental Engineer, RO, Ernakulam
Senior Environmental Engineer-1, legal section, HO
Environmental Engineer, Alappuzha

126

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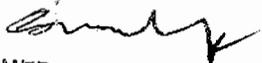
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CHAIRMAN

Coastal Zone Management Plan 2019 – Tentative Time Line for Finalization

| Sl. No. | Description | Concerned Department / Institute | Expected Time Limit | | |
|---------|--|----------------------------------|--------------------------------------|------------------------------|--|
| | | | Thiruvananthapuram, Kollam, Kottayam | Kasaragod, Kannur, Kozhikode | Malappuram, Thrissur, Ernakulam, Alappuzha |
| 1. | Submission of draft CZMP prepared by NCESS before KCZMA and Environment Department | NCESS | 28.03.2023 | 13.04.2023 | 30.04.2023 |
| 2. | Approval (KCZMA/Govt) to proceed for public hearing | KCZMA | 04.04.2023 | 19.04.2023 | 05.05.2023 |
| 3. | Publishing the draft CZMP in the official website of KCZMA | KCZMA | 05.04.2023 | 20.04.2023 | 06.05.2023 |
| 4. | Distribution of Maps of CZMP to concerned Local Bodies / Town Planning departments | KCZMA | 10.04.2023 | 22.04.2023 | 08.05.2023 |
| 5. | Intimation of public hearing notice to media / dailies | KCZMA | 11.04.2023 | 24.04.2023 | 09.05.2023 |
| 6. | Finalization of public hearing & Opinion/suggestions from general public | KCZMA | 11.05.2023 | 24.05.2023 | 09.06.2023 |
| 7. | Consolidation of opinions and | KCZMA | 17.06.2023 | | |

| | suggestions | | |
|-----|---|-------|--|
| 8. | Submission of draft document to NCESS after incorporating suggestions of general public | KCZMA | 19.06.2023 |
| 9. | Submission of final draft plan to KCZMA | NCESS | 23.06.2023 |
| 10. | Submission of draft plan before the Technical Scrutiny Committee of NCSCM | KCZMA | 26.06.2023 |
| 11. | Submission of the draft plan to Government as recommended by the Technical Scrutiny Committee NCSCM | KCZMA | On receipt of the draft plan from the Technical Scrutiny Committee of NCSCM |


SUNEEL PAMIDI IPS
Pen No: 305369
DIRECTOR
Directorate of Environment & Climate Change
Thampanoor, Thiruvananthapuram-01

| Materials removed by CKGL from LSGIs which surrounds Vembanad Lake | | | | | | | | | | |
|--|-----------------------------|---------------------------------|-----------|-----------|-----------|-------------------------------------|-----------|-----------|--------|------------------|
| Sl No | LSGI | Legacy materials collected (kg) | | | | Recyclable materials collected (kg) | | | | Grand Total (kg) |
| | | 2020-2021 | 2021-2022 | 2022-2023 | Total | 2020-2022 | 2021-2022 | 2022-2023 | Total | |
| 1 | Kochi Corporation | - | - | - | - | - | - | - | - | - |
| 2 | Vaikkom Municipality | 23,355 | 8,905 | - | 32,260 | 416 | 1,777 | 2,984 | 5,177 | 37,437 |
| 3 | Thripuitura Municipality | - | - | - | - | - | - | - | - | - |
| 4 | Marad Municipality | 77,200 | 18,970 | - | 96,170 | 105 | - | - | 105 | 96,275 |
| 5 | Cherthala Municipality | 72,910 | - | - | 72,910 | - | 11,388 | - | 11,388 | 84,298 |
| 6 | Alappuzha Municipality | 3,28,580 | 9,94,165 | 3,26,990 | 16,49,735 | - | - | 12,350 | 12,350 | 16,62,085 |
| 7 | Mannanchery Panchayat | - | - | - | - | - | 3,038 | 6,440 | 9,478 | 9,478 |
| 8 | Chenam Pallipuram Panchayat | - | 4,930 | - | 4,930 | 408 | 3,604 | 6,653 | 10,665 | 15,595 |
| 9 | Thaneermukkam Panchayat | 10,580 | - | - | 10,580 | 78 | - | 6,899 | 6,977 | 17,557 |
| 10 | Muhamma Panchayat | 5,470 | 4,960 | - | 10,430 | - | 947 | - | 947 | 11,377 |
| 11 | Kainakari Panchayat | 7,990 | 4,530 | - | 12,520 | 1,291 | 11,563 | - | 12,854 | 25,374 |
| 12 | Ezhupunna Panchayat | - | 3,740 | - | 3,740 | - | 2,390 | 16,142 | 18,532 | 22,272 |
| 13 | Aroor Panchayat | 2,015 | 4,010 | - | 6,025 | - | 541 | 3,462 | 4,003 | 10,028 |
| 14 | Kodamthuruthu Panchayat | - | - | - | - | - | - | 7,682 | 7,682 | 7,682 |
| 15 | Kuthiyathodu Panchayat | - | - | - | - | - | 2,005 | 10,550 | 12,555 | 12,555 |
| 16 | Thuravoor Panchayat | - | - | - | - | - | - | 5,186 | 5,186 | 5,186 |
| 17 | Vayalar Panchayat | - | - | - | - | - | - | 12,638 | 12,638 | 12,638 |
| 18 | Perumpalam Panchayat | - | 2,700 | - | 2,700 | 383 | 915 | 5,963 | 7,261 | 9,961 |
| 19 | Arukutty Panchayat | 4,275 | - | - | 4,275 | 202 | 267 | 653 | 1,122 | 5,397 |
| 20 | Panavally Panchayat | - | 2,190 | - | 2,190 | - | - | 10,542 | 10,542 | 12,732 |
| 21 | Thaikattuserry Panchayat | 6,530 | 6,860 | - | 13,390 | 750 | 584 | 8,436 | 9,770 | 23,160 |
| 22 | Aryad Panchayat | 52,402 | - | - | 52,402 | 2,460 | 3,673 | 12,656 | 18,789 | 71,191 |
| 23 | Aymanam Panchayat | 16,665 | 51,745 | 78,810 | 1,47,220 | 1,760 | 12,122 | 7,115 | 20,997 | 1,68,217 |
| 24 | Kumarakom Panchayat | 650 | 12,010 | - | 12,660 | 1,171 | 5,854 | 6,273 | 13,298 | 25,958 |
| 25 | TV Puram Panchayat | - | - | - | - | 83 | 269 | - | 352 | 352 |
| 26 | Udayanapuram Panchayat | 15,950 | - | - | 15,950 | 100 | 1,562 | 3,562 | 5,225 | 21,175 |
| 27 | Vechoor Panchayat | 13,800 | - | - | 13,800 | 440 | 1,575 | 3,374 | 5,389 | 19,189 |
| 28 | Arpookkara Panchayat | 7,905 | 5,560 | - | 13,465 | 580 | 399 | 365 | 1,344 | 14,809 |
| 29 | Maravanthuruth Panchayat | 4,885 | - | - | 4,885 | 402 | 1,875 | 2,338 | 4,615 | 9,500 |
| 30 | Thalayazham Panchayat | 1,450 | 8,595 | - | 10,045 | 971 | 1,863 | 3,705 | 6,539 | 16,584 |
| 31 | Chempu Panchayat | 700 | - | - | 700 | 287 | 4,000 | 4,967 | 9,254 | 9,954 |
| 32 | Chellanam Panchayat | - | 3,20,475 | - | 3,20,475 | - | - | - | - | 3,20,475 |
| 33 | Elamkunnapuzha Panchayat | - | - | 13,876 | 13,876 | - | - | - | - | 13,876 |

| Sl No | LSGI | Legacy materials collected (kg) | | | | Recyclable materials collected (kg) | | | | Grand Total (kg) |
|-------|------------------------|---------------------------------|-----------|-----------|-----------|-------------------------------------|-----------|-----------|----------|---------------------|
| | | 2020-2021 | 2021-2022 | 2022-2023 | Total | 2020-2022 | 2021-2022 | 2022-2023 | Total | |
| 34 | Ezhikkara Panchayat | - | - | - | - | - | - | - | - | - |
| 35 | Kadamakkudy Panchayat | - | - | - | - | - | - | - | - | - |
| 36 | Kottuvally Panchayat | - | - | - | - | - | - | - | - | - |
| 37 | Kumbalam Panchayat | - | - | - | - | - | - | - | - | - |
| 38 | Kumbalanghi Panchayat | 1,02,700 | - | - | 1,02,700 | 735 | - | - | 735 | 1,03,435 |
| 39 | Mulavukad Panchayat | - | - | - | - | - | - | - | - | - |
| 40 | Udayamperoor Panchayat | 9,150 | - | - | 9,150 | 524 | - | - | 524 | 9,674 |
| 41 | Varapuzha Panchayat | - | - | - | - | - | - | - | - | - |
| Total | | 7,65,162 | 14,54,345 | 4,19,676 | 26,39,183 | 13,146 | 72,211 | 1,60,935 | 2,46,292 | 28,85,475 |

| Materials removed by CKCL from LSGIs which surrounds Ashtamudi Lake | | | | | | | | | | |
|---|-------------------------|---------------------------------|-----------------|-----------------|-----------------|-------------------------------------|-----------------|-----------------|-----------------|------------------|
| SI No | LSGI | Legacy materials collected (kg) | | | | Recyclable materials collected (kg) | | | | Grand Total (kg) |
| | | 2020-2021 | 2021-2022 | 2022-2023 | Total | 2020-2022 | 2021-2022 | 2022-2023 | Total | |
| 1 | Kollam Corporation | 2,89,010 | 1,82,205 | 1,37,940 | 6,09,155 | 21,030 | 85,746 | 1,18,851 | 2,25,627 | 8,34,782 |
| 2 | Neendakara Panchayat | 2,750 | - | - | 2,750 | - | - | - | - | 2,750 |
| 3 | Thrikkaruva Panchayat | - | - | - | - | 1,808 | 958 | - | 2,766 | 2,766 |
| 4 | Perinad Panchayat | 19,085 | - | - | 19,085 | 1,288 | 1,211 | - | 2,499 | 21,584 |
| 5 | Panayam Panchayat | - | - | - | - | - | - | - | - | - |
| 6 | Thekkumbhagom Panchayat | 4,810 | - | - | 4,810 | 656 | 1,447 | 3,505 | 5,608 | 10,418 |
| 7 | Chavara Panchayat | - | - | 13,280 | 13,280 | 9,872 | 20,378 | 12,830 | 43,080 | 56,360 |
| 8 | Perayam Panchayat | - | - | - | - | 2,340 | 609 | - | 2,949 | 2,949 |
| 9 | Munrothuruthu Panchayat | 2,750 | - | - | 2,750 | 274 | 176 | - | 450 | 3,200 |
| 10 | East Kallada Panchayat | - | - | 6,180 | 6,180 | 63 | 1,953 | 5,209 | 7,225 | 13,405 |
| 11 | Thevalakkara Panchayat | 2,570 | - | 9,690 | 12,260 | 728 | 2,965 | - | 3,693 | 15,953 |
| 12 | West Kallada Panchayat | 2,130 | - | - | 2,130 | 2,240 | 2,800 | 6,341 | 11,381 | 13,511 |
| Total | | 3,23,105 | 1,82,205 | 1,67,090 | 6,72,400 | 40,299 | 1,18,244 | 1,46,736 | 3,05,278 | 9,77,678 |

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വേമ്പനാട് അഷ്ടമുടി കായൽ സംരക്ഷണവുമായി ബന്ധപ്പെട്ട നടപടികൾ

| | NAME OF GP | NAME OF PROJECT (IN ENGLISH) | PROJECT NO | PROJECT AMOUNT | PERCENTAGE OF COMPLETION | PRODUCTS ISSUED (IN CASE OF SOAK PIT, COMPOST PIT, TOILET, |
|----|-----------------|---|------------|--|--------------------------|--|
| 1 | CHAVARA | Nil | Na | Na | 0 | 0 |
| 2 | NEENDAKARA | Installation of Septic tank | 117 | 400000 | 95 | 19 |
| 3 | THRIKKARUV A | Installation of septic tank-retrofitting | 162 | 2254900 | 0 | 0 |
| 4 | PERINADU | Waste Management Project for Ashtamudi lake | 9 | 266000 | 0 | |
| 5 | PERINADU | Renovation of Astamudi Kayal | 217 | 200000 | 0 | |
| 6 | PERINADU | oillet digester maintanance | 230 | 660000 | 0 | 0 |
| 7 | PANAYAM | Waste Removal from Ashtamudi Lake (8 wards) | 61 | 200000 | 25 | |
| 8 | PANAYAM | INSTALLATION OF BIO-DIGESTER | 249 | 550000 | 0 | 0 |
| 9 | THEKKUMBHAGAM | Jeevananu Ashtamudi Jeevikkanam Ashtamudi First Phase- Septic tank Distribution | 119/23 | Tied fund- 500000 District Panchayat - 3500000 | 12.5 | septic tank- 54 |
| 10 | PERAYAM | Ashtamudikkayal samrakshanam-Toilet retrofitting | 190 | 320000 | 0 | 0 |
| 11 | MUNTROTHU RUTHU | 0 | 0 | 0 | 0 | 0 |

| | | | | | | |
|----|--------------|---|------|----------|--------------|------------|
| 12 | EAST KALLADA | Nil | nil | nil | nil | nil |
| 13 | THEVALAKKARA | Pre-fabricated synthetic septic tank | 182 | 1760000 | 15 | NA |
| 14 | WEST KALLADA | Waste management related expenses | 72 | 500000 | 75 | NA |
| 15 | WEST KALLADA | Septic tank installation | 85 | 600000 | 0 | 0 |
| 16 | KUNDARA | Nil | Nil | Nil | Nil | Nil |
| 17 | AYMANAM | Deepening and cleaning of various Canals- | NA | 4000000 | 75 | |
| 18 | AYMANAM | Sujalam Project | | | | |
| 19 | THIRUVARPPU | CLEANING OF PARAPPEL-PATTAANAMKARI-MUTHERRYMADA THODU | 31 | 1502750 | 72 % | NA |
| 20 | THIRUVARPPU | Deepening Cleaning and increasing water flow through different thodukal in thiruvarpvu grama panchayath | 27 | 300550 | 90% | NA |
| 21 | THIRUVARPPU | TRENCH DEEPENING IN VARIOUS WARDS -PHASE II | 182 | 1414700 | 75% | NA |
| 22 | THIRUVARPPU | SUPPLY OF SOURCE WASTE MANAGEMENT TOOLS | 20 | 1080800 | 92% | Bin 950 |
| 23 | THIRUVARPPU | TOILET MAINTENANCE | 21 | 2170000 | 80% | Toilet-292 |
| 24 | KUMARAKOM | Sujalam - Deepening & Cleaning of Various Canals | 7/23 | 903400/- | 0 | NA |
| 25 | TV PURAM | Deepening of Mattapally thodu | 40 | 450000 | 0 | 0 |
| 26 | TV PURAM | deepening of canals | 18 | 198000 | work started | 0 |
| 27 | TV PURAM | Deepening of Idipidithara Thodu Phase 2 | 28 | 321080 | work started | 0 |
| 28 | TV PURAM | Cleaning of public water bodies | 38 | 1000000 | | 0 |
| 29 | TV PURAM | Deeening of Pallattu Oruthayapally Thodu | 27 | 450000 | work started | 0 |
| 30 | UDAYANAPURAM | Deepening and cleaning of various Canals- | 111 | 20 lakh | work started | 0 |
| 31 | UDAYANAPURAM | Sujalam Project | 56 | 2727994 | 100 | 0 |
| 32 | UDAYANAPURAM | Sujalam Project | 54 | 3846834 | 100 | 0 |
| 33 | UDAYANAPURAM | soak pits & compost pits by NREGS | - | - | - | 20 |

| | | | | | | |
|----|---------------------|--|--------|---------|------------------------|--|
| 34 | UDAYANAPUR AM | TOILET MAINTENANCE | | | | 290 |
| 35 | VECHOOR | Cleaning and deepening of Vembanad Lake | 42 | 901779 | 50 | 0 |
| 36 | VECHOOR | Deepening of various Canals | ##### | 782526 | 0 | 0 |
| 37 | ARPOOKKARA | Cleaning of Different canals | 211 | 400000 | 0% | 0 |
| 38 | MARAVANTHU RUTHU | Panjippalam moozhikkal thodu deepening | 26 | 161044 | 100 | NA |
| 39 | MARAVANTHU RUTHU | Ithipuzha chalum kadavu thodu deepening | 28 | 221215 | 100 | NA |
| 40 | MARAVANTHU RUTHU | Panjippalam moozhikkal thodu deepening2nd | 34 | 318250 | 100 | NA |
| 41 | MARAVANTHU RUTHU | pullattinkara thodu deepening | 101 | 150000 | 100 | NA |
| 42 | MARAVANTHU RUTHU | panjippalam Earappara IHDP colony thodu deepening | 13 | 400000 | Tender execute d | NA |
| 43 | THALAYAZHA M | NII | NA | NA | NA | NA |
| 44 | CHEMBU | Pullanthiyar Cleaning | 100/22 | 338109 | Tender execute d | Soakpit -25 Compo st pit- 25 |
| 45 | CHEMBU | Fishfarm valiyathode cleaning | 67/23 | 385682 | Tender execute d | Soakpit -25 ODF Toilet- 106 |
| 46 | CHELLANAM | Installation of C C TV Camera to prevent Garbage disposal | 248/23 | 3000000 | 0% | |
| 47 | ELANKUNNAP UZHA | soakpit under MGNREGS | | 85000 | 100% | 5 |
| 48 | ELANKUNNAP UZHA | compost pit under MGNREGS | | 80000 | 100% | 4 |
| 49 | ELANKUNNAP UZHA | retrofiting | 181/23 | 92400 | 100% | 10 |
| 50 | EZHICKARA | NIL | 0 | 0 | 0 | |
| 51 | KADAMAKKUD Y | CLEANING OF VARIOUS THODU IN MGNREGS | | 800000 | 100% | 1.5 KMS |

| | | | | | | |
|----|------------------|--|----------|---------|-----------------|-----|
| 52 | KADAMAKKUD Y | SOAK PIT UNDER MGNREGS | | 64000 | 100% | 8 |
| 53 | KADAMAKKUD Y | INSTALLATION OF CAMERA | 11 | 899220 | 50% | 10 |
| 54 | KADAMAKKUD Y | DISTRIBUTION OF BIO BIN | 183 | 200000 | 50% | 103 |
| 55 | KOTTUVALLY | Bokashi Bucket | 15/23 | | 100% | 0 |
| 56 | | Bio Composter Bin | 14/23 | | 70% | 0 |
| 57 | KUMBALAM | Fixing CCTV camera in various places of Panchayath | 131 | 1865029 | 50% | |
| 58 | KUMBALAM | Soakpit under MGNREGS | | 251160 | 100% | 28 |
| 59 | KUMBALAM | Cleaning of Thodu under MGNREGS | | 3095480 | 100% | |
| 60 | KUMBALAM | Septic Tank maintenance | 159 | 138600 | 50% | 7 |
| 61 | KUMBALAM | Distribution of biobin | 32 | 586942 | 100% | 283 |
| 62 | KUMBALANGY | Installation of surveillance camera for blocking dumping of wastes | 182 | 432938 | tender accepted | |
| 63 | KUMBALANGY | Kumbalanghy gramapanchayath beautification-waste disposal | 233 | 200000 | 30% | |
| 64 | KUMBALANGY | Gee Bin3 bin system | 209 | 111800 | 100% | |
| 65 | MULAVUKADU | Cleaning of canals in various wards in Mulavukad GP | S0098/23 | 710000 | 100 | |
| 66 | MULAVUKADU | IHHL CONSTRUCTION | S0105/23 | 770000 | 50 | |
| 67 | MULAVUKADU | CCTV Camera | S0233/23 | 714033 | 0 | |
| 68 | MULAVUKADU | SEPTIC TANK MAINTENANCE RETROFITTING | S0106/23 | 462000 | 50 | |
| 69 | UDAYAMPER OOR | Financial assistance for toilet maintenance | | 369600 | 70 | 30 |
| 70 | UDAYAMPER OOR | distribution of bio compster bin | | 432000 | 0 | 0 |
| 71 | UDAYAMPER OOR | Door to door collection by HKS | | 250000 | 45 | NA |
| 72 | UDAYAMPER OOR | cleaning of water bodies | | 7416 | 100 | |
| 73 | UDAYAMPER OOR | soak pit | | 3385 | 100 | 16 |

| | | | | | | |
|----|---------------------|--|------------|----------|---------|-------------------------|
| 74 | VARAPPUZHA | Financial assistance for toilet maintenance | 68 | 400000 | 50 | Toilet 03 completed |
| 75 | VARAPPUZHA | Distribution of Bio Digester Pot | | 1000000 | 0 | 0 |
| 76 | VARAPPUZHA | Door to door collection by HKS(VGF) | 2 | 200000 | 45 | |
| 77 | VARAPPUZHA | Cleaning of various thodes by MGNREGS | By MGNREGS | 1450000 | 80 | 7Kms Cleaned |
| 78 | MANNACHERRY | nil | nil | nil | nil | nil |
| 79 | CHENNAM PALLIPPURAM | Canal Cleaning in 17 wards | | 3106800 | 0 | NA |
| 80 | THANEERMUKKAM | Toilet Retrofitting , | 214 | 1062600, | 74 | Retrofitting 84 |
| 81 | THANEERMUKKAM | Soakpit, | MGNREGS | 74250 | | Soak pit-9, |
| 82 | MUHAMMA | Deepening of Canals | 215 | 493080 | 0 | |
| 83 | KAINAKKARI | No | nil | nil | nil | nil |
| 84 | ARoor | Vembanad Backwaters Environmental Recovery Yajna Phase 2 (Ward 67) | 128 | 1700000 | 0 | 0 |
| 85 | EZHUPUNNA | Kochuveli-Sreenarayanapuram Thodu Cleaning, | 217, | 2000000, | 0%, , | 0 |
| 86 | EZHUPUNNA | Cleaning of various Canals (MGNREGS), | MGNREGS, | 1309932 | 100% | 0 |
| 87 | EZHUPUNNA | Sewage Treatment Plant | 87 | 2500000 | 0% | 0 |
| 88 | KODAMTHURU | Nil | Nil | Nil | Nil | Nil |
| 89 | KUTHIYATHOD | Waste Water Treatment plant River Cleaning-ward 6, | 144/23 | 2000000, | 0 | 0 |
| 90 | KUTHIYATHOD | Puthuparambu Thode Cleaning(MGNREGA) | MGNREGS | 248735 | 50 | |
| 91 | VAYALAR | CANAL CLEANING | 2E+05 | 2000000 | 0 | 0 |
| 92 | PERUMBALAM | Cleaning of various Canals(MGNREGS) | MGNREGS | 7900000 | 100.00% | 0 |
| 93 | PERUMBALAM | Retrofitting | 30, 23 | 0.20891 | 17.50% | Toilet Retrofitting-34, |
| 94 | PERUMBALAM | Toilet Construction | 141 | 0.14691 | 0.00% | 0 |

138

| | | | | | | |
|-----|-------------|---|--------------|---------|-----|----|
| 95 | ARUKUTTI | Nil | NA | NA | NA | NA |
| 96 | PANAVALLY | Kayal theera samrakshanam Panchayath vihitham nalkal | 35 | 500000 | 0 | 0 |
| 97 | PANAVALLY | Thodu cleaning in MGNREGA | MGNR EG\$ | 3200000 | 100 | 0 |
| 98 | THAIKKATTUS | Retro Fitting Septic Tank | 137 | 1489500 | 44 | 5 |
| 99 | ARYAD | Deepening and protection of canals in ward 9&7 | 238 | 1020000 | 0 | 0 |
| 100 | THURAVOOR | Nil | NA | NA | NA | NA |

| പിലാക്കുന്ന പദ്ധതികൾ | |
|----------------------|---|
| DATE OF COMPLETION | REMARKS (IN ENGLISH) |
| 0 | Decided to include Pre-fabricated synthetic septic tank, River bank protection in Pattathanam Ward in FY 2023-24 annual projects. |
| ##### | |
| 31/03/23 | ongoing, Agreemented started |
| | Tender Process Ongoing |
| | Revision |
| 31.03.2023 | |
| 31.03.2023 | Tender Process Completed |
| ##### | ongoing |
| ##### | |
| 0 | In the 2023/24 annual plan, a plan has been prepared for the plantation of the kandal trees |

| | |
|------------|---|
| | |
| ##### | |
| ##### | |
| | |
| Nil | |
| NA | |
| | |
| 31/03/2023 | |
| | |
| 31/03/2023 | |
| 31/03/2023 | |
| 31/03/2023 | |
| 31/03/2023 | |
| NA | Not Get NOC From Erigation Department |
| | Not Get NOC From irrigation Department |
| 31/03/2023 | |
| 31/03/2023 | |
| | Not Get NOC From irrigation Department |
| 31/03/2023 | |
| 31/03/2023 | |
| 10/3/2023 | |
| 10/3/2023 | |
| | |

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|------------|--|
| | |
| July 2023 | |
| April 2023 | Vetting not granted |
| NA | Nil |
| 31/7/2022 | |
| 31/7/2022 | |
| 30/9/2022 | |
| 30/09/2022 | |
| 2 | |
| NA | Rupees 1183772/ utilized during 2021/2022 to deepening and cleaning of various natural canals which are connected to Vembanadu lake |
| NA | NA |
| 31.03.2022 | NA |
| 2 | |
| 28.03.2022 | NA |
| 3 | |
| 31-05-2023 | |
| 29-12-2022 | |
| 29-12-2022 | |
| | |
| | |
| | |

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|------------|---|
| | |
| | |
| 31-05-2023 | |
| 16.03.2023 | |
| | |
| 31.05.2023 | 900000/- depposited to PWD electronics department |
| 30.06.2022 | |
| 31.01.2023 | |
| 25.03.2023 | |
| 30.06.2022 | |
| | |
| 31-05-2023 | |
| 14/03/2023 | |
| 30/10/2022 | |
| 31/03/2023 | |
| 31/03/2023 | WORK STARTED |
| 31/03/2023 | |
| | |
| 31/3/2023 | |
| 31/3/2023 | Purchased order issued |
| 31/3/2023 | |
| | |
| 31-05-2023 | |

| | |
|--------------------|---|
| 31/03/2023 | only 06 beneficiaries |
| | E Tender issued |
| 31/3/2023 | Collection of non biogreadable products |
| 31/03/2023 | By MGNREGS |
| nil | |
| 31/03/2023 | By MGNREGS |
| On going | |
| | |
| March 31 | |
| nil | |
| 31/03/2023 | |
| 2023 March 31,, | Kochuveli-Sreenarayanapuram Thodu is Kaivari of Vembanad Kayal. |
| | |
| 2024 March 31 | |
| Nil | |
| 31/03/2023 | ongoing |
| 31/03/2023 | |
| 31/03/2023 | ONGOING |
| 31/03/2023 | |
| 31/03/2023 | |
| 31/03/2023 | |

144

| | |
|------------|--|
| NA | For the financial year 2023/24, the projects of retrofitting, bio bin and soak pit including NREGS have been taken up. |
| 31/03/2023 | |
| | |
| 31/03/2023 | On Going |
| 31/03/2023 | ongoing |
| NA | |

166

| | | | | |
|----|-----------------|--|--|--|
| 7 | EZHUPUNNA | | | |
| 8 | KODAMTHURUTHU | | | |
| 9 | KUTHIYATHODE | | | |
| 10 | VAYALAR | | | |
| 11 | PERUMBALAM | | | |
| 12 | ARUKUTTU | | | |
| 13 | PANAVALLY | | | |
| 14 | THAIKKATTUSSERI | | | |
| 15 | ARYAD | | | |
| | | | | |
| | | | | |
| | | | | |
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147

| | | | |
|--------------|--|--|--|
| 16 THURAVOOR | | | |
|--------------|--|--|--|

150

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151

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കേരളം നദീതട സംരക്ഷണ കമ്മീഷൻ റിപ്പോർട്ട്

| | NAME OF GP | NAME OF PROJECT (IN ENGLISH) | FINANCIAL YEAR |
|---|--------------|--|------------------|
| 1 | AYMANAM | Deepening and cleanig of of various Canals- | 2022-23 |
| | AYMANAM | Sujalam Project | |
| 2 | THIRUVARPPU | CLEANING OF PARAPPEL-PATTAANAMKARI-MUTHERRYMADA THODU | 2022-2023 |
| | THIRUVARPPU | Deepening Cleaning and increasing water flow through different thodukal in thiruvvarppu grama panchayath | 2022-23 |
| | THIRUVARPPU | TRENCH DEEPENING IN VARIOUS WARDS -PHASE II | 2022-23 |
| | THIRUVARPPU | SUPPLY OF SOURCE WASTE MANAGEMENT TOOLS | 2022-23 |
| | THIRUVARPPU | TOILET MAINTENANCE | 2022-23 |
| 3 | KUMARAKOM | Sujalam - Deepening & Cleaning of Various Canals | 2022-23 |
| 4 | TV PURAM | Deepening of Mattapally thodu | 2022-23 |
| | TV PURAM | deepening of canals | 2022-23 |
| | TV PURAM | Deepening of Idipidithara Thodu Phase 2 | 2022-23 |
| | TV PURAM | Cleaning of public water bodies | 2022-23 |
| | TV PURAM | Deeēning of Pallattu Oruthayapally Thodu | 2022-23 |
| 5 | UDAYANAPURAM | Deepening and cleanig of of various Canals- | 2022-23 |
| | UDAYANAPURAM | Sujalam Project | 21-22 spill over |
| | UDAYANAPURAM | Sujalam Project | 21-22 spill over |
| | UDAYANAPURAM | soak pits & compost pits by NREGS | 21-22 |
| | UDAYANAPURAM | TOILET MAINTENANCE | 2021-22 |
| | VECHHOOR | Cleaning and deepening of Vembanad Lake | 2022/23 |

152

| | | | |
|----|-----------------|---|-----------|
| 6 | VECHOOOR | Deepening of various Canals | 2022/23 |
| 7 | ARPOOKKARA | Cleaning of Different canals | 2022-2023 |
| | MARAVANTHURUTHU | Panjippalam moozhikkal thodu deepening | 2022/2023 |
| | MARAVANTHURUTHU | Ithipuzha chalum kadavu thodu deepening | 2022/2023 |
| | MARAVANTHURUTHU | Panjippalam moozhikkal thodu deepening 2nd | 2022/2023 |
| | MARAVANTHURUTHU | pullattinkara thodu deepening | 2022/2023 |
| | | | |
| 8 | MARAVANTHURUTHU | panjippalam Earappara IHDP colony thodu deepening | 2022/2023 |
| 9 | THALAYAZHAM | Nil | NA |
| | CHEMBU | Pullanthiyar Cleaning | 2021/22 |
| 10 | CHEMBU | Fishfarm valiyathode cleaning | 2022/23 |

153

| 7 REG | | | | |
|------------|----------------|--------------------------|---|--------------------|
| 7 REG | | | | |
| PROJECT NO | PROJECT AMOUNT | PERCENTAGE OF COMPLETION | NO. OF PRODUCTS ISSUED (IN CASE OF SOAK PIT, COMPOST PIT, TOILET, RETROFITING, SEPTIC TANK ETC) | DATE OF COMPLETION |
| NA | 4000000 | 75 | Toilet 220 | NA |
| 31 | 1502750 | 72 % | NA | 31/03/2023 |
| 27 | 300550 | 90% | NA | 31/03/2023 |
| 182 | 1414700 | 75% | NA | 31/03/2023 |
| 20 | 1080800 | 92% | Bin 950 | 31/03/2023 |
| 21 | 2170000 | 80% | Toilet- 292 | 31/03/2023 |
| 7/23 | 903400/- | 0 | NA | NA |
| 40 | 450000 | 0 | | 0 |
| 18 | 198000 | work started | | 0 31/03/2023 |
| 28 | 321080 | work started | | 0 31/03/2023 |
| 38 | 1000000 | | | 0 |
| 27 | 450000 | work started | | 0 31/03/2023 |
| 111 | 20 lakh | work started | | 0 31/03/2023 |
| 56 | 2727994 | 100 | | 0 10/3/2023 |
| 54 | 3846834 | 100 | | 0 10/3/2023 |
| - | - | - | | 20 |
| | | | | 290 |
| 42 | 901779 | 50 | | 0 July 2023 |

154

| | | | | |
|---------|--------|--------------------|--|------------|
| 159,160 | 782526 | 0 | 0 | April 2023 |
| 211 | 400000 | 0% | 0 | NA |
| 26 | 161044 | 100 | NA | 31/7/2022 |
| 28 | 221215 | 100 | NA | 31/7/2022 |
| 34 | 318250 | 100 | NA | 30/9/2022 |
| 101 | 150000 | 100 | NA | 30/09/2022 |
| 13 | 400000 | Tender executed | NA | NA |
| NA | NA | NA | NA | NA |
| 100/22 | 338109 | Tender executed | Soakpit-25 Nos, Compost pit- 25 Nos | 31.03.2022 |
| 67/23 | 385682 | Tender executed | Soakpit-25 Nos, ODF Toilet- 106 Nos | 28.03.2023 |

156

| |
|--|
| Vetting not granted |
| Nil |
| |
| |
| |
| |
| Rupees 1183772/ utilized during 2021/2022 to deepening and cleaning of various natural canals which are connected to Vembanadu lake |
| NA |
| NA |
| NA |

157

| NGT OA 147 REG | | | | | | | | | |
|---|----------------|--|----------------|------------|----------------|--------------------------|--|--------------------|--|
| ഗവണ്മെന്റ് പ്രോജക്റ്റുകൾ ക്യാമ്പ് നഗരസഭകളിലെ പദ്ധതികളുടെ വിവരങ്ങൾ | | | | | | | | | |
| | NAME OF GP | NAME OF PROJECT (IN ENGLISH) | FINANCIAL YEAR | PROJECT NO | PROJECT AMOUNT | PERCENTAGE OF COMPLETION | NO. OF PRODUCTS ISSUED (IN CASE OF SOAK PIT, COMPOST PIT, TOILET RETROFITING, SEPTIC TANK ETC) | DATE OF COMPLETION | REMARKS (IN ENGLISH) |
| 1 | CHELLANAM | Installation of C C TV Camera to prevent Garbage disposal | 2022-23 | 248/23 | 3000000 | 0% | | 31-05-2023 | |
| | ELANKUNNAPUZHA | soakpit under MGNREGS | 2022-2023 | | 85000 | 100% | | 5/29-12-2022 | |
| | ELANKUNNAPUZHA | compost pit under MGNREGS | 2022-2023 | | 80000 | 100% | | 4/29-12-2022 | |
| 2 | ELANKUNNAPUZHA | retrofitting | 2022-2023 | 181/23 | 92400 | 100% | | 10 | |
| 3 | EZHICKARA | NIL | | | 0 | 0 | | | |
| | KADAMAKKUDY | CLEANING OF VARIOUS THODU IN MGNREGS | 2022-23 | | 800000 | 100% | 1.6 KMS | | |
| | KADAMAKKUDY | SOAK PIT UNDER MGNREGS | 2022-23 | | 64000 | 100% | | 8 | |
| | KADAMAKKUDY | INSTALLATION OF CAMERA | 2022-23 | | 11 | 899220 | 50% | 10 | |
| 4 | KADAMAKKUDY | DISTRIBUTION OF BIO BIN | 2022-23 | 183 | 200000 | 50% | | 103 | |
| | KOTTUVALLY | Bokashi Bucket | 2022-23 | 15/23 | | 100% | | 0 | 16.03.2023 |
| 5 | | Bio Composter Bin | 2022-23 | 14/23 | | 70% | | 0 | |
| | KUMBALAM | Fixing CCTV camera in various places of Panchayath | 2022-23 | 131 | 1865029 | 50% | | 31.05.2023 | 900000/- deposited to PWD electronics department |
| | KUMBALAM | Soakpit under MGNREGS | 2022-23 | | 251160 | 100% | | 28 | 30.06.2022 |
| | KUMBALAM | Cleaning of Thodu under MGNREGS | 2022-23 | | 3095480 | 100% | | | 31.01.2023 |
| | KUMBALAM | Septic Tank maintenance | 2022-23 | 159 | 138600 | 50% | | 7 | 25.03.2023 |
| 6 | KUMBALAM | Distribution of biobin | 2022-23 | 32 | 586942 | 100% | | 283 | 30.06.2022 |
| | KUMBALANGY | Installation of surveillance camera for blocking dumping of wastes | 2022-23 | 182 | 432938 | tender accepted | | | |
| | KUMBALANGY | Kumbalanghy gramapanchayath beautification-waste disposal | 2022-23 | 233 | 200000 | 30% | | | |
| 7 | KUMBALANGY | Ge Bin3 bin system | 2022-23 | 209 | 111800 | 100% | | | 14/03/2023 |
| | MULAVUKADU | Cleaning of canals in various wards in Mulavukad GP | 2022-23 | S0098/23 | 710000 | 100 | | | 30/10/2022 |
| | MULAVUKADU | IHL CONSTRUCTION | 2022-23 | S0105/23 | 770000 | 50 | | | 31/03/2023 |
| | MULAVUKADU | CCTV Camera | 2022-23 | S0233/23 | 714033 | 0 | | | 31/03/2023 |
| 8 | MULAVUKADU | SEPTIC TANK MAINTENANCE RET | 2022-23 | S0106/23 | 462000 | 50 | | | 31/03/2023 |
| | UDAYAMPEROOR | Financial assistance for toilet maintenance | 2022-23 | | 369600 | 70 | | 30 | 31/3/2023 |
| | UDAYAMPEROOR | distribution of bio compster bin | 2022-23 | | 432000 | 0 | | 0 | 31/3/2023 |
| | UDAYAMPEROOR | Door to door collection by HKS | 2022-23 | | 250000 | 45 | NA | | 31/3/2023 |
| | UDAYAMPEROOR | cleaning of water bodies | 2022-23 | | 7416 | 100 | | | |
| 9 | UDAYAMPEROOR | soak pit | 2022-23 | | 3385 | 100 | | 16 | |
| | VARAPPUZHA | Financial assistance for toilet maintenance | 2022-23 | 68 | 400000 | 50 | Toilet 03 completed | | 31/03/2023 |
| | VARAPPUZHA | Distribution of Bio Digester Pot | 2022-23 | | 1000000 | 0 | | 0 | |
| | VARAPPUZHA | Door to door collection by HKS(VGF) | 2022-23 | 2 | 200000 | 45 | | | 31/3/2023 |
| 10 | VARAPPUZHA | Cleaning of varlour thodes by MGNREGS | 2022-23 | | 1450000 | 80 | 7Kms Cleaned | | 31/03/2023 |

158

A/K 237

| VEMBANADU LAKE MONITORING REPORT 2019-2022 | | | | | | |
|--|---------------------------|------|------|---------------|---------|-------------|
| YEAR | RIVER STATIONS | SWMP | PH | EC µmhos/c | DO mg/l | BOD mg/l |
| 2019 | PUNNAMADA FINISHING POINT | MIN | 6.7 | 800 | 3.4 | 1.5 |
| | | MAX | 7.8 | 1268 | 5.8 | 3.2 |
| | | Mean | 7.2 | 999 | 4.5 | 2.4 |
| | 1 KM FROM PUMPING STATION | MIN | 6.4 | 470 | 4.3 | 2.0 |
| | | MAX | 7.8 | 1116 | 7.6 | 3.1 |
| | | Mean | 7.2 | 837 | 5.7 | 2.7 |
| | PUMPING STATION | MIN | 6.8 | 440 | 3.6 | 1.2 |
| | | MAX | 7.8 | 982 | 7.8 | 3.0 |
| | | Mean | 7.3 | 773 | 5.2 | 1.6 |
| | PATHIRAMANAL | MIN | 6.6 | 812 | 3.4 | 0.8 |
| | | MAX | 7.9 | 1412 | 7.8 | 3.0 |
| | | Mean | 7.2 | 1056 | 5.9 | 2.0 |
| | D/S OF THANNERMUKKAM BUND | MIN | 6.7 | 890 | 6.2 | 0.9 |
| | | MAX | 7.8 | 1947 | 8.0 | 3.9 |
| | | Mean | 7.2 | 1338 | 7.1 | 1.4 |
| | U/S OF THANNERMUKKAM BUND | MIN | 6.8 | 1321 | 4.2 | 1.2 |
| | | MAX | 7.8 | 2218 | 8.1 | 3.3 |
| | | Mean | 7.2 | 1706 | 6.1 | 2.7 |
| | D/S OF McDOWELL & CO. | MIN | 6.9 | 1233 | 4.0 | 0.8 |
| | | MAX | 7.7 | 2628 | 7.6 | 3.3 |
| | | Mean | 7.2 | 1698 | 5.5 | 2.3 |
| | THAKAZHY | MIN | 6.7 | 499 | 3.8 | 0.6 |
| | | MAX | 7.3 | 1720 | 8.0 | 3.6 |
| | | Mean | 6.9 | 840 | 5.3 | 2.5 |
| | PULINKUNNU | MIN | 6.5 | 340 | 4.1 | 1.5 |
| | | MAX | 7.1 | 850 | 7.7 | 4.0 |
| | | Mean | 6.9 | 581 | 5.9 | 2.3 |
| | PALLATHURUTHU | MIN | 6.6 | 439 | 3.2 | 0.9 |
| | | MAX | 7.5 | 898 | 6.0 | 3.3 |
| | | Mean | 6.9 | 699 | 4.3 | 2.3 |
| BOARDING POINT | MIN | 6.8 | 811 | 3.9 | 2.2 | |
| | MAX | 7.9 | 1658 | 5.9 | 3.5 | |
| | Mean | 7.2 | 1201 | 4.4 | 2.9 | |
| PUNNAMADA FINISHING POINT | MIN | 6.7 | 152 | 3.4 | 0.1 | |
| | MAX | 7.8 | 1214 | 6.5 | 3.4 | |
| | Mean | 7.2 | 575 | 5.1 | 2.3 | |
| 1 KM FROM PUMPING STATION | MIN | 6.4 | 282 | 4.6 | 0.5 | |
| | MAX | 7.8 | 942 | 6.6 | 2.8 | |
| | Mean | 7.2 | 713 | 5.6 | 1.7 | |
| PUMPING STATION | MIN | 6.8 | 173 | 3.4 | 0.8 | |
| | MAX | 7.8 | 936 | 7.0 | 3.3 | |
| | Mean | 7.2 | 654 | 5.3 | 1.8 | |
| PATHIRAMANAL | MIN | 6.6 | 318 | 4.2 | 0.7 | |
| | MAX | 7.9 | 1185 | 7.5 | 2.9 | |
| | Mean | 7.2 | 948 | 5.8 | 2.1 | |
| | | MIN | 6.7 | 561 | 6.2 | 0.9 |

159

| | | | | | | |
|-----------------------|---------------------------|------|------|------|-----|-----|
| 2020 | D/S OF THANNERMUKKAM BUND | MAX | 7.8 | 1472 | 7.8 | 2.8 |
| | | Mean | 7.3 | 145 | 6.9 | 1.8 |
| | | MIN | 6.8 | 218 | 4.2 | 1.2 |
| | U/S OF THANNERMUKKAM BUND | MAX | 7.8 | 1784 | 7.6 | 2.8 |
| | | Mean | 7.3 | 998 | 6.1 | 1.8 |
| | | MIN | 6.8 | 237 | 4.0 | 0.7 |
| | D/S OF McDOWELL & CO. | MAX | 7.8 | 1924 | 7.6 | 3.2 |
| | | Mean | 7.3 | 1006 | 5.7 | 2.0 |
| | | MIN | 6.9 | 145 | 4.2 | 0.8 |
| | THAKAZHY | MAX | 7.7 | 1091 | 6.5 | 3.4 |
| | | Mean | 7.2 | 563 | 5.0 | 2.1 |
| | | MIN | 6.5 | 146 | 4.5 | 1.1 |
| | PULINKUNNU | MAX | 7.7 | 859 | 7.4 | 4.5 |
| | | Mean | 6.9 | 435 | 5.5 | 2.6 |
| | | MIN | 6.6 | 201 | 2.8 | 0.8 |
| | PALLATHURUTHU | MAX | 8.4 | 894 | 6.4 | 3.6 |
| | | Mean | 7.0 | 522 | 4.5 | 2.4 |
| | | MIN | 6.8 | 184 | 3.6 | 1.4 |
| BOARDING POINT | MAX | 8.6 | 1006 | 6.8 | 4.1 | |
| | Mean | 7.3 | 591 | 5.1 | 2.6 | |
| | MIN | 6.7 | 128 | 4.5 | 1.5 | |
| 2021 | PUNNAMADA FINISHING POINT | MAX | 7.4 | 835 | 7.8 | 3.7 |
| | | Mean | 7.2 | 394 | 6.4 | 2.1 |
| | | MIN | 6.7 | 136 | 5.1 | 1.6 |
| | 1 KM FROM PUMPING STATION | MAX | 7.5 | 820 | 7.7 | 3.8 |
| | | Mean | 7.3 | 396 | 6.5 | 2.4 |
| | | MIN | 6.8 | 132 | 5.3 | 1.5 |
| | PUMPING STATION | MAX | 7.4 | 796 | 7.8 | 3.3 |
| | | Mean | 7.2 | 357 | 6.6 | 2.0 |
| | | MIN | 6.7 | 152 | 5.9 | 1.1 |
| | PATHIRAMANAL | MAX | 7.4 | 956 | 7.9 | 3.0 |
| | | Mean | 7.1 | 431 | 7.3 | 1.7 |
| | | MIN | 6.9 | 153 | 5.3 | 0.9 |
| | D/S OF THANNERMUKKAM BUND | MAX | 7.5 | 996 | 7.9 | 3.4 |
| | | Mean | 7.1 | 503 | 7.3 | 2.0 |
| | | MIN | 7.0 | 185 | 5.9 | 1.2 |
| | U/S OF THANNERMUKKAM BUND | MAX | 7.5 | 1228 | 7.9 | 3.1 |
| | | Mean | 7.2 | 553 | 7.0 | 1.9 |
| | | MIN | 7.1 | 150 | 5.2 | 1.1 |
| D/S OF McDOWELL & CO. | MAX | 7.5 | 1173 | 7.9 | 4.4 | |
| | Mean | 7.2 | 499 | 7.0 | 2.3 | |
| | MIN | 6.8 | 140 | 4.1 | 1.1 | |
| THAKAZHY | MAX | 7.8 | 592 | 6.1 | 3.7 | |
| | Mean | 7.2 | 313 | 5.3 | 2.5 | |
| | MIN | 6.8 | 110 | 4.1 | 1.2 | |
| PULINKUNNU | MAX | 7.6 | 379 | 7.4 | 5.4 | |
| | Mean | 7.2 | 256 | 6.0 | 2.4 | |
| | MIN | 6.7 | 131 | 3.9 | 1.3 | |
| PALLATHURUTHU | MAX | 7.7 | 598 | 7.0 | 3.9 | |
| | Mean | 7.2 | 363 | 5.7 | 2.3 | |
| | MIN | 6.7 | 131 | 3.9 | 1.3 | |

160

| | | | | | | |
|------|-------------------|------|-------|-----------|-------|-------|
| | BOARDING POINT | MIN | 7.1 | 179 | 4.2 | 1.5 |
| | | MAX | 7.5 | 788 | 7.4 | 4.8 |
| | | Mean | 7.3 | 421 | 6.2 | 2.8 |
| 2022 | KELTRON KADAVU | MIN | 7.000 | 574.000 | 0.700 | 1.400 |
| | | MAX | 7.500 | 14725.010 | 6.700 | 8.800 |
| | | Mean | 7.250 | 9159.218 | 2.880 | 4.041 |
| | CHANDIROOR | MIN | 7.000 | 228.000 | 2.100 | 1.200 |
| | | MAX | 7.500 | 16898.200 | 6.700 | 4.400 |
| | | Mean | 7.140 | 4927.900 | 5.073 | 2.910 |
| | ERAMALLOOR | MIN | 6.700 | 251.000 | 2.600 | 0.300 |
| | | MAX | 7.400 | 15317.900 | 7.500 | 3.600 |
| | | Mean | 7.125 | 4210.458 | 5.891 | 2.116 |
| | KATTACHIRA KADAVU | MIN | 6.700 | 116.100 | 3.900 | 0.400 |
| | | MAX | 7.400 | 5560.600 | 7.800 | 7.100 |
| | | Mean | 7.235 | 1385.080 | 6.160 | 2.700 |
| | KAYIPURAM | MIN | 6.300 | 103.000 | 4.600 | 1.100 |
| | | MAX | 7.100 | 2345.400 | 7.700 | 2.900 |
| | | Mean | 6.910 | 973.266 | 6.290 | 1.866 |

| TC MPN/10 | FC MPN/10 | CLASS |
|--------------|--------------|-------|
| 0.0 | 0 | D |
| 1000.0 | 550 | |
| 429.0 | 248 | |
| 200.0 | 150 | C |
| 1200.0 | 800 | |
| 775.0 | 440 | |
| 100.0 | 50 | C |
| 2100.0 | 1500 | |
| 1108.0 | 650 | |
| 0.0 | 0 | B |
| 700.0 | 350 | |
| 391.0 | 176 | |
| 0.0 | 0 | B |
| 1800.0 | 800 | |
| 450.0 | 219 | |
| 0.0 | 0 | C |
| 1200.0 | 700 | |
| 675.0 | 246 | |
| 0.0 | 0 | B |
| 1000.0 | 600 | |
| 483.0 | 254 | |
| 0.0 | 0 | B |
| 2000.0 | 400 | |
| 483.0 | 171 | |
| 0.0 | 0 | B |
| 4200.0 | 2500 | |
| 1108.0 | 680 | |
| 0.0 | 0 | D |
| 1200.0 | 800 | |
| 325.0 | 217 | |
| 500.0 | 200 | D |
| 8000.0 | 4800 | |
| 2600.0 | 1542 | |
| 200.0 | 100 | C |
| 2100.0 | 1000 | |
| 1217.0 | 591 | |
| 300.0 | 100 | C |
| 2400.0 | 1200 | |
| 1358.0 | 733 | |
| 100.0 | 0 | C |
| 1200.0 | 700 | |
| 658.0 | 358 | |
| 0.0 | 0 | B |
| 800.0 | 400 | |
| 300.0 | 150 | |
| 0.0 | 0 | |

| | | |
|--------|------|---|
| 900.0 | 500 | B |
| 450.0 | 216 | |
| 0.0 | 0 | C |
| 1200.0 | 700 | |
| 617.0 | 358 | |
| 100.0 | 0 | C |
| 1200.0 | 700 | |
| 525.0 | 283 | |
| 200.0 | 100 | C |
| 2000.0 | 1100 | |
| 867.0 | 491 | |
| 300.0 | 100 | C |
| 1600.0 | 900 | |
| 892.0 | 491 | |
| 200.0 | 100 | D |
| 1200.0 | 700 | |
| 617.0 | 333 | |
| 300.0 | 100 | D |
| 4000.0 | 1900 | |
| 1483.0 | 766 | |
| 0.0 | 0 | C |
| 2200.0 | 100 | |
| 758.0 | 358 | |
| 0.0 | 0 | C |
| 2900.0 | 1200 | |
| 741.0 | 316 | |
| 0.0 | 0 | B |
| 1400.0 | 900 | |
| 408.0 | 183 | |
| 0.0 | 0 | B |
| 1200.0 | 500 | |
| 150.0 | 58 | |
| 0.0 | 0 | B |
| 500.0 | 300 | |
| 125.0 | 58 | |
| 0.0 | 0 | B |
| 4000.0 | 2600 | |
| 691.0 | 408 | |
| 0.0 | 0 | B |
| 2200.0 | 1200 | |
| 433.0 | 208 | |
| 0.0 | 0 | B |
| 1200.0 | 700 | |
| 616.0 | 275 | |
| 0.0 | 0 | C |
| 1600.0 | 900 | |
| 750.0 | 375 | |
| 0.0 | 0 | C |
| 1700.0 | 1000 | |
| 658.0 | 291 | |

| | | |
|----------|----------|---|
| 300.0 | 100 | C |
| 6000.0 | 3200 | |
| 2116.0 | 1041 | |
| 2000.000 | 500.000 | D |
| 6000.000 | 2200.000 | |
| 3650.000 | 910.000 | |
| 1200.000 | 400.000 | D |
| 4900.000 | 2300.000 | |
| 3041.660 | 1300.000 | |
| 600.000 | 100.000 | D |
| 5200.000 | 2600.000 | |
| 2258.130 | 958.330 | |
| 0.000 | 0.000 | C |
| 5000.000 | 2200.000 | |
| 1850.000 | 675.000 | |
| 800.000 | 300.000 | C |
| 6000.000 | 2300.000 | |
| 2833.330 | 1200.000 | |

VEMBANADU LAKE MONITORING REPORT 2022

| YEAR | RIVER STATIONS | SWMP | PH | EC µmhos/c | DO mg/l | BOD mg/l |
|------|---------------------------|------|-------|---------------|---------|-------------|
| 2022 | PUNNAMADA FINISHING POINT | Mean | 7.137 | 603.886 | 6.433 | 1.750 |
| | 1 KM FROM PUMPING STATION | Mean | 7.000 | 425.675 | 6.133 | 1.900 |
| | PUMPING STATION | Mean | 6.990 | 321.070 | 5.700 | 1.730 |
| | PATHIRAMANAL | Mean | 6.958 | 514.967 | 7.317 | 1.525 |
| | D/S OF THANNERMUKKAM BUND | Mean | 7.010 | 889.962 | 7.267 | 1.550 |
| | U/S OF THANNERMUKKAM BUND | Mean | 7.142 | 424.300 | 7.425 | 2.000 |
| | D/S OF McDOWELL & CO. | Mean | 7.200 | 488.771 | 7.275 | 1.442 |
| | THAKAZHY | Mean | 7.050 | 303.060 | 5.783 | 2.433 |
| | PULINKUNNU | Mean | 6.989 | 204.168 | 5.775 | 1.833 |
| | PALLATHURUTHUY | Mean | 6.975 | 428.894 | 5.775 | 2.192 |
| | BOARDING POINT | Mean | 7.008 | 545.992 | 4.967 | 2.908 |

| TC MPN/10 | FC MPN/100 | CLASS |
|--------------|---------------|-------|
| 841.667 | 366.670 | B |
| 433.330 | 183.330 | B |
| 783.330 | 316.670 | B |
| 175.000 | 83.330 | A |
| 383.330 | 141.667 | A |
| 450.000 | 125.000 | A |
| 433.333 | 125.000 | A |
| 1200.000 | 566.667 | C |
| 591.667 | 258.333 | B |
| 1100.000 | 466.667 | B |
| 3208.333 | 1650.000 | C |

ANALYSIS REPORT OF ASHTAMUDI LAKE-FEB 2023

| Sl.No | Determinants | Neendakara | Thoppilkadavu | KSRTC | Perumon | Kundara Ceramics |
|-------|---------------------------------------|------------|---------------|---------|---------|------------------|
| 1 | Temperature, 0C | 26.1 | 25.4 | 26.1 | 26.5 | 24.6 |
| 2 | Dissolved Oxygen, mg/l | 6.5 | 0.3 | 0.3 | 6.5 | 4.1 |
| 3 | pH | 6.9 | 8.2 | 8.1 | 6.9 | 7.3 |
| 4 | Conductivity, μ mbos/cm | 298.5 | 36120 | 37910 | 37100 | 26984 |
| 5 | BOD, mg/l | 0.9 | 13.2 | 12.9 | 2.2 | 0.7 |
| 6 | Nitrate-N, mg/l | - | - | - | - | - |
| 7 | Turbidity, NTU | 4.2 | 4.9 | 3.2 | 4.9 | 2.1 |
| 8 | Phenolphthalein Alkalinity, mg/l | BDL | BDL | BDL | BDL | BDL |
| 9 | Total Alkalinity, mg/l | 18 | 68 | 46 | 30 | 52 |
| 10 | Chloride, mg/l | 42 | 13210 | 14620 | 14310 | 17832 |
| 11 | COD, mg/l | 6 | 34 | 42 | 14 | 24 |
| 12 | TKN, mg/l | - | - | - | - | - |
| 13 | Ammoniacal-N, mg/l | 25.4 | 33.8 | 46.5 | 21.5 | 24.7 |
| 14 | Hardness as CaCO ₃ , mg/l | 56 | 6200 | 5210 | 5510 | 4352 |
| 15 | Calcium as CaCO ₃ , mg/l | 44 | 4180 | 3920 | 4300 | 3100 |
| 16 | Magnesium as CaCO ₃ , mg/l | 12 | 2020 | 1290 | 1210 | 1250 |
| 17 | Sulphate, mg/l | 59.2 | 680 | 610.2 | 642.3 | 210.3 |
| 18 | Calcium (Ca ²⁺), mg/l | 17.63 | 1675.34 | 1571.14 | 1723.44 | 1242.48 |
| 19 | Magnesium (Mg ²⁺), mg/l | 2.9 | 490.86 | 313.47 | 294.03 | 304.23 |
| 20 | Sodium, mg/l | 25.1 | 6950 | 7620 | 7520 | 4620 |
| 21 | Total Dissolved Solids, mg/l | 189.6 | 25320 | 26110 | 26210 | 16652 |
| 22 | Total Fixed Solids, mg/l | 168.2 | 21103 | 18250 | 19120 | 14230 |
| 23 | Total Suspended Solids, mg/l | 110.5 | 143.2 | 160.3 | 184.2 | 156.5 |
| 24 | Phosphate, mg/l | 0.321 | 0.985 | 2.942 | 0.724 | 0.725 |
| 25 | Boron, mg/l | BDL | BDL | BDL | BDL | BDL |
| 26 | Potassium, mg/l | 4.9 | 245.6 | 210.3 | 285.3 | 152.3 |
| 27 | Fluoride, mg/l | BDL | BDL | BDL | BDL | BDL |
| 28 | Total Coliform, MPN/100 ml | 990 | 1620 | 990 | 880 | 890 |
| 29 | Fecal Coliform, MPN/100 ml | 190 | 560 | 180 | 180 | 190 |
| 30 | Fecal Streptococcus, MPN/100 ml | ND | 190 | 90 | 30 | 60 |
| 31 | % SODIUM | 46.7 | 69.9 | 75.2 | 73.6 | 68.8 |
| 32 | SAR | 1.5 | 38.4 | 45.9 | 44.1 | 30.5 |