



KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

കോഴിക്കോട് ജില്ലാ ഓഫീസ്

DISTRICT OFFICE, KOZHIKODE

3rd FLOOR, ZAMORIN'S SQUARE, LINK ROAD, KOZHIKODE - 673 002

Ph: 0495-2300745

kspch.kerala.gov.in



PCB/KKD/DO/GEN/ Polluted River Stretches/2018

Date: 08.01.2024

From

The Environmental Engineer

To

The Member Secretary,
Head Office,
Thiruvananthapuram.

Sub:- **Monthly Progress Report on Polluted river stretches** called for by
Ministry of Jal Shakthi.

Sir/Madam,

I am forwarding herewith the monthly progress report on Polluted river stretches for the Month of **December 2023** in the prescribed format separately for Kallai Polluted river stretches.

Yours faithfully,

ENVIRONMENTAL ENGINEER.

Copy to :

Chief Environmental Engineer,
Regional Office, Kozhikode.

ജില്ലാ ഓഫീസ്, ആലപ്പുഴ

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ് KERALA STATE POLLUTION CONTROL BOARD DISTRICT OFFICE, ALAPPUZHA



എസ്.എൻ.ടി.പി.എസ്.എം. ന്യൂ ചാത്താനം, കേരളം ഓഫീസ്, ആലപ്പുഴ - 688001

SNV Sathanam, New Chathanad, Head Post Office, Alappuzha - 688001

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ഓൺലൈനിൽ അപേക്ഷകൾ സമർപ്പിക്കുന്നതിന് www.krcmnis.nic.in എന്ന വെബ്സൈറ്റ് ഉപയോഗിക്കുക.

“ഭരണഭാഷ - മാതൃഭാഷ”

In reply please refer to:- പിസിബി/എഎൽപി/റ്റിജി-421/19

06.01.2024

പ്രേഷിതൻ

എൻവയോൺമെന്റൽ എഞ്ചിനീയർ

സ്വീകർത്താവ്

മെമ്പർ സെക്രട്ടറി

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്,

ആസ്ഥാന ഓഫീസ്,

പട്ടം, തിരുവനന്തപുരം.

വിഷയം: പമ്പാ - മണിമല നദികളുടെ ഡിസംബർ 2023 ലെ മാസ-പുരോഗതി റിപ്പോർട്ട് സമർപ്പിക്കുന്നത് -സംബന്ധിച്ച്.

സർ,

മേൽ വിഷയത്തിലേക്ക് അങ്ങയുടെ ശ്രദ്ധ ക്ഷണിക്കുന്നു. പമ്പാ - മണിമല നദികളുടെ ഡിസംബർ 2023 ലെ മാസ-പുരോഗതി റിപ്പോർട്ട് അങ്ങയുടെ അറിവിലേക്കും തുടർനടപടികൾക്കുമായി ഇതോടൊപ്പം ഉള്ളടക്കം ചെയ്യുന്നു.

വിശ്വസ്തതയോടെ,

എൻവയോൺമെന്റൽ എഞ്ചിനീയർ.



എൻവയോൺമെന്റൽ എഞ്ചിനീയർ
കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
ജില്ലാ ഓഫീസ്, ആലപ്പുഴ

ഉള്ളടക്കം: മേൽപ്രകാരം .

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കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
KERALA STATE POLLUTION CONTROL BOARD

ജില്ലാ ഓഫീസ്, OPP ജനറൽ ആശുപത്രി, KK Nair Road, കുന്തിയോട്ടത്തിൽബിൽഡിങ്, പത്തനംതിട്ട-689 645
DISTRICT OFFICE, OPP.GENERAL HOSPITAL, KK NAIR ROAD, BEHIND AVG MOTORS, PATHANAMTHITTA689645



web site: www.keralapcb.nic.in – for Online registration, visit-krocmmms.nic.in or keralapcbonline.com

ഭരണഭാഷ - മാതൃഭാഷ

PCB/PTA/TG/316/2020

05.01.2024

From

Environmental Engineer

To

The Chief Environmental Scientist
Pollution Control Board
Central Laboratory
Ernakulam.

Sub: Monthly progress report – reg

Sir,

I am forwarding herewith the progress report of the laboratory for the month of **December 2023**, also enclosed the details of the pending invoice generated for the month of **November 2023**, for your kind information and necessary action.

Yours faithfully,

ENVIRONMENTAL ENGINEER

REPORT OF LABORATORY FOR THE MONTH OF DECEMBER 2023

NAME & ADDRESS OF THE OFFICE:KSPCB, PTA

Division	Received during November	Brought forwarded**		Total		Analyzed & Reported		Carry Forward	
	Sample	Sample	Parameters	Sample	Parameters	Sample	Parameters	Sample	Parameters
Ambient Water	13	-	-	13	144	13	144	-	-
Effluent	31	20	111	51	253	38	191	13	62
Complaint well water	2	-	-	2	10	-	-	2	10
Ambient Air	264	-	-	264	396	264	396	-	-
Pampa	13	-	-	13	403	13	403	-	-
Packaged Drinking Water	5	-	-	5	50	5	50	-	-
NWMP Project	6	-	-	6	186	6	186	-	-
Natural Stream	2	-	-	2	16	2	16	-	-
Action Plan of Pampa sample	4	-	-	4	40	4	40	-	-
STP PAMBA	2	-	-	2	8	2	8	-	-
STP SANNIDHANAM	1	-	-	1	6	1	6	-	-

TOTAL SAMPLING AND ANALYSIS CHARGES FOR THE MONTH OF DECEMBER, 2023

Sl. No.	NAME OF INDUSTRY	TYPE OF SAMPLING	NO.OF SAMPLES	TOTAL CHARGES BILLED	TOTAL CHARGES COLLECTED
1	Uthradom Tower, Kozhanchery	Effluent	2	3670	Not collected
2	Muthoot Health care Pvt. Ltd. Kozhanchery	Effluent	2	3670	Not collected
3	MGM Muthoot school and College of Nursing, Kozhanchery	Effluent	2	3670	Not collected
4	Hotel Aryas, Pandalam	Effluent	1	2100	Not collected
5	Auto clenser, Eraviperoor.	Effluent	2	3320	Not collected
6	Malayalam Power Laundry and Dry cleaning Co. Pvt. Ltd., Koipuram.	Effluent	1	1750	Not collected
7	Krish Laundry, Vennikulam	Effluent	1	1750	Not collected
8	Pulinilkunnathil Service station, Azhoor	Effluent	1	2100	Not collected
9	Indus Motors Co. Pvt. Ltd. Ranni	Effluent	2	4020	Not collected
10	Hotel Midhuna International, Enathu	Effluent	2	4370	Not collected
11	Muthoot Motors, Pathanamthitta.	Effluent	1	1750	Not collected
12	Popular Motors world Pvt. Ltd. Pramadam, Konni.	Effluent	1	1500	Not collected

13	Skyline Augusta, Thiruvalla	Effluent	2	-	<i>Invoice not generated</i>
14	B.Tech Livin shire, Thiruvalla	Effluent	2	-	<i>Invoice not generated</i>
15	Muthoot Motors , Thiruvalla	Effluent	1	-	<i>Invoice not generated</i>
16	Perfect Car wash, Punnilathupadi, PTA	Effluent	1	-	<i>Invoice not generated</i>
17	Muthoot Motors , Kottamukal, Adoor	Effluent	1	-	<i>Invoice not generated</i>
18	Kinfra Food processing industrial park, Adoor	Effluent	1	-	<i>Invoice not generated</i>
19	Greentech Solution & Innovation, Adoor	Effluent	2	-	<i>Invoice not generated</i>
20	Anila Food Products, Kadapra, Thiruvalla	Effluent	1	-	<i>Invoice not generated</i>
21	Thiruvalla Medical Mission, Thiruvalla	Effluent	2	-	<i>Invoice not generated</i>

PENDING INVOICE BILL GENERATED FOR THE MONTH OF NOVEMBER, 2023

Sl. No.	NAME OF INDUSTRY	TYPE OF SAMPLING	NO.OF SAMPLES	TOTAL CHARGES BILLED	TOTAL CHARGES COLLECTED
1	Believers Church Hospital, Thiruvalla	Effluent	5	9400	<i>Not collected</i>
2	Skyline Town Scape, Thiruvalla	Effluent	2	3670	<i>Collected</i>
3	International Arcade Tourist Home, Thiruvalla	Effluent	2	3670	<i>Collected</i>
4	KSRTC, Thiruvalla	Effluent	2	-	<i>Not collected</i>
5	Anila Food Products, Kadapra, Niranam P O, Thiruvalla	Effluent	1	1750	<i>Not collected</i>
6	Vamuzz Car Spa, Manakala P O, Adoor	Effluent	1	1500	<i>Collected</i>
7	Galaxy The Auto Car Spa, Kurampala, Pandalam	Effluent	1	1500	<i>Not collected</i>
8	Chithra Multispeciality Hospital, M C Road Pandala	Effluent	2	4370	<i>Not collected</i>
9	Christian Mission Hospital, M C Road Pandalam	Effluent	2	4570	<i>Not collected</i>
10	Marthoma Medical Mission Hospital, Ranni	Effluent	2	4370	<i>Collected</i>

No.	Activity	Implementing Agency	Time line	Progress in the month of October 2023	Progress in the month of November 2023	Progress in the month of December 2024	% works completed	Details of works remaining	
<p>* Out of the 100 wards in Thiruvananthapuram Corporation, 43 wards (Blocks A to E) are fully/Partially covered with sewerage facility. For 35 Wards (Blocks F to R) design of sewerage network is available but this needs modification in lieu of the change in demography and for the balance 22 wards new designs are to be prepared. The long term measures are envisaged to cover the entire wards in the Thiruvananthapuram Corporation. For preparing DPR/DER for rehabilitation of existing sewerage system and for establishing sewerage system for uncovered areas of Thiruvananthapuram Corporation, AS has been obtained under RKI (Govt. of Kerala) and preparation of DPR in progress.</p>									
Solid Waste Management									
	Long Term measures proposed by Thiruvananthapuram	Implementing Agency	Time line	Progress in the month of October 2023	Progress in the month of November 2023	Progress in the month of December 2024	% works completed	Details of works remaining	
3.2.1	Acquire 58 acres of land and rehabilitate 8150 families from the banks of River	Thiruvananthapuram Corporation	5 Years					Dropped	
3.2.2	SDM 2.0 Action plan prepared and submitted.								
3.2.3	KSWMD 5.14Crore works submitted to DPC.								
Desilting and Development									
3.3.1	Development package for ParvathyPuthanar	Irrigation department included in KIFB by KWIL includes cleaning of canal	3 Years	100%	100%	100%	100%	Phase I (First half) removal of water hyacinth completed Veli to Kadinamkulam Kayal (Ch 16.00 to Ch27.00). Executed by Inland Navigation Aakkulam to Monnattumukku cleaning works 100% completed by KWIL - for an amount of 45 Lakhs (3 Months) Now department work is started for clearing.	
3.3.2	De-silting and development of AmayizhanchanThodu			15%	20%	20%	On going		
3.3.3	Improvements to Thekkenekara canal and de-silting-	Irrigation Department	1 Year					Flood mitigation work completed	
3.3.4	Karimadam tank improvements, de-silting sheet piling/under preparation and providing fencing			15%	20%	20%	Flood mitigation works ongoing		
3.3.5	Development of Karamana basin		1.5 Years					Desilting of river completed. E-flow statement is	


 SUPERINTENDING ENGINEER
 01/01/24

**OA 673 ൽ 26.12.2023 തീയതിയിൽ സുപ്രണ്ടിംഗ് എഞ്ചിനീയർ, ഇറിഗേഷൻ വകുപ്പ്-
നോർത്ത് സർക്കിളിന്റെ അധ്യക്ഷതയിൽ വീഡിയോ കോൺഫറൻസ് വഴി നടത്തിയ
43-ാമത് DLTC മീറ്റിങ്ങിന്റെ മിനുട്ട്സ്.**

ഹാജരായവർ

1. ശ്രീമതി.ഷൈനി.വി.ജോസഫ് (പേഴ്സണൽ അസിസ്റ്റന്റ് ഓഫ് സുപ്രണ്ടിങ്ങ് എഞ്ചിനീയർ, ഇറിഗേഷൻ വകുപ്പ്).
2. ശ്രീ.നിസാർ (ഓവർസീയർ, തിരുർ മുനിസിപ്പാലിറ്റി)
3. ശ്രീ.അജ്മൽ.പി (എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ, ഇറിഗേഷൻ വകുപ്പ്, കൂട്ടായി)
4. ശ്രീ. രജീഷ് (സീനിയർ ക്ലർക്ക്, വെട്ടം ഗ്രാമപഞ്ചായത്ത്)
5. ശ്രീ.ബീരാൻകുട്ടി (സെക്രട്ടറി, മംഗലം ഗ്രാമപഞ്ചായത്ത്)
6. ശ്രീ.ടി.കെ.ബാബു (സെക്രട്ടറി, ചെറിയമുണ്ടം ഗ്രാമപഞ്ചായത്ത്)
7. ശ്രീമതി.ജിൽന (ക്ലർക്ക്, തലക്കാട് ഗ്രാമപഞ്ചായത്ത്)
8. ശ്രീ.ഉദയകുമാർ (സീനിയർ ക്ലർക്ക്, റവന്യൂ ഡിവിഷണൽ ഓഫീസ്, തിരുർ)
9. കുമാരി.അനില (ഗ്രാജ്യാറ്റഡ് എഞ്ചിനീയറിങ്ങ് അപ്രന്റിസ്, കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്, ജില്ലാ ഓഫീസ്, മലപ്പുറം)
10. ശ്രീമതി.സൗദ ബീവി.വി.സി. (ജൂനിയർ സയന്റിഫിക് അസിസ്റ്റന്റ്, കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്, ജില്ലാ ഓഫീസ്, മലപ്പുറം.)
11. ശ്രീമതി.ദീപ.സി.കെ(അസിസ്റ്റന്റ് സയന്റിസ്റ്റ്, കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്, ജില്ലാ ഓഫീസ്, മലപ്പുറം.)

DLTC ചെയർമാൻ (എസ്ഇഇ ഇറിഗേഷൻ)-ന്റെ അഭാവത്തിൽ പേഴ്സണൽ അസിസ്റ്റന്റ് ഓഫ് സുപ്രണ്ടിങ്ങ് എഞ്ചിനീയർ ശ്രീമതി.ഷൈനി.വി.ജോസഫിന്റെ അധ്യക്ഷതയിൽ 3pmന് വീഡിയോ കോൺഫറൻസ് ആരംഭിച്ചു. ആദ്യമായി മലിനീകരണ നിയന്ത്രണ ബോർഡ് അസിസ്റ്റന്റ് സയന്റിസ്റ്റ് NGT OA673/2018-ന്റെ ഭാഗമായിട്ട് നടത്തുന്ന 43-ാമത് DLTC മീറ്റിങ്ങിലേക്ക് എല്ലാവരേയും സ്വാഗതം ചെയ്തു.

ആദ്യമായി ഇറിഗേഷൻ വകുപ്പിന്റെ പ്രവർത്തന പുരോഗതിയാണ് വിലയിരുത്തിയത്. തിരുർ -പൊന്നാനിപുഴയുടെ ബണ്ട് ശക്തിപ്പെടുത്തുന്നതിനായുള്ള 30.1ലക്ഷം രൂപയുടെ വർക്ക് തുടങ്ങിയിട്ടുണ്ടെന്നും 28ശതമാനം വർക്ക് പൂർത്തീകരിച്ചിട്ടുള്ളതായി കൂട്ടായി ഇറിഗേഷൻ വകുപ്പ് എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ ശ്രീ.അജ്മൽ അറിയിച്ചു. കൂട്ടായി റെഗുലേറ്ററിന്റെ ഗർഡറുകളിൽ വിള്ളലുകൾ ഉള്ളതിനാൽ നാലു തൂണുകളുടെ സെറ്റിൽമെന്റ് വരികയും, IDRബ സ്ഥലം സന്ദർശിച്ച് പ്രസ്തുത വിഷയം ഉറപ്പു വരുത്തുകയും ചെയ്തതായും അറിയിച്ചു. എന്നാൽ നിലവിലുള്ള പ്രശ്നങ്ങൾക്ക് പരിഹാരം കാണുന്നതിനായി ഒരു ടെക്നിക്കൽ എക്സ്പേർട്ട് ടീമിനെ വെച്ച് പഠനം നടത്തേണ്ടതായിട്ടുണ്ടെന്നും, ആ റിപ്പോർട്ടിന്റെ അടിസ്ഥാനത്തിൽ മാത്രമേ തുടർ നടപടികൾ സ്വീകരിക്കാൻ കഴിയുകയുള്ളൂ എന്നും,

ടെക്നിക്കൽ സ്റ്റഡി കഴിഞ്ഞ് വരുമ്പോഴേക്കും സമയമെടുക്കുമെന്നുള്ളതിനാൽ ഉപ്പു വെള്ളത്തിന്റെ പ്രശ്നം വളരെ ഗുരുതരമാകാൻ സാധ്യതയുള്ളതിനാൽ താൽക്കാലികമായി കൂട്ടായി റെഗുലേറ്ററിന്റെ upstream-ൽ ഒരു ബണ്ട് കെട്ടേണ്ടതായിട്ടുണ്ടെന്നും അതിനായി എസ്റ്റിമേറ്റ് തയ്യാറാക്കി കൊണ്ടിരിക്കുകയാണെന്നും ശ്രീ.അജ്മൽ അറിയിക്കുകയുണ്ടായി.

അടുത്തതായി തിരുർ മുനിസിപ്പാലിറ്റി മത്സ്യ മാർക്കറ്റ് ETPയുടെ പ്രവർത്തന പുരോഗതിയാണ് വിലയിരുത്തിയത്. തിരുർ മുനിസിപ്പാലിറ്റി മത്സ്യ മാർക്കറ്റ് ETPയുടെ വർക്കിനായി O&M-നായുള്ള ഫണ്ട് കൗൺസിൽ അംഗീകരിച്ചതായും, ടെൻഡർ ചെയ്ത് എഗ്രിമെന്റ് വെച്ചിട്ടുണ്ടെന്നും, 27.12.2023-ന് വർക്ക് തുടങ്ങുമെന്നും തിരുർ മുനിസിപ്പാലിറ്റി ഓവർസീയർ.ശ്രീ.നിസാർ അറിയിച്ചു. തിരുർ മുനിസിപ്പാൽ ബസ് സ്റ്റാന്റ് STP യുടെ ട്രയൽ റൺ ചെയ്തുകൊണ്ടിരിക്കുകയാണെന്നും, ടെക്നിക്കൽ evaluation വേണ്ടി ശുചിത്വമിഷൻ കത്ത് നൽകിയിട്ടുണ്ടെന്നും, കൂടാതെ പ്രൈമറി, സെക്കന്ററി ട്രീറ്റ്മെന്റ് നടക്കുന്നുണ്ടെന്നും, സാമ്പിൾ എടുക്കാൻ പറ്റുന്ന ഒരു അവസ്ഥയിലാണ് STP പ്രവർത്തിക്കുന്നതെന്നും അറിയിച്ചു. അടുത്ത ദിവസങ്ങളിൽ തന്നെ മലിനീകരണ നിയന്ത്രണ ബോർഡ് ഉദ്യോഗസ്ഥർ STP യിൽ നിന്ന് സാമ്പിൾ ശേഖരിക്കാൻ വരുമെന്ന് ബോർഡിൽ നിന്നും അറിയിച്ചു. electro coagulation, ultra filtration വേണ്ടി പുതിയ പ്രൊജക്ട് വെച്ചിട്ടുണ്ടെന്നും, അതിന്റെ വർക്ക് നടന്നുകൊണ്ടിരിക്കുകയാണെന്നും ശ്രീ.നിസാർ അറിയിക്കുകയുണ്ടായി. തിരുർ അറവുശാലയുടെ ETPയുടെ വർക്കിനായി നേരത്തെ ടെൻഡർ ചെയ്തതാണെന്നും ഒരാൾ മാത്രമാണ് ടെൻഡർ തന്നിട്ടുള്ളതെന്നും tender opening 27.12.2023 തീയതിക്കാണെന്നും ഓവർസീയർ ശ്രീ.നിസാർ അറിയിക്കുകയുണ്ടായി. 11.12.2023 തീയതിയിൽ മലിനീകരണ നിയന്ത്രണ ബോർഡ് ഓഫീസിൽ നിന്നും സാമ്പിൾ ശേഖരിക്കുന്നതിനായി പോയ സമയത്ത് കാനാത്ത് കടവ് സ്റ്റേഷനിൽ മലിനജലം പുഴയിലേക്കൊഴുകുന്നതായി കാണപ്പെട്ടതിനെക്കുറിച്ച് ഓവർസീയർ ശ്രീ.നിസാറിനോട് അന്വേഷിച്ചറിയുകയുണ്ടായി. തിരുർ പുഴകളെ മലിനീകരിക്കപ്പെട്ട പുഴകളുടെ പട്ടികയിൽ നിന്ന് നീക്കം ചെയ്യുന്നതിനായി ബോർഡിന്റെ മുഖ്യ കാര്യാലയത്തിലേക്ക് കത്ത് നൽകിയിട്ടുള്ള വിവരവും ശ്രദ്ധയിൽപ്പെടുത്തുകയുണ്ടായി. ഇങ്ങനെ പുഴയിലേക്ക് മലിനജലം തുറന്നു വിട്ടാൽ പുഴ വീണ്ടും മലിനീകരണത്തിലേക്ക് നീങ്ങുമെന്നും ഓർമ്മപ്പെടുത്തി.

അടുത്തതായി മംഗലം ഗ്രാമപഞ്ചായത്ത് ആക്ഷൻ പ്ലാൻ പുരോഗതിയാണ് വിലയിരുത്തിയത്. മംഗലം ഗ്രാമപഞ്ചായത്ത് ആക്ഷൻ പ്ലാനുമായി ബന്ധപ്പെട്ട് സിസിടിവി സ്ഥാപിക്കലും, പുഴയുടെ സൈഡ് പ്രൊട്ടക്ഷൻ വർക്കുമാണ് ചെയ്തു തീർക്കാനുണ്ടായിരുന്നതെന്ന് സെക്രട്ടറി ശ്രീ.ബീരാൻകുട്ടി അറിയിച്ചു. നാല് സി.സി.ടി.വികൾ നേരത്തെ സ്ഥാപിച്ചിട്ടുള്ളതാണെന്നും നിലവിൽ മൂന്നെണ്ണം പ്രവർത്തനരഹിതമാണെന്നും അറിയിക്കുകയുണ്ടായി. ഫണ്ട് കുറവായതിനാൽ

റിവിഷൻ സമയത്ത് സി.സി.ടി.വികളുടെ കേടുപാടുകൾ തീർക്കുന്നതിനായി പ്രൊജക്ട് വെക്കുമെന്നും സെക്രട്ടറി അറിയിച്ചു. കൂടാതെ തിരുർ പൊന്നാനിപുഴയുടെ സൈഡ് പ്രൊട്ടക്ഷൻ വർക്കിൽ 70 ശതമാനം പുരോഗതിയുണ്ടായിട്ടുണ്ടെന്നും, പ്രസ്തുത വർക്കിനായി 2018-2020 വർഷത്തിൽ മലപ്പുറം നിർമ്മിതി കേന്ദ്രവുമായി 12 ലക്ഷം രൂപയുടെ പ്രൊജക്ട് നടപ്പിലാക്കിയിട്ടുള്ളതായിരുന്നെന്നും, എന്നാൽ പുഴയുടെ സൈഡ് പ്രൊട്ടക്ഷൻ 50 മീറ്റർ നീളത്തിൽ കെട്ടിയിട്ടുണ്ടെന്നും, Audit objection ഉള്ളതുകൊണ്ട് ബ്യൂട്ടിഫിക്കേഷൻ വർക്ക് പൂർത്തീകരിക്കാൻ കഴിഞ്ഞിട്ടില്ലെന്നും സെക്രട്ടറി ശ്രീ.ബീരാൻകുട്ടി അറിയിച്ചു. നിർമ്മിതി കേന്ദ്രം അസിസ്റ്റന്റ് എഞ്ചിനീയർ, മംഗലം പഞ്ചായത്ത് അസിസ്റ്റന്റ് എഞ്ചിനീയർ എന്നിവർ സംയുക്തമായി സ്ഥല പരിശോധന നടത്തിയിട്ട് വർക്ക് അവസാനിപ്പിക്കാൻ തീരുമാനിച്ചിട്ടുള്ളതായി മംഗലം ഗ്രാമപഞ്ചായത്ത് സെക്രട്ടറി ശ്രീ.ബീരാൻകുട്ടി അറിയിക്കുകയുണ്ടായി.

ചെറിയമുണ്ടം ഗ്രാമപഞ്ചായത്ത് ആക്ഷൻ പ്ലാനുമായി ബന്ധപ്പെട്ട് രണ്ട് പ്രൊജക്ടുകളാണ് ചെയ്ത് തീർക്കാൻ ഉണ്ടായിരുന്നതെന്ന് പഞ്ചായത്ത് സെക്രട്ടറി ശ്രീ.ടി.കെ.ബാബു അറിയിച്ചു. ഒന്നാമത്തേത് ഫെൻസിങ് ആയിരുന്നെന്നും, അത് നേരത്തെ തന്നെ പൂർത്തീകരിച്ചിട്ടുള്ളതാണെന്നും അറിയിക്കുകയുണ്ടായി. രണ്ടാമത്തെ വർക്ക് ക്യാമറ സ്ഥാപിക്കലുമായിരുന്നു. രണ്ട് ക്യാമറകളും നേരത്തെ തന്നെ ഇൻസ്റ്റാൾ ചെയ്തതാണെന്നും, എന്നാൽ നിലവിൽ രണ്ടും പ്രവർത്തന രഹിതമാണെന്നും അറിയിക്കുകയുണ്ടായി. കേബിൾ ടി.വി. ഓപ്പറേറ്ററുമായി ബന്ധപ്പെട്ട് സിസിടിവി പ്രവർത്തന യോഗ്യമാക്കാൻ ശ്രമിക്കുന്നുണ്ടെന്നും സെക്രട്ടറി അറിയിച്ചു. പുഴയിലേക്ക് മാലിന്യങ്ങൾ എത്താതെ കൃത്യമായി പീരിയോഡിക് ഇൻസ്പെക്ഷൻ നടത്തുന്നുണ്ടെന്നും, അതിൽ വലിയ പുരോഗതി ഉണ്ടായിട്ടുണ്ടെന്നും സെക്രട്ടറി ശ്രീ.ടി.കെ.ബാബു അറിയിക്കുകയുണ്ടായി.

അടുത്തതായി തലക്കാട് ഗ്രാമപഞ്ചായത്ത് ആക്ഷൻ പ്ലാനുമായി ബന്ധപ്പെട്ട പുരോഗതിയാണ് വിലയിരുത്തിയത്. സിസിടിവി സ്ഥാപിക്കുന്നതിനായി എസ്റ്റിമേറ്റ് എടുത്തപ്പോൾ വലിയൊരു തുക വന്നതിനാൽ 5.5 ലക്ഷം രൂപക്ക് KELL നു നൽകുകയും, ടെൻഡർ ആയിട്ടുണ്ടെന്നും, തലക്കാട് ഗ്രാമപഞ്ചായത്ത് ക്ലാർക്ക് ശ്രീമതി.ജിൻന അറിയിച്ചു. അതിന്റെ തുടർ നടപടികൾക്ക് എത്രയും വേഗം സ്വീകരിക്കണമെന്ന് ബോർഡിൽ നിന്നും നിർദ്ദേശിച്ചു.

അവസാനമായി വെട്ടം ഗ്രാമപഞ്ചായത്തിന്റെ പ്രവർത്തന പുരോഗതിയാണ് വിലയിരുത്തിയത്. ആക്ഷൻ പ്ലാനുമായി ബന്ധപ്പെട്ട് അഞ്ച് സിസിടിവികൾ സ്ഥാപിച്ചിട്ടുണ്ടെന്നും, നിലവിൽ അഞ്ച് ക്യാമറയും പ്രവർത്തിക്കുന്നുണ്ടെന്നും വെട്ടം ഗ്രാമപഞ്ചായത്ത് സീനിയർ ക്ലാർക്ക് ശ്രീ.രജീഷ് അറിയിച്ചു. ഹരിതകർമ്മസേന, സ്കാഡുകൾ കൃത്യമായി വർക്ക് ചെയ്യുന്നുണ്ടെന്നും ശ്രീ.രജീഷ് അറിയിക്കുകയുണ്ടായി.

റവന്യൂ ഡിവിഷണൽ ഓഫീസ് മീറ്റിങ്ങിൽ പങ്കെടുത്തുകിലും ഒന്നും പ്രതികരിച്ചില്ല.


Encroachment survey യുടെ റിപ്പോർട്ട് ലഭിച്ചിട്ടുണ്ടോ എന്ന കാര്യം മലിനീകരണ നിയന്ത്രണ ബോർഡിൽ നിന്നും ഇറിഗേഷൻ പേഴ്സണൽ അസിസ്റ്റന്റ് ഓഫ് സൂപ്രണ്ടിങ്ങ് എഞ്ചിനീയർ ശ്രീമതി. ഷൈനി.വി.ജോസഫിനോട് അന്വേഷിക്കുകയുണ്ടായി. റിപ്പോർട്ട് ലഭിച്ചിട്ടില്ലെന്നും, എന്നാൽ പ്രസ്തുത റിപ്പോർട്ട് നൽകുന്നതിനായി ഡെപ്യൂട്ടി കളക്ടർ സർവ്വേ സൂപ്രണ്ടിന് നിർദ്ദേശം കൊടുത്തതായി അറിയിച്ചു കൊണ്ടുള്ള കത്തിന്റെ കോപ്പി 08.12.2023ന് ലഭിച്ച വിവരം ശ്രീമതി. ഷൈനി.വി.ജോസഫ് അറിയിച്ചു.

മലപ്പുറം മുനിസിപ്പാലിറ്റി മീറ്റിങ്ങിൽ പങ്കെടുത്തില്ല.

മീറ്റിംഗിൽ പങ്കെടുത്ത എല്ലാവർക്കും അസിസ്റ്റന്റ് സയന്റിസ്റ്റ് നന്ദി പറഞ്ഞു.

3.30 pm - ന് വീഡിയോ കോൺഫറൻസ് അവസാനിച്ചു.

മലപ്പുറം
26.12.2023


എൻവയോൺമെന്റൽ എഞ്ചിനീയർ

Minutes of District Level Technical Committee Meeting on 21-12-2023
Through Video Conferencing

As per the water quality report by Central Pollution Control Board (CPCB)- Polluted River Stretches for restoration of water quality 2022, Bharathapuzha at Pattambi and Bhavani river at Elaichivazhi are delisted from the category and new polluted river stretches are added in Palakkad district. The new polluted river stretches are stretches of **Korayar River** flowing besides Kanjikode industrial area and joining Narakampilly River and **Kalpathy River**, confluence of Walayar River, Korayar River, Varattar and Malampuzha River, flowing mainly through Palakkad Municipality area. A District Level Technical Committee (DLTC) Meeting on Polluted River Stretch (As per order of Hon'ble NGT in 0A673 of 2018) was held on 21.12.2023 through video conference at 11.00 am. The stake holder departments and organizations related to the subject matter had participated in the meeting.

Members Participated:

1. Mrs. Suman Chandran, Assistant Executive Engineer (in charge of Executive Engineer), Minor Irrigation, Palakkad (Representing Chairman of DLTC)
2. Mr. Sujith, Executive Engineer, Minor irrigation Department Chittur
3. Mr. Dinesh. K. S, Environmental Engineer, Kerala State Pollution Control Board (Convener of DLTC)
4. Mr. Rahmath Ali, District Industries Centre Palakkad
5. Mr. Murali Krishnan, Manager KINFRA
6. Secretary, Palakkad Municipality, Palakkad
7. Secretary, Pudussery grama panchayath, Palakkad
8. Secretary, Elappully grama panchayath, Palakkad
9. District Cordinator Suchitwa mission, Palakkad

Mr. Dinesh K S, Environmental Engineer, Kerala State Pollution Control Board welcomed the DLTC members and shared the information regarding the OA 673 and the reason for constituting the District Level Technical Committee as introduction. A slide presentation was conducted about the water quality study of Korayar and Kalpathy river. He also described the importance of water quality monitoring and criteria for the water quality standards and role of each stake holder and the action plan to be prepared for the restoration of the river stretches.

Korayar at Kanjikode

Environmental engineer explained about the probable sources of pollution since the river flowing besides the industrial area and a lot of of medium and small scale industries located near the banks, chances of discharge of domestic effluent from Labour quarters located within the company premises and the dumping of solid waste including biodegradable waste. Some lodges located near the river banks have no adequate septic tanks or soak pits for treating the sewage and sullage. In most of the areas, overgrown vegetations near the river and inside the river obstruct the natural flow and causing deposition of solid waste. Regarding the trade effluent from the industries, he explained that most of the waste water generating industries provided adequate ETP and periodical monitoring also be done in these industries by the surveillance team of PCB.

- EE, Minor irrigation said that there are some canals and ditches that opens to the river. He assured that he will update details in the next meeting. Environmental engineer suggest about a pathway through the river sides. EE minor irrigation support it added a point about setup CCTV in that points. He also enquire about the funding and river rejuvenation schemes.
- Secretary, Pudussery Grama Panchayath told that they have already establish 26 CCTV for detecting waste dumping. They have 48 harithakarmasena for collecting plastic waste. They suggested that all the industries in their Panchayath should segregate the waste and give to them. Environmental engineer ask about the details of lodge and small hotels and ditches. they will update the data in next meeting.
- KINFRA manager told that they have a proper route for the effluent discharge. They have proper ETPs and STPs inside industrial unit. Also they have a rain water harvesting system. Environmental engineer suggest about providing delay ponds in the boundary area and enquired about the possibilities of reusing the treated water to an extent.
- DIC representative told they will conduct meetings with the industrial establishments working in the DIC land and will provide CCTV near critical points near the river banks to monitor waste disposal.

- Secretary, Elappully Grama Panchayath told that they have a good waste management system. They have 24 harithakarmasena for 22 wards for collecting the solid waste from residential and commercial areas.

KALPATHY RIVER

Environmental engineer explain about the source of pollution in Kalpathy river. The main sources are domestical waste and municipal waste dumping.

- Secretary, Palakkad municipality said that main problem is solid waste dumbing near the river. Also the Shankuvara canal and Mambattu canal joins to the river. They carries all the domestical discharges from the houses, shops, other commercial areas to the river. They plan to setup CCTV for reduce waste Dumbing. Environmental engineer ask about the details of Hotels, Hospitals, Backery, Service stations near the river. They told that they will furnish the deails in next meeting. Also they ask to add Malambuzha Panchayath and Pudupperiaram Panchayath in Next meeting.
- Environmental engineer ask about the Proposal of common STP and FSTP

The meeting concluded at 12.30 pm

Convener



DINESH. K. S.
Environmental Engineer
Kerala State Pollution Control Board
District Office, Palakkad

Chairman



Executive Engineer,
Minor Irrigation Division
Palakkad-678 001



**21.06.2023 ൽ Polluted River Stretches മായി ബന്ധപ്പെട്ട് പത്തനംതിട്ട
അഡീഷണൽ ജില്ലാ മജിസ്ട്രേറ്റിന്റെ ചേംബറിൽ
വെച്ച് നടത്തിയ DLTC മീറ്റിംഗിന്റെ മിനിട്ട്സ്.**

അഡീഷണൽ ജില്ലാ മജിസ്ട്രേറ്റ് ശ്രീ. ബി രാധാകൃഷ്ണൻ അവറുകളുടെ അദ്ധ്യക്ഷതയിൽ ജൂൺ മാസത്തെ അവലോകന യോഗം 3:05pm ന് ആരംഭിച്ചു. യോഗത്തിൽ താഴെപ്പറയുന്നവർ പങ്കെടുത്തു.

- | | | |
|--------------------------------|---|--|
| 1) ശ്രീ.ബി.രാധാകൃഷ്ണൻ | - | അഡീഷണൽ ജില്ലാ മജിസ്ട്രേറ്റ്, പത്തനംതിട്ട. |
| 2) ശ്രീമതി.ശ്രീലേഖ.എസ് | - | അസി. എഞ്ചിനീയർ, മൈനർ ഇറിഗേഷൻ, പത്തനംതിട്ട. |
| 3) ശ്രീമതി.പ്രവിതാമോൾ റ്റി.എൻ | - | പരിസ്ഥിതി എഞ്ചിനീയർ, മലിനീകരണ നിയന്ത്രണ ബോർഡ്, പത്തനംതിട്ട. |
| 4) ശ്രീമതി.സ്വാതിലക്ഷ്മി.എ.ജി | - | അസി. എഞ്ചിനീയർ, വാട്ടർ അതോറിറ്റി, പത്തനംതിട്ട. |
| 5) ശ്രീ.ഷാജി.എ.തമ്പി | - | സെക്രട്ടറി, കോഴഞ്ചേരി ഗ്രാമപഞ്ചായത്ത് |
| 6) ശ്രീ.ഹരികുമാർ.എൻ | - | അസി. സെക്രട്ടറി, മാനാർ ഗ്രാമപഞ്ചായത്ത് |
| 7) ശ്രീമതി.ബിന്ദു.സി | - | അസി. സെക്രട്ടറി, കടപ്ര ഗ്രാമപഞ്ചായത്ത് |
| 8) ശ്രീ.ഷാജി.സി | - | അസി. സെക്രട്ടറി, നിരണം ഗ്രാമപഞ്ചായത്ത് |
| 9) ശ്രീ.ബൈജു.റ്റി.പോൾ | - | ജില്ലാ കോ-ഓർഡിനേറ്റർ, ശുചിത്വമിഷൻ, പത്തനംതിട്ട |
| 10) ശ്രീ.അരുൺ.വി | - | ടെക്നിക്കൽ കൺസൾട്ടന്റ്, ശുചിത്വമിഷൻ |
| 11) ശ്രീ.ജയരാജ്.ബി | - | ജൂനിയർ സൂപ്രണ്ട്, തദ്ദേശ സ്വയംഭരണ വകുപ്പ്, പത്തനംതിട്ട |
| 12) ശ്രീമതി .ജനീഷ.എസ്.മുഹമ്മദ് | - | ഇൻഡസ്ട്രീസ് എക്സ്റ്റൻഷൻ ഓഫീസർ, ജില്ലാ വ്യവസായ വകുപ്പ്, പത്തനംതിട്ട |
| 13) ശ്രീ. സുശീലി.എം.എ | - | ജൂനിയർ ജിയോ ഫിസിസ്റ്റ്, ഭൂജല വകുപ്പ്, പത്തനംതിട്ട |

അഡീഷണൽ ജില്ലാ മജിസ്ട്രേറ്റ്, എല്ലാവരെയും യോഗത്തിലേക്ക് സ്വാഗതം ചെയ്തു. തുടർന്ന് പരിസ്ഥിതി എഞ്ചിനീയർ മലിനീകരണ നിയന്ത്രണ ബോർഡ് പദ്ധതിയുടെ പുരോഗതി വിലയിരുത്തി.

പരിസ്ഥിതി എഞ്ചിനീയർ, മലിനീകരണ നിയന്ത്രണ ബോർഡ്, കർമ്മ പദ്ധതി പ്രകാരം ബോർഡ് സ്വീകരിച്ചു വരുന്ന പദ്ധതികളെപ്പറ്റി വിശദീകരിച്ചു. മാനാർ മുതൽ തകഴി വരെയുള്ള സ്റ്റേഷനുകളിൽ നിന്ന് എല്ലാ മാസവും സാമ്പിളുകൾ ശേഖരിച്ച് പരിശോധന നടത്തി വരുന്നതായും, പരിശോധനാ ഫലം അനുസരിച്ച് പരാമീറ്ററുകൾ എല്ലാം പരിധിക്കുള്ളിലാണെന്നും, മലിനീകരിക്കപ്പെട്ട നദീഭാഗങ്ങളുടെ പട്ടികയിൽ നിന്നും ഒഴിവാക്കാൻ കേന്ദ്ര ഓഫീസിൽ നിന്നും ആവശ്യപ്പെട്ടിട്ടുണ്ടെന്നും പരിസ്ഥിതി എഞ്ചിനീയർ അറിയിച്ചു.

കോഴഞ്ചേരി പഞ്ചായത്തിൽ കൂടി ഒഴുകുന്ന പൊങ്ങണാത്തോട്ടിൽ, സമീപത്തുള്ള വീടുകളിൽ നിന്നുള്ള മലിനജലം, പാൽ കവർ, പച്ചക്കറി മാലിന്യം തുടങ്ങിയ ഗാർഹിക മാലിന്യങ്ങൾ നിക്ഷേപിക്കുന്നതായും, ജലസാമ്പിൾ പരിശോധനാ ഫലം വളരെ മോശമായിട്ടാണ് കാണപ്പെടുന്നതെന്നും, ജല പരിശോധനയിൽ കോളിഫോമിന്റെ സാന്നിധ്യം കൂടുതലായി കാണപ്പെടുന്നതായും ഇത് പമ്പയിലേക്കാണ് എത്തിച്ചേരുന്നതെന്നും പരിസ്ഥിതി എഞ്ചിനീയർ, മലിനീകരണ നിയന്ത്രണ ബോർഡ് അറിയിച്ചു. തുടർന്ന് ADM, കോഴഞ്ചേരി ഗ്രാമപഞ്ചായത്ത് സെക്രട്ടറിയോട് വിശദീകരണം ചോദിച്ചു. വിവിധ വകുപ്പുകൾ ചേർന്ന് സംയുക്ത പരിശോധന നടത്തിയതായും, സമീപ വീടുകളിൽ നിന്നുള്ള മലിനജലം തോട്ടിലേക്ക് എത്തുന്ന ഭാഗങ്ങളിലെ പൈപ്പുകൾ അടച്ചതായും, 1.30 കിലോ മീറ്റർ നീളമാണ് തോടിനുള്ളതെന്നും, സർവ്വെ നടത്തി തോടിന്റെ കുറച്ചു ഭാഗങ്ങൾ കണ്ടെത്തിയിട്ടുണ്ടെന്നും, പൊങ്ങണാത്തോടിന്റെ ഇരു ഭാഗവും ചതുപ്പ് നിലമാണെന്നും, അവിടെ നിന്നുള്ള കറുത്ത ജലം തോട്ടിലേക്ക് എത്തിച്ചേരുന്നുണ്ടെന്നും, ഇതുമൂലം തോടിനു സമീപത്തുള്ളവർക്ക് കൂടുതൽ ആരോഗ്യപ്രശ്നങ്ങൾ ഉണ്ടാകുന്നുണ്ടെന്നും കൊച്ചുകുട്ടികൾ ഉൾപ്പെടെ എല്ലാവർക്കും ചൊരിച്ചിൽ ഉണ്ടാകുന്നുണ്ടെന്നും, മഴക്കാലത്ത് വെള്ളം കയറിയാൽ ആദ്യം ക്യാമ്പുകളെ ആശ്രയിക്കുന്നത് ഈ പ്രദേശത്തുള്ളവരാണെന്നും സെക്രട്ടറി അറിയിച്ചു. മുത്തൂറ്റ് ഹോസ്പിറ്റലിൽ നിന്നും രഹസ്യമായി മാലിന്യങ്ങൾ തോട്ടിലേക്ക് തള്ളുന്നതായി സംശയമുണ്ടെന്നും, തോടിന്റെ ഉത്ഭവസ്ഥാനം ഇതുവരെ തിരിച്ചറിയാൻ കഴിഞ്ഞിട്ടില്ലെന്നും, ചതുപ്പ് ആയതിനാൽ എത്തിച്ചേരാൻ പ്രയാസമുണ്ടെന്നും, തോട്ടിലേക്ക് ഇറങ്ങാനും മെഷീൻ ഇറക്കി വൃത്തിയാക്കാനും ബുദ്ധിമുട്ടാ

ണെന്നും, ജോലിക്കാരെ (Man Power) ഉപയോഗിച്ചു മാത്രമേ എന്തെങ്കിലും ചെയ്യാൻ കഴിയൂ എന്നും സെക്രട്ടറി അറിയിച്ചു.

പൊങ്ങണാത്തോടിന്റെ ഉത്ഭവസ്ഥാനം കണ്ടെത്തണമെന്നും എല്ലാ മാസവും പരിശോധന നടത്തി സാമ്പിൾ ശേഖരിക്കാനും ADM ആവശ്യപ്പെട്ടു. എല്ലാ മാസവും മുത്തൂറ്റ് ഹോസ്പിറ്റലിന്റെയും, നഴ്സിംഗ് കോളേജിന്റെയും, പൊങ്ങണാത്തോടിന്റെയും സാമ്പിളുകൾ ശേഖരിച്ച് പരിശോധന നടത്തി വരുന്നതായി പരിസ്ഥിതി എഞ്ചിനീയർ അറിയിച്ചു.

നിരണം ഗ്രാമപഞ്ചായത്തിൽ MCF എട്ടാം വാർഡിൽ മാത്രമേ പ്രവർത്തിക്കുന്നുള്ളൂ എന്നും mini MCF എല്ലാ വാർഡിലും ഉള്ളതായും, ഹരിതകർമ്മസേന നല്ല രീതിയിൽ പ്രവർത്തിക്കുന്നതായും, 13 വാർഡുകളിലായി 26 അംഗങ്ങൾ ഉണ്ടെന്നും സെക്രട്ടറി അറിയിച്ചു. ഒരു മാസത്തിൽ 5 പ്രാവശ്യം പരിശോധന നടത്തിയതായും നിരോധിത പ്ലാസ്റ്റിക് ഒരു കടയിൽ നിന്നു തന്നെ 3.5kg പിടിച്ചെടുത്തതായും സെക്രട്ടറി അറിയിച്ചു. ഇതു സംബന്ധിച്ച കണക്കുകൾ മലിനീകരണ നിയന്ത്രണ ബോർഡിന് നൽകണം എന്ന് ADM സെക്രട്ടറിയോട് ആവശ്യപ്പെട്ടു.

മാന്നാർ ഗ്രാമപഞ്ചായത്തിൽ നിരോധിത പ്ലാസ്റ്റിക് പരിശോധന നല്ല രീതിയിൽ നടക്കുന്നതായും 18kg പിടിച്ചെടുത്തതായും, പത്ത് കേസുകളിലായി 1,80,000/- രൂപ പിഴ ഇട്ടതിൽ 30,000/- രൂപ കിട്ടിയതായും സെക്രട്ടറി അറിയിച്ചു. മാന്നാർ പഞ്ചായത്തിൽ ഒരു MCF ഉണ്ടെന്നും 18 വാർഡുകളിലായി 36 mini MCF പ്രവർത്തിക്കുന്നുണ്ടെന്നും 36 ഹരിതകർമ്മ സേനാംഗങ്ങൾ നല്ല രീതിയിൽ പ്രവർത്തിക്കുന്നുണ്ടെന്നും സെക്രട്ടറി അറിയിച്ചു.

കടപ്ര ഗ്രാമപഞ്ചായത്തിൽ ഒരു MCF, 15 വാർഡുകളിലായി 14 mini MCF എന്നിവ സ്ഥാപിച്ചിട്ടുണ്ടെന്നും, 28 ഹരിതകർമ്മ സേനാംഗങ്ങൾ എല്ലാ വാർഡുകളിലുമായി നന്നായി പ്രവർത്തിക്കുന്നുണ്ടെന്നും, 47kg നിരോധിത പ്ലാസ്റ്റിക് പിടിച്ചെടുത്തതായും, 1,63,000/- രൂപ പിഴ ഇട്ടതായും, 85,000/- രൂപ അടച്ചതായും ബാക്കി തുകയ്ക്ക് നോട്ടീസ് നൽകിയതായും ഗ്രാമപഞ്ചായത്ത് സെക്രട്ടറി അറിയിച്ചു.

ജലവിഭവ വകുപ്പിൽ 27 സൈറ്റുകൾക്ക് അനുമതി കിട്ടിയിട്ടുണ്ടെന്നും 16 എണ്ണം പൂർത്തിയാക്കിയെന്നും 11 എണ്ണം നടന്നുകൊണ്ടിരിക്കുന്നതായും, ഈ സാമ്പത്തിക വർഷ

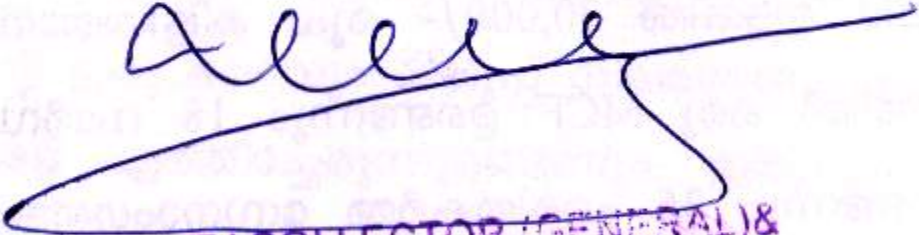
ത്തിൽ പുതിയ നിർദ്ദേശങ്ങൾ വന്നതായും മൂന്നു മാസത്തിലൊരിക്കൽ ജലസാമ്പിളുകൾ ശേഖരിച്ച് പരിശോധന നടത്തി വരുന്നതായും, ജല നിരപ്പ് എല്ലാ മാസവും പരിശോധിക്കാറുണ്ടെന്നും 'ഭൂജല സംരക്ഷണവും വിനിയോഗവും' എന്ന വിഷയം സംബന്ധിച്ച് 5 പഞ്ചായത്തുകളിൽ സെമിനാർ സംഘടിപ്പിച്ചതായും ജൂനിയർ ജിയോ ഫിസിസ്റ്റ് അറിയിച്ചു.

ഇറിഗേഷൻ വകുപ്പിൽ e-flow assessment മായി ബന്ധപ്പെട്ട കണക്കെടുപ്പ് കഴിഞ്ഞുവെന്നും പത്തനംതിട്ട ജില്ലയിൽ കൂടി ഒഴുകുന്ന വിവിധ നദികളിൽ പമ്പ 57.9%, അച്ചൻകോവിൽ 85%, മണിമല 45.75% എന്നിങ്ങനെ നദിയുടെ desilting work നടന്നുവരുന്നതായും തോടുകളിലെ നീരാഴുക്ക് സുഗമമാക്കാൻ 17 പ്രീ - മൺസൂൺ വർക്കുകൾ ഏർപ്പെടുത്തിയതിൽ 8 എണ്ണം പൂർത്തീകരിച്ചതായും അസി. എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ, മൈൻ ഇറിഗേഷൻ അറിയിച്ചു.

മേജർ ഇറിഗേഷൻ വകുപ്പ്, കോഴഞ്ചേരി യോഗത്തിൽ പങ്കെടുത്തിട്ടില്ലാത്തതാകുന്നു.

യോഗത്തിൽ പങ്കെടുത്ത എല്ലാവർക്കും അഡീഷണൽ ജില്ലാ മജിസ്ട്രേറ്റ് നന്ദി അറിയിച്ചു.

യോഗം 3.35pm ന് അവസാനിച്ചു.


DEPUTY COLLECTOR (GENERAL) &
ADDITIONAL DISTRICT MAGISTRATE
PATHANAMTHITTA

Note pertaining to KWA for the 18th meeting of Central Monitoring Committee in the NGT matter OA No.673 of 2018 scheduled to be held on 11/01/2024.

16th meeting of Central Monitoring Committee in the NGT matter OA No.673 of 2018 is scheduled to be held on 11/01/2024 , under the Chairmanship of the Secretary,DoWR, RD&GR, Ministry of Jal Shakti. Time slot for Kerala State is from 12.00 PM to 2.00 PM. Note for item no. I(a,b) and II of Agenda, pertaining to KWA is submitted herewith for favour of information and further necessary action.

I. Status of Implementation of Action Plan by States:

a. STP/CETP wise status of projects grounded to date, status of projects awaiting sanction or in DPR stages (incremental progress in respect of projects).

STPs Under construction/ Started execution/Tendered.							
Sl.No	Under construction STP/CETP	District	Capacity (in MLD/KLD)	Compliance status and position	Remarks		
1	Kureepuzha	Kollam	12 MLD	Expected date 31/01/24.	work progress is 86%. Action is being taken to provide Sewerage networks for the plant.		
2	Viyyoor Central Jail STP	Thrissur	50KLD	Work Started 23.04.2023 Expected to finish the work before 31/05/24.	Work Progress is 30%.		
3	Pazhayanoor STP	Thrissur	45KLD	Clearance from the KSPCB received and design revision is progressing.	Work can be completed 31/12/2024		
4	DPR of effluent treatment plant for Perumba Fish market Payyannur	Kannur	5KLD	Work tendered. Due to no response for repeated tender it was decided to revise the Technology for treatment. Action is being taken to get permission from LSGD for the same .	Technology revision sanction is pending from Payyannur municipality		
DPR Submitted to GoK/RKI/AMRUT/Corporation for AS.							
Sl No	Name	District	Capacity (in MLD)	Status of DPR	Land availability	Remarks	AS expected from

			(MLD)		lity		
1	Sewerage System for Pattambi Municipality	Malappuram	5.4	Submitted to Govt and RKI for AS on 6/8/22	yes	Length of network is 72.4 Km, Population benefited --49328, Total cost- 217.19 Cr) (Per Km rate Rs 3.0 Crores/km)	GoK/RKI and now it is revising as per the direction of SBM 2.0
2	Sewerage System for Haripad municipality	Alappuzha	3.8	Submitted to Govt and RKI for AS on 1/9/22	Yes	In phase 1 the length of sewerage network limited to 9.765Km, Population benefited-2406, Total cost - 72 Cr. Per km cost 7.37 Crores.	GoK/RKI and now it is revising as per the direction of SBM 2.0
3	DPR for utilizing unutilized capacity of Elamkulam 1.75MLD Network	Eranakulam, Elamkulam		AS received on 10/3/23 and work tendered.	Yes	Length of Network 16.94 km. Population 10740, Total cost- 63.91Cr). Per Km rate Rs 3.77 Crores/km	Work tendered
4	Sewerage System for Aluva- Zone 1	Eranakulam	1.72	Submitted to Govt and RKI for AS on 20/8/22	Yes	Length of network is 24 Km, Population benefited -12783, Total cost- 118.50 Cr) (Per Km rate Rs 4.93 Crores/km)	GoK/RKI and now it is revising as per the direction of SBM 2.0

5	Kozhikkode corporation Zone F	Kozhikkode	4	Submitted to Govt and RKI for AS on 29/9/22	Yes	Length of network is 23.85Km, Population benefited-61016, Total cost 99 Cr) (Per Km rate Rs 4.15 Crores/km)	GoK/RKI
6	Sewerage System to Kattappana	Idukki	1.76	Submitted to Govt and RKI for AS on 19/9/22	Yes	Length of network is 27.41 Km, Population benefited-58167, Total cost- 114.70Cr) (Per Km rate Rs 4.18 Crores/km)	GoK/RKI and now it is revising as per the direction of SBM 2.0
7.	Thiruvananthapuram Corporation Cluster 1	TVPM	7MLD network-(existing 107 ML D)	Submitted to Govt and RKI for AS on 15/10/22	Yes	Network length 126.05km. Total estimate amount Rs 353.87 Crores	DPR submitted to N RCP- Jalsakthi through GoK.
8	Ponnani municipality (Harbour Zone)	Malappuram	7.12	Submitted to Govt and RKI for AS on 17/10/22	Yes	Length of network is 34.67 Km, Population benefited-36970, Total cost- 165 Cr) DPR in P RICE 3 submitted GoK and RKI on 17/10/22. (Per Km rate Rs 4.759 Crores/km)	GoK/RKI and now it is revising as per the direction of SBM 2.0

9	Ponnani municipality (Kottathara Zone)	Malappuram	4.2	Submitted to Govt and R KI for AS o n 17/10/22	Yes	Length of net work is 43.8 35 Km, Popu lation benefi ted-18799, T otal cost- 18 5.5 Cr) DPR in PRICE 3 s ubmitted Go K and RKI o n 17/10/22. (Per Km rate Rs 4.23 Crore s/km)	GoK/RKI and now it is revising as per the direction o f SBM 2.0
10	Mananthavady	Wayanad	2	Submitted to Govt and R KI for AS o n 20/10/22	Yes	Length of net work is 16.6 7 Km, Popul ation benefitt ed-9141, Tot al cost- 70 Cr) DPR in PRI CE 3 submitt ed GoK. (P er Km rate R s 4.19 Crores /km	GoK/RKI
11	Kasargod Zone I	Kasargod	4	Submitted to Govt and R KI for AS o n 5/11/22	Pvt la nd ide ntified . Actio n to be taken f or lan d acqu isition.	Length of net work is 21.0 1 km, Popula tion benefitte d-29931, Tot al cost- 92.50 Crores) (Per Km rate Rs 4 .40 Crores/k m	GoK/RKI
12	Kozhikkode Corporat	Kozhikkode	27	DPR submitt ed to Corpor ation on 9/1	Gover nment/ KWA Land a	Length of net work is 23.6 3km, Populat ion benefitte d- 43472	AMRUT 2 .0- AS rece

	ion B1			1/22, to get AS under A MRUT	vailabl e	Total cost- 1 61 Crores) (P er Km rate R s 6.81 Crores /km	ived
13	Kasargod Zone II	Kasargod	4	Submitted to Govt and R KI for A Son 23/11/22	Pvt la nd to b e obtai ned.	Network len gth -26.18 k m. Populatio n benefitted- 45789 Total estimate amo unt Rs 94 Cr ores (Per Km rate Rs 3.59 Crores/km	GoK/RKI
14	Payyannur	Kannur	13	Submitted to Govt and R KI for A Son 25/11/22	Pvt la nd to b e obtai ned.	Length of net work is 200 KM, Populati on benefitted - 87,410 Total cost- 5 30.80Crores. (Per Km rate Rs 2.65 Cror es/km)	GoK/RKI
15	Thalassery	Kannur	22	Submitted to Govt and R KI for A Son 28/11/22	Pvt la nd to b e obtai ned.	Length of net work is 315 KM, Populati on benefitted - 1,12,065 Total cost- 7 34.80Crores. (Per Km rate Rs 2.33 Cror es/km	GoK/RKI
16	Kannur Corporation Zone I	Kannur	13	Submitted to Govt and R KI for AS o n 25/11/22	Govt l and	Length of net work is 177 KM, Populati on benefitted - 66,829 Total cost- 4 73 Crores. (P	GoK/RKI

						er Km rate Rs 2.67 Crores /km	
17	5 MLD STP at Elamkulam	Eranakulam	5	DPR submitted on 7/12/22,	KWA land	Length of network is 39.629 KM, Population benefited- 30502 Total cost- 211.5 Crores. (Per Km rate Rs5.34Crores /km)	AS obtained under AMRUT 2.0
18	Comprehensive Sewerage Scheme - Government Medical College, Kottayam - DPR	Kottayam	5	DPR submitted to Kottayam medical college	Yes	Length of network is 8 km, Total cost- 62 Crores)	Medical college Deposit work
19	Detailed Engineering Report for the Sewerage scheme in Alappuzha Municipality with STP – Phase 1	Alappuzha	5	DPR submitted SE on 20/12/22, Kochi to getting AS under AMRUT	Yes	Length of network is 9.79 KM, Population benefitted - 8032 Total cost- 68.9Crores. (Per Km rate Rs7.04Crores/km)	AMRUT 2.0
20	Detailed project report for sewerage network of Kureepuzha west and Vallikkeezhu Division of Kollam Corporation	Kollam	network	DPR submitted on 23/12/22		Length of network is 22.38 KM, Total cost- 76.62Crores. (Per Km rate Rs3.42 Crores/km)	AMRUT 2.0
21	Thiruvananthapuram Corporation Cluster 3 Zone 1 Puthenpally and Muttathara (Part) wards	Tvpm	network	DPR submitted to Corporation on 11.1.23 for getting AS under AMRUT		Length of network is 16.20 KM, Total cost- 51.28 Crores. (Per Km rate Rs 3.16 Crores /km)	AMRUT 2.0
	DPR of Upgradation			DPR submitted		Length of net	

22	of the existing 3 MLD Capacity Sewage Treatment Plant (STP) and Sewerage System for Guruvayur Municipality-	TSR	5	ed Corporation on 18.01.23 to getting AS under AMRUT	Yes	work is 3.62 KM, Total cost- 24.75 Crores. (Per Km rate Rs 6.84 Crores /km	AMRUT 2.0
23	Construction of 2 mld capacity sewage treatment Plant and laying sewerage network at Sulthan Bethery	Wayanad	2	Submitted to Govt and RKI for AS on 01/2/23	Pvt land to be obtained.	Length of network is 26.5 61 KM, Total cost- 100.5 Crores. (Per Km rate Rs 3.78 Crores /km	GoK/RKI
24	Kollam Corporation sewerage network Package IV (Pallithottom & Thamarakulam)	Kollam	Network				AS received under AMRUT 2
25	Sewerage scheme in Shornur Municipality consisting of sewerage network and FSSM with 2.5 MLD capacity STP with co-treatment unit	Palakkad	2.5	Submitted to Govt and RKI for AS on 16/2/23	railway land	Length of network is 16.25 KM, Total cost- 85.7 Crores. (Per Km rate Rs 5.27 Crores /km	GoK/RKI and now it is revising as per the direction of SBM 2.0, but ULB move for FSTP.
26	Construction of 7MLD capacity Sewage Treatment Plant and Laying Sewerage Network to Vatakara Municipality	KKD	7	Submitted to Govt and RKI for AS on 14/2/23	Pvt land to be obtained.	Length of network is 71.47 KM, Total cost- 214 Crores. (Per Km rate Rs 2.99 Crores /km Rs Crores	GoK/RKI
27	Detailed Engineering Report for Sewerage Sscheme in Kalamassery Municipality-Pha	Kochi	2.6	Submitted to Govt and RKI for AS on	Municipality land	Length of network is 19.606 KM, Total cost- 100.39 Crores. (Per Km rate Rs	GoK/RKI

32	Detailed Engineering Report for Sewerage Sscheme in Ponnani (Harbour) in SBM 2.0	Malappuram	3.5	website	Yes	network 9.670 km. Population benefitted - 127619, Total cost- 79.5 Cr) . Per Km rate Rs 8.22 Crores/km)	
33	Thiruvananthapuram Corporation Cluster 2	Tvpm	network	website	Yes	Length of Network 115.7 km. Population benefitted - 52848, Total cost- 411.5 Crores) . Per Km rate Rs 3.55 Crores/km)	Corporation
34	<ul style="list-style-type: none"> Thiruvananthapuram Corporation - DPR of Cluster 1 (Zone 3 & 4) ((Kalady, and Attukal)Part) wards - reg. 	Tvpm	network	website	Yes	Length of Network 18.08 km. Population benefitted - 10,135, Total cost- 66.5 Crores) . Per Km rate Rs 3.68Crores/km)	GoK
35	Sewerage System to Kozhikode Corporation -Laying Sewerage Network to Zone B-phase 2	KKD	network	Submitted to Corporation on 26.4.23 getting AS under AMRUT	Yes	Length of Network 61.71 km. Population benefitted - 42551, Total cost- 140 Crores) . Per Km rate Rs 2.27 Crores/km)	AMRUT 2.0
						Length of Network 10 km. Population b	

36	5MLD capacity STP and sewerage system of Kottappuram zone of TSR corporation.	TSR	5		Yes	enefitted- 12689, Total cost- 48.58 Crores) . Per Km rate Rs 4.868 Crores/km)	AMRUT 2.0
37	Detailed Engineering Report for the Sewerage scheme in Hari pad Municipality - Sewage Treatment Plant of Capacity 2.6 MLD- Phase 1 And Sewerage Network of Length 58km – Phase 2	Alapuzha	2.6	Submitted to Govt and R KI for AS on 27/04/23	Yes	Length of Network 58 km . Population benefitted- 30997, Total cost- Phase I-25.5 Cr and Phase II-212 Crores) . Per Km rate Rs 3.66 Crores/km)	SBM 2.0
38	5MLD capacity STP and sewerage system of Kottappuram zone of TSR corporation.	Thrissur	5	Submitted to Corporation on 01.4.23 getting AS under AMRUT 2.0	Yes	Length of Network 10 km. Population 12689, Total cost- 48.58 Crores) . Per Km rate Rs 4.868 Crores/km	
39	DPR for the Sewerage scheme in Haripad Municipality - Sewage Treatment Plant of Capacity 2.6 MLD- Phase 1 And Sewerage Network of Length	Alappuzha	2.6	Submitted to Govt and R KI for AS on 27/04/23	Yes	Length of Network 58 km. Population 30997, Total cost- Phase I-25.5 Cr and Phase II-212Crores) . Per Km rate Rs3.66 Crores/km)	
	Preparation of DPR					Length of Ne	

40	for proposed sewerage system to the Madhippuram colony and surrounding areas near Vizhinjam Harbour- reg	Thiruvananthapuram	2	Submitted to GoK and Corporation on 20/10/23	Yes	network 20.436 km. Population 21176, Total cost- 84.5 Crores).
16 DPRs are under preparation/modification for getting AS under SBM 2.0, for the following ULBs: Varkala, Neyyattinkara, Pathanamthitta, Harippad, Ettumanoor, Kattappana, Aluva, Thrippunithura, Vadakkanchery, Pattambi, Ponnani, Shornur, Sulthanbathery, Iritty, Anthoor, Mattannur.						

DPR submitted to Suchitwa mission						
Sl.No	Name	District	Capacity in KLD	Status of DPR	Land availability	Remarks
1	DPR of 140 KLD STP for Government women and Children Hospital, Ponnani	Malappuram	140 KLD	Submitted to SM	Yes	
2	DPR of Sewage treatment plant at shopping complex cum multiplex theatre Kallumtitty,	Kannur	20KLD	Submitted to SM	Yes	
3	DPR of Sewage treatment plant at EMS memorial municipal town hall, Koyilandy	Kozhikode	30KLD	Submitted to SM	Yes	
4	Submission of DPR for 50 KLD STP at Govt. Taluk Hospital, Konni, Pathanamthitta	Pathanamthitta	500KLD	Submitted to SM	Yes	

b. Status of existing STP as regards their function as well as compliance action taken restore the functioning of existing STPs where ever required:

Functioning STP requiring updations					
Sl.No	Functioning STP requiring updations	District	Capacity (in MLD)	Compliance status and position	Remarks
					On completion of ongoing works and on implementation of DPR under preparation,

1	Muttathara	Tvpm	107	Fully functional. Efficiency improved. DPR under preparation for network extension.	<p>full utilization of 107 MLD can be achieved. Area of coverage of present network: Number of wards covered : 43. 75 sq km (Old Corporation area) Number of connections: 54000. Length of pipeline network : 600 km. DPR of uncovered areas of TMC is under preparation. This area is divided in to 10 clusters. Cluster 1 comprises of 5 wards - Attukal, Kalady, Kallipankulam, Ambalathara and kamaleswaram wards. The DPR for cluster 1 was submitted for obtaining Administrative Sanction on 13.10.2022. Zone 1 of cluster 3 is consisting of Puthenpally and Part of Muttathara (until STP) is taken up on priority based on the demand of Thiruvananthapuram Corporation and submitted for AS. The DPR of Cluster 3 Zone 2 and Zone 3 is prepared and is under scrutiny. The DPR for cluster 2 is prepared and kept in shelf of projects as there is no fund available. The DPR for cluster 4 (Thirumala Thrikkannapuram and Punnakkamughal wards) is under scrutiny. Cluster IX Vizhinjam area submitted to Corporation for AS. Cluster 10 is under preparation. Based on the direction of Corporation DPR of Clister 1 zone 1&5 and Zone 3&4 revised and submitted to Corporation for AS under AMRUT 2.0/UIDF.</p>
2	Tvpm medical college	Tvpm	5	completed functioning	
3	Guruvayoor	Thrissur	3	completed	<p>Guruvayoor 3mld STP commissioned. DPR for enhancing the capacity to 5MLD and for extending the network were submitted to Guruvayoor Municipality on 18/1/23 for getting AS under AMRUT 2.0, but the directed to add ID proposal in the project and is progressing</p>

4	Elamkulam	Eranakulam	5	Completed. Functioning.	For full utilization of this STP AS has been received under RKI for 1.75 MLD network. Tended with opening date 10/1/24.

II. Status of submission of action plan for management of pollution in coastal areas

Sl No.	DISTRICT	TOWN/ MUNICIPALITY	REMARKS
1	Thiruvananthapuram	Thiruvananthapuram Corporation	<p>DER for 100% utilization of 107 mld STP at Muttathara under preparation:</p> <ol style="list-style-type: none"> DPR of cluster 1 covering wards Kaladi, Attukal, Ambalathara, kalippankulam and kameleswaram submitted to GoI for AS under NRCP. Based on the direction from Govt, this proposal is curtailed into 5 Zones and the DPR for proving Sewerage System for zone I&2 composing of Attukal, Ambalathara and Kalady (Part) wards of Thiruvananthapuram Municipal Corporation amounting to Rs. 99 Cr is submitted to Govt for AS under NRCP. Cluster I zone 3&4 is kept in shelf of projects as there is no fund available. The DPR for cluster 2 is prepared and kept in shelf of projects as there is no fund available. DPR of Cluter 3 Zone 1- Puthenpally ward submitted to Corporation for issuing AS under AMRUT. The DPR of Cluster 3 Zone 2 and Zone 3 is prepared and is under scrutiny The DPR for cluster 4 (Thirumala Thrikkannapuram and Punnakkamughal wards) is under scrutiny. DPR of Cluster IX submitted to GoK and Corporation for AS. DPR of Cluster 1 Zone 1&5 and Zone 3&\$ submitted to Thiruvananthapuram Corporation for issuing AS under Urban

			Infrastructural Development Fund. 7. DPR for cluster 10 is under preparation.
2	Varkala Municipality	Varkala Municipality	DER under scrutiny.
3	Ernakulam	Kochi Corporation	<ol style="list-style-type: none"> 1. AS has been received for the 1.75MLD network for the full utilization of the 5MLD STP. Work Tendered. 2. AS has been received for new 5MLD STP at Elamkulam under AMRUT 2.0 and estimate is under preparation. Work Tendered. 3. DPR for Kochi Corporation(Part) for another 15MLD STP at Elamkulam is under scrutiny.
4	Thrissur	Guruvayoor Municipality	Guruvayoor 3mld STP commissioned. DPR for enhancing the capacity to 5MLD and for extending the network is submitted to Guruvayoor Municipality on 18/1/23 for getting AS under AMRUT 2.0. But based on the discussion with AMRUT officers and the Municipality the DPR is revising to add interception of drain.
5	Malappuram	Ponnani Municipality	DER of Zone I; Zone 3&4 submitted to GoK. But the land identified is private.
6	Kozhikode	Vatakara Municipality	DER submitted to GoK. But the land identified is private
		Koyilandy Municipality	DER submitted to GoK. But the land identified is private
7	Kasaragod	Kasaragod Municipality	DER submitted to GoK. But the land identified is private
		Kanhangad Municipality	DER under preparation
8	Kannur	Thalassery Municipality	DER submitted to GoK. But the land identified is private
9	Kannur	Kannur Corporation	DPR submitted to Corporation for according AS under AMRUT.

III Status of States reuse policy & Re-use projects initiative taken up and priority areas identified

In all the newly prepared DPRs provisions were given to provide tertiary treatment for the effluent from the STPs. This water can be used for construction/industrial purpose and gardening. In case of AMRUT 2.0 projects also they insisted to add this provision. KWA has submitted a proposal for Rs 48 Crores to Thiruvananthapuram Corporation for the reuse of 11MLD effluent from the Muttathara 107 MLD plant. Based on the direction of Corporation the capacity is now revised to 15 MLD and action is being taken to revise the estimate.

Signed by

Bhandari Swagat Ranveerchand las

Date: 11-01-2024 11:05:42

Note pertaining to KWA for the 18th meeting of Central Monitoring Committee in the NGT matter OA No.673 of 2018 scheduled to be held on 11/01/2024.

16th meeting of Central Monitoring Committee in the NGT matter OA No.673 of 2018 is scheduled to be held on 11/01/2024 , under the Chairmanship of the Secretary,DoWR, RD&GR, Ministry of Jal Shakti. Time slot for Kerala State is from 12.00 PM to 2.00 PM. Note for item no. I(a,b) and II of Agenda, pertaining to KWA is submitted herewith for favour of information and further necessary action.

I. Status of Implementation of Action Plan by States:

a. STP/CETP wise status of projects grounded to date, status of projects awaiting sanction or in DPR stages (incremental progress in respect of projects).

STPs Under construction/ Started execution/Tendered.							
Sl.No	Under construction STP/CETP	District	Capacity (in MLD/KLD)	Compliance status and position	Remarks		
1	Kureepuzha	Kollam	12 MLD	Expected date 31/01/24.	work progress is 86%. Action is being taken to provide Sewerage networks for the plant.		
2	Viyyoor Central Jail STP	Thrissur	50KLD	Work Started 23.04.2023 Expected to finish the work before 31/05/24.	Work Progress is 30%.		
3	Pazhayanoor STP	Thrissur	45KLD	Clearance from the KSPCB received and design revision is progressing. i	Work can be completed 31/12/2024		
4	DPR of effluent treatment plant for Perumba Fish market Payyannur	Kannur	5KLD	Work tendered. Due to no response for repeated tender it was decided to revise the Technology for treatment. Action is being taken to get permission from LSGD for the same .	Technology revision sanction is pending from Payyannur municipality		
DPR Submitted to GoK/RKI/AMRUT/Corporation for AS.							
Sl No	Name	District	Capacity (in MLD)	Status of DPR	Land availability	Remarks	AS expected from

			(MLD)		lity		
1	Sewerage System for Pattambi Municipality	Malappuram	5.4	Submitted to Govt and RKI for AS on 6/8/22	yes	Length of network is 72.4 Km, Population benefited --49328, Total cost- 217.19 Cr) (Per Km rate Rs 3.0 Crores/km)	GoK/RKI and now it is revising as per the direction of SBM 2.0
2	Sewerage System for Haripad municipality	Alappuzha	3.8	Submitted to Govt and RKI for AS on 1/9/22	Yes	In phase 1 the length of sewerage network limited to 9.765Km, Population benefited-2406, Total cost - 72 Cr. Per km cost 7.37 Crores.	GoK/RKI and now it is revising as per the direction of SBM 2.0
3	DPR for utilizing unutilized capacity of Elamkulam 1.75MLD Network	Eranakulam, Elamkulam		AS received on 10/3/23 and work tendered.	Yes	Length of Network 16.94 km. Population 10740, Total cost- 63.91Cr). Per Km rate Rs 3.77 Crores/km	Work tendered
4	Sewerage System for Aluva- Zone 1	Eranakulam	1.72	Submitted to Govt and RKI for AS on 20/8/22	Yes	Length of network is 24 Km, Population benefited -12783, Total cost- 118.50 Cr) (Per Km rate Rs 4.93 Crores/km)	GoK/RKI and now it is revising as per the direction of SBM 2.0

5	Kozhikkode corporation Zone F	Kozhikkode	4	Submitted to Govt and RKI for AS on 29/9/22	Yes	Length of network is 23.85Km, Population benefited-61016, Total cost 99 Cr) (Per Km rate Rs 4.15 Crores/km)	GoK/RKI
6	Sewerage System to Kattappana	Idukki	1.76	Submitted to Govt and RKI for AS on 19/9/22	Yes	Length of network is 27.41 Km, Population benefited-58167, Total cost- 114.70Cr) (Per Km rate Rs 4.18 Crores/km)	GoK/RKI and now it is revising as per the direction of SBM 2.0
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9	Ponnani municipality (Kottathara Zone)	Malappuram	4.2	Submitted to Govt and R KI for AS o n 17/10/22	Yes	Length of net work is 43.8 35 Km, Popu lation benefit ted-18799, T otal cost- 18 5.5 Cr) DPR in PRICE 3 s ubmitted Go K and RKI o n 17/10/22. (Per Km rate Rs 4.23 Crore s/km)	GoK/RKI and now it is revising as per the direction o f SBM 2.0
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11	Kasargod Zone I	Kasargod	4	Submitted to Govt and R KI for AS o n 5/11/22	Pvt la nd ide ntified . Actio n to be taken f or lan d acqu isition.	Length of net work is 21.0 1 km, Popula tion benefite d-29931, Tot al cost- 92.50 Crores) (Per Km rate Rs 4 .40 Crores/k m	GoK/RKI
12	Kozhikkode Corporat	Kozhikkode	27	DPR submitt ed to Corpor ation on 9/1	Gover nment/ KWA Land a	Length of net work is 23.6 3km, Populat ion benefite d- 43472	AMRUT 2 .0- AS rece

	ion B1			1/22, to get AS under A MRUT	vailabl e	Total cost- 1 61 Crores) (P er Km rate R s 6.81 Crores /km	ived
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15	Thalassery	Kannur	22	Submitted to Govt and R KI for A Son 28/11/22	Pvt la nd to b e obtai ned.	Length of net work is 315 KM, Populati on benefitted - 1,12,065 Total cost- 7 34.80Crores. (Per Km rate Rs 2.33 Cror es/km	GoK/RKI
16	Kannur Corporation Zone I	Kannur	13	Submitted to Govt and R KI for AS o n 25/11/22	Govt l and	Length of net work is 177 KM, Populati on benefitted - 66,829 Total cost- 4 73 Crores. (P	GoK/RKI

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20	Detailed project report for sewerage network of Kureepuzha west and Vallikkeezhu Division of Kollam Corporation	Kollam	network	DPR submitted on 23/12/22		Length of network is 22.38 KM, Total cost- 76.62Crores. (Per Km rate Rs3.42 Crores/km)	AMRUT 2.0
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	DPR of Upgradation			DPR submitted		Length of net	

22	of the existing 3 ML D Capacity Sewage Treatment Plant (STP) and Sewerage System for Guruvayur Municipality-	TSR	5	ed Corporation on 18.01.23 to getting AS under AMRUT	Yes	work is 3.62 KM, Total cost- 24.75 Crores. (Per Km rate Rs 6.84 Crores /km	AMRUT 2.0
23	Construction of 2 mld capacity sewage treatment Plant and laying sewerage network at Sulthan Bethery	Wayanad	2	Submitted to Govt and RKI for AS on 01/2/23	Pvt land to be obtained.	Length of network is 26.5 61 KM, Total cost- 100.5 Crores. (Per Km rate Rs 3.78 Crores /km	GoK/RKI
24	Kollam Corporation sewerage network Package IV (Pallithottom & Thamarakulam)	Kollam	Network				AS received under AMRUT 2
25	Sewerage scheme in Shornur Municipality consisting of sewage network and FSSM with 2.5 MLD capacity STP with co-treatment unit	Palakkad	2.5	Submitted to Govt and RKI for AS on 16/2/23	railway land	Length of network is 16.25 KM, Total cost- 85.7 Crores. (Per Km rate Rs 5.27 Crores /km	GoK/RKI and now it is revising as per the direction of SBM 2.0, but ULB move for FSTP.
26	Construction of 7MLD capacity Sewage Treatment Plant and Laying Sewerage Network to Vatakara Municipality	KKD	7	Submitted to Govt and RKI for AS on 14/2/23	Pvt land to be obtained.	Length of network is 71.47 KM, Total cost- 214 Crores. (Per Km rate Rs 2.99 Crores /km Rs Crores	GoK/RKI
27	Detailed Engineering Report for Sewerage Scheme in Kalamassery Municipality-Pha	Kochi	2.6	Submitted to Govt and RKI for AS on	Municipality land	Length of network is 19.606 KM, Total cost- 100.39 Crores. (Per Km rate Rs	GoK/RKI

32	Detailed Engineering Report for Sewerage Sscheme in Ponnani (Harbour) in SBM 2.0	Malappuram	3.5	website	Yes	network 9.670 km. Population benefitted - 127619, Total cost- 79.5 Cr) . Per Km rate Rs 8.22 Crores/km)	
33	Thiruvananthapuram Corporation Cluster 2	Tvpm	network	website	Yes	Length of Network 115.7 km. Population benefitted - 52848, Total cost- 411.5 Crores) . Per Km rate Rs 3.55 Crores/km)	Corporation
34	<ul style="list-style-type: none"> Thiruvananthapuram Corporation - DPR of Cluster 1 (Zone 3 & 4) ((Kalady, and Attukal)Part) wards - reg. 	Tvpm	network	website	Yes	Length of Network 18.08 km. Population benefitted - 10,135, Total cost- 66.5 Crores) . Per Km rate Rs 3.68Crores/km)	GoK
35	Sewerage System to Kozhikode Corporation -Laying Sewerage Network to Zone B-phase 2	KKD	network	Submitted to Corporation on 26.4.23 getting AS under AMRUT	Yes	Length of Network 61.71 km. Population benefitted - 42551, Total cost- 140 Crores) . Per Km rate Rs 2.27 Crores/km)	AMRUT 2.0
						Length of Network 10 km. Population b	

36	5MLD capacity STP and sewerage system of Kottappuram zone of TSR corporation.	TSR	5		Yes	enefitted- 12689, Total cost- 48.58 Crores) . Per Km rate Rs 4.868 Crores/km)	AMRUT 2.0
37	Detailed Engineering Report for the Sewerage scheme in Hari pad Municipality - Sewage Treatment Plant of Capacity 2.6 MLD- Phase 1 And Sewerage Network of Length 58km – Phase 2	Alapuzha	2.6	Submitted to Govt and R KI for AS on 27/04/23	Yes	Length of Network 58 km . Population benefitted- 30997, Total cost- Phase I-25.5 Cr and Phase II-212 Crores) . Per Km rate Rs 3.66 Crores/km)	SBM 2.0
38	5MLD capacity STP and sewerage system of Kottappuram zone of TSR corporation.	Thrissur	5	Submitted to Corporation on 01.4.23 getting AS under AMRUT 2.0	Yes	Length of Network 10 km. Population 12689, Total cost- 48.58 Crores) . Per Km rate Rs 4.868 Crores/km	
39	DPR for the Sewerage scheme in Haripad Municipality - Sewage Treatment Plant of Capacity 2.6 MLD- Phase 1 And Sewerage Network of Length	Alappuzha	2.6	Submitted to Govt and R KI for AS on 27/04/23	Yes	Length of Network 58 km. Population 30997, Total cost- Phase I-25.5 Cr and Phase II-212Crores) . Per Km rate Rs3.66 Crores/km)	
	Preparation of DPR					Length of Ne	

40	for proposed sewerage system to the Madhippuram colony and surrounding areas near Vizhinjam Harbour- reg	Thiruvananthapuram	2	Submitted to GoK and Corporation on 20/10/23	Yes	network 20.436 km. Population 21176, Total cost- 84.5 Crores).
16 DPRs are under preparation/modification for getting AS under SBM 2.0, for the following ULBs: Varkala, Neyyattinkara, Pathanamthitta, Harippad, Ettumanoor, Kattappana, Aluva, Thrippunithura, Vadakkanchery, Pattambi, Ponnani, Shornur, Sulthanbathery, Iritty, Anthoor, Mattannur.						

DPR submitted to Suchitwa mission						
Sl.No	Name	District	Capacity in KLD	Status of DPR	Land availability	Remarks
1	DPR of 140 KLD STP for Government women and Children Hospital, Ponnani	Malappuram	140 KLD	Submitted to SM	Yes	
2	DPR of Sewage treatment plant at shopping complex cum multiplex theatre Kallumtitty,	Kannur	20KLD	Submitted to SM	Yes	
3	DPR of Sewage treatment plant at EMS memorial municipal town hall, Koyilandy	Kozhikode	30KLD	Submitted to SM	Yes	
4	Submission of DPR for 50 KLD STP at Govt. Taluk Hospital, Konni, Pathanamthitta	Pathanamthitta	500KLD	Submitted to SM	Yes	

b. Status of existing STP as regards their function as well as compliance action taken restore the functioning of existing STPs where ever required:

Functioning STP requiring updations					
Sl.No	Functioning STP requiring updations	District	Capacity (in MLD)	Compliance status and position	Remarks
					On completion of ongoing works and on implementation of DPR under preparation,

1	Muttathara	Tvpm	107	Fully functional. Efficiency improved. DPR under preparation for network extension.	<p>full utilization of 107 MLD can be achieved. Area of coverage of present network: Number of wards covered : 43. 75 sq km (Old Corporation area) Number of connections: 54000. Length of pipeline network : 600 km. DPR of uncovered areas of TMC is under preparation. This area is divided in to 10 clusters. Cluster 1 comprises of 5 wards - Attukal, Kalady, Kallipankulam, Ambalathara and kamaleswaram wards. The DPR for cluster 1 was submitted for obtaining Administrative Sanction on 13.10.2022. Zone 1 of cluster 3 is consisting of Puthenpally and Part of Muttathara (until STP) is taken up on priority based on the demand of Thiruvananthapuram Corporation and submitted for AS. The DPR of Cluster 3 Zone 2 and Zone 3 is prepared and is under scrutiny. The DPR for cluster 2 is prepared and kept in shelf of projects as there is no fund available. The DPR for cluster 4 (Thirumala Thrikkannapuram and Punnakkamughal wards) is under scrutiny. Cluster IX Vizhinjam area submitted to Corporation for AS. Cluster 10 is under preparation. Based on the direction of Corporation DPR of Clister 1 zone 1&5 and Zone 3&4 revised and submitted to Corporation for AS under AMRUT 2.0/UIDF.</p>
2	Tvpm medical college	Tvpm	5	completed functioning	
3	Guruvayoor	Thrissur	3	completed	<p>Guruvayoor 3mld STP commissioned. DPR for enhancing the capacity to 5MLD and for extending the network were submitted to Guruvayoor Municipality on 18/1/23 for getting AS under AMRUT 2.0, but the directed to add ID proposal in the project and is progressing</p>

4	Elamkulam	Eranakulam	5	Completed. Functioning.	For full utilization of this STP AS has been received under RKI for 1.75 MLD network. Tended with opening date 10/1/24.

II. Status of submission of action plan for management of pollution in coastal areas

Sl No.	DISTRICT	TOWN/ MUNICIPALITY	REMARKS
1	Thiruvananthapuram	Thiruvananthapuram Corporation	<p>DER for 100% utilization of 107 mld STP at Muttathara under preparation:</p> <ol style="list-style-type: none"> DPR of cluster 1 covering wards Kaladi, Attukal, Ambalathara, kalippankulam and kameleswaram submitted to GoI for AS under NRCP. Based on the direction from Govt, this proposal is curtailed into 5 Zones and the DPR for proving Sewerage System for zone I&2 composing of Attukal, Ambalathara and Kalady (Part) wards of Thiruvananthapuram Municipal Corporation amounting to Rs. 99 Cr is submitted to Govt for AS under NRCP. Cluster I zone 3&4 is kept in shelf of projects as there is no fund available. The DPR for cluster 2 is prepared and kept in shelf of projects as there is no fund available. DPR of Cluter 3 Zone 1- Puthenpally ward submitted to Corporation for issuing AS under AMRUT. The DPR of Cluster 3 Zone 2 and Zone 3 is prepared and is under scrutiny The DPR for cluster 4 (Thirumala Thrikkannapuram and Punnakkamughal wards) is under scrutiny. DPR of Cluster IX submitted to GoK and Corporation for AS. DPR of Cluster 1 Zone 1&5 and Zone 3&\$ submitted to Thiruvananthapuram Corporation for issuing AS under Urban

			Infrastructural Development Fund. 7. DPR for cluster 10 is under preparation.
2	Varkala Municipality	Varkala Municipality	DER under scrutiny.
3	Ernakulam	Kochi Corporation	<ol style="list-style-type: none"> 1. AS has been received for the 1.75MLD network for the full utilization of the 5MLD STP. Work Tendered. 2. AS has been received for new 5MLD STP at Elamkulam under AMRUT 2.0 and estimate is under preparation. Work Tendered. 3. DPR for Kochi Corporation(Part) for another 15MLD STP at Elamkulam is under scrutiny.
4	Thrissur	Guruvayoor Municipality	Guruvayoor 3mld STP commissioned. DPR for enhancing the capacity to 5MLD and for extending the network is submitted to Guruvayoor Municipality on 18/1/23 for getting AS under AMRUT 2.0. But based on the discussion with AMRUT officers and the Municipality the DPR is revising to add interception of drain.
5	Malappuram	Ponnani Municipality	DER of Zone I; Zone 3&4 submitted to GoK. But the land identified is private.
6	Kozhikode	Vatakara Municipality	DER submitted to GoK. But the land identified is private
		Koyilandy Municipality	DER submitted to GoK. But the land identified is private
7	Kasaragod	Kasaragod Municipality	DER submitted to GoK. But the land identified is private
		Kanhangad Municipality	DER under preparation
8	Kannur	Thalassery Municipality	DER submitted to GoK. But the land identified is private
9	Kannur	Kannur Corporation	DPR submitted to Corporation for according AS under AMRUT.

III Status of States reuse policy & Re-use projects initiative taken up and priority areas identified

In all the newly prepared DPRs provisions were given to provide tertiary treatment for the effluent from the STPs. This water can be used for construction/industrial purpose and gardening. In case of AMRUT 2.0 projects also they insisted to add this provision. KWA has submitted a proposal for Rs 48 Crores to Thiruvananthapuram Corporation for the reuse of 11MLD effluent from the Muttathara 107 MLD plant. Based on the direction of Corporation the capacity is now revised to 15 MLD and action is being taken to revise the estimate.

Signed by

Bhandari Swagat Ranveerchand las

Date: 11-01-2024 11:05:42

KERALA STATE POLLUTION CONTROL BOARD

DISTRICT OFFICE -1, ERNAKULAM
GANDHINAGAR, KOCHI - 682 020

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

ജില്ലാ ഓഫീസ്-1, എറണാകുളം
ഗാന്ധിനഗർ, കൊച്ചി -682 020

Phone : 0484 – 2207783,84,85,86, E-mail: pcbdo1@gmail.com,
website - kspcb.kerala.gov.in



PCB/EKM/DO-1/GEN- 36/2021

Date: 28.12.2023

From

Environmental Engineer
District Office-1, Ernakulam

To

Member Secretary
KSPCB, Thiruvananthapuram

Sub: OA 673/2018- Kadambayar and Chithrapuzha- Implementation of action plan– reg.

Ref: Letter No. PCB/RO-EKM/GEN-220/19 dated 18.08.2023

Sir,


As per reference above, the detailed report on the compliance on the implementation of action plan for polluted river stretches and the pending activities are reported below.

There are two polluted river stretches under this office jurisdiction identified by the CPCB as per the order of Hon'ble NGT in OA 673/2018. Kadambayar (Manackkadavu - Bhramapuram Priority-IV), Chithrapuzha (Irumpanam- Karingachira Priority V). District Level Technical Committee (DLTC) is monthly reviewing the status of implementation of action plan for the restoration of polluted stretches of river(Kadambayar and Chithrapuzha). It is noted that there is not much progress in the implementation status of the project undertaken by the local bodies. The DLTC had issued several directions to the departments to take immediate action for the implementation action. But, many actions are still pending and it is in initial stages. Some projects are also delayed because of not obtaining AS/TS to the projects. It may kindly note that the major projects which directly control the sewage disposal to the river such as installation of STPs, waste water treatment facilities in Markets, solid wastes management facilities undertaken by the local bodies is still pending and implementation is under its initial stages. The Board is collecting samples from the river. The annual average of the parameters BOD & Coliform in Kadambayar and Chithrapuzha is given below.

Parameters	Kadambrayar	Chithrapuzha	Standards to be achieved after rejuvenation
BOD	2.5 mg/l	2.3 mg/l	< 3mg/l
Coliform	11242.25 MPN/100ml	6467.5 cfu/100 ml	<500 MPN/100ml

The report shows the BOD values in the river are less than 3mg/l. As per the CPCB guidelines, river polluted stretches are classified based on the BOD value. The river is considered as polluted stretches from BOD 3mg/l onwards. Here, the BOD values of two rivers are less than 3mg/l. Variation is noted only with coliform levels which can be achieved only after implementing the project on installation of common sewage/septage facilities. Hence, considering the BOD value kindly advice whether the rivers can be de-classified from the polluted river stretches category. The details of major pending projects in the action plan, the analysis reports showing river quality (2 years) are enclosed herewith.



Yours Faithfully

 ENVIRONMENTAL ENGINEER

Encl: as above

Copy To-

1. The Chief Environmental Engineer, Regional Office, Ernakulam.
 2. The Senior Environmental Engineer,
 Legal Cell, KSPCB
 Regional office, Ernakulam.
 3. The Superintendent Engineer & Chairperson DLTC
 Irrigation Department
- } Kindly bring the above matter before the District Collector through DLMC meeting

Appendix-I - Issues informed by Irrigation Dept.

Sl.No.	Name of work	Amount In Lakhs	Time Line	Present Status	Sanction	Remarks
Works in Kadambayar Action plan						
Long Term works						
1.	Soil investigation works for the construction of walk way along Kadambayar from Manakkakadavu bridge to Kozhichira bund	4.74	Nine Months	1. Estimate submitted to CE (I&A) (As a preliminary step Soil investigation estimate is submitted) 2. Demarcation of sides of Kadambayar is essential for implementing this work. Therefore a letter submitted to Tahasildar Kunnathunad Thaluk	F.S not obtained	

Appendix-II - Issues informed by Cochin Corporation

Sl. No	Name of work	Status	Remarks
1.	Waste to energy plant	The lease agreement to hand over the 20 acres of land to KSIDC for waste to energy project is to be approved by the Health Standing Committee, Finance and own Planning committees. Agenda placed with Health Standing Committee.	Approval pending.
2.	Bio-mining	After the Brahmapuram fire, Bio-mining stopped. Now new company had taken the project and bio-mining to be restarted.	Bio-mining to be restarted.

3.	Construction of Leachate Treatment Plant	The previous proposal of construction of leachate treatment plant is dropped. Now, corporation is proposing to start a new composting plant (BSF technology). The project not started till date.	
4.	Slaughter house and poultry waste Rendering plant	Thrikkakkara Municipality	The land identified and the land inspected by the sub-committee. The proposal submitted for council approval. Council not approved the proposal since land value is found higher than the market value. The proposal cancelled and decided to give advertisement again. Advertisement given. No further progress reported
5.	Provide facility for the treatment of sewage, sullage and garbage generated. Proposed places for the installation of Aerobins (1) Municipal office compound (2) NGO quarters Kakkanad Market	Thrikkakkara Municipality	Municipality informed that tender called for installing waste management facilities in market. The work awarded to M/s KEL. KEL work started
6.	STP requirement	Thrikkakkara Municipality	No progress. Since land not identified..
7.	STP requirement	Thripunithura Municipality	Land identified. Sanction to be taken

Sl. No.	Parameters	Values																								Average BOD Value for 2 years
		Kadambrayar At Brahmapuram																								
		2022												2023												
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	Annual Avg	
1	Temperature, °C	28	28	28	30	N O S A M P L I N G	29	28	25	30	28	29	28	28.27	30	No sampling was done as the station was not accessible due to water haycinth	28	29	29	28	28.80	28.54				
2	Dissolved Oxygen, mg/l	1.3	4.2	1.4	1.6		1.2	1.7	3.7	5.1	4.4	4.1	1.4	2.74	2.1		1.0	5.5	5.8	0.8	3.04	2.89				
3	pH	6.4	6.4	6.3	6.4		6.4	6.4	8.3	6.7	6.6	7.2	6.6	6.70	6.7		6.5	7	6.5	6.9	6.72	6.71				
4	Conductivity, µmhos/cm	183	96	97	110		117	172	200	170	159	244	133	152.82	135		232	207	1768	102	488.80	320.81				
5	BOD, mg/l	3.6	1.2	2.6	2.7		1.7	2.3	2.6	2.6	2.9	2.2	2.8	2.47	2.5		4.6	3.5	3.9	1	3.10	2.79				
6	Nitrate-N, mg/l	0.41	4.3	0.04	0.14		0.19	0.02	0.63	NA	0.2	0.37	0.18	0.65	0.24		0.14	0.29	7.4	0	1.61	1.13				
7	Turbidity, NTU	5.5	0	1.1	5.1		10.4	9.2	1.4	4.8	0.6	1.2	5.3	4.05	5.1		2.4	3.1	4.8	9.5	4.98	4.52				
8	Total Alkalinity, as CaCO3	33	25	24	25		34	46	45	31	30	40	30	33.00	30		58	35	70	26	43.80	38.40				
9	Chloride, mg/l	30	13	12	14		15	18	30	39	29	47.5	21.5	24.45	20		22	40	430	15	105.40	64.93				
10	COD, mg/l	8	6.2	8	8		8.8	16	12.8	7.2	10.4	8	9.6	9.36	9.6		12	10.4	11.2	3.2	9.28	9.32				
11	TKN, mg/l	0.51	0	0.04	0.34		0.2	0.06	0.7	0.35	0.35	0.5	2.8	0.53	3		2.1	2	7.3	1.1	3.10	1.82				
12	Ammoniacal-N, mg/l	0	0	0	0.21		0.04	0.02	0.01	0.28	0.01	0	0	0.05	0		2.8	1.8	8	0	2.52	1.29				
13	Total Hardness, as CaCO3 mg/l	39	22	20	21		25	50	40	38	35	48	31	33.55	29		46	38	250	26	77.80	55.67				
14	Calcium, as CaCO3 mg/l	12	9	2	4		5	24	18	24	18	5	16	12.45	24		36	22	130	12	44.80	28.63				
15	Magnesium as CaCO3, mg/l	27	13	18	17		20	26	22	14	17	43	16	21.18	5		10	16	120	14	33.00	27.09				
16	Sulphate, mg/l	2.02	3.08	4.4	3.01		0	7.9	10	8.09	6.43	9.02	1.24	5.02	0.51		15.3	7.7	15	0	7.70	6.36				
17	Sodium, mg/l	16.54	7.24	6.27	7.3		8.72	10.66	19	20.85	15.23	24.94	11.38	13.47	10.84		17	21	222	7.8	55.73	34.60				
18	Total Dissolved Solids, mg/l	100	56	53	60		64	96	121	112	95	135	74	87.82	75		128	126	995	56	276.00	181.91				
19	Total Fixed Solids, mg/l	80	45	42	48		48	75	94	86	75	100	56	68.09	60		99	98	760	40	211.40	139.75				
20	Total Suspended Solids, mg/l	38	25	25	27		17	28	28	28	25	28	30	27.18	27		20	23	22	8	20.00	23.59				
21	Phosphate, mg/l	0.03	0.32	0	0.09		0	0	0.03	0.03	0.06	1.77	0.2	0.23	0		0.2	0.2	17.5	0.09	3.60	1.91				
22	Boron, mg/l	0.1	0	0.05	0.01		0	0	0	0.12	0.1	0.05	0.02	0.04	0.03		0.07	0	0.46	0	0.11	0.08				
23	Potassium, mg/l	2.84	2.04	1.64	4.35		2.4	3.15	10.22	3.64	2.76	4.09	2.23	3.58	2.51		3.07	3.39	21	2.77	6.55	5.06				
24	Fluoride, mg/l	0.15	0.06	0.05	0.06		0.05	0.05	0.08	0.11	0.11	0.7	0.06	0.13	0.01		0.2	0	0.9	0.6	0.34	0.24				
25	Total Coliform, MPN/100 ml	4300	170	920	630		1500	26000	26000	4900	1300	2600	3500	6529.09	1700		7900	4900	140000	5800	32060.00	19294.55				
26	Faecal Coliform, MPN/100 ml	2000	84	630	320		1200	13000	7900	3200	920	2400	1200	2986.73	540		6300	2600	41000	1700	10428.00	6707.36				
27	Faecal Streptococci, MPN/100ml	120	10	79	84		79	240	94	460	94	94	400	159.45	79		490	430	7000	320	1663.80	911.63				

Sl. No.	Parameters	Values																								Average BOD Value for 2 years
		Kadambrayar At Manackkadavu																								
		2022												2023												
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	Annual Avg	
1	Temperature, °C	29	29	29	30	29	29	28	26	29	28	29	27	28.50	29	28	28	28	29	29	28	29	29	28.60	28.55	
2	Dissolved Oxygen, mg/l	2.9	4.2	1.8	2.4	2.5	2.2	2.3	7	5.4	4.5	7.3	7	4.13	5.2	2.3	2.7	1.2	1.5	3.2	3.3	3.8	5.2	1.4	2.98	3.55
3	pH	6.3	6.7	6.7	6.4	6.5	6.3	6.4	7.4	6.6	6.9	6.5	6.9	6.63	6.8	7.8	6.9	6.4	7.6	6.6	6.8	7	6.5	7	6.94	6.79
4	Conductivity, µmhos/cm	115	86	99	99	135	125	95	100	105	136	450	120	138.75	123	114	96	105	113	110	121	131	160	115	118.80	128.78
5	BOD, mg/l	2.4	1.2	3.2	2.1	2.8	1.9	1.8	2.8	3	2.5	1.7	2.2	2.30	1.7	3.4	3	3.4	0.4	2.3	2	2.9	3	0.7	2.28	2.29
6	Nitrate-N, mg/l	0.04	0.33	0.04	0.12	0.26	0.42	0.06	0.08	NA	0.12	7.54	0.15	0.83	0.75	0	0	0	0	0	0	0.32	0	0	0.11	0.47
7	Turbidity, NTU	5.1	5.4	1.5	4.5	2	13.5	8.1	7.7	6.3	1.3	3.6	7.9	5.58	5.3	1.5	10.2	9.8	8	13.7	1.9	1.5	3.3	14.5	6.97	6.27
8	Total Alkalinity, as CaCO3	23	18	21	28	27	35	22	20	30	30	20	28	25.17	25	19	19	22	27	22	26	28	35	30	25.30	25.23
9	Chloride, mg/l	15	12	15	11	29	15	11.2	10	15	24.55	93.5	18.8	22.50	19	22	20	15	16	17	17	20	30	14	19.00	20.75
10	COD, mg/l	6.4	6	4	6	8	8.8	8.8	10.4	6.4	8	8.8	8	7.47	8	8.8	7.2	6.4	5.6	6.4	5.6	8	8.8	1.8	6.66	7.06
11	TKN, mg/l	0.21	0.39	0.05	0.14	0.25	0.42	0.1	0.09	0.12	0.5	10.08	6.36	1.56	5.4	1.5	0.06	0.12	0	0	0	0	0.02	1.1	0.82	1.19
12	Ammoniacal-N, mg/l	0	0.06	0	0.02	0	0	0	0.002	0.07	0.32	4	0	0.37	0	0	0.01	0.05	0	0	0	0	0	0	0.01	0.19
13	Total Hardness, as CaCO3 mg/l	23	17	18	21	20	30	25	28	34	32	124	26	33.17	23	22	18	24	21	20	24	30	31	30	24.30	28.73
14	Calcium, as CaCO3 mg/l	8	10	7	4	4	7	14	12	20	15	16	14	10.92	16	5	14	16	17	15	18	24	26	18	16.90	13.91
15	Magnesium as CaCO3, mg/l	15	7	11	17	16	23	11	16	14	17	108	12	22.25	7	17	4	8	4	5	6	6	5	12	7.40	14.83
16	Sulphate, mg/l	5.94	1.98	4.9	4.15	0	1.45	2.6	14.73	9.44	1.56	42.32	3.29	7.70	1.35	2.59	0	4.7	0	0	0.8	1.6	5.2	0	1.62	4.66
17	Sodium, mg/l	8.52	6.37	7.87	5.9	14.76	8.3	6.28	4.72	10.38	12.76	48.37	10.56	12.07	10.56	12.4	10.75	8.86	9	9.95	9.94	12.32	16.99	7.3	10.81	11.44
18	Total Dissolved Solids, mg/l	63	48	55	56	75	69	52	62	70	78	290	70	82.33	70	65	55	60	62	60	66	75	101	63	67.70	75.02
19	Total Fixed Solids, mg/l	50	38	44	49	60	50	39	45	55	60	280	54	68.67	55	48	42	45	46	45	50	55	75	50	51.10	59.88
20	Total Suspended Solids, mg/l	35	20	24	25	22	18	17	24	25	22	36	23	24.25	26	18	15	14	18	13	14	20	15	10	16.30	20.28
21	Phosphate, mg/l	0.03	0.09	0	0.01	0.01	0.01	0	0	0.02	0.08	49.34	0.24	4.15	0	0	0.07	0	0.1	0.2	0.2	0.2	0.1	0.11	0.10	2.13
22	Boron, mg/l	0.32	0	0.15	0.01	0.05	0	0	0	0.03	0.05	0	0.04	0.05	0	0	0.03	NA	0.02	NA	0.37	0	0	0	0.05	0.05
23	Potassium, mg/l	2.79	2.34	1.55	3.69	4.46	3.34	2.16	3.07	2.66	2.99	4.5	3.99	3.13	3.04	1.73	3.56	0.01	4.13	3.59	2.83	3.15	0.22	2.87	2.51	2.82
24	Fluoride, mg/l	0.09	0.03	0.05	0.05	0.05	0.05	0.04	0.1	0.15	0.1	4.16	0.08	0.41	0.01	0.1	NA	0.4	0.2	0.2	0.3	0.1	0.2	0.2	0.19	0.30
25	Total Coliform, MPN/100 ml	2300	2500	3100	1200	2000	2700	3400	4700	4800	4000	2300	5800	3233.33	1500	1500	2000	3400	6300	3500	5800	4300	4000	4000	3630.00	3431.67
26	Faecal Coliform, MPN/100 ml	1400	1400	1200	630	1500	2400	2000	3500	2000	2700	2100	4300	2094.17	1100	400	1500	1500	840	130	3800	1400	430	1100	1220.00	1657.08
27	Faecal Streptococci, MPN/100ml	140	79	200	310	140	150	280	63	840	170	79	840	274.25	140	120	70	430	120	84	400	320	400	340	242.40	258.33

Sl. No.	Parameters	Values																								Average BOD Value for 2 years
		Chithrapuzha At Irumpanam																								
		2022												2023												
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	Annual Avg	
1	Temperature, °C	28	29	29	30	29	29	28	26	29	28	29	28	28.50	29	27	28	28	29	30	28	30	29	29	28.70	28.60
2	Dissolved Oxygen, mg/l	3.4	6.2	3.1	6.6	2.7	1.5	1.5	2.9	6.2	3.7	4.7	1.7	3.68	3.1	2.5	3.1	3.5	6.7	1.9	0.8	6.3	6.5	0.7	3.51	3.60
3	pH	6.6	6.6	6.5	6.5	6.5	6.5	6.3	8	6.6	6.2	7.3	6.5	6.68	6.7	9.1	6.6	7.6	8.9	6.5	6.4	7.1	6.8	7	7.27	6.97
4	Conductivity, µmhos/cm	2660	1800	1820	398	500	308	148	130	300	412	143	160	731.58	1406	2399	1891	1833	553	1023	234	270	2148	135	1189.20	960.39
5	BOD, mg/l	1.2	1.8	2.1	1.7	2.5	2.3	1.5	4	2	2.8	2	2.6	2.21	3.1	3.2	3.4	3	2.3	2.6	0.4	2.6	3.1	2	2.57	2.39
6	Nitrate-N, mg/l	0.09	2.75	3.69	6.38	0.67	0.33	0.08	0.41	NA	2.48	0.02	1.55	1.68	12.21	11	1.39	2.69	0	6.43	0.59	0.61	6.09	0	4.10	2.89
7	Turbidity, NTU	2.2	4.2	1.7	2.8	0.8	12.2	9.8	0.7	4.2	1.8	2.2	3.5	3.84	4.3	3.5	9.3	6.9	4.5	5.3	2.6	3.5	5.8	8.4	5.41	4.63
8	Total Alkalinity, as CaCO3	20	14	25	42	45	43.16	28	23	20	44	35	32	30.93	34	18	28	36	23	40	32	33	50	21	31.50	31.22
9	Chloride, mg/l	665	640	450	60	95.5	58	25.5	20	62	92	22.8	27	184.82	425	800	492	500	140	180	30	36	580	23	320.60	252.71
10	COD, mg/l	10	12	12	10	10.4	9.6	12	16	8	13.6	8	8.8	10.87	10.4	11.2	8.8	9.6	8	8	8.8	8.8	8.8	7.2	8.96	9.91
11	TKN, mg/l	0.32	2.84	5.9	8.5	0.6	0.46	0.15	0.65	5.8	3.2	0.09	8.62	3.09	10.8	6.2	5.6	1.25	0	1.1	1.3	6.5	8.5	1.2	4.25	3.67
12	Ammoniacal-N, mg/l	0	0.09	2.2	2.26	0	0.15	0.04	0.19	5.2	1.47	0.01	0.04	0.97	11.63	0.14	3.79	0.01	0	9	0.8	8.5	9.5	0	4.34	2.65
13	Total Hardness, as CaCO3 mg/l	270	400	170	50	79	53	30	26	65	92	36	37	109.00	180	250	160	173	64	95	48	45	220	33	126.80	117.90
14	Calcium, as CaCO3 mg/l	40	130	85	6	20	14	18	6	13	50	15	9	33.83	140	80	100	128	26	65	32	26	140	6	74.30	54.07
15	Magnesium as CaCO3, mg/l	230	270	85	44	59	39	12	20	52	42	21	28	75.17	40	170	60	45	38	30	10	19	80	27	51.90	63.53
16	Sulphate, mg/l	105.8	65.06	59.5	25.3	25.41	19.92	8.8	13.28	39	27.49	1.35	0.52	32.61	112.03	69.5	25.41	27.8	30.4	134	17.7	24.2	40	12.4	49.34	40.98
17	Sodium, mg/l	436.1	340.1	245	31.2	51.5	37.68	14	15.46	34.02	48.5	11.82	14.78	106.68	240	415	287.1	265	80.46	125.3	16.87	26	348	13.27	181.73	144.21
18	Total Dissolved Solids, mg/l	1500	1240	1010	220	275	182	85	81	176	252	78	90	432.42	952	1750	1050	1025	320	582	128	152	1225	75	725.90	579.16
19	Total Fixed Solids, mg/l	1200	990	808	176	220	132	64	61	136	200	60	76	343.58	760	1400	820	800	250	452	102	120	980	58	574.20	458.89
20	Total Suspended Solids, mg/l	28	28	28	28	24	28	25	25	32	28	20	34	27.33	30	28	22	20	24	22	22	28	25	10	23.10	25.22
21	Phosphate, mg/l	0.59	1.9	7.18	10.9	3.42	2.45	3.6	0.26	6.43	1.37	0.49	5.98	3.72	2.5	2.24	1.62	2.95	1.9	40	0.6	6.5	20	0.96	7.93	5.82
22	Boron, mg/l	0.11	0.6	0.1	0.13	0.16	0	0	0.02	0.12	0.21	0.1	0.16	0.14	0.23	0	0.15	NA	0.06	NA	0.13	0	0.08	0	0.08	0.11
23	Potassium, mg/l	12.8	27	8.95	2.74	4.8	4.14	3.5	5.71	3.02	3.06	4.25	3.85	6.99	7.76	134	12.8	9.26	5.88	5.8	3.38	3.23	16	2.57	20.07	13.53
24	Fluoride, mg/l	1.11	2	2.2	1.47	1.25	0.75	0.55	0.2	0.09	4.46	0.18	0.83	1.26	2.82	1.71	NA	0.6	0.3	0.8	0.2	0.6	0.9	0.6	0.95	1.10
25	Total Coliform, MPN/100 ml	2700	3800	4800	3200	2200	7900	17000	7900	7900	3300	2000	4800	5625.00	6300	5800	3400	7000	7900	12000	7900	7900	7900	7000	7310.00	6467.50
26	Faecal Coliform, MPN/100 ml	1700	1400	3400	1000	1500	4800	3400	4000	6300	2100	540	3800	2828.33	4900	4000	2700	3100	4300	7900	5800	7000	5800	2000	4750.00	3789.17
27	Faecal Streptococci, MPN/100ml	100	94	220	400	70	310	310	84	480	120	120	790	258.17	350	170	220	540	270	480	700	1000	490	310	453.00	355.58

National Mission for Clean Ganga

**Format for Submission of Monthly Progress Report by States/UTs
(Hon'ble NGT in the matter of OA No.673/2018 dated 06.12.2019)**

RIVER KALLAYI, KOZHIKODE

S. No.	Activity to be monitored	Timeline	Submission of progress by State/UT- Compliance status
1	Ensure 100% treatment of sewage at least in-situ remediation		Medical College STP-26-02-2024. STP13 MLD- 31-03-2025 STP 27 MLD-31-03-2025
2	Timeline for completing all steps of action plans including completion of setting up STPs and their Commissioning		
5	Chief Secretaries may set up appropriate monitoring mechanism at state level <ul style="list-style-type: none">• Specifying accountability of nodal authorities not below the Secretary level• Chief Secretaries may have an accountable person attached in their office for this purpose• Monitoring at State level must take place		
6	Progress report may be furnished by the State/UTs to <ul style="list-style-type: none">• Secretary, Ministry of Jal Shakti• Member Secretary, CPCB		

6.1	<p>Progress Report may be comprised of details along with completion timelines on:</p> <p>(I) Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment.</p> <p>(II) <u>Status of STPs, I&D and sewerage networks</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(III) <u>Status of CETPs</u> Details of Existing CETP and ETP Infrastructure, Gap Analysis, Proposed along with completion timeline, No. of industries and complying status</p> <p>(iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u> Details of Existing Infrastructure, Gap Analysis, Proposed along with completion timeline</p> <p>(v) Latest water quality of polluted river, its tributaries, drains with flow details and ground water quality in the catchment of polluted river;</p> <p>(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic</p>		
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<p>waste and decentralizing waste processing, including waste generated from hotels, Ashrams, etc.</p> <ul style="list-style-type: none"> (vii) Ground water regulation (viii) Adopting good irrigation practices (ix) Protection and management of food plain Zones (FPZ) (x) Rain water harvesting (xi) Maintaining minimum Environmental flow of river (xii) Plantation on both sides of the river (xiii) Setting up biodiversity parks on flood plains by removing encroachment 		
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ACTION PLAN FOR RIVER KALLAYI, KERALA

Kozhikode Corporation

Kozhikode Corporation								
No.	Activity	Implementing agency	Time line	Progress in the month of November 2023	Progress in the month of December 2023	Progress in the month of January 2024	% works completed	Details of work remaining
1	Identification of illegal outlets into storm water drain and issue Notice to such units	Kozhikode Corporation	30.12.2020					
2	Waste to energy project proposed at Njeliyamparamba	KSIDC	30.06.2021					
3	Establishment of Aerobic compost units 24 units established in 6 sites	Kozhikode Corporation	Completed and functioning					
4	Segregation of solid waste at source level and treatment of house hold wastes 300 ring compost and 150 biogas plant installed	Kozhikode Corporation	30.06.2019					

5	Setting up of rendering treatment plant for chicken stall wastes installed in Thamarassery panchayath. Now waste is collected from 170 units	Fresh cut agency	on trial run					
6	Implementation of Green protocol unit	Kozhikode Corporation	30.06.19					
7	Setting up of common STP of (13 MLD) 7.1 At Kothi bridge- 6 MLD plant proposed 7.2 At Avikkal -7 MLD plant proposed	Kozhikode Corporation	31.03.2020	Due to a Public protest Court case, this project was dropped in AMRUT 1 and taken in AMRUT 2. Submitted for approval from the MOHUA, estimate revised, and AS revision required, a proposal approved by the council and placed before the SLTC/SHPSC. The SLTC dated 27.09.2023 has approved the proposal and recommended to	Due to a Public protest Court case, this project was dropped in AMRUT 1 and taken in AMRUT 2. Submitted for approval from the MOHUA, estimate revised, and AS revision required, a proposal approved by the council and placed before the SLTC/SHPSC. The SLTC dated 27.09.2023 has approved the proposal and recommended to	Due to a Public protest Court case, this project was dropped in AMRUT 1 and taken in AMRUT 2. Submitted for approval from the MOHUA, estimate revised, and AS revision required, a proposal approved by the council and placed before the SLTC/SHPSC. The SLTC dated 27.09.2023 and SHPSC dated 14.12.2023 had approved the		

				the SHPSC for including in the AMRUT 2.0		proposal. Waiting for Further approvals from the APEX committee (MoHUA).		
8	Cleaning of Canoli canal	Kozhikode Corporation	20.07.2019					
9	Purchasing of Solar Boat for Canoli canal cleaning	Kozhikode Corporation	31.03.2020					
10	Installation of CCTV Camera for the Identification and monitoring of illegal activities	Kozhikode Corporation	31.03.2020					
11	Establishment of Mobile Septage Units	Kozhikode Corporation	31.03.2020					
12	Action taken against dumping of wastes into river and public places	Kozhikode Corporation	Continuing					
13	Cleaning of B.K canal	Kozhikode Corporation	31.03.2020					

14	Establishment of treatment plant at Medical college (3 MLD plant) Tender over 14.1 -2 MLD plant proposed 14.2- 1 MLD plant proposed	Kozhikode Corporation	31.03.2020	For the 1 MLD plant, 80% of the GLS work has been completed, and the Receiving Chamber work has been finished. For the 2 MLD plant, the work was inaugurated on 05-10-2023	For the 1 MLD plant, the Reactor Shed interconnection work is 50% complete, while the installation of the Filtration Bay tank has been finished. 15-01-2024	The filling work for the Filtration tank has been completed, and the fitting of electrodes has also been completed. Expected date to be completed by 25.02.2024	95%	1 MLD STP Construction work.
15	Construction of drains at Y.M.RC Millath colony	Kozhikode Corporation	31.03.2020	The construction of the 30m side wall has been completed.	The construction of the 60m side wall has been completed.	The construction of the 300m side wall has been completed. Expected to be completed by 31-03-2024	21%	110m Drainage construction is remaining.

16	Implementation of STP at Kottooli (13.5 MLD)	Kozhikode Corporation						
17	Treatment facility for waste water in Central market	Kozhikode Corporation						
18	Establishment of comfort stations	Kozhikode Corporation						
19	Provide facility for MRF, RRF, Super MRF 3 units existing 19.1 Njeliyanparamb 19.2 Industrial estate 19.3 Meyor bhavanjayanthinagar colony	Suchitwa Mission	Project in progress					
20	Identification of illegal outlets from house to storm water drain and issue Notice to such Houses	Kozhikode Corporation						
21	Establishment of Plastic shredding unit	Kozhikode Corporation	Project started					
22	Establishment of slaughtering unit	Kozhikode Corporation						
23	Cleaning of drains in Kozhikode Town	Kozhikode	Ongoing					

Irrigation Department

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of November 2023	Progress in the month of December 2023	Progress in the month of January 2024	% works completed	Details of work: remaining
		Corporation						
1	Desilting of Kallayi river from Kaduppini to Kothi in Kozhikode Corporation	Irrigation department	31.03.21					
2	Provide fencing on the sides of the Bridge	Irrigation department	31.03.21					
3	Dredging, Desilting & removal of weeds from E K Canal (11.2 km)	Irrigation department	31.07.19					
4	Bio Park in Kozhikode District	Irrigation						

Kerala State Pollution Control Board

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of	Progress in the month of	Progress in the month of	% works completed	Details of work remaining
5	Flood Prone Mapping in Kozhikode District	Irrigation department						
1	River water quality monitoring- Kallayi river National Water Quality Monitoring Programme (NWMMP)	KSPCB	Ongoing; monthly frequency	November 2023	December 2023	January 2024		
2	River water quality monitoring- Kallayi rivers State Water Monitoring	KSPCB	Ongoing- Seasonal monitoring-					

	Programme, KSPCB fund (SWMP)		pre-monsoon, monsoon, post-monsoon					
3	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc. in Malappuram Municipal area	KSPCB	Ongoing Interval: Red – 1month. Orange – 3 months. Green – 6 months.					
Suchitwa Mission								
No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of November 2023	Progress in the month of December 2023	Progress in the month of January 2024	% works completed	Details of work: remaining

1	Board displaying messages against dumping to be placed in river banks	Suchitwa Mission	15.07.19					
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Action Plan by Ground Water Department

No. (as per Action Plan)	Activity	Implementing agency	Time line	Progress in the month of November 2023	Progress in the month of December 2023	Progress in the month of January 2024	% works completed	Details of work: remaining
B(i)	Ground Water resources and regulation of ground water extraction by industries particularly in over exploited as critical zones/blocks (Earlier status: As per							

സൂപ്രണ്ടിംഗ് എഞ്ചിനീയറുടെ കാര്യാലയം
ഇറിഗേഷൻ നോർത്ത് സർക്കിൾ
കാവേരിഹൗസ്, വെസ്റ്റ് ഹിൽ, കോഴിക്കോട് പി.ഒ-05
ടെലഫോൺ നം. 0495 2968319
ഇ മെയിൽ- seinckkd@gmail.com
തീയതി : 10.01.2024

നം. ഡി5 -NGT/1429/19 Vol-III

പ്രേഷകൻ
സൂപ്രണ്ടിംഗ് എഞ്ചിനീയർ & ചെയർമാൻ DLTC
(പൂർണ്ണ അധിക ചുമതല)

സ്വീകർത്താവ്
The Environmental Engineer
Kerala State Pollution Control Board,
Pattom PO, Thiruvananthapuram 695004.

സർ,

വിഷയം: ബഹു.ദേശീയ ഹരിത ട്രിബ്യൂണൽ - മലിനീകരിക്കപ്പെട്ട പുഴകളുടെ കർമ്മ പദ്ധതി- പ്രതിമാസ പുരോഗതി റിപ്പോർട്ട് സമർപ്പിക്കുന്നത് സംബന്ധിച്ച്-

- സൂചന: 1. ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരത്തിന്റെ 23/09/2023ലെ PL2/53362/2022 നം. കത്ത്.
2. എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ ഇറിഗേഷൻ ഡിവിഷൻ കോഴിക്കോടിന്റെ 04/01/2024ലെ ഡി2-NGT-PR/19 നം. കത്ത്.
3. എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ ഇറിഗേഷൻ ഡിവിഷൻ മലപ്പുറത്തിന്റെ 04/01/2024ലെ ഡി2-1350/2016 നം. കത്ത്.
4. എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ ഇറിഗേഷൻ ഡിവിഷൻ കാസറഗോഡിന്റെ 04/01/2024ലെ ഡി3-2338/2019 നം. കത്ത്.
5. എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ, ഇറിഗേഷൻ ഡിവിഷൻ തലശ്ശേരിയുടെ 04/01/2024 ലെ ഡി3-2416/2021/PRS നം. കത്ത്.

മേൽ വിഷയത്തിലേക്ക് താങ്കളുടെ ശ്രദ്ധ ക്ഷണിക്കുന്നു. ബഹു.ദേശീയ ഹരിത ട്രിബ്യൂണലിന്റെ OA 673/2018 തീയതി 06/12/2019 ഉത്തരവുമായി ബന്ധപ്പെട്ട് ഈ കാര്യാലയത്തിന് കീഴിലെ പ്രവൃത്തികളുടെ 2023 ഡിസംബർ മാസത്തിലെ പുരോഗതി റിപ്പോർട്ട് അറിവിലേക്കും തുടർനടപടികൾക്കുമായി സമർപ്പിക്കുന്നു.

ഉള്ളടക്കം- പ്രൊഫോമ

വിശ്വസ്തയോടെ,



സൂപ്രണ്ടിംഗ് എഞ്ചിനീയർ
(പൂർണ്ണ അധിക ചുമതല)

പകർപ്പ്- ചീഫ് എഞ്ചിനീയർ, ജലസേചനവും ഭരണവും തിരുവനന്തപുരം.

NGT Progress Report for the Month of December 2023


Irrigation North Circle, Kozhikode						
<i>Name of Division : Irrigation Division Kozhikode</i>						
Sl.No	Name of River and works	FS Amount and No.	AS Amount and No.	TS Amount and No	Present status	Remarks
1	2	3	4	5	6	7
KALLAI RIVER						
1	Desilting of Kallai river from Kaduppini to Kothi in Kozhikode Corporation .					Rs.790 lakhs deposited by kozhikode corporation under urban agglomeration. Work retendered 3rd time after Govt. order.Since quoted rate of contractor is 217.11% the bid is rejected.
2	Providing chain linked fencing on both sides of Ibrahim bridge across Ibrahim thode of Kallai river in Kozhikode Corporation.				DPR Submitted for FS	DPR amounting to 2.52 lakhs submitted to CE, I&A, Tvm vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd.20-07-2023
3	Providing chain linked fencing on both sides of Kothi bridge across Ibrahim thode of Kallai river in Kozhikode Corporation .					DPR amounting to 28.30 lakhs submitted to CE, I&A, Tvm vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd.20-07-2023
KUTTIYADI RIVER						
1	Providing chain linked fencing on both sides of Thekkedathu kadavu bridge of peruvayal kadiyangadu road across Kuttiyadi river in Chengaroth Panchayath .				DPR Submitted for FS	DPR amounting to 32.70 lakhs submitted to CE, I&A, Tvm vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd.20-07-2023
2	Providing chain linked fencing on both sides of Kadiyangad bridge across kadiyangadu river in Chengaroth Panchayath .					DPR amounting to 16.00 lakhs submitted to CE, I&A, Tvm vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd.20-07-2023
3	Providing fencing on Mooriyad road bridge at Kozhikode Corporation					DPR amounting to 16.70 lakhs submitted to CE, I&A, Tvm vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd.20-07-2023

4	Providing chain linked fencing on both sides of Kuttiyadi bridge across Kuttiyadi river in Kuttiyadi Panchayath.				DPR Submitted for FS	DPR amounting to 21.20 lakhs submitted to CE, I&A, Tvm vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd.20-07-2023
5	Providing chain linked fencing on both sides of Maruthonkara bridge across kuttiyadi river in Maruthonkara Panchayath.				DPR Submitted for FS	DPR amounting to 9.00 lakhs submitted to CE, I&A, Tvm vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd.20-07-2023
6	Providing chain linked fencing on both sides of Gulikapuzha bridge across Kuttiyadi river in Velom Panchayath.					DPR amounting to 24.60 lakhs submitted to CE, I&A, Tvm vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd.20-07-2023
UPPALA RIVER						
1	Tying of net on both sides of the bridge - Rejuvenation work of Uppala river- providing fencing on both sides of Uppala NH bridge in Mangalpady Gramapanchayath of Kasaragod district					As the proposed NH upgrade works are going on and these works are to be carried out along with the bridges which are part of the NH, it would not be desirable to carry these works now. It is here by notify that NH dept. itself undertakes and executes the said work in connection with the upgradation of NH66.
MOGRAL RIVER						
1	Tying of net on both sides of the bridge - Rejuvenation work of Mogral river- providing fencing on both sides of Mogral NH bridge in Mogral kadavath in Mogral Puthur Gramapanchayath of Kasaragod district					As the proposed NH upgrade works are going on and these works are to be carried out along with the bridges which are part of the NH, it would not be desirable to carry these works now. It is here by notify that NH dept. itself undertakes and executes the said work in connection with the upgradation of NH66.
Tirur-Ponnanippuzha						
1	General - NGT-Rejuvenation of polluted rivers - Tirur - Ponnanippuzha - General civil work		Rs. 30.10 Lakhs AS No. AS/59D/22/25906 dtd: 29/03/2023 of CE, I&A, Tvm	Rs. 30.10 Lakhs TS No. IRR/IA/EST_TS/4907/2022 _5_1_1 dtd: 18/04/2023 of EE, Irrigation Division, Malappuram	Work is in progress. Physical progress -35%	Date of completion extended upto 26/03/2024

2	Repair and Rehabilitation of Koottayi Regulator cum bridge across Tirur -Ponnani puzha in Mangalam Gramapanchayath in Malappuram District		Rs. 230 Lakhs, G.O(R)No. 122/2020/P &EA TVM, Dated 03/03/2020	Rs. 230 Lakhs, TS No. IDMpm/2020- 2021/2016/2656/IA dated.19/05/2020 of SE, INC, KKD	Work got stuck due to conditions at site	Cracks on girders and settlement of 4 piers towards right bank has seen on 18/11/2023. So the work can be continued only after addressing the present issues. So while preparing the estimate based on the study report from KERI Peechi, the solution for the new issues also has to be finalised. Meeting held on 29/11/2023 at the office of CE I&A in the presence of CE IDRMB concluded to conduct a detailed technical study by an expert team to find a solution for the existing issues.
A PERUMBA RIVER						
1	Rejuvenation of Perumba River- Providing fencing on both side of Perumba bridge in Payyannur Municipality.					DPR amounting 27.60 lakhs submitted to CE, I&A, Tvm vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd. 20/07/2023 and 19/08/2023
2	Rejuvenation of Perumba River- Maintaining E-Flow :Channelisation and Desilting of Vannathipuzha at Chandapurakadavu and Paravoor kadavu in Kadannappalli- Panapuzha Panchayath. .				DPR Submitted for FS	Estimate prepared as per DSR 2018 and DPR submitted for FS for 15.30 lakhs The work, Rejuvenation of Perumba River - Maintaining E-Flow is coming under Room for River programme under the Executive Engineer (PA to SE) MI Circle Kozhikode who was in charge of Peruvamba river for Maintaining E- Flow.In peruvamba river desilting work were executed at various locations in Kadannappalli Panappuzha Panchayath and Eramam Kuttoor Panchayath.
3	*Rejuvenation of Perumba River-Desilting Perumba thodu in Payyannur Municipality, Payyannur LA in Kannur District				DPR Submitted for FS	The flow in the perumba thodu is contaminated with the waste from Payyannur market and its surroundings. If the existing SWECB was reconstructed and its shutters were closed, the polluted water will stagnated at the upstream side and serious environmental problems will be created. Hence at present construction of SWECB is not environmentally feasible. If treatment facility is provided by local government and only fresh water releases to thodu, the SWECB can be reconstructed. Hence now only the desilting the thodu is included in the estimate and submitted for FS as per DSR 2018, for an amount of 5.46 lakhs vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd. 20/07/2023 & 19/08/2023

B RAMAPURAM RIVER						
1	Rejuvenation of Ramapuram River- Providing fencing on Ramapuram bridge across Ramapuram river in Madayi Panchayath.				DPR Submitted for FS	Estimate prepared as per DSR 2018 and DPR for an amount of Rs.19.60 lakh submitted to CE, I&A, Tvm vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd. 20/07/2023 & 19/08/2023
C KUPPAM RIVER						
1	Providing fencing on Pazhayangadi Bridge across Kuppam River at Pazhayangadi in Madayi Grama Panchayath					DPR amounting 58 lakhs of "Rejuvenation of Kuppam River – Providing fencing on both sides of Kuppam bridge at Kuppam in Taliparamba Municipality and Pazhayangadi bridge at Pazhayangadi in Madayi Grama Panchayath" has been submitted to CE, I&A, Tvm vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd. 20/07/2023. But, vide reference letter No.D3-2416/2022 Vol I dated.14/12/2023 of Executive Engineer, Thalassery has reported that on scrutiny of estimate in detail, some corrections are found. Hence the estimate is corrected accordingly and estimate amount enhanced to 69 lakhs. Executive Engineer yet to submit revised DPR.
2	Providing fencing on Kuppam bridge (NH) across Kuppam river at Thaliparamba in Thaliparamba Municipality.					DPR amounting 58 lakhs of "Rejuvenation of Kuppam River – Providing fencing on both sides of Kuppam bridge at Kuppam in Taliparamba Municipality and Pazhayangadi bridge at Pazhayangadi in Madayi Grama Panchayath" has been submitted to CE, I&A, Tvm vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd. 20/07/2023. But, vide reference letter No.D3-2416/2022 Vol I dated.14/12/2023 of Executive Engineer, Thalassery has reported that on scrutiny of estimate in detail, some corrections are found. Hence the estimate corrected accordingly and estimate amount enhanced to 69 lakhs. Executive Engineer yet to submit revised DPR and EE has reported that since NH upgrade work are going on in these stretches ,it is desirable to carry out these works after completing NH upgradation
3	Regulating activities in flood plain zone, protection and management of flood plain zone Rejuvenation of Kuppam River - Flood plain Zone management : Construction of Marginal Earthen Bund at peringee In Ezhome Grama Panchayath					This work shall not be considered until adequate technical study is conducted (Vide letter No.752755/C1/16/WRD Thiruvananthapuram dtd 30/09/2020 of the Additional Chief Secretary to Government.

4	Greenery development- Plantation plan. Plantation on both sides of the river, setting up biodiversity parks on flood plains by removing encroachment					In order to identify the land for plantation on both sides of the river, the boundary of government land should be fixed by the Revenue Department. Eviction of encroachment should be done. For the same, District collector Kannur has already been addressed from this office and subsequent bio cover works and planting trees have to be done by social forestry department.
5	Issues relating to E- flow, maintaining minimum environmental flow of river (by having watershed management provisions)					Initially the DPR was submitted for 30 lakhs. But as per the letter No.752755/C1/16/WRD Thiruvananthapuram dtd 30/09/2020 of the Additional Chief Secretary to Government, the estimate was recasted for an amount of 10.40 lakhs as per DSR 2016 by assessing the quantity of silt by scientific method. DPR was resubmitted as per DSR 2018 for an amount of Rs. 12.80 lakhs for FS . The work includes desilting from Kooverikkadavu and Kattamballikkadavu. The work, Rejuvenation of Kuppam River - Maintaining E- Flow is coming under Rejuvenation of Kuppam river under Room for River programme. The Executive Engineer , Inland Navigation Division, Kannur was in charge of the Kuppam River. The work of silt removal from Kooverikkadavu is completed and was executed by the Assistant Engineer, Inland Navigation Section, Kannur. Since sand deposit was identified at Kattampallikkadavu, it was not removed under "Room for River" campaign. It should be done after sand audit and the procedure should be followed and it cannot be executed as a work by tender method. So this work may be treated as completed.
D	KAVVAYI RIVER					
1	Desilting and rejuvenation of Narangathodu in Payyannur Municipality, Payyannur LA in Kannur District				DPR submitted for FS	*This work comes under the jurisdiction of MI Division Kannur. DPR submitted to CE, I&A, Tvm vide this office letter No. D5-NGT/1429/2019 Vol. III Dtd. 20/07/2023 & 19/08/2023


Superintending Engineer
(FAC)

KERALA STATE POLLUTION CONTROL BOARD

DISTRICT OFFICE -1, ERNAKULAM
GANDHINAGAR, KOCHI - 682 020

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്



ജില്ലാ ഓഫീസ്-1, എറണാകുളം
ഗാന്ധിനഗർ, കൊച്ചി -682 020

Phone : 0484 – 2207783,84,85,86, E-mail: pcbdo1@gmail.com,
website - kspcb.kerala.gov.in



PCB/EKM/DO-1/GEN- 36/2021

Date: 28.12.2023

From

Environmental Engineer
District Office-1, Ernakulam

To

Member Secretary
KSPCB, Thiruvananthapuram

Sub: OA 673/2018- Kadambayar and Chithrapuzha- Implementation of action plan– reg.

Ref: Letter No. PCB/RO-EKM/GEN-220/19 dated 18.08.2023

Sir,


As per reference above, the detailed report on the compliance on the implementation of action plan for polluted river stretches and the pending activities are reported below.

There are two polluted river stretches under this office jurisdiction identified by the CPCB as per the order of Hon'ble NGT in OA 673/2018. Kadambayar (Manackkadavu - Bhramapuram Priority-IV), Chithrapuzha (Irumpanam- Karingachira Priority V). District Level Technical Committee (DLTC) is monthly reviewing the status of implementation of action plan for the restoration of polluted stretches of river(Kadambayar and Chithrapuzha). It is noted that there is not much progress in the implementation status of the project undertaken by the local bodies. The DLTC had issued several directions to the departments to take immediate action for the implementation action. But, many actions are still pending and it is in initial stages. Some projects are also delayed because of not obtaining AS/TS to the projects. It may kindly note that the major projects which directly control the sewage disposal to the river such as installation of STPs, waste water treatment facilities in Markets, solid wastes management facilities undertaken by the local bodies is still pending and implementation is under its initial stages. The Board is collecting samples from the river. The annual average of the parameters BOD & Coliform in Kadambayar and Chithrapuzha is given below.

Parameters	Kadambrayar	Chithrapuzha	Standards to be achieved after rejuvenation
BOD	2.5 mg/l	2.3 mg/l	< 3mg/l
Coliform	11242.25 MPN/100ml	6467.5 cfu/100 ml	<500 MPN/100ml

The report shows the BOD values in the river are less than 3mg/l. As per the CPCB guidelines, river polluted stretches are classified based on the BOD value. The river is considered as polluted stretches from BOD 3mg/l onwards. Here, the BOD values of two rivers are less than 3mg/l. Variation is noted only with coliform levels which can be achieved only after implementing the project on installation of common sewage/septage facilities. Hence, considering the BOD value kindly advice whether the rivers can be de-classified from the polluted river stretches category. The details of major pending projects in the action plan, the analysis reports showing river quality (2 years) are enclosed herewith.



Yours Faithfully

 ENVIRONMENTAL ENGINEER

Encl: as above

Copy To-

1. The Chief Environmental Engineer, Regional Office, Ernakulam.
 2. The Senior Environmental Engineer,
 Legal Cell, KSPCB
 Regional office, Ernakulam.
 3. The Superintendent Engineer & Chairperson DLTC
 Irrigation Department
- } Kindly bring the above matter before the District Collector through DLMC meeting

Appendix-I - Issues informed by Irrigation Dept.

Sl.No.	Name of work	Amount In Lakhs	Time Line	Present Status	Sanction	Remarks
Works in Kadambayar Action plan						
Long Term works						
1.	Soil investigation works for the construction of walk way along Kadambayar from Manakkakadavu bridge to Kozhichira bund	4.74	Nine Months	1. Estimate submitted to CE (I&A) (As a preliminary step Soil investigation estimate is submitted) 2. Demarcation of sides of Kadambayar is essential for implementing this work. Therefore a letter submitted to Tahasildar Kunnathunad Thaluk	F.S not obtained	

Appendix-II - Issues informed by Cochin Corporation

Sl. No	Name of work	Status	Remarks
1.	Waste to energy plant	The lease agreement to hand over the 20 acres of land to KSIDC for waste to energy project is to be approved by the Health Standing Committee, Finance and own Planning committees. Agenda placed with Health Standing Committee.	Approval pending.
2.	Bio-mining	After the Brahmapuram fire, Bio-mining stopped. Now new company had taken the project and bio-mining to be restarted.	Bio-mining to be restarted.

3.	Construction of Leachate Treatment Plant	The previous proposal of construction of leachate treatment plant is dropped. Now, corporation is proposing to start a new composting plant (BSF technology). The project not started till date.	
4.	Slaughter house and poultry waste Rendering plant	Thrikkakkara Municipality	The land identified and the land inspected by the sub-committee. The proposal submitted for council approval. Council not approved the proposal since land value is found higher than the market value. The proposal cancelled and decided to give advertisement again. Advertisement given. No further progress reported
5.	Provide facility for the treatment of sewage, sullage and garbage generated. Proposed places for the installation of Aerobins (1) Municipal office compound (2) NGO quarters Kakkanad Market	Thrikkakkara Municipality	Municipality informed that tender called for installing waste management facilities in market. The work awarded to M/s KEL. KEL work started
6.	STP requirement	Thrikkakkara Municipality	No progress. Since land not identified..
7.	STP requirement	Thripunithura Municipality	Land identified. Sanction to be taken

Sl. No.	Parameters	Values																								Average BOD Value for 2 years
		Kadambrayar At Brahmapuram																								
		2022												2023												
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	Annual Avg	
1	Temperature, °C	28	28	28	30	N O S A M P L I N G	29	28	25	30	28	29	28	28.27	30	No sampling was done as the station was not accessible due to water haycinth	28	29	29	28	28.80	28.54				
2	Dissolved Oxygen, mg/l	1.3	4.2	1.4	1.6		1.2	1.7	3.7	5.1	4.4	4.1	1.4	2.74	2.1		1.0	5.5	5.8	0.8	3.04	2.89				
3	pH	6.4	6.4	6.3	6.4		6.4	6.4	8.3	6.7	6.6	7.2	6.6	6.70	6.7		6.5	7	6.5	6.9	6.72	6.71				
4	Conductivity, µmhos/cm	183	96	97	110		117	172	200	170	159	244	133	152.82	135		232	207	1768	102	488.80	320.81				
5	BOD, mg/l	3.6	1.2	2.6	2.7		1.7	2.3	2.6	2.6	2.9	2.2	2.8	2.47	2.5		4.6	3.5	3.9	1	3.10	2.79				
6	Nitrate-N, mg/l	0.41	4.3	0.04	0.14		0.19	0.02	0.63	NA	0.2	0.37	0.18	0.65	0.24		0.14	0.29	7.4	0	1.61	1.13				
7	Turbidity, NTU	5.5	0	1.1	5.1		10.4	9.2	1.4	4.8	0.6	1.2	5.3	4.05	5.1		2.4	3.1	4.8	9.5	4.98	4.52				
8	Total Alkalinity, as CaCO3	33	25	24	25		34	46	45	31	30	40	30	33.00	30		58	35	70	26	43.80	38.40				
9	Chloride, mg/l	30	13	12	14		15	18	30	39	29	47.5	21.5	24.45	20		22	40	430	15	105.40	64.93				
10	COD, mg/l	8	6.2	8	8		8.8	16	12.8	7.2	10.4	8	9.6	9.36	9.6		12	10.4	11.2	3.2	9.28	9.32				
11	TKN, mg/l	0.51	0	0.04	0.34		0.2	0.06	0.7	0.35	0.35	0.5	2.8	0.53	3		2.1	2	7.3	1.1	3.10	1.82				
12	Ammoniacal-N, mg/l	0	0	0	0.21		0.04	0.02	0.01	0.28	0.01	0	0	0.05	0		2.8	1.8	8	0	2.52	1.29				
13	Total Hardness, as CaCO3 mg/l	39	22	20	21		25	50	40	38	35	48	31	33.55	29		46	38	250	26	77.80	55.67				
14	Calcium, as CaCO3 mg/l	12	9	2	4		5	24	18	24	18	5	16	12.45	24		36	22	130	12	44.80	28.63				
15	Magnesium as CaCO3, mg/l	27	13	18	17		20	26	22	14	17	43	16	21.18	5		10	16	120	14	33.00	27.09				
16	Sulphate, mg/l	2.02	3.08	4.4	3.01		0	7.9	10	8.09	6.43	9.02	1.24	5.02	0.51		15.3	7.7	15	0	7.70	6.36				
17	Sodium, mg/l	16.54	7.24	6.27	7.3		8.72	10.66	19	20.85	15.23	24.94	11.38	13.47	10.84		17	21	222	7.8	55.73	34.60				
18	Total Dissolved Solids, mg/l	100	56	53	60		64	96	121	112	95	135	74	87.82	75		128	126	995	56	276.00	181.91				
19	Total Fixed Solids, mg/l	80	45	42	48		48	75	94	86	75	100	56	68.09	60		99	98	760	40	211.40	139.75				
20	Total Suspended Solids, mg/l	38	25	25	27		17	28	28	28	25	28	30	27.18	27		20	23	22	8	20.00	23.59				
21	Phosphate, mg/l	0.03	0.32	0	0.09		0	0	0.03	0.03	0.06	1.77	0.2	0.23	0		0.2	0.2	17.5	0.09	3.60	1.91				
22	Boron, mg/l	0.1	0	0.05	0.01		0	0	0	0.12	0.1	0.05	0.02	0.04	0.03		0.07	0	0.46	0	0.11	0.08				
23	Potassium, mg/l	2.84	2.04	1.64	4.35		2.4	3.15	10.22	3.64	2.76	4.09	2.23	3.58	2.51		3.07	3.39	21	2.77	6.55	5.06				
24	Fluoride, mg/l	0.15	0.06	0.05	0.06		0.05	0.05	0.08	0.11	0.11	0.7	0.06	0.13	0.01		0.2	0	0.9	0.6	0.34	0.24				
25	Total Coliform, MPN/100 ml	4300	170	920	630		1500	26000	26000	4900	1300	2600	3500	6529.09	1700		7900	4900	140000	5800	32060.00	19294.55				
26	Faecal Coliform, MPN/100 ml	2000	84	630	320		1200	13000	7900	3200	920	2400	1200	2986.73	540		6300	2600	41000	1700	10428.00	6707.36				
27	Faecal Streptococci, MPN/100ml	120	10	79	84		79	240	94	460	94	94	400	159.45	79		490	430	7000	320	1663.80	911.63				

Sl. No.	Parameters	Values																								Average BOD Value for 2 years
		Kadambayar At Manackakadavu																								
		2022												2023												
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	Annual Avg	
1	Temperature, °C	29	29	29	30	29	29	28	26	29	28	29	27	28.50	29	28	28	28	29	29	28	29	29	28.60	28.55	
2	Dissolved Oxygen, mg/l	2.9	4.2	1.8	2.4	2.5	2.2	2.3	7	5.4	4.5	7.3	7	4.13	5.2	2.3	2.7	1.2	1.5	3.2	3.3	3.8	5.2	1.4	2.98	3.55
3	pH	6.3	6.7	6.7	6.4	6.5	6.3	6.4	7.4	6.6	6.9	6.5	6.9	6.63	6.8	7.8	6.9	6.4	7.6	6.6	6.8	7	6.5	7	6.94	6.79
4	Conductivity, µmhos/cm	115	86	99	99	135	125	95	100	105	136	450	120	138.75	123	114	96	105	113	110	121	131	160	115	118.80	128.78
5	BOD, mg/l	2.4	1.2	3.2	2.1	2.8	1.9	1.8	2.8	3	2.5	1.7	2.2	2.30	1.7	3.4	3	3.4	0.4	2.3	2	2.9	3	0.7	2.28	2.29
6	Nitrate-N, mg/l	0.04	0.33	0.04	0.12	0.26	0.42	0.06	0.08	NA	0.12	7.54	0.15	0.83	0.75	0	0	0	0	0	0	0.32	0	0	0.11	0.47
7	Turbidity, NTU	5.1	5.4	1.5	4.5	2	13.5	8.1	7.7	6.3	1.3	3.6	7.9	5.58	5.3	1.5	10.2	9.8	8	13.7	1.9	1.5	3.3	14.5	6.97	6.27
8	Total Alkalinity, as CaCO3	23	18	21	28	27	35	22	20	30	30	20	28	25.17	25	19	19	22	27	22	26	28	35	30	25.30	25.23
9	Chloride, mg/l	15	12	15	11	29	15	11.2	10	15	24.55	93.5	18.8	22.50	19	22	20	15	16	17	17	20	30	14	19.00	20.75
10	COD, mg/l	6.4	6	4	6	8	8.8	8.8	10.4	6.4	8	8.8	8	7.47	8	8.8	7.2	6.4	5.6	6.4	5.6	8	8.8	1.8	6.66	7.06
11	TKN, mg/l	0.21	0.39	0.05	0.14	0.25	0.42	0.1	0.09	0.12	0.5	10.08	6.36	1.56	5.4	1.5	0.06	0.12	0	0	0	0	0.02	1.1	0.82	1.19
12	Ammoniacal-N, mg/l	0	0.06	0	0.02	0	0	0	0.002	0.07	0.32	4	0	0.37	0	0	0.01	0.05	0	0	0	0	0	0	0.01	0.19
13	Total Hardness, as CaCO3 mg/l	23	17	18	21	20	30	25	28	34	32	124	26	33.17	23	22	18	24	21	20	24	30	31	30	24.30	28.73
14	Calcium, as CaCO3 mg/l	8	10	7	4	4	7	14	12	20	15	16	14	10.92	16	5	14	16	17	15	18	24	26	18	16.90	13.91
15	Magnesium as CaCO3, mg/l	15	7	11	17	16	23	11	16	14	17	108	12	22.25	7	17	4	8	4	5	6	6	5	12	7.40	14.83
16	Sulphate, mg/l	5.94	1.98	4.9	4.15	0	1.45	2.6	14.73	9.44	1.56	42.32	3.29	7.70	1.35	2.59	0	4.7	0	0	0.8	1.6	5.2	0	1.62	4.66
17	Sodium, mg/l	8.52	6.37	7.87	5.9	14.76	8.3	6.28	4.72	10.38	12.76	48.37	10.56	12.07	10.56	12.4	10.75	8.86	9	9.95	9.94	12.32	16.99	7.3	10.81	11.44
18	Total Dissolved Solids, mg/l	63	48	55	56	75	69	52	62	70	78	290	70	82.33	70	65	55	60	62	60	66	75	101	63	67.70	75.02
19	Total Fixed Solids, mg/l	50	38	44	49	60	50	39	45	55	60	280	54	68.67	55	48	42	45	46	45	50	55	75	50	51.10	59.88
20	Total Suspended Solids, mg/l	35	20	24	25	22	18	17	24	25	22	36	23	24.25	26	18	15	14	18	13	14	20	15	10	16.30	20.28
21	Phosphate, mg/l	0.03	0.09	0	0.01	0.01	0.01	0	0	0.02	0.08	49.34	0.24	4.15	0	0	0.07	0	0.1	0.2	0.2	0.2	0.1	0.11	0.10	2.13
22	Boron, mg/l	0.32	0	0.15	0.01	0.05	0	0	0	0.03	0.05	0	0.04	0.05	0	0	0.03	NA	0.02	NA	0.37	0	0	0	0.05	0.05
23	Potassium, mg/l	2.79	2.34	1.55	3.69	4.46	3.34	2.16	3.07	2.66	2.99	4.5	3.99	3.13	3.04	1.73	3.56	0.01	4.13	3.59	2.83	3.15	0.22	2.87	2.51	2.82
24	Fluoride, mg/l	0.09	0.03	0.05	0.05	0.05	0.05	0.04	0.1	0.15	0.1	4.16	0.08	0.41	0.01	0.1	NA	0.4	0.2	0.2	0.3	0.1	0.2	0.2	0.19	0.30
25	Total Coliform, MPN/100 ml	2300	2500	3100	1200	2000	2700	3400	4700	4800	4000	2300	5800	3233.33	1500	1500	2000	3400	6300	3500	5800	4300	4000	4000	3630.00	3431.67
26	Faecal Coliform, MPN/100 ml	1400	1400	1200	630	1500	2400	2000	3500	2000	2700	2100	4300	2094.17	1100	400	1500	1500	840	130	3800	1400	430	1100	1220.00	1657.08
27	Faecal Streptococci, MPN/100ml	140	79	200	310	140	150	280	63	840	170	79	840	274.25	140	120	70	430	120	84	400	320	400	340	242.40	258.33

Sl. No.	Parameters	Values																								Average BOD Value for 2 years
		Chithrapuzha At Irumpanam																								
		2022												2023												
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	Annual Avg	
1	Temperature, °C	28	29	29	30	29	29	28	26	29	28	29	28	28.50	29	27	28	28	29	30	28	30	29	29	28.70	28.60
2	Dissolved Oxygen, mg/l	3.4	6.2	3.1	6.6	2.7	1.5	1.5	2.9	6.2	3.7	4.7	1.7	3.68	3.1	2.5	3.1	3.5	6.7	1.9	0.8	6.3	6.5	0.7	3.51	3.60
3	pH	6.6	6.6	6.5	6.5	6.5	6.5	6.3	8	6.6	6.2	7.3	6.5	6.68	6.7	9.1	6.6	7.6	8.9	6.5	6.4	7.1	6.8	7	7.27	6.97
4	Conductivity, µmhos/cm	2660	1800	1820	398	500	308	148	130	300	412	143	160	731.58	1406	2399	1891	1833	553	1023	234	270	2148	135	1189.20	960.39
5	BOD, mg/l	1.2	1.8	2.1	1.7	2.5	2.3	1.5	4	2	2.8	2	2.6	2.21	3.1	3.2	3.4	3	2.3	2.6	0.4	2.6	3.1	2	2.57	2.39
6	Nitrate-N, mg/l	0.09	2.75	3.69	6.38	0.67	0.33	0.08	0.41	NA	2.48	0.02	1.55	1.68	12.21	11	1.39	2.69	0	6.43	0.59	0.61	6.09	0	4.10	2.89
7	Turbidity, NTU	2.2	4.2	1.7	2.8	0.8	12.2	9.8	0.7	4.2	1.8	2.2	3.5	3.84	4.3	3.5	9.3	6.9	4.5	5.3	2.6	3.5	5.8	8.4	5.41	4.63
8	Total Alkalinity, as CaCO ₃	20	14	25	42	45	43.16	28	23	20	44	35	32	30.93	34	18	28	36	23	40	32	33	50	21	31.50	31.22
9	Chloride, mg/l	665	640	450	60	95.5	58	25.5	20	62	92	22.8	27	184.82	425	800	492	500	140	180	30	36	580	23	320.60	252.71
10	COD, mg/l	10	12	12	10	10.4	9.6	12	16	8	13.6	8	8.8	10.87	10.4	11.2	8.8	9.6	8	8	8.8	8.8	8.8	7.2	8.96	9.91
11	TKN, mg/l	0.32	2.84	5.9	8.5	0.6	0.46	0.15	0.65	5.8	3.2	0.09	8.62	3.09	10.8	6.2	5.6	1.25	0	1.1	1.3	6.5	8.5	1.2	4.25	3.67
12	Ammoniacal-N, mg/l	0	0.09	2.2	2.26	0	0.15	0.04	0.19	5.2	1.47	0.01	0.04	0.97	11.63	0.14	3.79	0.01	0	9	0.8	8.5	9.5	0	4.34	2.65
13	Total Hardness, as CaCO ₃ mg/l	270	400	170	50	79	53	30	26	65	92	36	37	109.00	180	250	160	173	64	95	48	45	220	33	126.80	117.90
14	Calcium, as CaCO ₃ mg/l	40	130	85	6	20	14	18	6	13	50	15	9	33.83	140	80	100	128	26	65	32	26	140	6	74.30	54.07
15	Magnesium as CaCO ₃ , mg/l	230	270	85	44	59	39	12	20	52	42	21	28	75.17	40	170	60	45	38	30	10	19	80	27	51.90	63.53
16	Sulphate, mg/l	105.8	65.06	59.5	25.3	25.41	19.92	8.8	13.28	39	27.49	1.35	0.52	32.61	112.03	69.5	25.41	27.8	30.4	134	17.7	24.2	40	12.4	49.34	40.98
17	Sodium, mg/l	436.1	340.1	245	31.2	51.5	37.68	14	15.46	34.02	48.5	11.82	14.78	106.68	240	415	287.1	265	80.46	125.3	16.87	26	348	13.27	181.73	144.21
18	Total Dissolved Solids, mg/l	1500	1240	1010	220	275	182	85	81	176	252	78	90	432.42	952	1750	1050	1025	320	582	128	152	1225	75	725.90	579.16
19	Total Fixed Solids, mg/l	1200	990	808	176	220	132	64	61	136	200	60	76	343.58	760	1400	820	800	250	452	102	120	980	58	574.20	458.89
20	Total Suspended Solids, mg/l	28	28	28	28	24	28	25	25	32	28	20	34	27.33	30	28	22	20	24	22	22	28	25	10	23.10	25.22
21	Phosphate, mg/l	0.59	1.9	7.18	10.9	3.42	2.45	3.6	0.26	6.43	1.37	0.49	5.98	3.72	2.5	2.24	1.62	2.95	1.9	40	0.6	6.5	20	0.96	7.93	5.82
22	Boron, mg/l	0.11	0.6	0.1	0.13	0.16	0	0	0.02	0.12	0.21	0.1	0.16	0.14	0.23	0	0.15	NA	0.06	NA	0.13	0	0.08	0	0.08	0.11
23	Potassium, mg/l	12.8	27	8.95	2.74	4.8	4.14	3.5	5.71	3.02	3.06	4.25	3.85	6.99	7.76	134	12.8	9.26	5.88	5.8	3.38	3.23	16	2.57	20.07	13.53
24	Fluoride, mg/l	1.11	2	2.2	1.47	1.25	0.75	0.55	0.2	0.09	4.46	0.18	0.83	1.26	2.82	1.71	NA	0.6	0.3	0.8	0.2	0.6	0.9	0.6	0.95	1.10
25	Total Coliform, MPN/100 ml	2700	3800	4800	3200	2200	7900	17000	7900	7900	3300	2000	4800	5625.00	6300	5800	3400	7000	7900	12000	7900	7900	7900	7000	7310.00	6467.50
26	Faecal Coliform, MPN/100 ml	1700	1400	3400	1000	1500	4800	3400	4000	6300	2100	540	3800	2828.33	4900	4000	2700	3100	4300	7900	5800	7000	5800	2000	4750.00	3789.17
27	Faecal Streptococci, MPN/100ml	100	94	220	400	70	310	310	84	480	120	120	790	258.17	350	170	220	540	270	480	700	1000	490	310	453.00	355.58

KERALA STATE POLLUTION CONTROL BOARD

DISTRICT OFFICE -1, ERNAKULAM
GANDHINAGAR, KOCHI - 682 020

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

ജില്ലാ ഓഫീസ്-1, എറണാകുളം
ഗാന്ധിനഗർ, കൊച്ചി -682 020

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PCB/EKM/DO-1/GEN- 36/2021

Date: 28.12.2023

From

Environmental Engineer
District Office-1, Ernakulam

To

Member Secretary
KSPCB, Thiruvananthapuram

Sub: OA 673/2018- Kadambrayar and Chithrapuzha- Implementation of action plan– reg.

Ref: Letter No. PCB/RO-EKM/GEN-220/19 dated 18.08.2023

Sir,


As per reference above, the detailed report on the compliance on the implementation of action plan for polluted river stretches and the pending activities are reported below.

There are two polluted river stretches under this office jurisdiction identified by the CPCB as per the order of Hon'ble NGT in OA 673/2018. Kadambrayar (Manackkadavu - Bhramapuram Priority-IV), Chithrapuzha (Irumpanam- Karingachira Priority V). District Level Technical Committee (DLTC) is monthly reviewing the status of implementation of action plan for the restoration of polluted stretches of river(Kadambrayar and Chithrapuzha). It is noted that there is not much progress in the implementation status of the project undertaken by the local bodies. The DLTC had issued several directions to the departments to take immediate action for the implementation action. But, many actions are still pending and it is in initial stages. Some projects are also delayed because of not obtaining AS/TS to the projects. It may kindly note that the major projects which directly control the sewage disposal to the river such as installation of STPs, waste water treatment facilities in Markets, solid wastes management facilities undertaken by the local bodies is still pending and implementation is under its initial stages. The Board is collecting samples from the river. The annual average of the parameters BOD & Coliform in Kadambrayar and Chithrapuzha is given below.

Parameters	Kadambrayar	Chithrapuzha	Standards to be achieved after rejuvenation
BOD	2.5 mg/l	2.3 mg/l	< 3mg/l
Coliform	11242.25 MPN/100ml	6467.5 cfu/100 ml	<500 MPN/100ml

The report shows the BOD values in the river are less than 3mg/l. As per the CPCB guidelines, river polluted stretches are classified based on the BOD value. The river is considered as polluted stretches from BOD 3mg/l onwards. Here, the BOD values of two rivers are less than 3mg/l. Variation is noted only with coliform levels which can be achieved only after implementing the project on installation of common sewage/septage facilities. Hence, considering the BOD value kindly advice whether the rivers can be de-classified from the polluted river stretches category. The details of major pending projects in the action plan, the analysis reports showing river quality (2 years) are enclosed herewith.



Yours Faithfully

 ENVIRONMENTAL ENGINEER

Encl: as above

Copy To-

1. The Chief Environmental Engineer, Regional Office, Ernakulam.
 2. The Senior Environmental Engineer,
 Legal Cell, KSPCB
 Regional office, Ernakulam.
 3. The Superintendent Engineer & Chairperson DLTC
 Irrigation Department
- } Kindly bring the above matter before the District Collector through DLMC meeting

Appendix-I - Issues informed by Irrigation Dept.

Sl.No.	Name of work	Amount In Lakhs	Time Line	Present Status	Sanction	Remarks
Works in Kadambayar Action plan						
Long Term works						
1.	Soil investigation works for the construction of walk way along Kadambayar from Manakkakadavu bridge to Kozhichira bund	4.74	Nine Months	1. Estimate submitted to CE (I&A) (As a preliminary step Soil investigation estimate is submitted) 2. Demarcation of sides of Kadambayar is essential for implementing this work. Therefore a letter submitted to Tahasildar Kunnathunad Thaluk	F.S not obtained	

Appendix-II - Issues informed by Cochin Corporation

Sl. No	Name of work	Status	Remarks
1.	Waste to energy plant	The lease agreement to hand over the 20 acres of land to KSIDC for waste to energy project is to be approved by the Health Standing Committee, Finance and own Planning committees. Agenda placed with Health Standing Committee.	Approval pending.
2.	Bio-mining	After the Brahmapuram fire, Bio-mining stopped. Now new company had taken the project and bio-mining to be restarted.	Bio-mining to be restarted.

3.	Construction of Leachate Treatment Plant	The previous proposal of construction of leachate treatment plant is dropped. Now, corporation is proposing to start a new composting plant (BSF technology). The project not started till date.	
4.	Slaughter house and poultry waste Rendering plant	Thrikkakkara Municipality	The land identified and the land inspected by the sub-committee. The proposal submitted for council approval. Council not approved the proposal since land value is found higher than the market value. The proposal cancelled and decided to give advertisement again. Advertisement given. No further progress reported
5.	Provide facility for the treatment of sewage, sullage and garbage generated. Proposed places for the installation of Aerobins (1) Municipal office compound (2) NGO quarters Kakkanad Market	Thrikkakkara Municipality	Municipality informed that tender called for installing waste management facilities in market. The work awarded to M/s KEL. KEL work started
6.	STP requirement	Thrikkakkara Municipality	No progress. Since land not identified..
7.	STP requirement	Thripunithura Municipality	Land identified. Sanction to be taken

Sl. No.	Parameters	Values																								Average BOD Value for 2 years
		Kadambrayar At Brahmapuram																								
		2022												2023												
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	Annual Avg	
1	Temperature, °C	28	28	28	30	N O S A M P L I N G	29	28	25	30	28	29	28	28.27	30	No sampling was done as the station was not accessible due to water haycinth	28	29	29	28	28.80	28.54				
2	Dissolved Oxygen, mg/l	1.3	4.2	1.4	1.6		1.2	1.7	3.7	5.1	4.4	4.1	1.4	2.74	2.1		1.0	5.5	5.8	0.8	3.04	2.89				
3	pH	6.4	6.4	6.3	6.4		6.4	6.4	8.3	6.7	6.6	7.2	6.6	6.70	6.7		6.5	7	6.5	6.9	6.72	6.71				
4	Conductivity, µmhos/cm	183	96	97	110		117	172	200	170	159	244	133	152.82	135		232	207	1768	102	488.80	320.81				
5	BOD, mg/l	3.6	1.2	2.6	2.7		1.7	2.3	2.6	2.6	2.9	2.2	2.8	2.47	2.5		4.6	3.5	3.9	1	3.10	2.79				
6	Nitrate-N, mg/l	0.41	4.3	0.04	0.14		0.19	0.02	0.63	NA	0.2	0.37	0.18	0.65	0.24		0.14	0.29	7.4	0	1.61	1.13				
7	Turbidity, NTU	5.5	0	1.1	5.1		10.4	9.2	1.4	4.8	0.6	1.2	5.3	4.05	5.1		2.4	3.1	4.8	9.5	4.98	4.52				
8	Total Alkalinity, as CaCO3	33	25	24	25		34	46	45	31	30	40	30	33.00	30		58	35	70	26	43.80	38.40				
9	Chloride, mg/l	30	13	12	14		15	18	30	39	29	47.5	21.5	24.45	20		22	40	430	15	105.40	64.93				
10	COD, mg/l	8	6.2	8	8		8.8	16	12.8	7.2	10.4	8	9.6	9.36	9.6		12	10.4	11.2	3.2	9.28	9.32				
11	TKN, mg/l	0.51	0	0.04	0.34		0.2	0.06	0.7	0.35	0.35	0.5	2.8	0.53	3		2.1	2	7.3	1.1	3.10	1.82				
12	Ammoniacal-N, mg/l	0	0	0	0.21		0.04	0.02	0.01	0.28	0.01	0	0	0.05	0		2.8	1.8	8	0	2.52	1.29				
13	Total Hardness, as CaCO3 mg/l	39	22	20	21		25	50	40	38	35	48	31	33.55	29		46	38	250	26	77.80	55.67				
14	Calcium, as CaCO3 mg/l	12	9	2	4		5	24	18	24	18	5	16	12.45	24		36	22	130	12	44.80	28.63				
15	Magnesium as CaCO3, mg/l	27	13	18	17		20	26	22	14	17	43	16	21.18	5		10	16	120	14	33.00	27.09				
16	Sulphate, mg/l	2.02	3.08	4.4	3.01		0	7.9	10	8.09	6.43	9.02	1.24	5.02	0.51		15.3	7.7	15	0	7.70	6.36				
17	Sodium, mg/l	16.54	7.24	6.27	7.3		8.72	10.66	19	20.85	15.23	24.94	11.38	13.47	10.84		17	21	222	7.8	55.73	34.60				
18	Total Dissolved Solids, mg/l	100	56	53	60		64	96	121	112	95	135	74	87.82	75		128	126	995	56	276.00	181.91				
19	Total Fixed Solids, mg/l	80	45	42	48		48	75	94	86	75	100	56	68.09	60		99	98	760	40	211.40	139.75				
20	Total Suspended Solids, mg/l	38	25	25	27		17	28	28	28	25	28	30	27.18	27		20	23	22	8	20.00	23.59				
21	Phosphate, mg/l	0.03	0.32	0	0.09		0	0	0.03	0.03	0.06	1.77	0.2	0.23	0		0.2	0.2	17.5	0.09	3.60	1.91				
22	Boron, mg/l	0.1	0	0.05	0.01		0	0	0	0.12	0.1	0.05	0.02	0.04	0.03		0.07	0	0.46	0	0.11	0.08				
23	Potassium, mg/l	2.84	2.04	1.64	4.35		2.4	3.15	10.22	3.64	2.76	4.09	2.23	3.58	2.51		3.07	3.39	21	2.77	6.55	5.06				
24	Fluoride, mg/l	0.15	0.06	0.05	0.06		0.05	0.05	0.08	0.11	0.11	0.7	0.06	0.13	0.01		0.2	0	0.9	0.6	0.34	0.24				
25	Total Coliform, MPN/100 ml	4300	170	920	630		1500	26000	26000	4900	1300	2600	3500	6529.09	1700		7900	4900	140000	5800	32060.00	19294.55				
26	Feacal Coliform, MPN/100 ml	2000	84	630	320		1200	13000	7900	3200	920	2400	1200	2986.73	540		6300	2600	41000	1700	10428.00	6707.36				
27	Feacal Streptococci, MPN/100ml	120	10	79	84		79	240	94	460	94	94	400	159.45	79		490	430	7000	320	1663.80	911.63				

Sl. No.	Parameters	Values																								Average BOD Value for 2 years
		Kadambayar At Manackkadavu																								
		2022												2023												
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	Annual Avg	
1	Temperature, °C	29	29	29	30	29	29	28	26	29	28	29	27	28.50	29	28	28	28	29	29	28	29	29	28.60	28.55	
2	Dissolved Oxygen, mg/l	2.9	4.2	1.8	2.4	2.5	2.2	2.3	7	5.4	4.5	7.3	7	4.13	5.2	2.3	2.7	1.2	1.5	3.2	3.3	3.8	5.2	1.4	2.98	3.55
3	pH	6.3	6.7	6.7	6.4	6.5	6.3	6.4	7.4	6.6	6.9	6.5	6.9	6.63	6.8	7.8	6.9	6.4	7.6	6.6	6.8	7	6.5	7	6.94	6.79
4	Conductivity, µmhos/cm	115	86	99	99	135	125	95	100	105	136	450	120	138.75	123	114	96	105	113	110	121	131	160	115	118.80	128.78
5	BOD, mg/l	2.4	1.2	3.2	2.1	2.8	1.9	1.8	2.8	3	2.5	1.7	2.2	2.30	1.7	3.4	3	3.4	0.4	2.3	2	2.9	3	0.7	2.28	2.29
6	Nitrate-N, mg/l	0.04	0.33	0.04	0.12	0.26	0.42	0.06	0.08	NA	0.12	7.54	0.15	0.83	0.75	0	0	0	0	0	0	0.32	0	0	0.11	0.47
7	Turbidity, NTU	5.1	5.4	1.5	4.5	2	13.5	8.1	7.7	6.3	1.3	3.6	7.9	5.58	5.3	1.5	10.2	9.8	8	13.7	1.9	1.5	3.3	14.5	6.97	6.27
8	Total Alkalinity, as CaCO3	23	18	21	28	27	35	22	20	30	30	20	28	25.17	25	19	19	22	27	22	26	28	35	30	25.30	25.23
9	Chloride, mg/l	15	12	15	11	29	15	11.2	10	15	24.55	93.5	18.8	22.50	19	22	20	15	16	17	17	20	30	14	19.00	20.75
10	COD, mg/l	6.4	6	4	6	8	8.8	8.8	10.4	6.4	8	8.8	8	7.47	8	8.8	7.2	6.4	5.6	6.4	5.6	8	8.8	1.8	6.66	7.06
11	TKN, mg/l	0.21	0.39	0.05	0.14	0.25	0.42	0.1	0.09	0.12	0.5	10.08	6.36	1.56	5.4	1.5	0.06	0.12	0	0	0	0	0.02	1.1	0.82	1.19
12	Ammoniacal-N, mg/l	0	0.06	0	0.02	0	0	0	0.002	0.07	0.32	4	0	0.37	0	0	0.01	0.05	0	0	0	0	0	0	0.01	0.19
13	Total Hardness, as CaCO3 mg/l	23	17	18	21	20	30	25	28	34	32	124	26	33.17	23	22	18	24	21	20	24	30	31	30	24.30	28.73
14	Calcium, as CaCO3 mg/l	8	10	7	4	4	7	14	12	20	15	16	14	10.92	16	5	14	16	17	15	18	24	26	18	16.90	13.91
15	Magnesium as CaCO3, mg/l	15	7	11	17	16	23	11	16	14	17	108	12	22.25	7	17	4	8	4	5	6	6	5	12	7.40	14.83
16	Sulphate, mg/l	5.94	1.98	4.9	4.15	0	1.45	2.6	14.73	9.44	1.56	42.32	3.29	7.70	1.35	2.59	0	4.7	0	0	0.8	1.6	5.2	0	1.62	4.66
17	Sodium, mg/l	8.52	6.37	7.87	5.9	14.76	8.3	6.28	4.72	10.38	12.76	48.37	10.56	12.07	10.56	12.4	10.75	8.86	9	9.95	9.94	12.32	16.99	7.3	10.81	11.44
18	Total Dissolved Solids, mg/l	63	48	55	56	75	69	52	62	70	78	290	70	82.33	70	65	55	60	62	60	66	75	101	63	67.70	75.02
19	Total Fixed Solids, mg/l	50	38	44	49	60	50	39	45	55	60	280	54	68.67	55	48	42	45	46	45	50	55	75	50	51.10	59.88
20	Total Suspended Solids, mg/l	35	20	24	25	22	18	17	24	25	22	36	23	24.25	26	18	15	14	18	13	14	20	15	10	16.30	20.28
21	Phosphate, mg/l	0.03	0.09	0	0.01	0.01	0.01	0	0	0.02	0.08	49.34	0.24	4.15	0	0	0.07	0	0.1	0.2	0.2	0.2	0.1	0.11	0.10	2.13
22	Boron, mg/l	0.32	0	0.15	0.01	0.05	0	0	0	0.03	0.05	0	0.04	0.05	0	0	0.03	NA	0.02	NA	0.37	0	0	0	0.05	0.05
23	Potassium, mg/l	2.79	2.34	1.55	3.69	4.46	3.34	2.16	3.07	2.66	2.99	4.5	3.99	3.13	3.04	1.73	3.56	0.01	4.13	3.59	2.83	3.15	0.22	2.87	2.51	2.82
24	Fluoride, mg/l	0.09	0.03	0.05	0.05	0.05	0.05	0.04	0.1	0.15	0.1	4.16	0.08	0.41	0.01	0.1	NA	0.4	0.2	0.2	0.3	0.1	0.2	0.2	0.19	0.30
25	Total Coliform, MPN/100 ml	2300	2500	3100	1200	2000	2700	3400	4700	4800	4000	2300	5800	3233.33	1500	1500	2000	3400	6300	3500	5800	4300	4000	4000	3630.00	3431.67
26	Faecal Coliform, MPN/100 ml	1400	1400	1200	630	1500	2400	2000	3500	2000	2700	2100	4300	2094.17	1100	400	1500	1500	840	130	3800	1400	430	1100	1220.00	1657.08
27	Faecal Streptococci, MPN/100ml	140	79	200	310	140	150	280	63	840	170	79	840	274.25	140	120	70	430	120	84	400	320	400	340	242.40	258.33

Sl. No.	Parameters	Values																								Average BOD Value for 2 years
		Chithrapuzha At Irumpanam																								
		2022												2023												
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	Annual Avg	
1	Temperature, °C	28	29	29	30	29	29	28	26	29	28	29	28	28.50	29	27	28	28	29	30	28	30	29	29	28.70	28.60
2	Dissolved Oxygen, mg/l	3.4	6.2	3.1	6.6	2.7	1.5	1.5	2.9	6.2	3.7	4.7	1.7	3.68	3.1	2.5	3.1	3.5	6.7	1.9	0.8	6.3	6.5	0.7	3.51	3.60
3	pH	6.6	6.6	6.5	6.5	6.5	6.5	6.3	8	6.6	6.2	7.3	6.5	6.68	6.7	9.1	6.6	7.6	8.9	6.5	6.4	7.1	6.8	7	7.27	6.97
4	Conductivity, µmhos/cm	2660	1800	1820	398	500	308	148	130	300	412	143	160	731.58	1406	2399	1891	1833	553	1023	234	270	2148	135	1189.20	960.39
5	BOD, mg/l	1.2	1.8	2.1	1.7	2.5	2.3	1.5	4	2	2.8	2	2.6	2.21	3.1	3.2	3.4	3	2.3	2.6	0.4	2.6	3.1	2	2.57	2.39
6	Nitrate-N, mg/l	0.09	2.75	3.69	6.38	0.67	0.33	0.08	0.41	NA	2.48	0.02	1.55	1.68	12.21	11	1.39	2.69	0	6.43	0.59	0.61	6.09	0	4.10	2.89
7	Turbidity, NTU	2.2	4.2	1.7	2.8	0.8	12.2	9.8	0.7	4.2	1.8	2.2	3.5	3.84	4.3	3.5	9.3	6.9	4.5	5.3	2.6	3.5	5.8	8.4	5.41	4.63
8	Total Alkalinity, as CaCO3	20	14	25	42	45	43.16	28	23	20	44	35	32	30.93	34	18	28	36	23	40	32	33	50	21	31.50	31.22
9	Chloride, mg/l	665	640	450	60	95.5	58	25.5	20	62	92	22.8	27	184.82	425	800	492	500	140	180	30	36	580	23	320.60	252.71
10	COD, mg/l	10	12	12	10	10.4	9.6	12	16	8	13.6	8	8.8	10.87	10.4	11.2	8.8	9.6	8	8	8.8	8.8	8.8	7.2	8.96	9.91
11	TKN, mg/l	0.32	2.84	5.9	8.5	0.6	0.46	0.15	0.65	5.8	3.2	0.09	8.62	3.09	10.8	6.2	5.6	1.25	0	1.1	1.3	6.5	8.5	1.2	4.25	3.67
12	Ammoniacal-N, mg/l	0	0.09	2.2	2.26	0	0.15	0.04	0.19	5.2	1.47	0.01	0.04	0.97	11.63	0.14	3.79	0.01	0	9	0.8	8.5	9.5	0	4.34	2.65
13	Total Hardness, as CaCO3 mg/l	270	400	170	50	79	53	30	26	65	92	36	37	109.00	180	250	160	173	64	95	48	45	220	33	126.80	117.90
14	Calcium, as CaCO3 mg/l	40	130	85	6	20	14	18	6	13	50	15	9	33.83	140	80	100	128	26	65	32	26	140	6	74.30	54.07
15	Magnesium as CaCO3, mg/l	230	270	85	44	59	39	12	20	52	42	21	28	75.17	40	170	60	45	38	30	10	19	80	27	51.90	63.53
16	Sulphate, mg/l	105.8	65.06	59.5	25.3	25.41	19.92	8.8	13.28	39	27.49	1.35	0.52	32.61	112.03	69.5	25.41	27.8	30.4	134	17.7	24.2	40	12.4	49.34	40.98
17	Sodium, mg/l	436.1	340.1	245	31.2	51.5	37.68	14	15.46	34.02	48.5	11.82	14.78	106.68	240	415	287.1	265	80.46	125.3	16.87	26	348	13.27	181.73	144.21
18	Total Dissolved Solids, mg/l	1500	1240	1010	220	275	182	85	81	176	252	78	90	432.42	952	1750	1050	1025	320	582	128	152	1225	75	725.90	579.16
19	Total Fixed Solids, mg/l	1200	990	808	176	220	132	64	61	136	200	60	76	343.58	760	1400	820	800	250	452	102	120	980	58	574.20	458.89
20	Total Suspended Solids, mg/l	28	28	28	28	24	28	25	25	32	28	20	34	27.33	30	28	22	20	24	22	22	28	25	10	23.10	25.22
21	Phosphate, mg/l	0.59	1.9	7.18	10.9	3.42	2.45	3.6	0.26	6.43	1.37	0.49	5.98	3.72	2.5	2.24	1.62	2.95	1.9	40	0.6	6.5	20	0.96	7.93	5.82
22	Boron, mg/l	0.11	0.6	0.1	0.13	0.16	0	0	0.02	0.12	0.21	0.1	0.16	0.14	0.23	0	0.15	NA	0.06	NA	0.13	0	0.08	0	0.08	0.11
23	Potassium, mg/l	12.8	27	8.95	2.74	4.8	4.14	3.5	5.71	3.02	3.06	4.25	3.85	6.99	7.76	134	12.8	9.26	5.88	5.8	3.38	3.23	16	2.57	20.07	13.53
24	Fluoride, mg/l	1.11	2	2.2	1.47	1.25	0.75	0.55	0.2	0.09	4.46	0.18	0.83	1.26	2.82	1.71	NA	0.6	0.3	0.8	0.2	0.6	0.9	0.6	0.95	1.10
25	Total Coliform, MPN/100 ml	2700	3800	4800	3200	2200	7900	17000	7900	7900	3300	2000	4800	5625.00	6300	5800	3400	7000	7900	12000	7900	7900	7900	7000	7310.00	6467.50
26	Faecal Coliform, MPN/100 ml	1700	1400	3400	1000	1500	4800	3400	4000	6300	2100	540	3800	2828.33	4900	4000	2700	3100	4300	7900	5800	7000	5800	2000	4750.00	3789.17
27	Faecal Streptococci, MPN/100ml	100	94	220	400	70	310	310	84	480	120	120	790	258.17	350	170	220	540	270	480	700	1000	490	310	453.00	355.58



**KERALA STATE POLLUTION CONTROL BOARD
CENTRAL LABORATORY**

കേരള സംസ്ഥാനമലിനീകരണ നിയന്ത്രണ ബോർഡ്

കേന്ദ്ര പരീക്ഷണശാല

An Environmental Laboratory recognised under E(P)A 1986



**Certificate No.
TC 8525**

PCB/CL/AMR/PR/2023

03.01.2024

From

The Chief Environmental Scientist
Central Laboratory
Kerala State Pollution Control Board
Ernakulam

To

The Member Secretary
Kerala State Pollution Control Board
Trivandrum

Sub: Progress report of AMR lab - reg.

Ref. 1: VC with Member secretary on 23/09/2023

Ref 2: Email from Member secretary 08/11/2023

Madam,

As per the reference cited above (1&2), I am forwarding here with the progress report, October to December 2023 of AMR Project for kind information and necessary action.

Yours faithfully

CHIEF ENVIRONMENTAL SCIENTIST

Encl: As above



PROGRESS REPORT
ANTIMICROBIAL RESISTANCE (AMR)
Progress report for the month of December, 2024

Section I

Microbiology lab

Sample collection

Water sample was collected from well-mixed section of the Cochin Port Trust, Vembanad estuary from 30 cm below the water surface using a weighted amber glass bottle of 1 L size. Samples were properly labeled with sample location, time and date of collection and stored in $4 \pm 1^\circ\text{C}$ immediately after collection and transported to the laboratory within 48 h.

Isolation of bacteria and Antibiotic susceptibility of bacteria

Followed by the sample collection and transportation to the laboratory, each sample was screened for the presence of potent resistant bacterial strains and antibiotic susceptibility of isolated bacteria was carried out by following Kirby Bauer disc diffusion method.

Results

Isolation of bacteria

A total of 3 bacteria were isolated from water sample collected from Cochin port trust, Vembanad Estuary and the isolates was numbered consecutively from 22 to 24 (report of Isolates 1 to 21 was submitted in the previous report).

Antibiotic susceptibility of bacteria

Antibiotic susceptibility of 3 bacterial isolates was tested against 10 antibiotics of different classes by disc diffusion test and MIC of the antibiotics against which the bacteria showed sensitivity was also observed. A detailed report on disc diffusion test and MIC of each isolate is tabulated in Table 1.

Table 1: Antibiotic susceptibility of bacteria

Sample Number	Sampling location	Sample code	Bacterial isolate	Antibiotic susceptibility of bacteria										
				Susceptibility	Antibiotics									
					NX	S	TR	AZM	CIP	TE	AMX	C	E	GEN
1	Cochin Port Trust, Vembanad Estuary	W 8200	Isolate 22	ZOI (S/I/R)	S	S	S	R	S	S	S	S	R	S
				MIC(µg/ml)	0.125	60	0.50	-	0.094	0.075	64.0	1.5	-	-
			Isolate 23	ZOI (S/I/R)	S	S	S	R	S	S	S	S	R	S
				MIC(µg/ml)	0.125	60	0.50	-	0.094	0.075	64.0	1.5	-	-
			Isolate 24	ZOI (S/I/R)	S	S	I	R	R	S	S	R	R	I
				MIC(µg/ml)	0.75	160	12.0	-	-	24.0	0.064	-	-	-

❖ NX- Norfloxacin, S- Streptomycin, TR- Trimethoprim, AZM- Azithromycin, CIP- Ciprofloxacin, TE- Tetracycline, AMX- Amoxycillin, C- Chloramphenicol, E- Erythromycin, GEN- Gentamycin, COT- Co-Trimoxazole, MIC- Minimal Inhibitory Concentration, ZOI- Zone of Inhibition, S- Sensitive, R- Resistant and I- Intermediate

Genomic Lab

For the identification and molecular confirmation of bacteria isolated from the water samples, bacterial DNA was isolated using HiPurA Bacterial Genomic DNA purification kit (HiMedia, India) by following the manufacturer's instructions. Further PCR was carried out using 16s rRNA and outsourced for sanger sequencing. Molecular identification of bacteria were provided below.

Species identification details of isolates 14-24

SI No.	Isolates	Bacterial identification	Family
1.	14	<i>Leclercia adecarboxylata</i>	<i>Enterobacteriaceae</i>
2.	15	<i>Enterobacter cloacae</i>	<i>Enterobacteriaceae</i>
3.	16	<i>Klebsiella pneumoniae</i>	<i>Enterobacteriaceae</i>
4.	17	<i>Klebsiella pneumoniae</i>	<i>Enterobacteriaceae</i>
5.	18	<i>Staphylococcus saprophyticus</i>	<i>Staphylococcaceae</i>
6.	19	<i>Aeromonas sp.</i>	<i>Aeromonadaceae</i>
7.	20	<i>Klebsiella pneumoniae</i>	<i>Enterobacteriaceae</i>
8.	21	<i>Staphylococcus edaphicus</i>	<i>Staphylococcaceae</i>
9.	22	<i>Aeromonas caviae</i>	<i>Aeromonadaceae</i>
10.	23	<i>Klebsiella pneumoniae</i>	<i>Enterobacteriaceae</i>
11.	24	<i>Enterococcus faecalis</i>	<i>Enterobacteriaceae</i>

Section II

ANTIBIOTIC RESIDUE MONITORING LABORATORY

To initiate residue analysis of antibiotics- Ciprofloxacin (CIP), Tetracycline (TC), Norfloxacin (NOR), Azitromycin (AZM) in ESI +ve mode, multilevel calibration graph of mix standards (10,20,30,40,50 ppb) including blank was plotted and good correlation was obtained (Fig 1-4) .

Ciprofloxacin

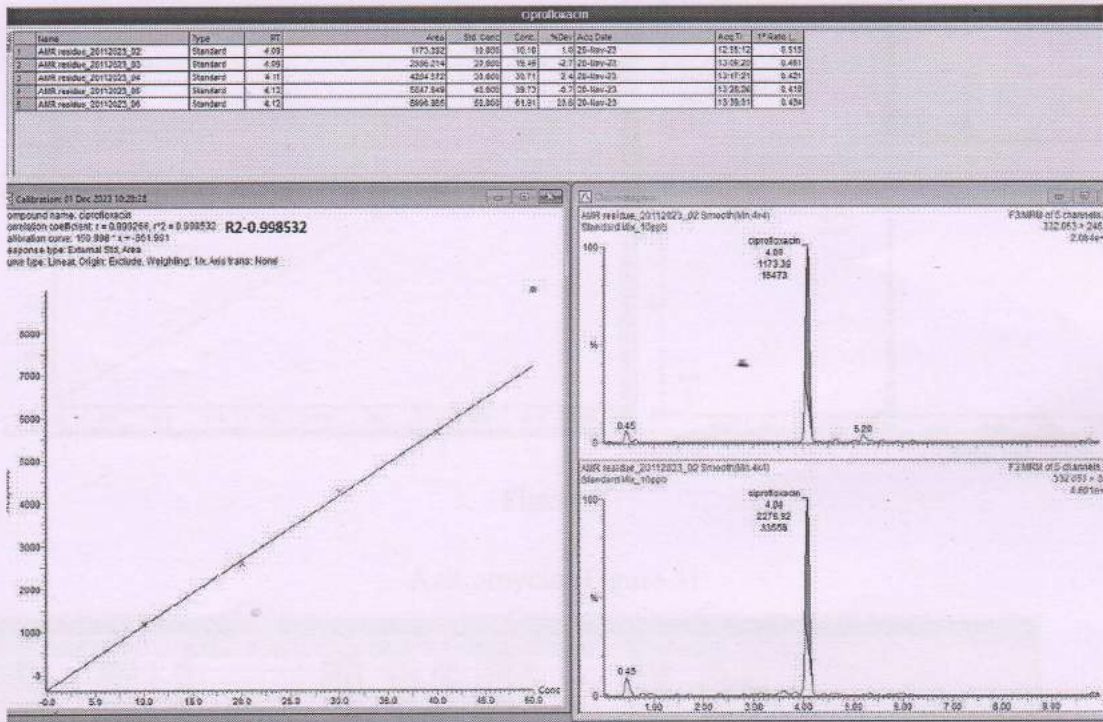


Figure 1

Tetracycline

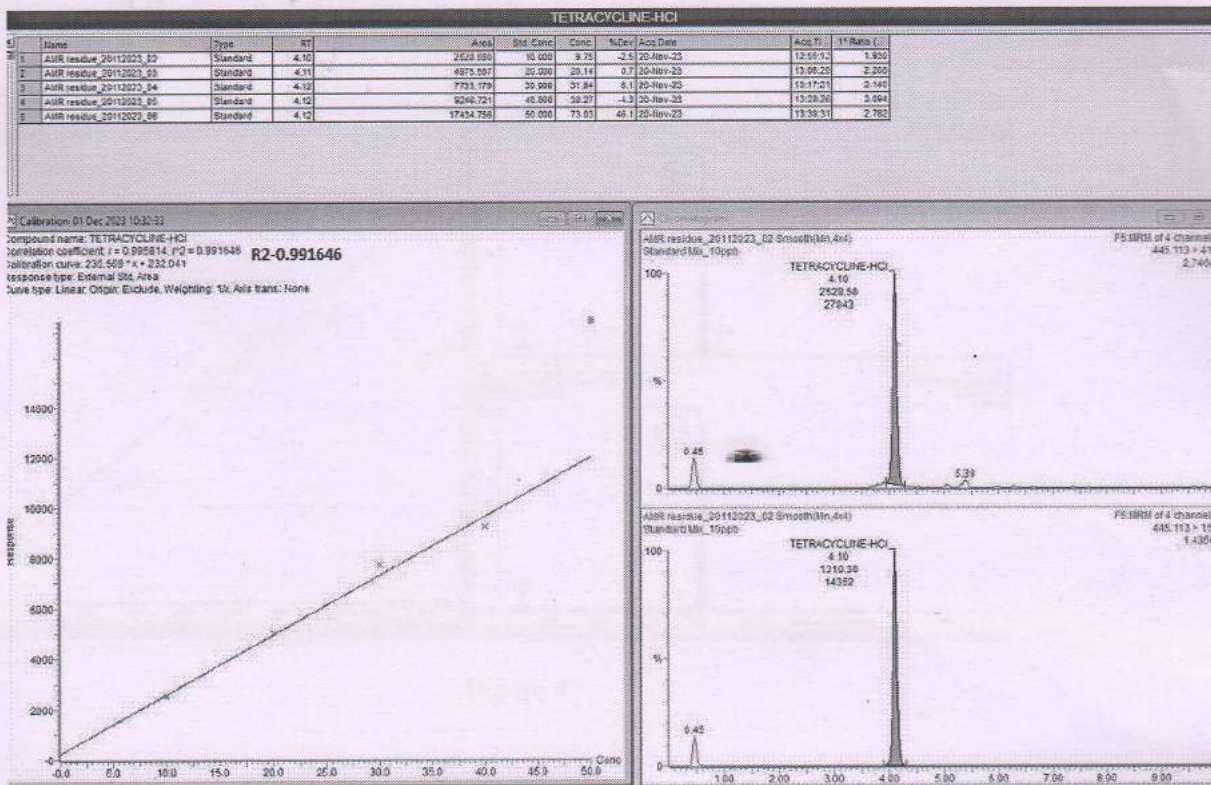
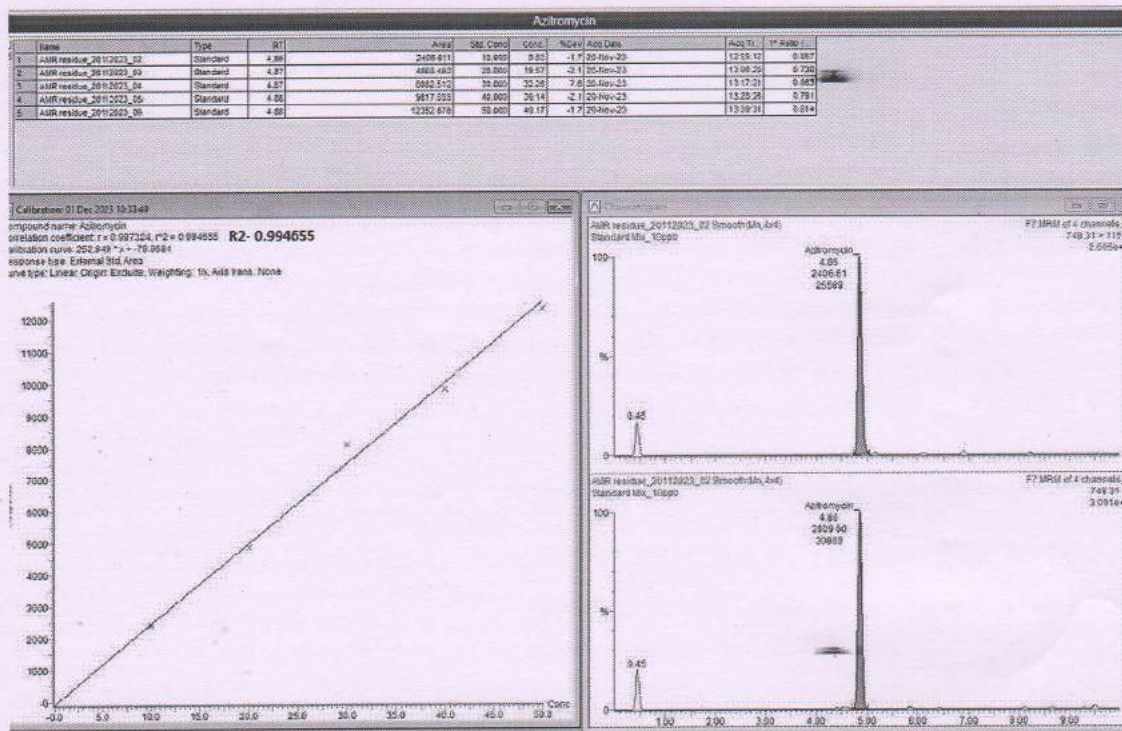


Figure 2

Azitromycin (Figure 3)



Norfloxacin

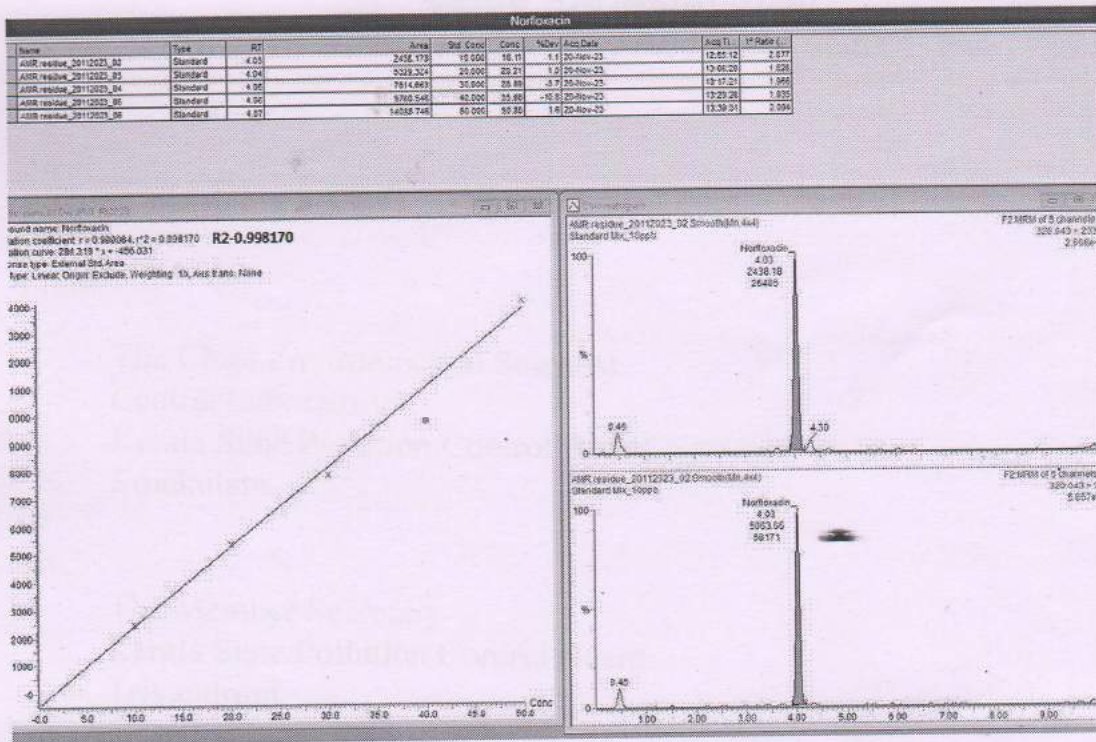


Figure 4

The method development and method validation of three antibiotics (Streptomycin, Sulfanilamide, Amoxicillin) is under progress. By next week Solid phase extraction unit (SPE) will be installed and recovery studies will be carried out.