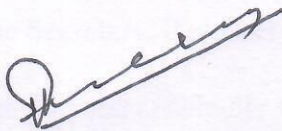


ACTION PLAN FOR THE REJUVENATION OF POLLUTED RIVER STRETCH

KALPATHYPUZHA AT KALPATHY

Submitted by District Level Technical Committee (Palakkad District)

Before the River Rejuvenation Committee



Member and Convenor

Environmental Engineer

Kerala State Pollution Control Board

Palakkad



Chairperson

Executive Engineer

Minor Irrigation Division

Palakkad



EXECUTIVE SUMMARY

A District Level Technical Committee (Palakkad District) was constituted for preparing draft Action Plan for the Rejuvenation of polluted river stretches. The polluted river stretches in the district are Kalpathypuzha at Kalpathy and Korayar at Kanjikode. The members of the committee are as follows.

1. Executive Engineer, Minor Irrigation, Palakkad: Chairperson
2. Joint Director, LSGD, Palakkad
3. Environmental Engineer, District Office, Kerala State Pollution Control Board : Member & Convenor
4. General Manager, District Industries Centre: Member
5. Manager, KINFRA, Palakkad
6. The District Co-ordinator, District Suchitwa Mission : Member
7. The Secretary, Palakkad Municipality : Member
8. The Secretary, Malampuzha Grama Panchayat
9. The Secretary, Akathethara Grama Panchayat
10. The Secretary, Pudukkottai Grama Panchayat
11. The Secretary, Elapully Grama Panchayat
12. The Secretary, Kozhinjampara Grama Panchayat
13. The Secretary, Vadakarapathy Grama Panchayat
14. Divisional Environment and House Keeping Manager, Railway Authority, Palakkad

The action plan for Kalpathypuzha at Kalpathy was prepared after several deliberations. The committee hereby submits the draft action plan before the River Rejuvenation committee constituted by the Govt. of Kerala. Dated this the 10th of September, 2025.

The first meeting of District Level Technical Committee (DLTC) for the new Polluted River Stretches was held on 21.12.2023 through video conference. Subsequently, Kerala State

Pollution Control Board (KSPCB) collected samples from these stretches and the samples were analysed. A joint inspection in major polluted areas of Kalpathypuzha was conducted with Minor Irrigation department officials, Municipality Councillors and KSPCB officials on 18.01.2024 for detecting the main sources of pollution on river stretches. It was identified that the river is polluted mainly due to the discharge of untreated wastewater from residential, commercial areas, dumping of municipal solid waste through urban sewage canals. Drainages were found to be directly opening to the river.

CHAPTER 1

INTRODUCTION

Central Pollution Control board (CPCB) is monitoring the water quality of aquatic resources all over the country at 3500 locations in 29 States and 6 Union Territories under National Water Monitoring Programme. The present monitoring network covers 2541 locations on the surface water and 989 on Wells (ground water). Water samples are being analyzed for 28 parameters consisting of physicochemical and bacteriological parameters for ambient water samples apart from the field observations. Besides this, 9 trace metals and 15 pesticides are analyzed in selected samples. Bio-monitoring is also carried out on specific locations.

OBJECTIVES OF WATER QUALITY MONITORING UNDER NWMP

- Rational planning of pollution control strategies and their prioritization;
- To assess nature and extent of pollution control needed in different water bodies or their part;
- Assimilative capacity of a water body thereby reducing cost on pollution control;
- The fitness of water for different uses;
- To evaluate effectiveness of pollution control measures already in existence;
- Water quality trend over a period of time;
- To understand the environmental fate of different pollutants

The water quality monitoring results obtained during the years indicate that the organic and bacterial contamination continue to be critical in water bodies. This is mainly due to discharge of domestic wastewater mostly in untreated form from the urban centres of the country. The urban local bodies at large are not able to treat increasing load of municipal sewage flowing into water bodies without treatment. Secondly the receiving water bodies also do not have adequate water for dilution. Therefore, the oxygen demand and bacterial pollution is increasing day by day. This is mainly responsible for water borne diseases. The water quality monitoring results were analysed with respect to indicator of oxygen consuming substances (Bio Chemical Oxygen Demand or BOD) and indicator of pathogenic bacteria (total coliform and faecal coliform).

As part of a periodic assessment of water quality of rivers in the country, CPCB identifies polluted river stretches (PRS) considering Bio Chemical Oxygen Demand (BOD) as a criteria parameter. The polluted river stretches have been divided into five priority categories.

Priority I –Locations exceeding BOD concentration 30 mg/l

Priority II –BOD concentration 20-30 mg/l

Priority III –BOD concentration 10-20 mg/l

Priority IV –BOD concentration 6-10 mg/l

Priority V –BOD concentration 3-6 mg/l

CPCB in 2018 identified 351 polluted river stretches in India. The assessment of water quality for identification of polluted river stretches found that 31 states and Union territories (UT) had rivers and streams that did not meet the water quality criteria. These states-UTs have to submit their action plans for improving the quality of water. Maharashtra has the highest number of polluted river stretches (53), followed by Assam (44), Madhya Pradesh (22), Kerala (21), Gujarat (20), Odisha (19) and West Bengal and Karnataka (17). Out of the 21 polluted rivers (Total 44 Kerala has) identified in Kerala Bharathapuzha stretch along Pattambi made it to the list from Palakkad district. In the study "*Polluted river stretches for restoration of water quality -2022*" the number of polluted river stretches has decreased from 351 in the year 2018 to 311. In Palakkad, the river Bharathapuzha and Bhavani river were delisted and new polluted river stretches Korayar and Kalpathypuzha are added. As per the water quality report by CPCB-*Polluted River Stretches for restoration of water quality 2022*, the new polluted river stretches are stretches of **Korayar River** flowing beside 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.

OA 673/2018 -HON'BLE NATIONAL GREEN TRIBUNAL (NGT)

Hon'ble National Green Tribunal (NGT) in the matter of O.A, No. 673/2018 in the matter of News item published in 'The Hindu' authored by Sri. Jacob Koshy-Titled '*More river stretches are now critically polluted in India CPCB*' passed orders on 20.09.2018, 19.12.2018, 08.04.2019 and 06.12.2019. All states and Union Territories are directed to prepare action plans within two months

for bringing all the polluted river stretches to be fit at least for bathing purposes (i.e., BOD<3mg/L & FC <500MPN/100ml) within six months from the date of finalization of the action plans. River Water is considered to be fit for bathing when it meets the criteria of having Chemical Oxygen Demand (COD) (800) <30mg/l, Dissolved Oxygen more than 50mg/l and L and Faecal Coliform Bacteria to be less than 500 MPN/100ml.

In spite of directions in several Judgments, discharge of untreated sewage and Industrial effluents in rivers and water bodies is continuing at a large scale. Sewage Treatment capacity is disproportionate to the sewage generated.

CHAPTER 2

KALPATHYPUZHA AT KALPATHY

Kalpathypuzha is one of the major tributaries of Bharathapuzha. Bharathapuzha is the second longest river in Kerala and a major agricultural hub of the state. A large number of medium and small irrigation projects utilize water from the river for sustaining agricultural activities in Kerala and Tamil Nadu. The Malampuzha irrigation project, one of the oldest irrigation projects; the Kanjirapuzha, Aliyar, Gayathri, Mangalam, and Pothundy projects are the main irrigation projects in the Bharathapuzha basin. The river is a source of drinking water for several panchayaths in the Palakkad, Thrissur, and Malappuram districts of Kerala.

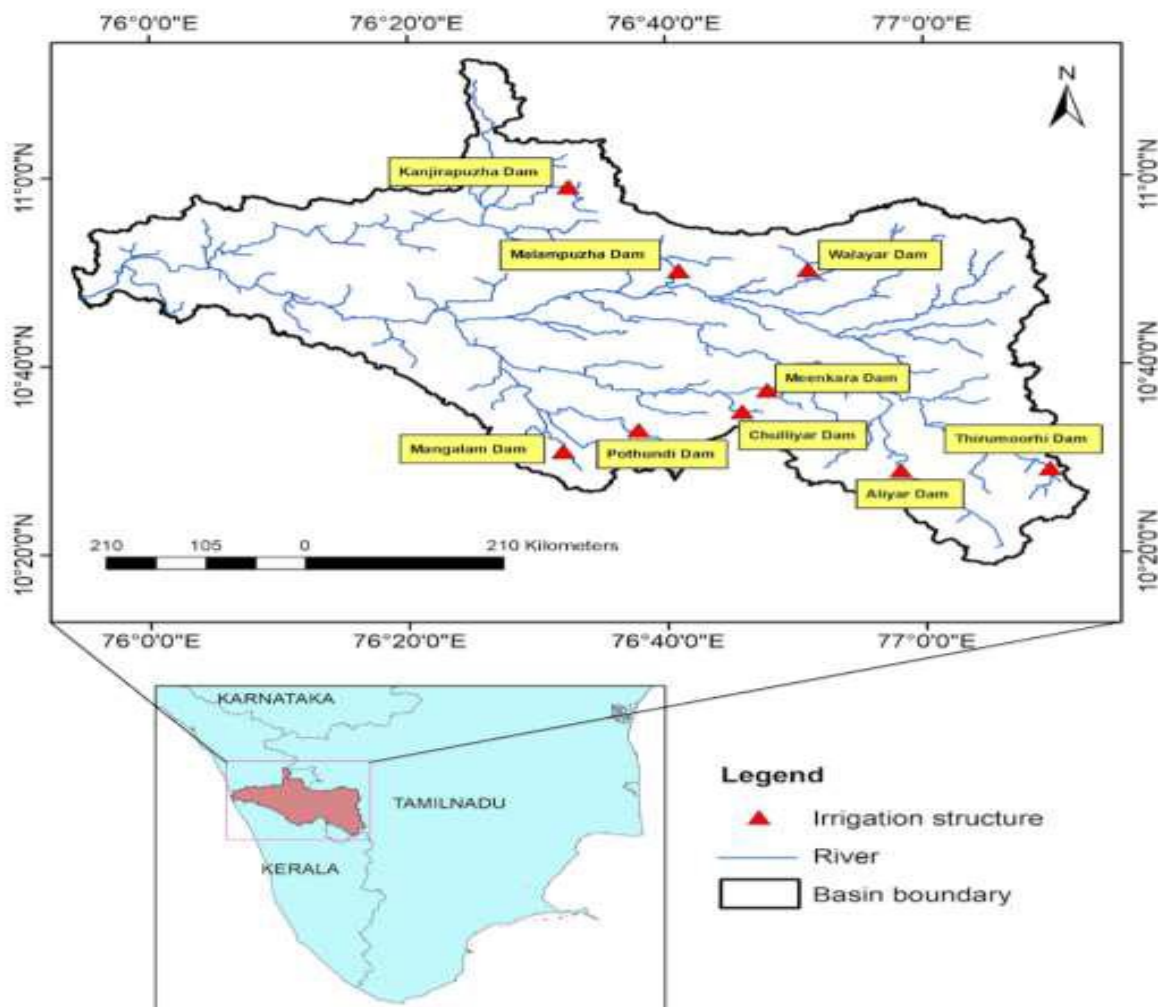
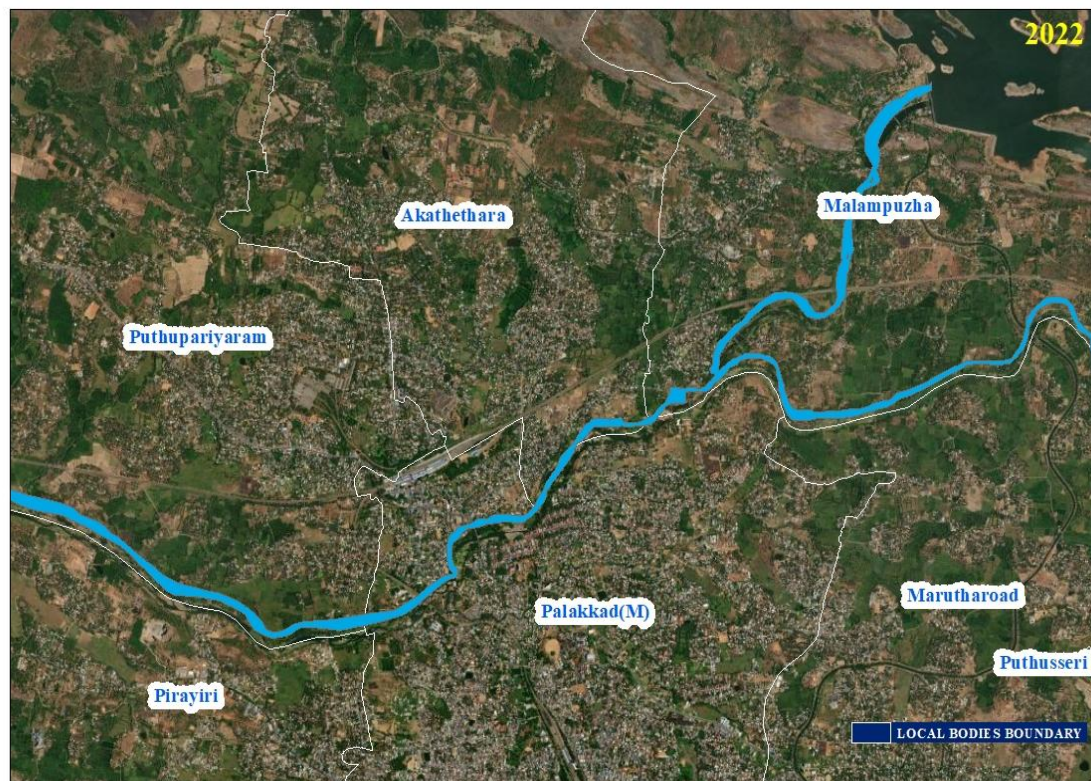


Fig: Bharathapuzha River Basin

Kalpathypuzha starts near Mukkai Siva Temple where Korayar joins with Malampuzha. It then travels a length of approx. 13km and joins Kannadipuzha, at Parali forming Bharathapuzha. The local bodies on the banks of the river are Malampuzha Grama Panchayat, Palakkad Municipality, Akathethara Grama Panchayat, Puthupariyaram Grama Panchayat, Pirayiri Grama Panchayat, and Parali Grama Panchayat. The Kalpathy Temples and Agraharams are located on the left bank of the river here the Kalpathy Radholsavam, a famous religious festival is conducted on the month of November or December every year. During the period of Radholsavam, thousands of pilgrims as well as tourists visit Kalpathy and nearby places around the banks of the Kalpathypuzha. This river also improves life and livelihoods of people inhabiting on the banks of the river. Drinking Water Supply Projects and Irrigation Projects are also functioning depending on the river.

POLLUTED RIVER STRETCHES- KALPATHI PUZHA - PRIORITY- V



POLLUTED RIVER STRETCH IN KALPATHYPUZHA

The major polluted stretch of Kalpathypuzha is between Mukkai Sive Temple and Kallekkad Check Dam having a length of approx. 6km. The local bodies on both banks of this

river stretch are Palakkad Municipality, Malampuzha Grama Panchayat, Akathethara Grama Panchayat,, Puthuppariyaram Grama Panchayat, and Pirayiri Grama Panchayat. The river is polluted mainly due to domestic and sewage effluents from households, residential colonies, hotels, shops, commercial establishments etc. located on the river banks. Apart from this, the effluents carried by Sankuvarathodu and Ambattuthodu also reaches the river causing pollution.

Sankuvarathodu having an approx. length of 5 km travels mainly through the densely populated Municipality area carrying huge quantity of domestic and sewage from houses, residential colonies, shops etc. It joins Kalpathypuzha at just downstream of Vattamala Murugan Temple in Chunnambuthara. Ambattuthodu having an approx. length of 4km travels mainly through the Palakkad Junction Railway station at Olavakkode carrying sewage wastes from houses, restaurants, shops and railway station and joins Kalpathypuzha at Kavilpad in Puthuppariyaram Panchayath.



Fig : Joint site inspection on 18.01.2024

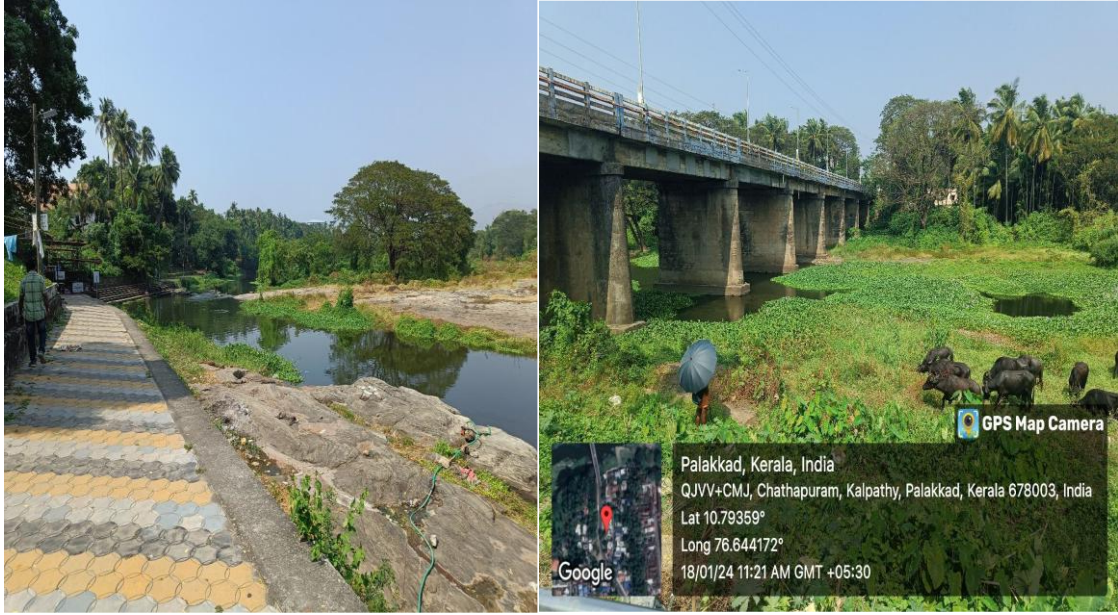


Fig: Kalpathypuzha near Kalpathy Viswanathaswamy temple and Kalpathypuzha at Kalpathy Puthiyapalam



Fig: Kalpathypuzha near Chunnambuthara

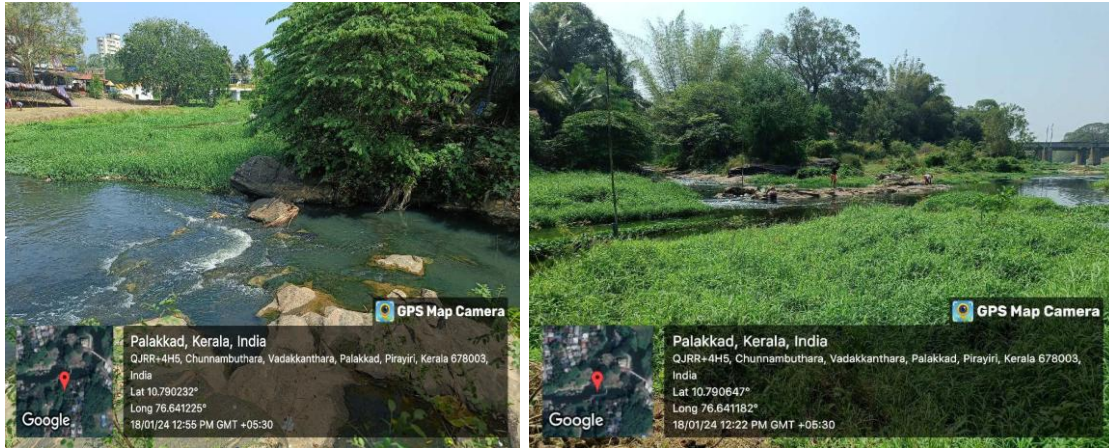


Fig: Sankuvarathodu joining Kalpathypuzha near Vattamala Murugan Temple



Fig: Sankuvarathodu



Fig: Sankuvarathodu

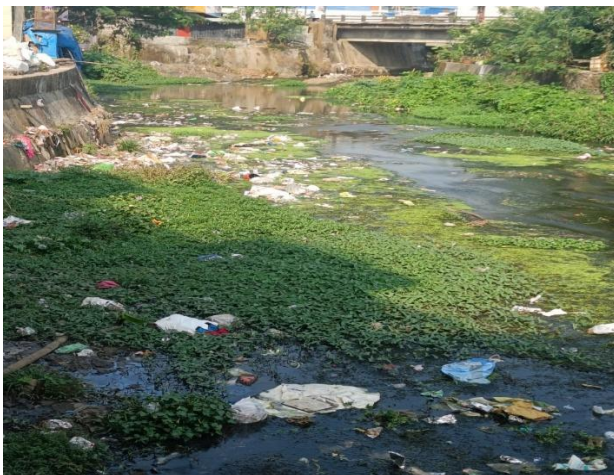
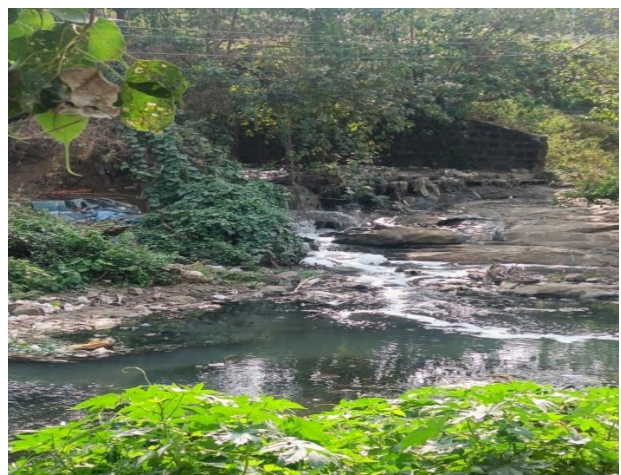


Fig: Maduraveeran Colony

Fig: Sundara Colony

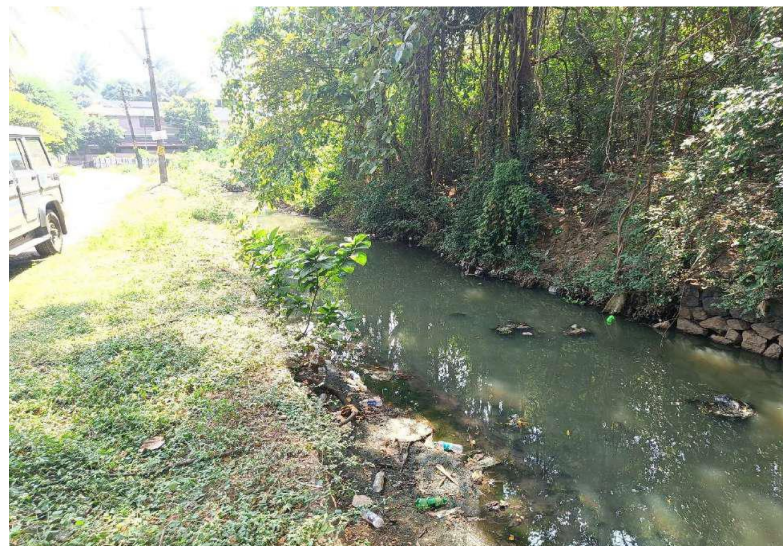
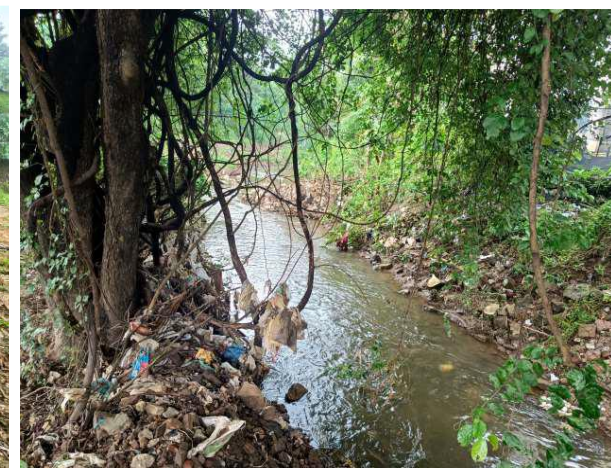
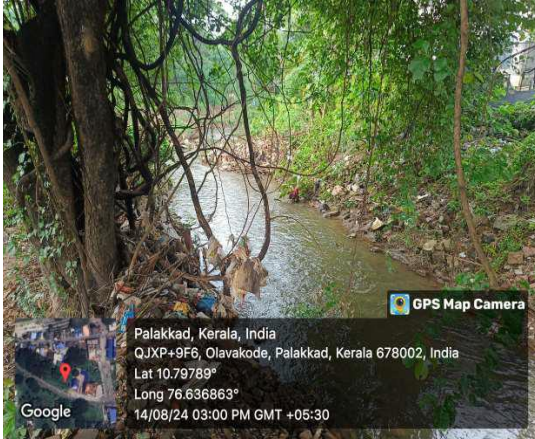


Fig: Ambattu thodu



Fig: Ambattu thodu near Olavakkode Railway station

ANALYSIS REPORT OF KALPATHYPUZHA IN THE YEAR 2024

Sampling Month	Dissolved O ₂ (mg/L)	pH	BOD (mg/L)	Total Coliform (MPN/100ml)	Fecal Coliform (MPN/100ml)	Fecal Streptococci (MPN/100ml)	Class
January	5.6	8	2.4	490	310	40	B
February	6.3	8.03	2.8	630	200	20	C
March	1.3	7.86	7.6	1000	630	40	E
April	No Water Flow						
May	No Water Flow						
June	No Water Flow						
July	1	8.1	2.9	350	210	21	E
August	6.8	7.9	1 (BDL)	580	400	58	C
September	7.5	8.2	3.3	700	490	210	D
October	5.6	8.2	2.6	800	500	100	C
November	6.5	8.1	3.4	400	200	80	D
December	6.3	7.3	1 (BDL)	400	200	100	B

ANALYSIS REPORT OF KALPATHYPUZHA IN THE YEAR 2025 (January-June)

Sampling Month	Dissolved O ₂ (mg/L)	pH	BOD (mg/L)	Total Coliform (MPN/100ml)	Fecal Coliform (MPN/100ml)	Fecal Streptococci (MPN/100ml)	Class
January	7.3	8.2	3.2	500	300	20	D
February	7.7	8.1	3.4	700	500	120	D
March	7.2	7.9	3	600	400	60	C
April	8.4	7.4	4	700	300	300	
May	3.8	7.9	1.4	6000	400	20	E
June	6.4	8	1.1	8800	4400	320	D

CHAPTER 3

ACTION PLAN FOR RIVER KALPATHY AT KALPATHY

No	Activity (Ongoing/Proposed)	Implementing agency	Plan/ Progress in Detail	Estimated Expenditure in Lakhs	Source of Fund	Time line	Expected Outcome
1	Establishment and Modernisation of MSW treatment Plant (Solid Waste Management)- (Biodegradable waste) and Installing house hold and community level solid waste management units	Palakkad Municipality	Machinery purchase can be done after renovation work	Rs. 62,12,829/-	KSWM P	2026	Improved efficiency and sustainability in solid waste management through scientific processing, reduced human effort, and enhanced resource recovery, thereby minimizing indiscriminate dumping and protecting river water quality
			Biocompost Project. 35% of works completed. Thumboormuzhi renovation completed	Rs. 6,40,000/-	Development fund	2025-26	Improved decentralized management of biodegradable waste, reducing open dumping and leachate

							generation, thereby safeguarding river water quality
		Malampuzha Grama Panchayat	Issuing bio bins to households on subsidy rate. Project formulated for 2025-26	-	-	2026 March	
		Akathethara Grama Panchayat	Solid Waste Management by Haritha Karma Sena	-	-	Continuing processes	
2	Material collection Facility (Solid Waste Management)	Palakkad Municipality	Project cleared by DPC (6 Projects)	Rs. 2,40,00,000/-	KSWM P	2026-27	Streamlined collection and segregation of solid waste across six locations, ensuring improved efficiency, compliance, and resource recovery at source, while preventing waste seepage into drains and rivers; also creating a fully equipped workplace for Haritha Karma Sena

		Malampuzha Grama Panchayat	100% of works completed. Two MCF of 5650sq ft construction finished; works like placement of sorting table, conveyor belt etc. remaining			Dec 2025	
3	Resource recovery facility (Solid Waste Management)	Palakkad Municipality	DPR finalized, submitted for financial sanction	Rs. 1,17,23,842/-	KSWM P	2025-26	The proposed project involves the installation of weighbridge, construction of washing/changing area, toilets, and upgradation works of the existing MCF cum RRF and Windrow composting unit, ensuring scientific waste handling and reducing contamination risks to nearby river systems.

4	Door to Door Collection and Transportation of MSW	Palakkad Municipality	Solid waste management D2D collection by Haritha Karma Sena and handed over to CKCL Vehicle procurement included in solid waste management plan preparing under KSWMP. Plan not yet finalized	-	To be included in KSWMP	-	Ensuring 100% door-to-door collection and scientific transportation of MSW through procurement of dedicated vehicles, improving coverage and service efficiency while preventing uncollected waste from entering canals and rivers
		Malampuzha Grama Panchayat	Collection of non biodegradable waste from households and institutions, intermittent public area cleaning and transportation of waste through accredited agency			Ongoing/ Continuing processes	
5	Regulating activities in flood plain zone protection and management of flood plain zone including	Palakkad Municipality	DPR submitted to Irrigation CE	195 Crores	World bank	4 Years	Canal bank protection, landscaping, and prevention of waterlogging with maximum discharge

	side bank protection and greenery development						to fields, directly reducing the flow of untreated solid and liquid waste into the river
6	Issues relating to maintaining minimum flow of river, including removal of light jungles and muddies from river courses	Irrigation Department	DPR Prepared and submitted	Total Proposed Estimate amount:- 582 Lakhs: Of which 324 Lakhs are provided for Kalpathy River stretch in the area of Palakkad Municipality; 135 Lakhs are provided for the river stretch in Malampuzha Panchayat .	Proposed under 2702-01-800-86P (Restoring polluted stretches of river basin in NGT order). (AS pending)		To rejuvenate the Kalpathy river and to restore its ecological health while ensuring sustainable water use for communities and agriculture
		Akathethara Grama Panchayat	BharathapuzhaPunarujjevana Padhathi- Yet to start	Rs. 400000/-	District Panchayat at Share-Rs. 175812/- CFC Tied	2025-2026	Bharathapuzha Revitalization activities

					Grant-Rs. 224188/-		
7	Monitoring of river water quality	KSPCB	Monthly sampling and monitoring water quality. Additional sampling from upstream location to identify possible polluting sources			Continuing process 6 months	
8	Faecal Sewage Treatment Plant and Septage Treatment plant	Palakkad Municipality Akathethara Grama Panchayat	FSTP at Yakkara works completed STP, Tender process completed. Agreement executed Localised STP planned near Kalpathy Project implementation by IMPACT Kerala. Present status- soil taken for examination	FSTP- 3.86 Crores STP- 30 Lakhs Rs. 1000000/-	AMRUT Own fund	2025-26 2025-2026	Improved treatment and safe disposal of faecal sludge, ensuring better sanitation and public health; strengthened sewage management through upcoming STP facilities reduces pollution load and directly improves river water quality Reduce waterbody pollution, prevent waterborne diseases, safe and

							scientific collection, treatment and disposal of waste
9	Construction of Sanitary Complex in Public Place	Palakkad Municipality	14 Projects : 4 ongoing, 3 completed, 7 work not yet started	Rs.1,29,53,956/-	CFC, SBS-Urban	2025-26	Enhanced public hygiene and convenience through improved access to safe and sanitary facilities in public spaces, preventing open defecation and safeguarding river cleanliness
		Akathethara Grama Panchayat	2 Take a Break projects completed. 1 Project waiting NOC from PWD	Rs. 1000000/-	CFC Tied Grant	2025-2026	Providing refreshment options for travellers and public.
10	Green Protocol implementation in all offices institution & public function	Palakkad Municipality	Office grading certificate issuing. Twin bins provided to Anganvadi and Schools	Rs. 4.12,000/-	Development fund	2025-26	Promotion of sustainable waste management practices through Green Protocol compliance , office grading, and segregation

							at source in schools and anganwadis, reducing indiscriminate waste disposal and protecting river ecosystems
		Akathethara Grama Panchayat	Announced as Green Protocol Panchayat	-	-	2025-26 Ongoing process	
		Malampuzha Grama Panchayat	Insisting 100% Green protocol at offices, Govt. functions, public functions Enforcement inspections	-	-	Ongoing process	