

**PROGRESS ON IMPLEMENTATION OF KARAMANA RIVER ACTION PLAN AS ON
8-7-2019**

1. Short term plan

Maintenance and de-bottlenecking of existing seweragenetwork

Sl. No.	Activity	Implementing agency	Cost Rs. Cr.	Source of fund	Time line	Expected outcome
2.1.1	Pumping lines from the terminal pumping stations namely Kuriyathi, Pattoor, Kannammoola and Enchakkal pumping stations are to be connected directly to STP at Muttathara	Kerala Water Authority	3.375	Amrunt	May 2019	95% completed. Interconnection with existing pipeline completed. Hydrotesting and gap closing pending. Can be commissioned before July 31 st
2.1.2	Rehabilitation/upgradation of Thaliyal and Aranoor Sewerage Pumphouse by rehabilitation of existing well, construction of new well and grit chamber, installation of new pump sets	Kerala Water Authority	2.37	Plan scheme	May 2020	Estimate under scrutiny at the office of Chief Engineer (SR)
2.1.3	5 MLD sewage treatment plant at Medical College	Kerala Water Authority	19.2	Amrut	May 2020	Design being prepared by the Contractor
2.1.4	Installation of adequate pumps in Mudavanmughal and Enchakkal pumping stations	Kerala Water Authority	0.23	Plan scheme	March 2020	Tender extended
2.1.5	DG sets in all lift and pumping stations – Mudavanmughal, Aranoor, Thaliyal,	Kerala Water Authority	0.92	Plan scheme	May 2020	AS issued by Government in State Plan 2019-20

	Kuriyathi, Pattoor, Kannammola, Pattom, Murinjapalam and Enchakkal					
2.1.6	Reconnect sewer at Rajaji Nagar, stop outflow of sewage into Amayizhanchanthodu, control stormwater entry into sewer to avoid overflow in Thampanoor area Sewage generated in Rajaji Nagar shall be diverted to main sewerline Sewage generated in Thoppil area shall be diverted main sewerline	Kerala Water Authority	0.10	Mace	Dec 2019	Work temporarily held up due to monsoon. Excavation to be done in front of KSRTC bus terminal.
2.1.7	Discharge of sewage in Parayilkadavu shall be stopped as there is overflow of sewage reaches in houses having sewerage connection and this may lead to discharge of sewage into River Karamana	Kerala Water Authority			Completed	Reduced pollution load of River Karamana
2.1.8	Divert the sewer line from the School compound of Government Karamana High School	Kerala Water Authority	0.42	Plan Scheme	May 2020	Agreement executed.
2.1.9	Rehabilitation by laying new lines increasing size of undersized main and reconstruction by dilapidated manholes for the last 3 years	Kerala Water Authority		Plan Scheme/ Amrut	May 2020	Works completed-15 No.(Rs.1.5cr.) In progress-41 No.(Rs.11.6 cr) Tender /To be tendered -22

						No.(Rs.6.1 cr)
	Total works in progress (45No.) Works in tendering (33No.)		11.6 7.6			
2.1.10	Extension of sewer network wherever technically feasible in new areas of existing blocks In progress(17No.) Tendering(12No.)	Kerala Water Authority	5.5 19.6	Plan scheme / Amrut	May 2020	Works completed - 6 No. (Rs. 0.9 cr.) In progress – 11 No. (Rs. 4.6 cr.) Tendered/To be tendered – 12 No. (Rs. 19.6 cr.)
2.1.11	Procurement of sewer cleaning machines and equipment maintenance	Kerala Water Authority	3.17	Plan Scheme	May 2020	Work tendered
2.1.12	Around 155 houses in Kurukuvilakom, Kannettumukku shall be provided with septic treatment system.	Kerala Water Authority	To be estimated	-	-	Not technically feasible to connect to existing sewer system. Septic tanks may be provided by Corporation.
2.1.13	Establishment of six additional blocks in uncovered areas In Progress (7 nos.) Tendering (13 nos)	Kerala Water Authority	69.59 43.33	Jnnurm & Amrut	May 2020	Works completed - 1 No. (Rs. 2.28 cr.) In progress – 6 No. (Rs. 67.31 cr.) Tendered/To be tendered – 13 No. (Rs. 43.33 cr.)

Solid Waste Management Action Plan

Sl. No.	Activity	Implementing Agency	Unit	No of units	Cost in Rs Cr	Source of fund	Time completion for	Status
2.2.1	Slaughter house and poultry waste	Thiruvananthapuram Corporation	Rendering plant	1	9.6	Plan fund	March 2021	Negotiation of slaughter house is completed. Proceedings on issuing work order to KEL is on the way.
2.2.2	Sanitation facility and Treatment of waste water in the markets of Pangode, Kumarichanda, Kannettumukku	Thiruvananthapuram Corporation	Treatment plant Portable aerobic bins	2 4	 0.3	Plan fund	Dec 2019	Suchitwa Mission is to give technical support. Work for Kannettumukku started Pilot project using Membrane bioreactor technology is proposed to be install in Kumarichanda market. Now it is reported that the work has been awarded to KEL.

2.2.3	Provide facility for the treatment of sewage, sullage and garbage generated in the poonthura slum area between Karamana river and sea	Thiruvananthapuram Corporation	<p>Aero bins at various places(28)</p> <p>Proposed sites</p> <ol style="list-style-type: none"> 1. Moonnathumukku – Purampoku 2. Poonthura – HI Office 3. Cheriyanmuttam– Poonthura 4. BeemapallyCompound 5. TsunamiColony 6. Mother Theresa Colony 7. KumariChantha 8. PoonthuraMarket 9. Moonnattumukku bridge 10. Ambalathara– Nilama 11. Fishermen Flat – Muttathara 12. PerunalliMarket road 13. Poundkadavu old market 14. Market behind Attipra zonaloffice 15. Tsunami Colony near 110KV tower (Poundkadavu) 16. Near ValiyavilaVeli St. Thomas Church (Poundkadavu) 17. Near Kamalesshwar am HSS 18. ValiyavelilResidence 	28	3.36	Plan Scheme	March 2020	<p>Community aerobins (45Nos) were already installed and functioning at various places within the Corporation limit.</p> <p>It is reported by the Assistant Executive Engineer that estimate is prepared.</p>
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Sl.No	Activity	Implementing Agency	Unit	No of units	Cost in Rs Cr	Source of fund	Time for completion	Status
2.2.4	The discharge of waste water from the surrounding houses to the pond at Jagathy is to be stopped	Thiruvananthapuram Corporation Kerala water Authority	Ponddesilting Issued notices to thehousehold Project is prepared for desilting the pond		0.50	Plan Fund	March 2020	For the total implementation of desilting a DPR For the total implementation of desilting a DPR estimated to Rs 1.5 crore is

								prepared.
2.2.5	Around 155 Houses in Kurukuvilakom, Kannettumuku shall be provided with septic and treatment system	Thiruvananthapuram Corporation						Health Supervisor Sri S Prakash and Jagathi circle Health Inspector is authorised to issue notice on the basis of site inspection. Actions are initiated to impose fine to those who dump waste and garbage in public places. Those who are not possessing own space for disposing of waste, establishing of prefabricated septic tank facility is initiated.

2.2.5	Identification of illegal outlets into storm water drains and fine shall be imposed on such units	Thiruvananthapuram Corporation	Fine imposed and prosecution initiated		12.06 lakhs Fine collected			
2.2.6	Biodegradable waste	Thiruvananthapuram Corporation	Bio-Composter	50,000	9			Tender proceeding are initiated.
2.2.7			Thumboormuzhi aerobic bins	154	11.97	Plan Scheme	May 2020	It is decided to draft report from Urban Planner
2.2.8			Community biogas	12	2.1	Plan Scheme	May 2020	Fines are being charged.
2.2.9			Organic Waste Converter	1	0.4	Plan Scheme	May 2020	DRP is ready

Sl.No	Activity	Implementing Agency	Unit	No of units	Cost in Rs Cr	Source of fund	Time for completion	Status
2.2.10		Thiruvananthapuram Corporation	Portable biogas	200	0.21			Last year subsidies 87 houses.
2.2.11			Portable aero bins	100	1.50			
2.2.12			Ring compost	500	0.13			Tendering stage
2.2.13			Segregation bins	1,00,000	4			Tendering stage
2.2.14	Biodegradable waste	Thiruvananthapuram Corporation	RRC	7	7			
2.2.15			Plastic Recycling unit	1	1.36			
2.2.16			Mobile MRF	5	1.3			Tendering stage
2.2.17			Electronic Weigh bridge	1	0.1			
2.2.18			Solar electrical cart	25	0.5			Negotiation with KEL
2.2.19			Swaps shops	4	0.2			
2.2.20			PET bottle crushing	15	0.05			
2.2.21			Community level unit	102	0.35			EOI invited
			Napkin destroyer					

2.2.22		Thiruvananthapuram Corporation	Animal Crematorium at Kattela	1	1	Plan fund	May 2020	Civil construction is going on
2.2.23		Thiruvananthapuram Corporation	Urban Gardening		0.5			Going on
2.2.24		Thiruvananthapuram Corporation	UPgradation of present facilities	42	1.86			
2.2.25		Thiruvananthapuram Corporation	Capacity Building & IEC		0.7			IEC organized in 27 places along with exhibition.

Sl.No	Activity	Implementing Agency	Unit	No of units	Cost in Rs Cr	Source of fund	Time for completion	Status
2.2.26		Thiruvananthapuram Corporation	Viability gap Fund		0.92			Selection progress to find Harithakarma is in progress
2.2.27	Prevent entry of Stormwater into sewer line along with KWA	Thiruvananthapuram Corporation	KWA is authorized to prepare and implement proper sewerage lines under Amrut scheme		154	AMRUT	May 2020	
2.2.28	Take steps to prevent the solid wastes in sewer line as reported by KWA	Thiruvananthapuram Corporation	Squad and Fines Special squad is formed at corporation level. Health Inspectors are authorized for regularly monitoring and preventing the waste discharge				May 2020	

Monitoring

	Activity	Implementing agency	Cost	Source of fund	Time line	Remarks
2.3.1	River water quality monitoring - Killiyar, Karamana, Parvathiputhanar, Akkulam-Veli lake	Kerala State Pollution ControlBoard	Rs. 3000 per sample	National Water Quality Monitoring Programme (NWMP), CPCB fund	Ongoing; monthly frequency	Monitoring of water quality
2.3.2	Storm drains monitoring - Amayizhanchanthodu, Ulloorthodu, Pattomthodu, Kannamoolathodu,	Kerala State Pollution ControlBoard	Rs. 3000 per sample	State Water Monitoring Programme, KSPCB fund (SWMP),	Ongoing Seasonal monitoring – pre-monsoon,	Notice issued to TVM Corporation

	Thekkanakkara canal			KSPCB fund	monsoon, post- monsoon	
2.3.3	Inspection and effluent quality monitoring of the flats, industrial units, service stations, hospitals, hotels etc in Thiruvananthapuram Corporation area	Kerala State Pollution Control Board	As per sampling charge	KSPCB funds,	Ongoing Interval: Red – 1 month. Orange – 3 m. Green – 6 m.	Monitoring of establishments, service stations, flats, industrial units

2. Long term Plan

Sewerage network

	Long term measures proposed	Implementing agency	Amount Required (Rs.in Crore)	Time line	Remarks
3.1.1	Extension of sewerage system to Block F to G coastal belt	Kerala Water Authority	200	Three years	Proposal for engaging Consultants for preparation of Detailed Engineering Report is under scrutiny in Head Office for issuing Administrative Sanction
3.1.2	Extension of sewerage system to Block H to R	Kerala Water Authority	700		
3.1.3	Extension of sewerage system to Newly added areas of corporation viz,	Kerala Water Authority	300		
3.1.4	Providing sewerage system in Block A to E	Kerala Water Authority	100		
3.1.5	Rehabilitation of existing network and pump house in block A toE	Kerala Water Authority	100		
3.1.6	Procurements of equipments for maintenance seweragesystem	Kerala Water Authority	10		
3.1.7	Additional STP requirement	Kerala Water Authority	60		
3.1.8	Total Amount required	Kerala Water Authority	1470 Crore		

Solid waste management

	Long term measures proposed by Thiruvananthapuram	Implementing agency	Amount Required (Rs.in Crore)	Time line	Remarks
3.2.1	Acquire 58 acres of land and rehabilitate 8150 families from the banks of River	Thiruvananthapuram Corporation	600	5 years	Action is being taken for the identification of land

Solid waste management

Desilting and development

No.	Activity	Implementing agency	Amount allotted Rs. crore	Department	Tim eline	Status
3.3.1	Development package for ParvathyPuthanar	Irrigation department	150	Irrigation department Included in KIFB by KWIL includes cleaning of canal	3 years	Desilting is done by KWIL uptoVal lakkada vu
3.3.2	Desilting and development of AmayizhanchanThodu	Irrigation Department	25	Irrigation department	1.5 years	Regular maintenance is being done with Thiruvananthapuram Corporation. Estimate prepared and administrative sanction obtained.
3.3.3	Improvements to Thekkenekara canal and desilting-	Irrigation Department	5 (under preparation)	Irrigation department	1 year	Estimate prepared
3.3.4	Karimadam tank improvements,desilting sheet piling/under preparation and providing fencing	Irrigation Department	4.5 (under preparation)	Irrigation department	1.5 years	Estimate is being prepared.
3.3.5	Development of Karamana basin	Irrigation Department	6.77 crores/under preparation	Irrigation department	1.5 years	Some works being done and others under preparation

3. Recommendations by Kerala State Pollution Control Board

Activities for compliance with Solid Waste Management Rules, 2016; Bio-medical Waste Management Rules, 2016

Activity	Responsibility	
Door-to-door collection on and transportation of MSW	Thiruvananthapuram Corporation	Proposed Kerala Solid Waste Management Authority
	Local bodies of Census Town	
Modern Solid Waste Treatment Plant	Thiruvananthapuram Corporation	
	Local bodies of Census Town	
Rendering plant for slaughter house/poultry wastes	Thiruvananthapuram Corporation	
	Local bodies of Census Towns	
Common bio-medical waste treatment facility	Health Department	Proposed Kerala Solid Waste Management Authority
Regional sanitary landfill site identification and land acquisition	District Collector	Proposed Kerala State Waste Management Authority
	Thiruvananthapuram Corporation	
Establishment and operation of Regional Sanitary Landfills		



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KERALA STATE POLLUTION CONTROL BOARD

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Purpose : RRC MEETING
Date : 08.07.2019

Attendance List

Sl. No.	Name, Désignation & Phone Number	Signature
1.	SURESH KUMAR S, Joint Director INDUSTRIES, 9447585992	
2.	PRAVEEN M, Deputy Director Industrial Dept 9447189242	
3.	JAIN P. R JUNIOR SUPERVISOR, PANCHAYAT DIRECTOR, etc	
4.	Anuj. P. S, Lwm expert, Suchitrus Mission	
5.	Philip Mathan ISE TVPM	
6.	Baburajan P. K. CEO H.O	
7.	RATHYA G, EE, DO, TVM	
8.	Sabah Nazeemudeen, AEE, RD, TVM	
9.	Srinidhra S. , EE , HO, TVM	
10.	Anand C. C , AE, , DO, TVM	
11.	Sundar K. Kumar ES, HO	
12.	RESMI R. RUSSEL, AE, HO, Legal Sg.	
13.	R. Subbaraj, DSP noida officer, WRO	
14.	K. G. SAHJEE AEE TVM	
15.	Dr. Ummuselma Joint Director (Health) DUA 9447494542	
16.	Sooraj Sukumar EE, KWA Sewerage Div Tum	
17.	Dr. A. J. K. Kumar EAO. WRO	