



**केन्द्रीय प्रदूषण नियंत्रण बोर्ड**  
**CENTRAL POLLUTION CONTROL BOARD**  
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार  
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA

Tech 45A/RPRS/RDS/Projects/ 181

15<sup>th</sup> June, 2020

To

- 1) Dr. K Haribabu, Assistant Professor  
Department of Chemical Engineering  
National Institute of Technology Calicut  
Kozhikode, Kerala.
- 2) ✓ Dr. Manju N J, Assistant Professor  
Department of Environmental Science & Geology  
Christ College, Irinjalakuda  
Thrissur, Kerala.

Sub: Project proposals recommended for financial support under Environmental Compensation (EC) Fund: Field- scale demonstration project to bio remediate heavily polluted natural drains in Kerala using a combined engineering approach of aeration, microorganisms and biofilm blocks.

Ref: CPCB, R&D Division letter no. PCP/06/EC/2019-20/11331, dated 23<sup>rd</sup> January, 2020.

Madam/ Sir,

This has reference to the project proposal submitted to CPCB for financial support under the utilization of Environmental Compensation (EC) Funds. The project entitled "Field-scale demonstration project to bio remediate heavily polluted natural drains in Kerala using a combined engineering approach of aeration, microorganisms and biofilm blocks." is considered for financial support by CPCB. The project proposes to demonstrate in-situ bioremediation in Canolly canal or its major drains in Kozhikode, Kerala. It is requested to submit your willingness to take up the above project in coordination with CPCB, Regional Directorate, Bengaluru, Kerala State Pollution Control Board (Regional & District Offices, Kozhikode), Irrigation Division (EK Canal), Kozhikode and Municipal Corporation of Kozhikode. The project shall be implemented as per the guidelines issued for the utilization of National Green Tribunal EC Fund.

Project Title	Project Coordinators & fund allocation
Field- scale demonstration project to bio remediate heavily polluted natural drains in Kerala using a combined engineering approach of aeration, microorganisms and biofilm blocks. (Outsourced).	Dr. K Haribabu, Assistant Professor, (Chemical Engineering), National Institute of Technology Calicut, Kozhikode, Kerala. (Rs.83,83,500/-)
	Dr. Manju N J, Assistant Professor, (Environmental Science), Christ College, Irinjalakuda, Thrissur, Kerala. (Rs.43,91,896/-)
<b>Proposed budget: Rs.1,27,75,396/-</b>	
<b>Timeline: As per the pert chart enclosed</b>	

क्षेत्रीय निदेशालय (दक्षिण) : निसर्ग भवन, ए-ब्लॉक, प्रथम एवं द्वितीय तल, तिम्मय्या रोड, 7-डी मैन, शिवनगर, बेंगलूरु - ५६० ०७९.

**Regional Directorate (South) :** " Nisarga Bhawan ", A-Block, 1<sup>st</sup> & 2<sup>nd</sup> Floors, Thimmaiah Road, 7<sup>th</sup> D - Main, Shivanagar, Bengaluru - 560 079.

दूरभाष / Telephone : 080-23233739, 23233827, 23233996, 23233600, 23232559, 23226002, 23222539, Fax : 080-23234059

ई-मेल / E-mail : cpcbszo@yahoo.com, zobangalore.cpcb@nic.in

प्रधान कार्यालय : परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली- ११० ०३२.

**Head Office :** Parivesh Bhawan, East Arjun Nagar, Delhi - 110 032.

दूरभाष / Telephone : 011-43102030, Fax : 22305793, 22307078, 22307079, 22301932, 22304948

ई-मेल / E-mail : cpcb@nic.in वेबसाइट / Website : www.cpcb.nic.in

This office shall coordinate with all stake holders involved in the project and formulate a road map for the effective execution of the project as per the timeline stipulated.

Yours faithfully

S. Suresh  
(S Suresh) 15/6/2020

Regional Director

Copy to

1. The Director, National institute of Technology Calicut, Kozhikode, Kerala.
- ✓ 2. The Principal, Christ College (Autonomous), Irinjalakuda, Thrissur.
3. The Chief Engineer, KSPCB, Regional Office, Kozhikode.
4. The District Environmental Engineer, KSPCB, District Office, Kozhikode.
5. The Health Officer, Health Dept. Municipal Corporation, Kozhikode.
6. The Executive Engineer, Irrigation Division (EK Canal), Civil Station, Kozhikode.
7. The DH, R&D Division, CPCB, Delhi.





**PERT CHART**

<b>0 – 6 months</b>	<b>7 – 12 months</b>	<b>13 – 18 months</b>	<b>19 – 24 months</b>
<b>Physical targets/ project targets</b>			
Signing MoU, recruitment of project staff, project planning, liaising with local bodies involved and State Pollution Control Boards.	Purchase of consumables/ field kits/ instruments other engineering items for demonstration facility.	Consortia optimization studies, pilot scale demonstration and mass production.	Field level demonstration of in-situ drain bioremediation
Mapping and characterization of polluted drain stretches selected for the study	Development of consortia, bench scale demonstration and mass production.	Deploying bio blocks at demo sites in the field.	Data analysis and statistical analysis.
Purchase of equipment/ instruments/ field kits and setting up of field laboratory	Development and testing of bio blocks	Field level demonstration of in-situ drain bioremediation	Report preparation and publications
Development and design of bio blocks	Setting up of field stations and demo sites in the field.	Data analysis and statistical analysis.	
Development and design of integrated non-obstructive aeration systems in bio blocks.	Consortia optimization studies, pilot scale demonstration and mass production.		
<b>Financial target / fund utilization</b>			
<b>60%</b>	<b>80%</b>	<b>90%</b>	<b>100%</b>
<b>Action by</b>	<b>NIT Calicut, Christ College, CPCB &amp; other agencies</b>		
<b>Action by</b>	<b>NIT Calicut and Christ College</b>		

  
**S. SURESH**  
 REGIONAL DIRECTOR  
 CENTRAL POLLUTION CONTROL BOARD  
 REGIONAL DIRECTORATE (SOUTH)  
 (MIN. OF ENV. FOREST & CC, GOVT OF INDIA)  
 BENGALURU - 560 079, MOB : 9480672128