

**Government of India**  
**Ministry of Environment, Forest and Climate Change**  
**(Research in Environment)**

**AGENDA**

**3<sup>rd</sup> Meeting of the Technical-cum-Financial Appraisal Committee (TFAC) on Environmental Research and Development Programme.**

**Venue: Narmada Hall, IPB**  
**Date: 18<sup>th</sup> -19<sup>th</sup> March, 2024**  
**Time: 10.00 AM onwards**

**18<sup>th</sup>March, 2024 (Monday)**

**Agenda Item No.1:** Introductory remarks by Chairman/ Member Secretary (10:00 AM to 10:15 AM).

**Agenda Item No.2:** Confirmation of Minutes of 2<sup>nd</sup> meeting of the TFAC held on 4-5<sup>th</sup> January, 2024. (10:15 AM to 10:30 AM).

**Agenda Item No.3:** Project proposals to be considered:

**3.1** New project proposals received through online mode. (19)

**Lunch Break (01:30PM to 2:00PM)**

**3.2** Proposals received after internal scrutiny through online: (10)

**19<sup>th</sup>March, 2024 (Tuesday)**

**3.3** Proposals in which PI could not attend previous the 2nd meeting of the TFAC: (05)

**3.4** Revised proposals which were recommended earlier by TFAC: (08)

**Agenda Item No.4 :** Project requesting for no cost extension: (01)

**Agenda Item No.5:** Any other item(s) with permission of Chair.

### Agenda Item No.3.0

#### 3.1 Proposals received through online for Scrutiny and consideration: (19 cases)

Sr. No	Registration Number	Name of PI and Address	Title of Project and Duration	Page No.
3.1.1	668/2024/RE	Prof. Archana Tiwari, Amity University House No H 2203 Sector 120, Noida (U.P)	Potential of periphytic diatoms in the uptake of nutrients in eutrophic environments, and their subsequent applications as slow-release biofertilizer for sustainable environment <b>Duration:</b> 3 Years	25-32
3.1.2	648/2024/RE	Dr.Rekha J Nair, Principal Scientist, ICAR CMFRI, Ernakulam North PO, Kochi 682018	Taxonomy, Distribution and Species Diversity of Cynoglossids in Indian Waters <b>Duration:</b> 3 Years	33-40
3.1.3	663/2024/RE	Dr.Jasvinder Kaur, 304, Sector 37, Faridabad	Evaluating the Biodegradation Potential of Indigenous Bacteria from Okhla Landfill Site: Toward Sustainable Plastic Waste Management <b>Duration:</b> 3 Years	41-50
3.1.4	654/2024/RE	Prof. Seema Makhija, Ciliate Biology Laboratory, Department of Zoology, Acharya Narendra Dev College, University of Delhi, Govindpuri, Kalkaji.	Assessment and Biomonitoring of Heavy Metals Across Entire Stretch of River Yamuna (U.K, H.P, Delhi, U.P) & Ecological Impact of Heavy Metals on Freshwater Ecosystem. <b>Duration:</b> 3 Years	51-63
3.1.5	636/2024/RE	Dr Vishakha Raina, School of Biotechnology, KIIT Deemed to be University, Patia, Bhubaneswar	Bioprospecting and ecological survey of Chilika Lake metagenome for identification of new biocatalyst for industrial application <b>Duration:</b> 3 Years	64-71
3.1.6	634/2024/RE	Dr. K. Sivakumar, Karpaga Vinayaga College of Engineering and Technology, GST Road, Padalam, Madhuranthagam, Chengalpattu	Ecological Evaluation of Pulicat lagoon using meiobenthic fauna and pelagic copepods as pollution indicators applying Geographical Information System <b>Duration:</b> 3 Years	72-81
3.1.7	609/2023/RE	Dr.Kalleshwara Swamy CM, Department of Entomology, College of Agriculture, Navile, Shimoga 577204	Functional role of termites and microbes in wood degradation and carbon recycling in different forests and climatic gradients of India <b>Duration:</b> 3 Years	82-92

3.1.8	456/2023/RE	Prof. Sunil R. Patil, Institute of Science, civil line, RT Road, Nagpur	Assessment and Susceptibility Study of Forest Fires by Integrating Remote Sensing and Statistical Modeling <b>Duration:</b> 3 Years	93-101
3.1.9	625/2023/RE	Dr. Rajeev Singh, Jamiamilliaislamia New Delhi	Airborne Microbial- contaminants in Delhi Slum Settlements: Isolation, Characterization, and Human Health Assessment <b>Duration:</b> 3 Years	102-108
3.1.10	676/2024/RE	Dr. Balaraman Deivasi gamani, CAS in Marine Biology Annamalai University Parangipettai	Identify target finfish Mullet species for health assessments based on their ecological significance, commercial importance to certain health threats, <b>Duration:</b> 3 Years	109-118
3.1.11	669/2024/RE	Dr. Vinod Kumar Yadav, Fisheries Economics , Extension and Statistics Division, ICAR Central Institute of Fisheries Education Mumbai	Geo ICT based decision support system for climate change and land use dynamic on biophysical and economic values of ecosystem services of different reservoir of India <b>Duration:</b> 3 Years	119-126
3.1.12	680/2024/RE	Dr. S. Kalaiarasu, Department of Microbiology, Faculty of Agriculture, Annamalai University, Annamalai Nagar Cudalore District Tamil Nadu	A Novel Nanotechnological approach by using flyash for a paradigm shift towards Municipal Solid Waste Management to improve its efficacy using microbial consortia for Global Health against Climate Change <b>Duration:</b> 3 Years	127-136
3.1.13	689/2024/RE	Dr. Antony, 413 Karuppasamy Koil Street, Meenakshipuram (Post)	Metal-free Nanocarbon Catalysts for SO <sub>x</sub> -free Environment via Synergistic Adsorptive-Oxidative Desulfurization of Liquid Fuels <b>Duration:</b> 3 Years	137-147
3.1.14	701/2024/RE	Dr. Madhu Bala, Punjabi University, Patiala	Novel technique for processing of biowaste by using Black Soldier Fly Hermetia illucens (Diptera: Stratiomyidae) Larvae and production of high content protein. <b>Duration:</b> 3 Years	148-155

3.1.15	696/2024/RE	Dr. AnoopKrishnan, Biogeochemistry GroupNational Centre for Earth Science Studies, Ministry of Earth Sciences (MoES), GoIAkkulam, Trivandrum, Kerala	K. Assessment of Global Environmental changes in selected river basins of Western Ghats and Island Territories  <b>Duration:</b> 4 Years 11 Months	156-167
3.1.16	707/2024/RE	Dr. BANERJEE, Central University of Odisha,PO. NAD, Sunabeda	KAKOLI Carbon assessment and mapping of seagrass and saltmarsh grass from coastal odisha as mitigative measures to climate change <b>Duration:</b> 3 Years	168-177
3.1.17	657/2024/RE	Dr. N Ramesh Kumar CSIR-National Institute for Interdisciplinary Science and TechnologyThiruvananthapuram 695 019, Kerala, India	Molecular Taxonomy, and Ecological Genomics of Novel "Uncultured" Prokaryotic Lineages of Brackish-associated Pokkali Rice. <b>Duration:</b> 3 Years	178-186
3.1.18	713/2024/RE	Dr. Somnath Saha, Community For Social Work, 84 Rabindra Pally , Shyamnaga , Rabindrapally WB	Technological Intervention Of DFS Model In Holistic Way To Scale Up Commercial Activity And Its Impact Analysis On Social And Environmental Issues In Coastal Area Of West Bengal <b>Duration:</b> 3 Years	187-221
3.1.19	721/2024/RE	Dr. Utkarsh Sood, Kirori Mal College, University of Delhi	Deciphering the pathogenicity and antibiotic determinants in water and sediment samples at major drain confluence spots in Yamuna River in Delhi  <b>Duration:</b> 3 Years	222-229

### 3.2 Proposals received after Internal scrutiny through online consideration: 10 cases

Sr. No	Registration Number	Name of PI and Address	Title of Project and Duration	Page No.
3.2.1	637/2024/RE	Dr. Randeep Singh, Amity University, Noida (U.P)	Economic valuation of the Ecosystem Services provided by golden jackals and striped hyenas in and around Dholpur-Karauli Tiger Reserve and Kaila Devi Wildlife Sanctuary in Rajasthan. <b>Duration:</b> 3 Years	230-238
3.2.2	586/2023/RE	Prof. Brijesh Kumar Yadav, Department of Hydrology, IIT Roorkee, Uttarakhand	Comprehensive Assessment of Co-Transport of Microplastics and Heavy Metals during Groundwater-Surface water Interactions <b>Duration:</b> 3 Years	239-247
3.2.3	591/2023/RE	Prof. Prakhar Misra, Civil Engineering Department, IIT Roorkee	Assessing Nox emission from Brick Kilns using combination of satellite remote sensing and UAV based pollution sampling <b>Duration:</b> 3 Years	248-255
3.2.4	612/2023/RE	Dr. Shyamal Roy, Chemical Engineering Department, Jadavpur University, 188 Raja S.C. Mallick Road, Kolkata	Investigation of Pilot Plant Scale Removal of Bisphenol A in Real Industrial Effluents by Catalytic Wet Air Oxidation over Mesoporous CeO <sub>2</sub> Supported Ru Catalyst in a Continuous Flow Fixed Bed Reactor <b>Duration:</b> 3 Years	256-265
3.2.5	578/2023/RE	Dr. H.K. Ramaraju, Dayananda Sagar College of Engineering, Shavigemalleshwara Hills, Kumaraswamy Layout, Bangalore-560111	Preprocessing approaches in Machine learning and Remote Sensing based on Groundwater Potential mapping in the drought prone area of North Eastern part of Tumkur district, Karnataka. <b>Duration:</b> 3 Years	266-273
3.2.6	519/2023/RE	Dr. Gisha Sivan, Division of Medical Research Faculty of Medical and Health Sciences SRMIST, Kattankalathur	Monitoring and Mapping of Microplastics in the lakes of Chennai, India <b>Duration:</b> 3 Years	274-282
3.2.7	601/2023/RE	Dr. Ramanathan Ayothiraman, Room No 319, Block- V department of Civil Engineering Indian Institute of Technology Delhi Hauz Khas, New Delhi, India	Waste Reutilization for Liquefaction Mitigation <b>Duration:</b> 3 Years	283-293

3.2.8	419/2023/RE	Dr.Kapilkumar, National Institute of Technology Delhi	Feasibility assessment of bioelectricity generation and optimization of substrate in coupled constructed wetlands for wastewater treatment  <b>Duration:</b> 2 Years	294-303
3.2.9	600/2023/RE	Dr.Pushp Lata, Lab no. 112 Department of Zoology University of Delhi	Integrated Ecological Profiling and Isolation of Thermozyms from High-Altitude Hot Springs in District Kinnaur, Himachal Pradesh, India: A Culturable and Unculturable Approach with SeqCode Taxonomy. <b>Duration:</b> 2 Years	304-312
3.2.10	644/2024/RE	Prof. Rakesh Kumar Soni, Chaudhary Charan Singh University, Meerut	Novel dyes synthesized from pet waste and their applications in industry	313-321

### 3.3 Proposals in which PI could not attend the 2<sup>nd</sup> meeting of the TFAC: 05 Cases

Sr. No	Registration Number	Name of PI and Address	Title of Project and Duration	Page No.
3.3.1	337/2020/RE	Dr.Angayarkanni J, Department of Microbial Biotechnology, BharathiarUnivesity, Coimbatore	Plausible role of Bacteriophages present in the High Altitude Himalayan River waters <b>Duration:</b> 2 Years	322-329
3.3.2	201/2020/RE	Dr.Jagannath Roy, Satya Apartment Flat 5E 30 by 5 Jessore Road South DakshinparaBarasat North 24 Paraganas Kolkata 700124 West Bengal	Green Production of Nano-Concrete from Fly Ash and Construction Waste: Experimental studies, 6odelling through Artificial Intelligence and in-situ application <b>Duration:</b> 3 Years	330-345
3.3.3	364/2023/RE	Dr.Geeta S. Joshi, Civil Engg. Dept. Faculty of Technology (The Maharaja Sayajorao University of Baroda), Rajmahal Road, Vadodara	Climate change adaptation model for water management and cropping practices in agro-climatic zone in the state of Gujarat <b>Duration:</b> 2 Years	346-353
3.3.4	590/2023/RE	Dr.BhanuPrakashVellanki, Department of Civil Engineering, IIT Roorkee, Roorkee, 247667, Uttarakhand	Development of novel biodegradable multifunctional mulching film for sustainable and environmentally friendly agriculture practices. <b>Duration:</b> 3 Years	354-364
3.3.5	307/2020/RE	Dr. R Zonunsanga, T 55, Mizoram University Campus,Tanhriil, Aizawl	Restoration of the Upper Reaches of River Teirei under the Dampa Tiger Reserve/Sanctuary using Biosystems Engineering <b>Duration:</b> 3 Years	365-373

### 3.4 Proposals as recommended by earlier meeting of the TFAC: (08 Cases)

Sr. No	Registration Number	Name of PI and Address	Title of Project and Duration	Comments of TFAC
3.4.1	70/2021/RE	Prof. A. Geetha Bhavani, H.No D-1501, SDS NRI Residency, Sector Omega II, Greater Noida, U.P, India	Converting waste cooking oil to Biodiesel Using Green Catalyst and Catalyst Regeneration Studies, <b>Duration:</b> 3 Years	The PI has present the proposal before the TFAC in detailed. Based on the presentation and the comment of the referees, the Committee suggested that the comments of the experts/referees may be sent to the PI for revision/modification of the project proposal. The Committee authorized the Chairman, TFAC to take final decision on the revised / modified project proposal.  <b>Revised proposal is for consideration.</b>
3.4.2	559/2023/RE	Dr.Ashish Kumar, ICAR-National Institute for Plant Biotechnology, Lab No.- 12, LBS Building, Pusa Campus, New Delhi-110 012	Exploration, conservation and characterization of wild Brassica species for the development of genetic and genomic resources to uncover climate- resilient traits through integrated approaches <b>Duration:</b> 3 Years	The PI has present the proposal before the TFAC in detailed. Based on the presentation the Committee suggest that the PI to focus the objectives and select either one or two species (prefer species for which data is not readily available), conduct ecological and population surveys as one of the components for the defined study area and include the North East area also for study. Develop nursery techniques for cultivation on private lands (ex-situ). Further, tissue culture and seed germplasm may also be investigated. Baseline data and the data deficit and population mapping may also be studied. It was recommended to avoid reintroduction of identified and lab propagated species to the protected areas such as National Parks. The Chairman, TFAC has been authorized by the Committee to take final decision on the revised / modified research project proposal. <b>Revised proposal is for consideration.</b>
3.4.3	557/2023/RE	Dr.Nitin Kumar Khandelwal, Department of Hydrology, Indian Institute of Technology Roorkee, Roorkee 247667,	Devising eco- friendly redox- active nano composites micro reactors with enhanced contaminant selectivity for continuous	There are many objectives and sometime repetitive also. So objectives should be reframed as per the methodology (maximum 03 objectives). The methodology section needs elaboration. If possible the activities in three work packages (as given by PI) should be shown through a bar diagram. The

		Uttarakhand, India	water purification  <b>Duration:</b> 3 Years	expected deliverables are highly ambitious, needs further clarifications. The budget is also higher side. The PI may submit the revised proposal to Ministry after incorporating the above suggestions with a revised budget. The Chairman, TFAC has been authorized by the Committee to take final decision on the revised project proposal. <b>Revised proposal is for consideration.</b>
3.4.4	276/2020/RE	Dr. Binu N. Kamalobhavan, Assistant Professor Dept. of Forest Biology and Tree Improvement College of Forestry Kerala Agricultural University KAU PO	Natural distribution, ecological niche modelling, selection of CPTs, its evaluation and nursery production of sandal (Santalum album Linn.) <b>Duration:</b> 3 Years	The proposal has been presented by the PI before the TFAC. The TFAC has suggested that the objectives should be re-farmed and accordingly methodology may be revisited. A molecular biotechnologist may be involved and an appropriate marker may be used. The Committee has suggested the PI to revise the proposal accordingly and submit it to the Ministry. Dr. R. Vasudeva, Member, TFAC has been authorized by the Committee to take final decision on the revised proposal. <b>Revised proposal is for consideration.</b>
3.4.5	595/2023/RE	Dr. Annam Pavan Kumar, ICAR-Central Institute of Fisheries Education, PanchMarg, Yari Road, Versova, Andheri West, Mumbai	Population Demography and Risk Assessment of Invasive South American Armoured Catfish Pterygoplichthys sp. in the Indian Freshwater Systems: A Way Forward for Sustainable Native Fish Diversity	The proposal has been presented by the PI before the TFAC. The TFAC has suggested to focus on the baseline data wrt demographic analysis. The committee recognized that there may be large scale environmental impact because of uncontrolled spread of the species to un-targeted areas. Hence it was recommended to focus on risk assessment and development of baseline data of invasion and future spread, considering larger geographic area and large number of sampling sites as well as robust prediction models. The evaluation of genetic diversity part may kindly be dropped. The PI may submit the revised proposal to the Ministry.  <b>Revised proposal is for consideration</b>
3.4.6	410/2023/RE	Dr. Vikas Kumar, Zoological Survey of India M Block, New Alipore	Molecular Taxonomy and Phylogeny of Terebrantia (Thysanoptera: Insecta) from	The proposal has been presented by the PI before the TFAC. The TFAC has observed that the proposal is good and well written. Objectives are clear and the methodology is appropriate. The Committee



			India	<p>suggested that the proposal may be recommended for funding after exclusion of the last objective 'development of web-portal for species page including morphological and molecular data'. The PI may submit the revised proposal to the Ministry. The Chairman, TFAC has been authorized by the Committee to take final decision on the revised proposal.</p> <p><b>Revised proposal is for consideration.</b></p>
3.4.7	594/2023/RE	Dr. Atul Babbar, Shree Guru Gobind Singh Tricentenary University, Haryana	Vehicular pollution (exhaust and road-wheel dust) reduction; on road charging of electric vehicles; and overall energy saving	<p>The PI has present the proposal before the TFAC in detailed. The PI should consider the road safety issues raised by the members of the committee while implementing the project proposal. The PI should choose a dedicated site within the campus of the University of the PI for the implementation of the project proposal. The PI is suggested to submit the revised proposal to the Ministry. The Chairman, TFAC is authorised by the Committee to take a final decision for the funding on the modified research proposal.</p> <p><b>Revised proposal is for consideration.</b></p>
3.4.8	555/2023/RE	Prof. SumitSen, IIT Roorkee	Forest Ecosystem Assessment in the Western Himalayan Region: Integrated Approach for Sustainable Conservation and Management of Ecosystem Services	<p>The proposal has been presented by the PI before the TFAC. The TFAC has suggested that the proposed study should be focused on soil and hydrology components. Study area may be fire prone districts i.e. Chamoli (Uttarakhand) and Bilaspur (H.P.) and adjoining areas. The revised proposal should include 'control sites' where there was no or minimal fire incidence (to be determined by the recorded past fire incidences) for better comparison of the impact. The PI may submit the revised proposal to the Ministry. Dr. R. Vasudeva, Member, TFAC has been authorized by the Committee to take final decision on the revised proposal.</p> <p><b>Revised proposal is for consideration.</b></p>

**Agenda Item No.4.0 Project requesting for no cost extension: (01)**

<b>Sr. No</b>	<b>File Number</b>	<b>Name of PI and Address</b>	<b>Title of Project and Duration</b>	<b>Page No.</b>
4.1	19-26/2018/RE	Dr. Janmejy Sethy, Amity University, Gautam Budhh Nagar, Noida	Tracking and assessment threats of highly critically endangered scaly giant Chinese Pangolin (Manispentadactyla) with special reference to sensitization of local communities for its long-term conservation in north-eastern states of India	374-379

**Agenda Item No.5:** Any other item(s) with permission of Chair.

\*\*\*\*\*