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

AGENDA

5th Meeting of the Technical-cum-Financial Appraisal Committee (TFAC) on Environmental Research and Development Programme.

Venue: Narmada Conference Hall Date: 05th -06th September, 2024 Time: 10.00 AM onwards

05th September, 2024

Agenda Item No.1: Introductory remarks by Chairman/ Member Secretary.

Agenda Item No.2: Confirmation of Minutes of 4^{th} meeting of the TFAC held on $18^{th} - 19^{th}$ June, 2024.

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

- **3.1** New project proposals received through online mode. (28)
- **3.2** Proposals in which the PI could not attended the earlier meeting of TFAC. (12)

6th September, 2024

- **3.3** Consideration of proposals which were referred to experts for comments. (06)
- **3.4** Proposals which were returned by the Steering Committee for reconsideration due to change of project duration (12)

Agenda Item No.4: Any other item(s) with permission of Chair.

Agenda Item No. 3.0 Proposals received through online for Scrutiny and consideration: (28 cases)

S. No.	Registration Number	Thematic Area	Name of PI and Address	Title of Project	Page No.
3.1	705/2024/RE	Pollution Prevention – Clean Technologies and Processes, Cleaner Production, 3Rs, Resource Efficiency, Waste Minimisation and Management, etc	Dr. Selvaraju Narayanasamy, Indian Institute of Technology Guwahati	Engineered Metal-Organic Framework-based Multistage Groundwater Purification System for Arsenic-dominated Northeast Groundwater Tables Duration: 02 Years Total Outlay: ₹45,87,342	
3.2	764/2024/RE	Sustainable Management of Natural Resources	Dr. Subhadra Rajpoot, Amity University Greater Noida	"Assessment of economic valuation of Biodiversity and Ecosystem services (BDES) with special reference to NTFPs in Dudhwa national park." Duration: 03 Years Total Outlay: ₹13,95,000/-	
3.3	815/2024/RE	Climate Change: Vulnerability & Risk Assessment, Process, Mitigation and Adaptation	Dr. Aman Kumar Sharma, Assistant Professor, Department of Zoology, BGR, Campus, Pauri Garhwal	Assessing and Mitigating the Impact of Climate Change on Biodiversity and Ecosystems in Pauri, Uttarakhand Duration: 03 Years Total Outlay: ₹39,93,203/-	
3.4	826/2024/RE	Climate Change: Vulnerability & Risk Assessment, Process, Mitigation and Adaptation	Dr. K.S. Jinesh Babu, Mepco Schlenk Engineering College, Sivakasi	Climate change and urban flooding: Building capacity for climate adaptation Duration: 03 Years Total Outlay: ₹28,89,600/-	
3.5	748/2024/RE	Pollution Prevention – Clean Technologies and Processes, Cleaner Production, 3Rs, Resource Efficiency, Waste Minimisation and Management, etc.	Dr. Rajkumar R, Mepco Schlenk Engineering College, Sivakasi	Enhancing the Fire Resistance and Mechanical Performance of Areca/Epoxy Composite for Automotive Applications Duration: 03 Years Total Outlay: ₹18,17,000/-	

3.6	834/2024/RE	Sustainable Management of Natural Resources	Dr. Senthil, Senior Associate Professor,	Middleware for Internet of Underwater Things (IoUT) based Big-Aquatic Data	
			Murugan B, School Of Computer Science	Analytics Infrastructure Duration: 02 Years	
			Engineering And Information Systems, Sjt411 A20, Vit, Vellore, Tamilnadu	Total Outlay: ₹19,91,172/-	
3.7	711/2024/RE	Pollution	Dr. Vinod Kumar,	Wastewater to biofuel and	
		Prevention – Clean Technologies and	Associate Professor,	Plant Growth Promoters: food–energy–water–	
		Processes,	Graphic Era	environment nexus	
		Cleaner Production, 3Rs,	(deemed to be) University	approach.	
		Resource Efficiency, Waste	,	Duration: 03 Years	
		Minimisation and Management, etc		Total Outlay: ₹68,53,920/-	
3.8	828/2024/RE	Ecosystems	Dr. Sanjay	Experimental and numerical	
		Conservation & Management	Bhutani, UPES university of	analysis of forest fire burning and their	
		(Mountain, Forest,	tomorrow,	environmental impact at	
		Coastal, Wetlands,	Dehradun	wildland urban interface.	
		Pastoral, etc) and			
		Evaluation of		Duration: 03 Years	
		Ecosystem Services		Total Outlay: ₹88,50,000/-	
3.9	843/2024/RE	Pollution	Dr. Jyoti Prakash,	Assessment and Carbon	
		Prevention – Clean	Amity University	Sequestration Techniques	
		Technologies and	Uttar Pradesh,	for a Sustainable	
		Processes,	Lucknow	Environment.	
		Cleaner Production, 3Rs,	Campus,Lucknow	Duration: 03 Years	
		Resource Efficiency, Waste Minimisation and		Total Outlay: ₹31,95,200/-	
3.10	842/2024/RE	Management, etc Sustainable	Dr.	Investigations and	
3.10	042/2U24/KE	Management of Natural Resources	shivendra.B.T, Dayananda Sagar College of	prediction of Surface and Groundwater quality in Kolar	
			Engineering	District,Karnataka,India: A Using multi-pronged	
				artificial Intelligence based approach.	
				Duration: 02 Years	
				Total Outlay: ₹58,15,425/-	

3.11	848/2024/RE	Pollution Prevention – Clean Technologies and Processes, Cleaner Production, 3Rs, Resource Efficiency, Waste Minimisation and Management, etc	Dr. A. Azhagurajan, Mepco Schlenk Engineering College, Sivakasi.	An experimental study of fireworks industries waste disposal by landfill by adding solid inertant to mitigate fire hazards and analyse the biodegradation & phytotoxicity to ascertain soil pollution. Duration: 03 Years	
3.12	854/2024/RE	Pollution Prevention – Clean Technologies and Processes, Cleaner Production, 3Rs, Resource Efficiency, Waste Minimisation and Management, etc	Dr. Palsamy Kanagaraj, Mepco Schlenk Engineering College (Autonomous), Sivakasi	Total Outlay: ₹36,36,300/- Conversion of Lignin into High Value-Added Chemicals from Woody Biomass Using Membrane Contactor System Targeting to Reduce Overutilization of Fossil Fuel for Safety Environment. Duration: 03 Years Total Outlay: ₹32,95,400/-	
3.13	853/2024/RE	Pollution Prevention – Clean Technologies and Processes, Cleaner Production, 3Rs, Resource Efficiency, Waste Minimisation and Management, etc	Dr. P.Sivagurunathan , Annamalai University, Annamalai Nagar,	Development of Eco- Friendly Phosphate Solubilizing and Nitrogen Fixing Microbial Consortium to Enhance the Algal Density, Water Quality and Productivity in Aquaculture Pond. Duration: 03 Years Total Outlay: ₹45,62,188/-	
3.14	841/2024/RE	Conservation and Management of Landscapes and Ecologically sensitive areas including issues of sustainable livelihoods	Dr. T Prabaharan, Mepco Schlenk Engineerinng College, Sivakasi	Assessing the execution characteristics of an Acoustic Fire Quencher. Duration: 02 Years Total Outlay: ₹14,91,320/-	
3.15	840/2024/RE	Ecosystems Conservation & Management (Mountain, Forest, Coastal, Wetlands, Pastoral, etc) and Evaluation of Ecosystem Services	Dr. Prakash L, Mepco Schlenk Engineering College	Detonation way of synthesizing Nano Diamonds using low class pyrotechnic mixtures. Duration: 03 Years Total Outlay: ₹29,79,880/-	

3.16	852/2024/RE	Ecosystems Conservation & Management (Mountain, Forest, Coastal, Wetlands, Pastoral, etc) and Evaluation of Ecosystem Services	Dr. G.Usharani, Annamalai University, Annamalai Nagar, Chidambaram,60 8002	Development of eco-friendly phosphate 5odelling5ng and nitrogen-fixing microbial consortium to ensure survival and growth of the mangrove seedling. Duration: 03 Years Total Outlay: ₹45,62,188/-	
3.17	829/2024/RE	Socio-economic issues of environment and Sustainable Development	Prof. Raj Kishor Sharma, University of Delhi, Delhi	Biomass/plastic waste derived hierarchical nanostructured porous carbon and novel perovskite oxides for asymmetric supercapacitor . Duration: 03 Years Total Outlay: ₹1,02,98,080/-	
3.18	693/2024/RE	Pollution Prevention – Clean Technologies and Processes, Cleaner Production, 3Rs, Resource Efficiency, Waste Minimisation and Management, etc	Dr. Mamtesh Singh, Gargi College (University of Delhi), Delhi	Zero-waste algal bio refinery: Eco-biotechnological production of biodiesel and PHA using denim washing industry wastewater with integrated mathematical 5odelling study. Duration: 03 Years Total Outlay: ₹72,46,000/-	
3.19	857/2024/RE	Socio-economic issues of environment and Sustainable Development	Dr. Selvan P, Mepco Schlenk Engineering College (Autonomous), Sivakasi	Optimized Passive condenser-cooled solar desalinator equipped with nano PCM amalgam and Solar Photovoltaic system. Duration: 03 Years Total Outlay: ₹31,24,320/-	
3.20	539/2023/RE	Pollution Prevention – Clean Technologies and Processes, Cleaner Production, 3Rs, Resource Efficiency, Waste Minimisation and Management, etc	Dr. R Mohana, Mepco Schlenk Engineering College, Sivakasi.	Automated Sustainable Lifecycle Assessment system to promote the developed cementless eco- friendly precast panels. Duration: 02 Years Total Outlay: ₹24,19,310/-	

3.21	792/2024/RE	Sustainable	Dr. Santosh	Molecular characterization	
		Management of Natural Resources	upadhyay, Kumaun	of the fungal microbiome of rare Himalayan lichens and	
		140101011100001005	University Nainital	development of repository	
			,	of culturable 'lichen-	
				associated microfungi' for	
				conservation and	
2.00	070/0004/DE	Dellution	Dr. Kannan C	bioprospecting applications	
3.22	872/2024/RE	Pollution Prevention – Clean	Dr. Kannan G, Mepco Schlenk	Sustainable Slope Stabilization Using	
		Technologies and	Engineering	Geogrids Made from Pet	
		Processes,	College, Sivakasi.	Bottle Waste by Low-	
		Cleaner		Emission Method	
		Production, 3Rs,			
		Resource			
		Efficiency, Waste			
		Minimisation and Management, etc			
3.23	877/2024/RE	Climate Change:	Dr. N. Rajendra	Assessing Genomic	
		Vulnerability & Risk	Prasad,	Damage from	
		Assessment,	Annamalai	Environmental Radioactivity	
		Process, Mitigation	University,	in the Populations of	
		and Adaptation	Annamalai Nagar	Kanyakumari District: Harnessing Deinococcus	
				Harnessing Deinococcus radiodurans for	
				Bioremediation	
3.24	847/2024/RE	Pollution	Dr. Jyoti Mittal,	Ordered Mesoporous	
		Prevention – Clean	Maulana Azad	Adsorbent Materials of	
		Technologies and	National Institute	Carbon and Silicon for the	
		Processes, Cleaner	of Technology, Bhopal	Removal and Recovery of Toxic Dyes	
		Production, 3Rs,	2.10041	. 5.40 5 7 50	
		Resource			
		Efficiency, Waste			
		Minimisation and			
2.25	070/2024/DE	Management, etc	Mo Chivoni	Dovolonment of a Decision	
3.25	878/2024/RE	Pollution Prevention – Clean	Ms. Shivani Sharma, The	Development of a Decision Support System (DSS) for	
		Technologies and	Energy and	Air Quality Management in	
		Processes,	Resources	Indian States.	
		Cleaner	Institute (TERI),		
		Production, 3Rs,	Delhi		
		Resource			
		Efficiency, Waste Minimisation and			
		Management, etc			
3.26	678/2024/RE	Pollution	Prof. Manoj	Technology Development	
		Prevention – Clean	Kumar Ghosal,	for Conversion of Tender	
		Technologies and	Socio Cultural	Coconut Waste to Biocoal	
		Processes,	Development	as an Energy Rich and	
		Cleaner Production, 3Rs,	Centre, Odisha	Smokeless Cooking Fuel for Rural Applications in Puri	
		Resource		District of Odisha.	
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		Minimisation and Management, etc			
3.27	866/2024/RE	Biodiversity Conservation including Issues of Alien and invasive species and Human-wildlife Interface	Mr. Pradeep B., Rubber Research Institute of India (RRII), Kerala	Mapping buffer zones of human-wildlife conflict in the fringes of forests in the Western Ghats in Kerala, Tamil Nadu and Karnataka due to the expansion of plantation crops using geospatial technology	
3.28	844/2024/RE	Pollution Prevention – Clean Technologies and Processes, Cleaner Production, 3Rs, Resource Efficiency, Waste Minimisation and Management, etc	Dr. Meenakshi Sharma, University of Delhi, Delhi	ZnO nanorods-microalgae- based Yamuna wastewater treatment and beneficiation to the energy content of microalgae biomass for enhanced biofuel conversions.	

3.2 Project in which PI could not attended the earlier meeting of the TFAC. (12 cases)

S. No	Registration Number	Name of PI and Address	Title of Project, Duration and Total Outlay	Page No.
3.2.1	697/2024/RE	Dr. V.P. Uniyal, Graphic Era University, Dehradun	Impact of Forest Fires on Biological diversity of the Mandakini Catchment Area, Rudraprayag: A Multi-Taxa Approach	
			Duration: 03 Years	
			Total Outlay: ₹72,29,820/-	
3.2.2	719/2024/RE	Prof. Ram Krishan Negi,	Unlocking Genetic Diversity:Molecular	
		University of Delhi, Delhi.	Taxonomy of Freshwater Fish species in the Satluj River, H.P.	
			Duration: 03 Years	
			Total Outlay: ₹65,06,224/-	
3.2.3	737/2024/RE	Dr. Atanu Naskar, ZSI Kolkata	Integrative taxonomy and phylogeny of non-biting midges (Diptera: Chironomidae) from Western Ghats with an emphasis on their ecological and molecular aspects.	
			Duration: 03 Years	
	700/0004/75	D	Total Outlay: ₹62,70,000/-	
3.2.4	733/2024/RE	Dr. Vedpriya Arya, Patanjali Research Foundation Trust, Haridwar.	Bioprospecting of Endophytic fungi from Invaluable medicinal plants distributed in different agro-climatic zones of Uttarakhand, India. Duration: 02 Years	
			Total Outlay: ₹ 2,00,02,496/-	
3.2.5	690/2024/RE	Dr. Neetu Divya, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar.	Design and Development of Perovskite Solar Cells (PSCs) by utilizing Quantum Dots Materials.	
			Duration: 03Years	
			Total Outlay: ₹ 98,65,000/-	
3.2.6	775/2024/RE	Dr. Raj Kumar, ICAR- Central Soil Salinity Research Institute, Kach.	Developing high-value tree-based plantation systems for economic and ecological security in sodic water environments. Duration: 03 Years	
			Total Outlay: ₹ 47,04,240/-	
3.2.7	750/2024/RE	Mrs. Minati Bindhani, General Secretary, Women and Child	Lecture and Demonstration Programme on "Biodiversity Conservation in the Face of Climate Change	

		Welfare Society, Gamhandia New Colony, Buxibazar, Cuttack		
3.2.8	759/2024/RE	Dr. Ningappa Changond Hiragond, Assoc. Prof., Zoology, Yashwantrao Chavan Mahavidyalaya Halkarni, Kolhapur.	An assessment of avifauna diversity, their migration and conservation status in Yadahalli Chinkara Wildlife Sanctuary, Bagalkot: Karnataka. Duration: 02 Years	
			Total Outlay: ₹ 27,30,901.14/-	
3.2.9	758/2024/RE	Prof. Vartika Mathur, Sri Venkateswara College, University of Delhi, Delhi.	Navigating the Lantana Conundrum: Invasion to restoration through soil dynamics and native grass interactions.	
			Duration: 03 Years	
			Total Outlay: ₹ 1,88,43,006/-	
3.2.10	578/2023/RE	Dr. H.K. Ramaraju,Prof., Civil Engg Deptt., Dayananda Sagar College of Engineering, Shavigemalleshwara Hills, Kumaraswamy	Pre-processing 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.	
		Layout, Bangalore- 560111.	Duration: 03 Years	
3.2.11	590/2023/RE	Dr. Bhanu Prakash Vellanki, Department of Civil Engineering, IIT, Roorkee-247667.	Total Outlay: ₹ 30,35,000/- Development of novel biodegradable multifunctional mulching film for sustainable and environmentally friendly agriculture practices.	
			Duration: 03 Years	
			Total Outlay: ₹ 32,94,000/-	
3.2.12	337/2020/RE	Dr. Angayarkanni J,Department of Microbial Biotechnology, Bharathiar University,	Plausible role of Bacteriophages present in the High Altitude Himalayan River waters.	
		Coimbatore	Duration: 02 Years	
			Total Outlay: ₹ 83,49,000/-	

3.3 Consideration of project proposals which were referred to experts for their comments: (06 cases)

S.No.	Project ID and Title	PI Institution
3.3.1	19-4/2023-RE "Remote Sensing and GIS based Ecosystem Services Valuation of Agro forestry Systems Prevailing in Punjab – A case study."	Dr. Dikesh Chandra Loshali, Punjab Remote Sensing Centre, Ludhiana
3.3.2	19-6/2023-RE "Development of microwave irradiated rice straw for animal feeding to combat straw burning issue and increase productivity."	Dr. Rajesh Kumar, LalaLajpatRai University ofVeterinary and Animal Sciences, Hisar.
3.3.3	19-7/2023-RE "Studies on Ecology, phytosociology, reproductive biology and Conservation action for threatened ten iconic endemic trees in south Western Ghats, Kerala."	Dr. Jose Mathew Sanatana Dharma College, Sanatanapuram 688003
3.3.4	19-9/2023-RE "Creation of road accidents (high severity) social cost model for Madurai city."	Mrs.Bharathi S. Sethu, Institute of Technology, Kariapatti.
3.3.5	713/2024/RE " 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"	Dr. Somnath Saha, Adviser, Community for Social Work, 84 Rabindra Pally, Shyamnaga, Rabindrapally West Bengal.
3.3.6	618/2023/RE "Biodiversity characterization and development of biodiversity conservation plan for unexplored sohagi barwa and suhelwa wildlife sanctuaries of Uttar Pradesh"	Prof. Jamal A Khan, Deptt. of Wildlife Sciences, AMU, Aligarh

3.4 Project proposals which were returned by the Steering Committee due to 03 year duration of the project (12):

S.No.	Registration Number	Thematic Area	Name of PI and Address	Title of Project, Duration and Total Outlay	Page No.
1.	555/2023/RE	Ecosystems Conservation & Management (Mountain, Forest, Coastal, Wetlands, Pastoral, etc) and Evaluation of Ecosystem Services	Prof. Sumit Sen, Department of Hydrology, IIT Roorkee	Forest Ecosystem Assessment in the Western Himalayan Region: Integrated Approach for Sustainable Conservation and Management of Ecosystem Services. Duration: 03 Years Total Outlay: ₹2,00,77,030/-	
2.	637/2024/RE	Ecosystems Conservation & Management (Mountain, Forest, Coastal, Wetlands, Pastoral, etc) and Evaluation of Ecosystem Services	Associate Director, Amity Institute of Forestry and	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. Duration: 03 Years Total Outlay: ₹ 69,39,440/-	
3.	586/2023/RE	Sustainable Management of Natural Resources	Prof. Brijesh Kumar Yadav, Department of Hydrology, IIT Roorkee,	Comprehensive Assessment of Co-Transport of	
4.	276/2020/RE	Sustainable Management of Natural Resources	Dr. Binu N. Kamalolbhavan, 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	

5.	668/2024/RE	Sustainable Management of Natural Resources	Prof. Archana Tiwari, Professor, Amity University, Noida, Uttar Pradesh	Potential of periphytic diatoms in the uptake of nutrients in eutrophic environments, and their subsequent applications as slow-release biofertilizer for sustainable environment Duration: 03 Years	
				Total Outlay: ₹68,85,472/-	
6.	410/2023/RE	Taxonomy	Dr. Vikas Kumar, Zoological Survey of India M Block, New Alipore, Kolkata	Molecular Taxonomy and Phylogeny of Terebrantia (Thysanoptera: Insecta) from India Duration: 3 Years	
				Total Outlay: ₹57,98,280/-	
7.	70/2021/RE	Pollution Prevention - Clean Technologies and Processes, Cleaner Production, 3Rs, Resource Efficiency,	Prof. A. Geetha Bhavani, Department of Chemistry, Noida International	Converting waste cooking oil to Biodiesel Using Green Catalyst and Catalyst Regeneration Studies, Duration: 3 Years	
		Waste Minimisation and Management, etc	University, Noida	Total Outlay: ₹63,32,089/-	
8.	557/2023/RE	Pollution Prevention - Clean Technologies and Processes, Cleaner Production, 3Rs, Resource Efficiency, Waste Minimisation and Management, etc	Dr. Nitin Kumar Khandelwal, Department of Hydrology, IIT, Roorkee,	Devising eco-friendly redox- active nano composites micro reactors with enhanced contaminant selectivity for continuous water purification Duration: 3 Years Total Outlay: ₹25,76,000/-	
9.	364/2023/RE	Climate Change: Vulnerability & Risk Assessment, Process, Mitigation and Adaptation	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 Duration: 3 Years Total Outlay: ₹54,66,000/-	
10.	559/2023/RE	Biodiversity Conservation including Issues of Alien and invasive species and Human- wildlife Interface	Dr.Ashish Kumar, ICAR-National Institute for Plant Biotechnology,	Exploration, conservation and characterization of wild Brassica species for the development of genetic and genomic resources to uncover climate-resilient	

			Lab No 12, LBS Building, Pusa Campus, New Delhi	traits through integrated approaches Duration: 3 Years
				Total Outlay: ₹57,74,624/-
11.	595/2023/RE	Biodiversity Conservation including Issues of Alien and invasive species and Human- wildlife Interface		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
12.	625/2023/RE	Biodiversity Conservation including Issues of Alien and invasive species and Human- wildlife Interface		Airborne Microbial- contaminants in Delhi Slum Settlements: Isolation, Characterization, and Human Health Assessment. Duration: 03 Years Total Outlay: ₹49,72,800/-
