Summary records of the 3rd meeting of the reconstituted Technical-cum-Financial Appraisal Committee (TFAC) on Environmental Research and Development Programme (ERDP) held on 18th -19th March, 2024 under the Chairmanship of Dr. Rup Lal, Prof., (Retired), Acharya Narendra Dev College, University of Delhi, New Delhi.

The 3rd meeting of the reconstituted TFAC on ERDP was organized as per the schedule. Member-Secretary, TFAC has welcomed all the participants and briefed that there are 34 new research proposals and 8 revised proposals would be considered by the TFAC. In addition, he has also informed that there are two requests for no cost extension of the project tenure.

List of participants is Anne

Agenda Item No. 1.0.

The Chairman welcomed the participants to the meeting and requested MS, TFAC to initiate the discussions on the Agenda Items.

Agenda Item No. 2.0.

2.1: Confirmation of Minutes of 2nd TFAC meeting held on 4th-5th January, 2024.

The TFAC was informed that the minutes of the 2nd meeting of the Technical-cum-Financial Appraisal Committee held on held on 4th-5th January, 2024 were circulated to all the Members for their view /comments. No comments have been received from them on the Minutes.

Decision Taken: After detailed discussion, the TFAC decided to confirm the minutes of its 2nd meeting held on held on 4th-5th January, 2024.

Agenda Item No. 3.0. New project proposals received through online on the MIS Portal.

3.1.	**New project proposals received through online mode.**
3.1.1	668/2024/RE- Potential of periphytic diatoms in the uptake of nutrients in eutrophic environments, and their subsequent applications as slow-release bio-fertilizer for sustainable environment. Prof. Archana Tiwari, Professor, Amity Institute of Biotechnology, Amity University, House No. H-2203, Sector -120, Noida (U.P) **Recommendations:** The PI presented the proposal before the TFAC in detail. The TFAC has suggested that physcio-chemical parameters may also be studied and objective number 3 and 4 may be merged together. The budget may be revised accordingly. After incorporation of the said modifications, the revised proposal may be submitted to this Ministry. The Chairman, TFAC has been authorized by the Committee to take final decision on the revised proposal.
3.1.2	648/2024/RE -Taxonomy, Distribution and Species Diversity of Cynoglossids in Indian Waters. Dr. Rekha J. Nair, Principal Scientist, ICAR CMFRI, Ernakulam North PO, Kochi 682018

	Recommendations: The proposal has been presented by the PI before the TFAC. The Committee has observed that the objectives as well as the methodologies of the proposed research work are not focused. The PI is also not clear about the DNA work and there is also no new technology to be used. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.1.3	663/2024/RE -Evaluating the Biodegradation Potential of Indigenous Bacteria from Okhla Landfill Site: Toward Sustainable Plastic Waste Management. Dr. Jasvinder Kaur, Asstt. Prof., Deptt of Zoology, Gargi College, University of Delhi, Delhi. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed study is focused and the PI has already carried out the preliminary work on which the study was based. The proposed study involves a three-part approach. Firstly, in the field component, the focus is on gathering soil samples from the landfill site. Subsequently, in the lab component, these collected samples will undergo processing and testing. Following the initial screening and testing, the desk component will be initiated. During this phase, specific bacteria with the ability to degrade plastic waste will be identified, sequenced, and, in the case of new species, taxonomically characterized. The Committee observed that a lot of work has already been carried out in the area. After detailed discussions, the Committee defer the proposal.
3.1.4	654/2024/RE- 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. Prof. Seema Makhiaja, Ciliate Biology Laboratory, Department of Zoology, Acharya Narendra Dev College, University of Delhi, Govindpuri, Kalkaji. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee observed that a lot of work has already been carried out in the area of collecting data on the assessment and biomonitoring of Heavy Metals of River Yamuna. The Committee has suggested to refer the proposal to the following experts for their views: i. Member Secretary, CPCB; and ii. Executive Director (Projects), NMCG. The proposal along-with the comments of the experts may be place before the TFAC in its next meeting.
3.1.5	636/2024/RE- Bioprospecting and ecological survey of Chilika Lake metagenome for identification of new biocatalyst for industrial application. Dr. Vishakha Raina, School of Biotechnology, KIIT Deemed to be University, Patia, Bhubaneswar. **Recommendations:** The PI presented the proposal before the TFAC in detailed. The Committee observed that the proposal is good and well formulated. Objectives are clear and the methodology is also appropriate. After detailed deliberations, the Committee recommend the proposal for funding for a period of two years with the followings budgetary details:

	- JRF-2, - Equipment - ₹15.00 lakh (Details of the equipment's are required from the PI) - Consumable- ₹15.00 lakh @₹7.5 lakh per year - Travel-₹4.0 lakh @₹2.0 lakh per year - Any Other -₹2.0 lakh @₹1.0 lakh per year - Contingency (5%) and Institutional Charges (15%) of the total cost (As per the norms/rules of the Ministry). 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.
3.1.6	634/2024/RE- Ecological Evaluation of Pulicat lagoon using meiobenthic fauna and pelagic copepods as pollution indicators applying Geographical Information System. Dr. K. Sivakumar, Karpaga Vinayaga College of Engineering and Technology, GST Road, Padalam, Madhuranthagam, Chengalpattu. **Recommendations:** The PI presented the proposal before the TFAC in detail. The Committee suggest the PI to revise the proposal with the following formulations: - To include entire Pulicat lake in Tamil Nadu and Andhra Pradesh; and - Collect and analyse the samples from all ecological zones of the lagoon. - The PI may consult with the expertise which is available with Deptt of Marine Science, Bharathidasan University, Tiruchirapalli for technical guidance. - To revise the budget with one JRF and one Project Assistant only. Along-with the above observations, the proposal may be revised and the same be placed before the TFAC in its next meeting for consideration.
3.1.7	609/2023/RE- Functional role of termites and microbes in wood degradation and carbon recycling in different forests and climatic gradients of India. Dr. Kalleshwara Swamy CM, Department of Entomology, College of Agriculture, Navile, Shimoga-577204. **Recommendations:** The PI presented the proposal before the TFAC in detail. The Committee suggest the PI to revise the proposal with the following formulations: - To study wood degradation only in different forest types of Karnataka; - The study should also include Gut microbiome; and - Budget need to be reworked, accordingly. After incorporation of the said modifications, the revised proposal may be submitted to this Ministry. The Chairman, TFAC has been authorized by the Committee to take final decision on the revised proposal.
3.1.8	456/2023/RE- Assessment and Susceptibility Study of Forest Fires by Integrating Remote Sensing and Statistical Modelling. Prof. Sunil R. Patil, Institute of Science, Civil Line, RT Road, Nagpur. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed study is of routine nature and there is no novelty in the study. The Committee has also observed that the information is already available with the Forest Survey of India (FSI). After detailed discussions,

	the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.1.9	625/2023/RE- Airborne Microbial-contaminants in Delhi Slum Settlements: Isolation, Characterization, and Human Health Assessment. Dr. Rajeev Singh, Assoc. Prof., Jamia Millia Islamia, New Delhi. **Recommendations:** The PI presented the proposal before the TFAC in detail. The Committee suggest the PI to reframe the proposed study with the following modifications: - To consult the Department of Population Studies; - Sample size and sampling strategy may be revisited/included; and - Permission from the Ethical Committee may be obtained. After incorporation of the said modifications, the revised proposal may be submitted to this Ministry. The Chairman, TFAC has been authorized by the Committee to take final decision on the revised proposal.
3.1.10	676/2024/RE- Identify target finfish Mullet species for health assessments based on their ecological significance, commercial importance to certain health threats. Dr. Balaraman Deivasigamani, CAS in Marine Biology Annamalai University Parangipettai. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed study is of routine nature and there is no novelty in the study. The Committee has also observed that there is no agreement with the objectives and methodologies given. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.1.11	669/2024/RE- 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. Dr. Vinod Kumar Yadav, Fisheries Economics, Extension and Statistics Division, ICAR-Central Institute of Fisheries Education, Mumbai. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed study is of routine nature and there is no novelty in the study. The Committee has also observed that there is no correlation with the objectives and the methodologies. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.1.12	680/2024/RE- A Novel Nano-technological 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. Dr. S. Kalaiarasu, Department of Microbiology, Faculty of Agriculture, Annamalai University, Annamalainagar, Cuddalore.

	Recommendations: The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed study is of routine nature and there is no science component involved. The Committee has also observed that the objectives as well as the methodologies of the proposed research work are not focused and the PI is also not having expertise in the relevant field. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.1.13	689/2024/RE- Metal-free Nano-carbon Catalysts for SOx-free Environment via Synergistic Adsorptive-Oxidative Desulfurization of Liquid Fuels. Dr. Antony, Asstt. Prof., Deptt of Chemistry, Mepco Schlenk Engineering College, (autonomous), Sivakasi. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed study is of routine nature and there is no novelty in the study. The Committee has also observed that there is no correlation with the objectives and the methodology. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.1.14	701/2024/RE- Novel technique for processing of biowaste by using Black Solider Fly Hermetiaillucens (Diptera: stratiomyidae) Larvae and production of high content protein. Dr Madhu Bala, Asstt. Prof., Deptt of Zoology and Environment Sciences, Punjabi University, Patiala. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed study is of routine nature and there is no novelty in the study. The Committee has also observed that there is no correlation with the objectives and the methodology. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.1.15	696/2024/RE- Assessment of Global Environmental changes in selected river basins of Western Ghats and Island Territories. Dr. K. Anoop Krishnan, Biogeochemistry Group, National Centre for Earth Science Studies, Ministry of Earth Sciences (MoES), GoI, Akkulam, Trivandrum. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed objectives are vast and not possible to achieve within the time period of the project. The proposed study is of routine nature and there is no novelty in the study. The Committee has also observed that there is no correlation with the objectives and the methodology. The proposed budget is also very high. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.1.16	707/2024/RE- Carbon assessment and mapping of seagrass and saltmarsh grass from coastal Odisha as mitigative measures to climate change. Dr. Kakoli Banerjee, Asstt. Prof., Biodiversity and Conservation of Natural Resources, Central University of Odisha, PO. NAD, Sunabeda.

	Recommendations: The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed study is not framed as per the guidelines of the Ministry. The proposed study is of routine nature and there is no novelty in the study. The proposed budget is also very high and proposed for two different Institutions. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.1.17	657/2024/RE- Cultivation, Molecular Taxonomy, and Ecological Genomics of Novel "Uncultured" Prokaryotic Lineages of Brackish-associated Pokkali Rice. Dr. N. Ramesh Kumar, CSIR-National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram -695019. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed objectives are scattered and not focused. The Methodology proposed is also not appropriate. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.1.18	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. **Recommendations:** The PI presented the proposal before the TFAC in detail. The TFAC has suggest to refer the proposal to the following experts for their comments: - Head, Soil Science & Agricultural Chemistry, IARI, New Delhi - Director, CSSRI, Karnal - Head, Deptt of Ag. Sciences, PAU, Ludhiana - Director, Directorate of Research, CCS HAU, Hisar. The proposal along-with the comments of the experts, may be place before the TFAC in its next meeting.
3.1.19	721/2024/RE- Deciphering the pathogenicity and antibiotic determinants in water and sediment samples at major drain confluence spots in Yamuna River in Delhi. Dr. Utkarsh Sood, Kirori Mal College, University of Delhi, Delhi. **Recommendations:** The PI presented the proposal before the TFAC in detail. The TFAC has suggest to refer the proposal to the following experts for their comments: - Member Secretary, CPCB; and - Member Secretary, DPCC. The proposal along-with the comments of the experts, may be place before the TFAC in its next meeting.
3.2	**Proposals received after initial scrutiny**

3.2.1	637/2024/RE- 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. Dr. Randeep Singh, Assoc. Prof., Amity Institute of Forestry and Wildlife, Amity University, Noida (U.P). **Recommendations:** The PI presented the proposal before the TFAC in detail. The Committee observed that the proposal is sound and well written. The Committee suggested that the proposed objectives may be reduced 3 to 4 and accordingly methodology and the budget may be revised. 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.
3.2.2	586/2023/RE- Comprehensive Assessment of Co-Transport of Micro-plastics and Heavy Metals during Groundwater-Surface water Interactions. Prof. Brijesh Kumar Yadav, Department of Hydrology, IIT Roorkee. **Recommendations:** The PI presented the proposal before the TFAC in detail. The Committee observed that the proposal is good and well written. Objectives are clear and the methodology is appropriate. After detailed deliberations, the Committee recommend the proposal for funding for a period of three years with the followings budgetary provisions: - RA.I-1; - Equipment - ₹15.00 lakh (Complete set-up of zetasize analyser other sampling, and modelling instruments /accessories); - Consumable- ₹5.00 lakh @₹2.0, 2.0 and 1.0 lakh per year; - Travel-₹3.0 lakh @₹1.0 lakh each year; - Contingency (5%) and Institutional Charges (15%) of the total cost (As per the norms/rules of the Ministry). 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.
3.2.3	591/2023/RE- Assessing NOx emission from Brick Kilns using combination of satellite remote sensing and UAV based pollution sampling. Prof. Prakhar Misra, Department of Civil Engineering, IIT Roorkee. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed study is not scientifically sound. The objectives are not clear and the methodology proposed is not appropriate. Further, the proposal is silent about the Co-PI and the budget is also very high. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.2.4	612/2023/RE- Investigation of Pilot Plant Scale Removal of Bisphenol A in Real Industrial Effluents by Catalytic Wet Air Oxidation over Mesoporous CeO2 Supported Ru Catalyst in a Continuous Flow Fixed Bed Reactor.

	Dr. Shyamal Roy, Chemical Engineering Department, Jadavpur University, 188 Raja S.C. Mallick Road, Kolkata. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed study is not scientifically sound. The objectives are scattered, not clear and the corresponding methodologies proposed are not appropriate. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.2.5	578/2023/RE- 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. Dr. H. K. Ramaraju, Dayananda Sagar College of Engineering, Shavigemalleshwara Hills, Kumaraswamy Layout, Bangalore-560111. **Recommendations:** Dr. H. K. Ramaraju, the PI could not attend the meeting. The Committee advised the PI to present his proposal before the TFAC in its next meeting.
3.2.6	519/2023/RE- Monitoring and Mapping of Microplastics in the lakes of Chennai, India. Dr. Gisha Sivan, Division of Medical Research Faculty of Medical and Health Sciences SRMIST, Kattankalathur. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed study is not scientifically sound. The objectives are too many and not clear and the corresponding methodology is not focused. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.2.7	601/2023/RE- Waste Reutilization for Liquefaction Mitigation. Dr. Ramanathan Ayothiraman, Room No 319, Block-V, Department of Civil Engineering, Indian Institute of Technology, Delhi. **Recommendations:** Dr. Ramanathan Ayothiraman, the PI could not attend the meeting. The Committee advised the PI to present his proposal before the TFAC in its next meeting.
3.2.8	419/2023/RE- Feasibility assessment of bioelectricity generation and optimization of substrate in coupled constructed wetlands for wastewater treatment. Dr. Kapil Kumar, Asstt. Prof., Civil Engg, National Institute of Technology, Delhi. **Recommendations:** The PI presented the proposal before the TFAC in detail. The Committee observed that the proposal is good and well written. Objectives are clear and the methodology is appropriate. The Committee recommended the proposed study subject to involvement of Co-PI for a period of two years with the following budgetary provisions: - RA.III-1 and JRF-1; - Permanent Equipment -₹15.00 lakh (Ion- Exchange Chromatography System- and pH and TDS analyser) - Consumables-₹3.0 lakh @₹2.0 and 1.0 lakh per year;

	- Travel-₹3.0 lakh @₹2.0 and 1.0 lakh per year; - Any Other-₹1.5 lakh for 2 years; - Contingency (5%) and Institutional Charges (15%) of the total cost (As per the norms/rules of the Ministry). 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.
3.2.9	600/2023/RE- Integrated Ecological Profiling and Isolation of Thermozymes from High-Altitude Hot Springs in District Kinnaur, Himachal Pradesh, India: A Culturable and Unculturable Approach with SeqCode Taxonomy. Dr. Pushp Lata, Lab No. 112, Department of Zoology, University of Delhi, Delhi. **Recommendations:** The PI presented the proposal before the TFAC in detail. The Committee observed that the proposal is good and well written. Objectives are clear and the methodology is also focused. The Committee recommended the proposed study subject to involvement of Co-PI for a period of two years with the following budgetary provisions - Permanent Equipment -₹21.00 lakh (High-performance workstation/server 2X Intel Xeon Platinum processor with 48 cores 256 GB RAM 3TB SSD Monitor and other peripheral accessories, Laminar Class II Type A2, Incubator Orbital Shaker and Laboratory Balance with least count 0.01mg) - Consumables-₹12.0 lakh @₹7.0 and 5.0 lakh per year; - Travel-₹1.20 lakh @₹0.6 lakh per year; - Contingency (5%) and Institutional Charges (15%) of the total cost (As per the norms/rules of the Ministry). 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.
3.2.10	644/2024/RE- Novel dyes synthesized from pet waste and their applications in industry. Prof. Rakesh Kumar Soni, Professor, Chemistry, Chaudhary Charan Singh University, Meerut. **Recommendations:** The PI presented the proposal before the TFAC in detail~~ed~~. The Committee observed that the proposal is good and well written. Objectives are clear and the methodology is appropriate. The Committee initially recommended the proposed study subject to involvement of a Co-PI for a period of one year only on pilot scale. Further extension would be considered on evaluation of one year's progress. Samples collected may be analysed from the nearby Institution i.e. IIT, Roorkee etc. Break-up of the budgetary provision for one year's duration is as under: - JRF-1, - Consumable ₹10.00 lakh - Travel ₹1.00 lakh - Contingency (5%) and Institutional Charges (15%) of the total cost. 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.

3.3	**Proposals in which the PI could not attend previous meeting.**
3.3.1	337/2020/RE- Plausible role of Bacteriophages present in the High Altitude Himalayan River waters. Dr. Angayarkanni J, Department of Microbial Biotechnology, Bharathiar University, Coimbatore. **Recommendations:** Dr. Angayarkanni J, the PI could not attend the meeting. The Committee advised the PI to present his proposal before the TFAC in its next meeting.
3.3.2	201/2020/RE- Green Production of Nano-Concrete from Fly Ash and Construction Waste: Experimental studies, modelling through Artificial Intelligence and in-situ application. Dr. Jagannath Roy, Satya Apartment Flat 5E 30 by 5 Jessore Road South Dakshinpara Barasat North 24 Paraganas. Kolkata-700124. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed study is not scientifically sound. The objectives are too many and also not clear and the corresponding methodology is not focused. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.3.3	364/2023/RE- Climate change adaptation model for water management and cropping practices in agro-climatic zone in the state of Gujarat. Dr. Geeta S. Joshi, Civil Engg. Dept., Faculty of Technology (The Maharaja Sayajorao University of Baroda), Rajmahal Road, Vadodara. **Recommendations:** The PI presented the proposal before the TFAC in detail. The Committee observed that the objectives are clear and the methodology is appropriate. The Committee recommended the proposal subject to involvement of a suitable/competent Co-PI and without equipment (as table and cupboard are not covered) for a period of three years with the following budgetary provisions: - JRF-1 and Project Asstt-1@₹20,000/month; - Consumables-₹1.0 lakh @₹0.50 lakh for each year; - Travel- ₹3.0 lakh @₹1.50 lakh for two years only; - Any Other-₹3.0 lakh @₹1.0 lakh per year; - Contingency (5%) and Institutional Charges (15%) of the total cost (As per the norms/rules of the Ministry). 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.
3.3.4	590/2023/RE- Development of novel biodegradable multifunctional mulching film for sustainable and environmentally friendly agriculture practices. Dr. Bhanu Prakash Vellanki, Department of Civil Engineering, IIT, Roorkee-247667. **Recommendations:** Dr. Bhanu Prakash Vellanki, the PI could not attend the meeting. The Committee advised the PI to present his proposal before the TFAC in its next meeting.

3.3.5	307/2020/RE- Restoration of the Upper Reaches of River Teirei under the Dampa Tiger Reserve/Sanctuary using Bio Systems Engineering. Dr. R. Zonunsanga, Assistant Professor, UGC Human Resource Development Centre, T 55, Mizoram University Campus, Tanhril, Aizawl. **Recommendations:** The proposal has been presented by the PI before the TFAC. The Committee has observed that the proposed study is not scientifically sound. The objectives are too many and not clear/focused and the corresponding methodology is not appropriate. After detailed discussions, the Committee **did not recommend** the project proposal for financial support from the Ministry.
3.4	**Revised proposals which are recommended by TFAC in its earlier meetings.**
3.4.1	70/2021/RE-Converting waste cooking oil to Biodiesel Using Green Catalyst and Catalyst Regeneration Studies. Prof. A. Geetha Bhavani, H. No D-1501, SDS NRI Residency, Sector Omega II, Greater Noida, U.P. **Details of the proposal:** The PI has presented the proposal before the TFAC in detail. 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/modifications of the project proposal. The Committee authorized the Chairman, TFAC to take final decision on the revised / modified project proposal. **Recommendations:** As per recommendations of the TFAC, the PI has been advised to revise the proposal as per suggestions of the TFAC. The PI has submitted the revised proposal accordingly. The revised proposal has been referred to the Chairman with a request to take final decision. The Chairman, TFAC has **recommended the proposal for funding** as per norms/rules of the Ministry and the same has also been accepted by the TFAC in its 3rd meeting.
3.4.2	559/2023/RE -Exploration, conservation and characterization of wild Brassica species for the development of genetic and genomic resources to uncover climate-resilient traits through integrated approaches. Dr. Ashish Kumar, ICAR-National Institute for Plant Biotechnology, Lab No.- 12, LBS Building, Pusa Campus, New Delhi-110 012. **Details of the proposal:** The PI has presented the proposal before the TFAC in detail. 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.

	Recommendations: As per recommendations of the TFAC, the PI has been advised to revise the proposal as per suggestions of the TFAC. The PI has submitted the revised proposal accordingly. The revised proposal has been referred to the Chairman with a request to take final decision. The Chairman, TFAC has **recommended the proposal for funding** as per norms/rules of the Ministry and the same has also been accepted by the TFAC in its 3rd meeting.
3.4.3	557/2023/RE- Devising eco-friendly redox-active Nano-composites micro reactors with enhanced contaminant selectivity for continuous water purification. Dr. Nitin Kumar Khandelwal, Department of Hydrology, Indian Institute of Technology, Roorkee-247667. **Details of the proposal:** 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 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. **Recommendations:** As per recommendations of the TFAC, the PI has been advised to revise the proposal as per suggestions of the TFAC. The PI has submitted the revised proposal accordingly. The revised proposal has been referred to the Chairman with a request to take final decision. The Chairman, TFAC has **recommended the proposal for funding** as per norms/rules of the Ministry and the same has also been accepted by the TFAC in its 3rd meeting.
3.4.4	276/2020/RE -Natural distribution, ecological niche modelling, selection of CPTs, its evaluation and nursery production of sandal (Santalum album Linn.) Dr. Binu N. Kamalolbhavan, Assistant Prof. Dept. of Forest Biology and Tree Improvement College of Forestry Kerala Agricultural University KAU PO. **Details of the Proposal:** 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 bio-technologist 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. **Recommendations:** As per recommendations of the TFAC, the PI has been advised to revise the proposal as per suggestions of the TFAC. The PI has submitted the revised proposal accordingly. The revised proposal has been referred to the Chairman with a request to take final decision. The Chairman, TFAC has **recommended the proposal for funding** as per norms/rules of the Ministry and the same has also been accepted by the TFAC in its 3rd meeting.
3.4.5	**595/2023/RE**-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.

	Dr. Annam Pavan Kumar, ICAR-Central Institute of Fisheries Education, Panch Marg, Yari Road, Versova, Andheri West, Mumbai. **Details pf the proposal:** 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. **Recommendations:** As per recommendations of the TFAC, the PI has been advised to revise the proposal as per suggestions of the TFAC. The PI has submitted the revised proposal accordingly. The revised proposal has been placed before the TFAC for further consideration. With due deliberation/discussions, the TFAC has **recommended the proposal for funding** as per norms/rules of the Ministry.
3.4.6	410/2023/RE- Molecular Taxonomy and Phylogeny of Terebrantia (Thysanoptera: Insecta) from India. Dr. Vikas Kumar, Zoological Survey of India M Block, New Alipore. **Details of the proposals:** 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 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. **Recommendations:** As per recommendations of the TFAC, the PI has been requested to revise the proposal as per suggestions of the TFAC. The PI has submitted the revised proposal accordingly. The revised proposal has been referred to the Chairman with a request to take final decision. The Chairman, TFAC has **recommended the proposal for funding** as per norms/rules of the Ministry and the same has also been accepted by the TFAC in its 3rd meeting.
3.4.7	594/2023/RE- Vehicular pollution (exhaust and road-wheel dust) reduction; on road charging of electric vehicles; and overall energy saving. Dr. Atul Babbar, Shree Guru Gobind Singh Tricentenary University, Gurugram. **Details of the Proposal:** 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. **Recommendations:** As per recommendations of the TFAC, the PI has been advised to revise the proposal as per suggestions of the TFAC. The PI has submitted the revised proposal accordingly. The revised proposal has been referred to the Chairman with a request to take final decision. The Chairman, TFAC has

	recommended the proposal for funding as per norms/rules of the Ministry and the same has also been accepted by the TFAC in its 3rd meeting.
3.4.8	555/2023/RE- Forest Ecosystem Assessment in the Western Himalayan Region: Integrated Approach for Sustainable Conservation and Management of Ecosystem Services. Prof. Sumit Sen, IIT Roorkee. 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. **Recommendations:** As per recommendations of the TFAC, the PI has been advised to revise the proposal as per suggestions of the TFAC. The PI has submitted the revised proposal accordingly. The revised proposal has been referred to Dr. R. Vasudeva, Member, TFAC with a request to take final decision. Dr. R. Vasudeva has **recommended the proposal for funding** as per norms/rules of the Ministry and the same has also been accepted by the TFAC in its 3rd meeting.
4.0	**Request for 'No cost extension' of the project tenure.**
4.1	19-26/2018/RE- 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. Dr. Janmejay Sethy, Amity University, Gautam Budhh Nagar, Noida. **Project details:** This ongoing project was started on 28th May, 2020 for a period of 3 years with a total cost of ₹36,70,941/-. The tenure of the project will be completed on 27thMay, 2024. A total of ₹35,49,501/- (03 instalment) has been released so far out of approved project cost of ₹36,70,941/-. **Recommendations:** The PI has requested to the Ministry to extend the project tenure by one more year within the already approved outlay. The proposal has been placed before the TFAC and the Committee has agreed to extend the project tenure upto 31.03.2025 within the already approved outlay.
4.2	**19-48/2020/RE-**Understanding the Relationship Between Forest and Water in The Context of Changing Climate Variables of Narmada Catchment. Dr. Bhaskar Sinha, Indian Institute of Forest Management, Bhopal. **Project details:** This project was started on 17th March, 2022 for a period of 2 years with a total cost of ₹30,76,500/-. The tenure of the project will be completed on 16.03.2024. A total of ₹17,48,250/- (in 01 instalments) has been released so far out of approved project cost of ₹30,76,500/-.

	Recommendations: The PI has requested to the Ministry to extend the project tenure by 6 more months within the already approved outlay. The proposal has been placed before the TFAC and the Committee has agreed to extend the project tenure by six months i. e. upto 16.09.2024 within the already approved outlay.
5.0	**Any other item(s) with the permission of Chair.** As the decision already taken during the 2nd meeting, next TFAC meeting may be hold in Annamalai University, Annamalainagar.
The meeting ended with a vote of thanks to the Chair.	

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List of Participants

S. No.	Members/ Experts	Remarks
1.	Dr. Rup Lal	Chairman
2.	Dr. I. P. Pandey	Member
3.	Shri Sushil Gupta (Online)	Member
4.	Dr. R. Vasudeva (Online)	Member
5.	Prof. H. C. Nainwal	Member
6.	Dr. Yogesh Gokhaly (Online)	Member
7.	Dr. T. Ramanathan	Member
8.	Dr. K. A. Subramanian, ZSI	Special invitee
9.	Dr. Prashant Gargava, Director(S), MoEF&CC	Special invitee
10.	Dr. Rajendra Kumar, Deputy Director(S), MoEF&CC	Member-Secretary

S. No.	Name of PI and Address
1.	Prof. Archana Tiwari, Professor, Amity Institute of Biotechnology Amity University, House No. H 2203, Sector 120, Noida (U.P.).
2.	Dr. Rekha J Nair, Pr. Scientist, CMFRI, Ernakulam North PO, Kochi-682018.
3.	Dr. Rajneesh Singh, Ramanujan Fellow, IIT, Roorkee.
4.	Dr. Jasvinder Kaur, Assistant Professor, Department of Zoology, Gargi College, University of Delhi, Delhi.
5.	Prof. Seema Makhiaja, Ciliate Biology Laboratory, Department of Zoology, Acharya Narendra Dev College, University of Delhi, Govindpuri, Kalkaji.
6.	Dr. Vishakha Raina, School of Biotechnology, KIIT Deemed to be University, Patia, Bhubaneswar.
7.	Dr. K. Sivakumar, Karpaga Vinayaga College of Engineering and Technology, GST Road, Padalam, Madhuranthagam, Chengalpattu.
8.	Dr. Kalleshwara Swamy CM, Department of Entomology, College of Agriculture, Navile, Shimoga-577204.
9.	Prof. Sunil R. Patil, Institute of Science, Civil Line, RT Road, Nagpur.
10.	Dr. Rajeev Singh, Assoc. Prof., Jamia Millia Islamia, New Delhi.
11.	Dr. B. Deivasigamani, CASMB, Annamalai University, Parangipettai.
12.	Dr. S. Kalaiarasu, Department of Microbiology, Faculty of Agriculture, Annamalai University, Annamalai Nagar Cuddalore District, Tamil Nadu.
13.	Dr. Antony, Asstt. Prof., Deptt of Chemistry, Mepco Schlenk Engineering College, (Autonomous), Sivakasi.
14.	Dr. Madhu Bala, Asstt. Prof., Zoology and Environmental Sciences, Punjabi University, Patiala.
15.	Dr. K. Anoop Krishnan, Biogeochemistry Group, National Centre for Earth Science Studies, MoES, GoI, Akkulam, Trivandrum.
16.	Dr. Kakoli Banerjee, Central University of Odisha, PO. NAD, Sunabeda.
17.	Dr. N Ramesh Kumar, CSIR-National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram-695019.

18.	Ms. Neha Mittal, Research Scholar, CCSU, Meerut.
19.	Dr. Somnath Saha, Adviser, Community For Social Work, 84 Rabindra Pally , Shyamnaga, Rabindrapally, WB.
20.	Dr. Utkarsh Sood, Asstt Prof., Kirori Mal College, University of Delhi, Delhi.
21.	Dr. Randeep Singh, Assoc. Prof., Amity Institute of Forestry and Wildlife, Amity University, Noida (U.P.).
22.	Prof. Brijesh Kumar Yadav, Department of Hydrology, IIT Roorkee.
23.	Prof. Prakhar Misra, Civil Engineering Department, IIT Roorkee.
24.	Dr. Shyamal Roy, Chemical Engineering Department, Jadavpur University, 188 Raja S.C. Mallick Road, Kolkata.
25.	Dr Gisha Sivan, Division of Medical Research, Faculty of Medical and Health Sciences, SRMIST, Kattankalathur.
26.	Dr. Kapil Kumar, Asstt. Prof., National Institute of Technology, Delhi.
27.	Dr. Pushp Lata, Asstt. Prof., Lab No. 112 Department of Zoology, University of Delhi, Delhi.
28.	Prof. Rakesh Kumar Soni, Professor, Deptt of Chemistry, Chaudhary Charan Singh University, Meerut.
29.	Dr. Jagannath Roy, Satya Apartment Flat 5E 30 by 5 Jessore Road South Dakshinpara Barasat North 24 Paraganas-700124.
30.	Dr. Geeta S. Joshi, Civil Engg. Dept. Faculty of Technology (The Maharaja Sayajorao University of Baroda), Rajmahal Road, Vadodara.
31.	Dr. R. Zonunsanga, Assistant Professor, UGC Human Resource Development Centre, T 55, Mizoram University Campus, Tanhril, Aizawl-796004.

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