

# **Guidelines for Environmental Research and Development Projects 2024-25**

## **Introduction**

The Directorate of Environment & Climate Change (DoECC) under the Department of Environment is established with the aim of coordinating all the environment and climate change-related activities in the State. The activities comprise creating awareness for environment, climate change, and conservation among all stakeholders in society, conducting research and monitoring in the field of environment and climate change, taking up state-level development programmes and implementing them in collaboration with appropriate agencies, etc. The research and development scheme under DoECC is for promoting studies on relevant aspects of environmental concerns in the State that could be important in formulating strategies for effective environmental management. DoECC will be the nodal agency for inviting, processing, and coordinating the research projects under this scheme. The objectives of the research scheme, procedures for inviting, receiving, and processing research proposals for funding, norms for funding, conditions of support, dissemination of research findings, etc. are summarized as follows:

## **Vision, Mission and Objectives of R&D Scheme**

### **Vision**

Promotion of research in various facets of ecology and environment for the conservation of the environment and natural resources of the State.

### **Mission**

To plan, support, and coordinate environmental research in the public interest for enhancing the understanding of the environment and ecology and devising strategies and solutions for environmental protection and management.

### **Objectives**

The objectives of research support are as follows:

- To generate the information and knowledge required for developing strategies, technologies, and methodologies for better environmental management.
- To ascertain practical solutions to the problems of environmental management in the State.
- To develop and demonstrate the models suitable for environmental conservation, climate change adaptation and mitigation, etc. at the State and regional level for adoption in the development plans, including the local self-governments.

- To generate, document and analyse information for taking policy decisions relating to environmental concerns in the State.
- To facilitate database management at a single point in the Department.

## **Research Proposals**

Under this programme, project proposals (duration 12–36 months) from scientists and academicians working in Research Institutions, Universities, and Government-assisted colleges shall be considered. Selection of the proposals will be made based on a technical evaluation of the proposals, including the research credentials of the proposed principal investigator / research team and the envisaged outcome of the research.

## **Thrust Areas**

Proposed thrust areas for 2024-25:

1. Development of green and climate-smart technologies: Greening of products and processes, prevention and/or control of pollution, including waste recycling, management of hazardous substances, eco-friendly alternatives, and technology development
2. Productivity zoning and crop suitability assessment in relation to climate change
3. Development of energy-efficient technologies in agriculture, including storage and food processing
4. Development of climate-smart livestock & fishery practices: Diet management, climate-resilient traits, rearing practices, waste management etc.
5. Identification, mapping, and formulating a conservation plan for ecologically sensitive and geomorphological features that maintain the integrity of the Kerala Coast (sand dunes, biologically active mudflats, turtle nesting grounds, bird nesting grounds, sea grass beds, etc.)
6. Climate change-induced new and emerging diseases (including those in the livestock

and fishery sectors)

7. Impact of climate change on ecosystem functions, services, and values
8. Microclimate studies in climate change hotspot regions of Kerala
9. Development of strategies for the ecological restoration of areas affected by linear intrusions in Kerala part the Western Ghats
10. Valuation of ecosystem services rendered by important ecosystems in Kerala
11. Carbon Stock assessment of forest types and trees outside forest in Kerala.
12. Impact of changes in land use and geomorphology within the Kerala region of the Western Ghats on its hydrological services.

### **Scope and Coverage of Research Grants**

The DoECC will provide financial assistance for a research project as follows:

- 1. Fellowships, salaries, and other related charges for research fellows, associates, research consultants, and supporting staff:**

The salaries will be paid as consolidated amounts as per Kerala State Council for Science, Technology, and Environment (KSCSTE) norms and in accordance with the orders issued by DoECC from time to time. The principal investigator (or any of the other investigators) who is employed and already receives a salary will not be paid any salary or honorarium from the funds sanctioned for the project.

The person to be considered for appointment as a project fellow must have a first class master's degree. The project fellow should work full-time in the project and get the fellowship from one source only. Support staff (technical or non-technical, e.g., Technical Assistant, Field assistant, Senior Technical Assistant, Computer/data-entry operator/field worker): Educational qualification as per the norms of the host institution.

All the personnel, including research personnel, appointed under the project are to be treated as temporary employees and will be governed by the administrative rules and

service conditions of the implementing institute. No reference to these issues should be made to the DoECC. The DoECC will have no liability whatsoever for the project staff after the completion of the project duration. Scale and emoluments for the posts not covered under this order are governed by norms prevalent in the implementing institution, subject to approval by DoECC.

**2. Acquisition of equipment not available in the institution or not available for dedicated use in the project and expendable items, laboratory supplies, and expenses for other project related activities:**

The cost of this head shall not exceed 40% of the total outlay of the project. Procurement shall be done through competitive bidding / tendering in accordance with host institution norms. The equipment sanctioned for the project should be procured at the earliest possible time to avoid any cost escalation.

**3. Hiring Services:**

This is meant for specialized technical work, such as sample analysis, for which the University/Institution either has no infrastructure or such services are available on a payment basis. Such Principal Investigators who have not been given Project Fellow on a regular basis may hire a person for technical assistance, and the person so engaged must fulfill the qualifications prescribed for Project Fellow. He/she may be paid remuneration at par with the project fellow, limited to a maximum of 6 months in the total tenure of the project.

**4. Travel and field work:**

The amount allocated under the heading travel/field work is to be utilized for data collection and the collection of other information, such as documents and visits to libraries, within the general scope and sphere of the ongoing project. This should not be used for attending conferences, seminars, workshops, training courses, etc. **Using funds for international travel expenses is strictly forbidden under this category.**

**5. Contingency grants:**

The admissible contingency grant shall be limited to 25% of the total project outlay

and can be utilised on spares for apparatus, operating costs of the equipment, printing & stationery, postage, internet, and the like.

6. Any other expenditure that is considered appropriate depending upon the requirements of a specific proposal, with the approval of the DoECC.

7. Institutional Charges: Nil

The grant shall not be utilized for construction of any building unless specific provision is made for this purpose in the sanction order. Any deviation from these norms or relaxation should be presented before the R&D Committee for a decision on merit.

The Terms and Conditions governing the research grants are given in Annexure I.

### **Who is Eligible?**

Recognized R&D institutions, universities, academic institutions, government departments, reputed non-governmental organizations, and private organisations including industry—through scientists and technologists who engaged in scientific and technological research.

Non-governmental institutions and private organisations, including industry, should have a declared mandate for environmental research and development, as evident from their by-laws, be registered under appropriate laws, and have been functioning for at least 3 years in the relevant field at the time of submission of the project.

### **Principal Investigators / Co-Investigator (s)/ Institution**

The principal investigator (PI) has the primary responsibility for implementing the project. If there is more than one investigator, it is necessary to ensure that the project is carried out by the project team in a cohesive manner. Normally, only one project will be sanctioned to a principal investigator at a time by the DoECC.

The PI should have more than three years of service at the time of project submission. In the case of PIs who would be superannuating during the duration of the project, the association of an in-service co-principal investigator should be ensured. In such cases, the institute authorities should inform the DoECC well in advance of their "no objection" to providing the infrastructural facilities to the new investigator for implementation of the project after his/her superannuation.

Having accepted the responsibility for the implementation of the project, the PI should be committed to implementing the project and should have no plans to go on long leave during

the project period. In case the PI leaves the project due to unforeseen circumstances, the Co-PI, if any, could be considered as the PI subject to the approval of the PI, Co-PI, Head of the Institute, and DoECC. Such a request should be sent at least 4-6 months in advance, along with a detailed bio-data of the Co-PI.

No premature closing is allowed except for those wherein the R&D Committee has recommended closing the project due to poor progress or non-compliance with the terms of implementation. In such cases, the funds received till date shall be refunded to DoECC with penal interest. The project sanctioned cannot be closed prematurely owing to the PI leaving the place for better opportunities. If there is no co-investigator, there should be an institutional mechanism to transfer the project to the next eligible person, if available, or to return the funds received to date to the DoECC.

If the PI is shifting to another institution on a new appointment/ transfer/ long term deputation, the project could be transferred to that institution with the mutual consent of both institutions and the approval of DoECC. Such requests for the transfer of the project should be sent well in advance and should be accompanied with 'No Objection' certificates from both institutions and the endorsement certificate from the new institution.

The PI as well as the implementing institution have the responsibility of informing the DoECC about any change in the status of the PI or co-investigator, including relieving them on short-term deputation for a continuous period of 3 months or more. The implementing institution has an important role to play, and in consultation with the DoECC, it should take steps to ensure the successful completion of the project before relieving the PI.

The host institute shall provide all infrastructural facilities, including office support and administrative and accounting services, to the PI for smooth implementation of the project.

## **Procedure for Submission, Appraisal, Monitoring and Review of Research Proposals**

### **1. Submission of Proposals**

Six copies of research proposals, along with a soft copy, shall be submitted in the prescribed proforma as available on the DoECC website (Annexure II), as detailed in the notification. The proposal should clearly describe the research topic, novelty, objectives, methodology, data requirements and their sources, schedule of work, deliverables, outcomes, and year- and item-wise financial requirements. The proposal should accompany the complete team of investigators with their role in the project and provide their detailed resume, highlighting their academic backgrounds and publications record. The year-wise breakdown of the costs consistent with the funding norms should be described in detail. The equipment (including computers and peripherals) and instruments available with the institute and those specially required for the project should be mentioned in detail.

Proposals prepared by the principal investigator (PI) should be endorsed by the administrative head of the institution. If a research proposal involves a network of research institutions, the PI would identify the lead investigator from each of the participating institutions with the approval of the heads of the institutions.

## **2. Preliminary Scrutiny**

The proposals would be examined in the Research Division of the DoECC to determine whether or not they conform to one or more of the identified thrust areas. Incomplete, repetitive, and/or superfluous proposals will be rejected at this stage.

## **3. Appraisal by R&D Committee**

Qualified proposals received will be assessed by the R&D Committee constituted by the Department as per GO (Rt)No. 72/2019/Envt dated 23.07.2019.

The principal investigators whose proposals are found feasible and complete in all respects will be invited to make presentations before the committee. No TA/DA will be paid to the participants for attending such meetings.

If the Committee considers necessary, it may invite experts from the concerned field from the panel of experts maintained by the DoECC to determine the technical competence of the research team and whether the outputs from the project would be useful for addressing the thrust areas. The committee will, inter alia, assess the following:

1. Expected outcome of the project
2. Component-wise analysis of the cost of the project
3. Cost-benefit analysis in terms of physical outputs and environmental benefits
4. Minimum required tenure of the project
5. Modalities for replication of the outcome
6. Duplication with existing work/ongoing projects

Based on the appraisal, the committee may suggest modifications, or approve as such in the proposal.

#### **4. Approval and Sanction**

Based upon the recommendations of the R&D Committee, the DoECC would place the recommended proposals before the department level working group for approval and financial sanction as per the availability of funds under the scheme.

The PI has to submit a consent letter and a formal agreement (involving the Head of the Institution) to undertake the project with the sanctioned budget and objectives. A formal sanction order will be released upon receipt of the same.

A copy of the letter regarding the issuance of first installment will be sent to the PI and all concerned.

#### **5. Date of Commencement of Project and Duration**

The project becomes operative with effect from the receipt of the first installment of the fund by the implementing institution. This date should be intimated by the institution authorities or principal investigator to the DoECC. It will, in no case, be later than one month after the receipt of the first installment by the institute.

#### **6. Monitoring and Evaluation**

The PI, through the implementing institute, shall duly furnish the DoECC with a copy (hard and soft) of the Annual Technical Progress Report including reprints/copies of publications/patents/articles, etc. if any, Fund Utilization Certificate (in KFC Form 44) and detailed Expenditure Statement of the work carried out on the project.

DoECC may designate a Scientist/ Specialist/expert panel to visit the institute periodically to review the progress of the work being carried out and to suggest suitable measures to ensure the realisation of the objectives of the project. The implementing institute shall provide all facilities to the visiting scientist or the expert panel at the time of their visit.

On completion of the project, the principal investigator has to submit the draft Final Technical Report (FTR) to the DoECC within 3 months after the completion of the project. The draft final report of the project shall be presented before the committee, and the outcome will be appraised against the objectives of the proposal. The committee shall consider and make appropriate recommendations not only about the payment of the final installment but also on the follow-up actions to be taken on the outcome of the project.



The PI through the Institute should also send the following documents to the DoECC to enable us to settle the project:

1. A soft copy of project completion report (draft final) and abstract
2. Consolidated audited statement of expenditure and utilization certificate(in KFC Form 44).
3. Asset Transfer Certificate
4. Refund challan in respect of unspent amount remitted in the Treasury under the head of account concerned.
5. Reprints/copies of publications/patents/articles, etc.
6. Acceptance of the Final Technical Report

The PI should make a presentation of the draft Final Technical Report before the R&D Committee and a panel of experts appointed by DoECC. Based on the recommendation of the R&D Committee, the DoECC would undertake the final acceptance of the Final Technical Report (one hard and soft copy) and thereafter, the final settlement of accounts and closure of the project would be done. No projects shall be sanctioned in the future by DoECC to the PIs whose final project reports are graded below 7.

### **Norms of funding**

The grants for the project will be released on the basis of yearly requirements, taking note of the technical progress and expenditure incurred. The applicant institution needs to execute an agreement as acceptance of the conditions for taking up the project as per the guidelines and conditions prescribed. The full text of the guidelines and conditions will be appended to the agreement.

After the execution of the agreement, the first installment of funds will be released to the institution. The first sanction order will indicate the budgetary allocation for the duration of the project under various heads. For projects with a project period less than or equal to 2

years, total funds will be released in 3 installments (normally in the order of 40%, 40%, and 20% of the total amount sanctioned for the project). The last installment (20% of the project cost) will be released upon receipt of the final project report and all the other necessary documents. If the project period is more than 2 years, the yearly requirement, as approved by the committee and the working group, will be released as first and subsequent installments on a yearly basis. While the first installment will be released as envisaged above, subsequent ones and 80% of the last-year installment will be released based on an appraisal of the progress and the submission of details of the utilisation of at least 80% of the funds released. The remaining 20% of the last-year installment will be released only upon receipt of the final project report, all the other necessary documents, and its appraisal by the committee. In exceptional cases, the committee can decide on fund allocation if found necessary.

The implementing institute should maintain a separate Plan Scheme Treasury Savings Bank Account (PSTSB) exclusively for the project and maintain separate audited accounts for the project. The transactions should be reported to DoECC, and the interest accrued (if any) should be reflected in the Statement of Expenditure.

The recipient institution shall forward the annual progress report, an audited utilisation certificate, and a statement of expenditure (UC & SE) signed by the PI and countersigned by the Head of the Institution to the effect that the grant has been utilised for the research works for which it was granted, to the Director, DoECC. The audited statement of expenditure (including committed expenditure and interest accrued if any) and the utilisation certificate (in KFC Form 44) are to be submitted on a project-year basis within a period of 2 months from the completion of the project year.

After receiving the utilisation certificate and statement of expenditure, if unspent funds are available as per the U.C., the money for the subsequent years will be released after deducting the unspent amount. The unutilized portion of the grant amount at the end of the project period shall be refunded to DoECC by treasury challan remitted in the Treasury under the head of account concerned. In the case of project duration exceeding one year, the amount need not be refunded at the end of the first or second year, as the case may be, but the amount may be carried forward as per the sanction from the DoECC.

There should not be a gap between the project periods. The project has to be done continuously, and it will end on the expiration of its approved duration.

The institute shall not entrust the implementation of the work for which the grant is being sanctioned to another institution, nor will it divert the grant to another institute as assistance. In case the institute is not able to implement the project, it should refund the entire grant to the DoECC or the balance grant at the earliest, as per the government norms.

For permanent, semi-permanent, or infrastructural assets acquired solely from the project grants, an audited record in the form of a register in the prescribed format shall be maintained by the institute. The term "assets" includes (a) the immovable property acquired

out of the grant and (b) movable property of capital nature where the value exceeds Rs 10,000/-. The Institute is required to submit the list of assets acquired from the grant to DoECC.

The assets acquired by the principal investigator under a project must be transferred to research institutions, universities, colleges, or the government department after the completion of the project. The research institutions, University/Colleges/Departments should make every effort to put all the equipment available in the laboratories to effective use for the future needs of the DoECC and government.

The DoECC reserves the right to terminate the project at any stage if it is convinced that the grant has not been properly utilised or appropriate progress has not been made.

### **Extension of the duration of the project**

An extension of the project period up to a maximum of one year may be granted to research projects in deserving cases. Any request for extension of the project should be sent by PI to DoECC at least three months before the closing date. In the case of an extension of the tenure of research projects, the PI would provide complete justification for the same. The PI should not make any expenditures after the closing date without the specific approval of the DoECC until the extension is conveyed to him. No additional funds would be sanctioned for the extension period.

### **Re-appropriation of Funds**

Re-appropriation of funds within the total budget may be approved based on the recommendation of the R&D Committee. The principal investigator may re-appropriate a maximum of 20 percent of the grant allocated under each head with the permission of DoECC.

## **Guidelines for Publication of Results**

1. Investigator(s) are requested to patent/publish the outcome of the research work in peer-reviewed journals. Patents shall be filed only with the concurrence of the DoECC.
2. DoECC should be duly acknowledged for financial assistance in all the publications that have derived from the research work during or after completion of the projects.
3. If the research results are to be legally protected, they should not be published without action being taken to secure legal protection for the research results.
4. The investigator(s) should not enter into collaboration with a foreign party (individual/industry) without prior approval of the DoECC.

## **Annexure I**

### **TERMS AND CONDITIONS FOR SANCTION OF RESEARCH PROJECTS**

1. A project will normally be sanctioned for a maximum of three years. The grant will be disbursed to the administrative authorities of the institutions in accordance with the principles provided below. The authorities receiving the grants will be responsible for their disbursement, administration, and maintenance of accounts, as well as the submission of utilisation certificates, expenditure statements, and progress reports on time. In the case of collaborative research carried out by a network of institutions, the coordinating institution would be responsible for the submission of the utilisation certificate, expenditure statement and progress reports covering all the partners.
2. The approved grant should be exclusively spent on the project for which it has been sanctioned within the stipulated time period. In the project wholly sponsored by the DoECC, the grantee organisation is not permitted to seek or utilise funds from any other organisation (government, semi-government, autonomous, or private) for the same research project. Any unspent amount out of the grant sanctioned by the DoECC for a particular project would be required to be surrendered to the DoECC. The carry forward of the unutilized amount from one to the next year for utilisation for the same project would require approval of the DoECC.
3. The implementing institution and the PI have the responsibility for the completion of the project and to achieve the expected outcomes and deliverables of the research project. In the event that any investigator (including the principal investigator) leaves the institute on account of superannuation or unforeseen circumstances, the responsibility for the completion of the project may be entrusted to another equally qualified investigator by the head of the institution with the approval of the DoECC at no extra cost.
4. If the investigator leaves the institution where the project is based, he should submit five copies of a complete and detailed report of the work done on the project until the date

te of his release. Prior to leaving, the investigator shall inform the DoECC and get approval to hand over the project to another investigator, who shall be responsible for the completion of the project and submission of the final report.

5. In the event that the PI is shifting to another institution due to a new appointment/ transfer/long-term deputation, the project could be transferred to that institution with the mutual consent of both institutions and with the approval of the DoECC.
6. The DoECC will blacklist institutions or individual Principal Investigators (PIs) who fail to provide financial records and submit physical progress reports for the grants they have received.
7. For permanent and semi-permanent assets acquired solely or mainly out of the grant, including books and furniture, an audited record in the form of a register in the prescribed proforma shall be maintained by the grantee. All equipment and stores purchased out of the grant would remain with the institution concerned unless otherwise specified in the sanction. The grantee shall submit the list of assets acquired under the project. The term "assets" here means (a) immovable property and (b) movable property of a capital nature, where the value exceeds Rs 10,000.
8. The implementing institute should provide full infrastructural facilities such as accommodation, water, electricity, library, communication facilities, etc. for smooth implementation of the project.
9. The project becomes operative with effect from the date of sanction order or receipt of the NEFT/ RTGS transfer of the first installment by the implementing institution. This date should be intimated by the institution authorities or principal investigator to the DoECC within one month. It will, in no case, be later than one month after the receipt of the NEFT/ RTGS transfer of the first installment by the institute.
10. The grantee organisation would furnish to the DoECC an audited Statement of Expenditure and Utilisation Certificate in prescribed formats within thirty days from the close of each sanction year (from the date of commencement of the project) for the grant released during the previous financial year.
11. The grantee organisation shall furnish three copies and a soft copy of yearly progress reports of the work done on the project as per the pro forma given on the website. The PI is required to make a presentation on the progress of work carried out in the project

to the R&D committee and the department at least once in a given financial year, or as per the instructions from DoECC.

12. The DoECC has the right to delegate empaneled expert peer reviewers, scientists, specialists, and finance persons of the Department to visit the grantee organisation periodically for reviewing the progress of the work and for suggesting such measures as to ensure early realisation of the objectives of the project. All facilities are to be provided by the grantee organisation to the visiting scientists and specialists.
13. On termination of the project, the duly audited accounts shall be submitted, and the unspent balance, if any, shall be refunded to the DoECC within three calendar months of the completion of the project. Full and final payment will be made only after the acceptance of all the financial certificates, audit reports, and final technical reports of the project.
14. The grantee organization(s) has to furnish 5 copies of the Final Technical Report (FTR), including the Executive Summary, along with a soft copy, to DoECC. The PI and the institutions that do not submit the FTR even three months after the end of the scheduled time period will not be funded by the DoECC in the future. The Head of the Institution (Vice-Chancellor, Registrar, Director/Principal) where the PI is located should be informed regarding the non-submission of the FTR and the decision of the government to suspend future funding to the institution. A list of such PIs and institutions would be circulated among all government agencies that fund research.
15. The selection and appointment of JRFs/SRFs/ Staff for the project may be made by the principal investigator in accordance with the procedures of the institutions concerned for a period not exceeding the sanctioned duration of the project. The qualifications and experience should be followed as per the CSIR/UGC guidelines.
16. Investigators who wish to publish papers based on the research work done under the project or to present such papers at conferences need to duly inform the DoECC and should acknowledge the financial support received from the DoECC. A soft copy of the publications or papers shall be sent to the DoECC.
17. The amount allocated under the head travel/field work should be utilised only for data collection within the general scope and sphere of the ongoing project. This should not be used for attending conferences, seminars, workshops, training courses, etc. Foreign travel is strictly prohibited under this scheme.

18. Patents shall be filed only with the concurrence of the DoECC. If the research results are to be legally protected, they should not be published without action being taken to secure legal protection for the research results.
19. The investigator(s) should not enter into collaboration with a foreign party (individual or industry) without prior approval of the DoECC.
20. In the event, after due inquiry, of any conclusion that the progress of a research project is highly unsatisfactory and cannot be improved, DoECC will be at liberty to terminate the project. Upon such termination, full audited accounts and refunds of all unspent balances will have to be made promptly to the DoECC.
21. The project fellows and other staff may pursue a research degree while working on the project. They may utilise the research outputs of the project towards their degree requirements, except in cases where the sanction would require that the research results be classified.
22. The sharing of intellectual property rights between the government, the institution(s), and research staff participating in the project would be specified in the sanction order based on the guidelines of the CSIR.
23. Non-governmental organisations seeking financial assistance for research projects shall execute a bond to be prescribed, abiding by the directions of the DoECC.
24. All correspondences are to be addressed to the Director, Directorate of Environment and Climate Change, KSRTC Bus Terminal, Thampanoor, Thiruvananthapuram- 695 001.

Place:

Date:

Signature, name & address of investigator

Counter signed by

The Head of the Institution

(SEAL)



