

TERMS OF REFERENCE FOR THE RESEARCH ASSISTANT FOR DEVELOPMENT ORIENTED RESEARCH (DOR) PROGRAMMES

1. BACKGROUND

The Development of the Higher Education Sector is of central importance to enable Sri Lanka to make the transition from a Lower – Middle Income Country (LMIC) to an Upper Middle – Income Country (UMIC) . Recognizing this, the Government of Sri Lanka (GoSL) and the World Bank have agreed to support the higher education sector through a Bank funded Accelerating Higher Education Expansion and Development (AHEAD) Operation.

2. THE OPERATION

The AHEAD Operation is organized in two components. The first is a Program Component that supports the national Higher Education Development Program. The second is a systems strengthening, capacity building and technical assistance component that will assist GoSL to strengthen the higher education sector and achieve the objectives of the AHEAD program component. This second will also cover monitoring and evaluation, policy analyses, program coordination and communication.

The implementing agency is the Ministry of City planning, Water Supply and Higher Education. The University Grants Commission (UGC) will coordinate the activities of the universities. There will be an Operations Monitoring and Support Team (OMST) which will coordinate and support all AHEAD activities between the Ministry of City planning, Water Supply and Higher Education, UGC , and the universities.

AHEAD has three Results Areas:

Results Area 1: Increasing Enrollment in Priority Disciplines for Economic Development

Results Area 2: Improving the Quality of Higher Education

Results Area 3: Promoting Research, Development, Innovation and Commercialization (RDIC)

3. TITLE & THE DESCRIPTION OF THE DEVELOPMENT ORIENTED RESEARCH (DOR) PROJECT UNDER RESULTS AREA – 3: “Cultivation of microalgae for bio lipid production: Optimization of net energy and mathematical modeling of bioprocesses”

The aim of this research is to develop a novel, energy-positive algal cultivation system coupled with wastewater treatment while minimizing the energy associated with wastewater treatment, algal cultivation, nutrient removal and algal harvesting. This involves the development of bioreactor, indoor and outdoor testing of algal cultivation, bio lipid production and mathematical modeling of bioprocesses.

4. KEY TASKS

Subject to any specific directives given by the Director/OTS and Project Coordinator, the main duties responsibilities of the candidate as a Research Assistant will be to:

- a) Assists the Project Coordinator and the research team to achieve the assigned KPIs (key performance indicator) within the timeline
- b) Design, fabricate and operate bioreactors as per the proposed research under the supervision of project coordinator and research team members
- c) Plan and conduct laboratory scale and outdoor experiments in accordance with standard protocol and procedures
- d) Travels to various sites for sample collection as appropriate to the objectives of the study
- e) Assists with preparation of manuscripts and conducting seminars for dissemination of research findings
- f) Able to work at University of Jaffna main campus as well as Kilinochchi premises as per the instructions given by the project coordinator
- g) Maintain a research log book to update the daily research progress
- h) Submit weekly/monthly research progress reports to project coordinator/deputy coordinator
- i) Any other relevant duties assigned by the Director/OTS, Project Coordinator and Deputy Coordinator of the DOR project.

5. METHOD OF RECRUITMENT

This is a full – time position. Initially the contract appointment shall be for a period of 12 months. The position may be renewed based on performance and need during the period of the Operation. The candidate is encouraged to register for MPhil with University of Jaffna and the registration fee for the MPhil program shall be covered by the project depending on the candidate's eligibility.

6. REMUNERATION

A monthly payment of LKR 55,000/= (it includes CLA) and applicable EPF & ETF will be paid. Payments will be made on the approval by the OTS/ Director on the recommendation of the Project Coordinator.

7. REQUIRED QUALIFICATIONS & EXPERIENCES

- Bachelor's degree in Science, Engineering, Agriculture OR related fields which is recognized by the UGC. Priority will be given to special degree or first class honors
- A track record of research as evidenced by publications/ presentations as an undergraduate or post graduate would be an added advantage.
- Prior research experience pertinent to Gas chromatography AND/OR Analytical chemistry is desirable

8. PROFESSIONAL COMPETENCIES REQUIRED

- High level of proficiency in written and spoken English.
- Ability to function effectively in a team environment inspiring trust and cooperation of other team members.
- High level of IT literacy, especially in the areas of Word, Excel, email and internet.
- Knowledge in statistics and computational methods
- Knowledge in basic microbiology
- Proven analytical skills
- Ability to work independently in a research team
- Ability to solve technical and methodological issues that arise during the course of the research