

# Terms of Reference (TOR) for Obtaining Consultancy Services for Developing a Degree Programme in Industrial Plant Sciences

## The Open University of Sri Lanka

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### 1. Introduction

The Open University of Sri Lanka (OUSL) was established under the Universities Act No. 16 of 1978. The OUSL is a national university in Sri Lanka. It is unique within the Sri Lankan national university system for being the only university to offer programs of study leading to Certificate, Diploma, Degrees and Postgraduate degrees up to PhD level through the Open and Distance Mode of Learning (ODL).

The Faculty of Natural Sciences offers a BSc Degree programme over the period of 40 years. This encompasses the Bachelor of Science General Degree and Honours Degree programmes which are conventional degree programmes on basic academic fields in science, namely, the Botany, Chemistry, Mathematics, Physics, Computer Science and Zoology. These Degrees have limited value in developing the professional and technical capacities that are required by the emerging science-based industries in this country and elsewhere.

Export performance indicators of the Sri Lanka Export Development Board in 2020 showed that there is a better performance in plant-based industries in the country despite the COVID-19 pandemic. For instance, spice products, essential oils and oleoresins earned USD 335.5 Mn in 2020, that is 7.1% increase over the 2019. This emerging industry requires human resources that are capable of handling all aspects from the 'plant to plate' using modern technology. For instance, to design and manage a modern plant growth facility requires people with a wider spectrum of knowledge across plant sciences, mechatronics and IOTs etc. Similarly, other plant-based industries require human resources with multidisciplinary capacity for research, design and development and management. At present, there is a gap of human resources for these emerging industries and the situation is the same for the training opportunities. Developing a new Degree programme to meet this demand, particularly in plant-based industries is of paramount importance and the OUSL, being the only university open for all, is the most suitable platform. The ODL mode it practices does not impose any restrictions or limitations on achieving the intended learning outcomes of such a programme.

Considering these observations and with the anticipation of future national and international needs, the Department of Botany has formulated a plan to develop a Degree programme named as BSc in Industrial Plant Sciences and included it as a proposed action of the OUSL Strategic Management Plan 2021-2025. Initially, this degree programme will be developed as a 2 + 2 arrangement where the first two years will be enriched with the already available courses in the faculties and the next two years will comprise of

specialized courses, internships and trainings to develop a multidisciplinary capacity with practical skill required for plant-based industries. It is envisaged to open up this programme for the students with both science and technology backgrounds and to mid-career employees in the technical services. It is anticipated that a graduate in this field will be a practitioner employable in a range of ventures in intensive agriculture and horticulture production, food industry and plant derived material production. Moreover, such a graduate will be given necessary training to develop themselves as entrepreneurs.

Design and development of Degree program in a new field is a significant challenge. This requires thorough analysis of current trends and forecast the future developments in this new field. The programme learning outcomes need to be aligned on this analysis. Design and development of curricula requires exposure and knowledge across a wider spectrum of fields. It is critical to identify the necessary resources and expertise that are dispersed in the different sectors of plant-based industries and coordinate them to build up the knowledge base of this new field. Ideally, an experienced person with sound academic background and a long-standing exposure to a wider cross section of plant-based industries is required as a main resource to fulfil the arduous task of design and development of curriculum. He/She must not only know the depth of the field but also have inculcated the bird's-eye view of the field. Deploying such a person not only improves the quality of the output but also the rate of programme development. It is anticipated to reduce the time taken for usual programme development in the Faculty by 30-50% through this approach.

## **2. Objective**

Provide the consultancy services to analyze the current development trends in plant-based industries and mobilize all necessary resources to design and develop a curriculum of the proposed degree programme. This curriculum shall meet programme learning outcomes formulated from the report of analysis. In the meantime, industrial linkages will be established for training and internships.

## **3. Scope of work**

The consultant is expected to attend the following tasks during the consultation period.

- Analysis of the field of plant-based industries and identify the future human resource requirements.
- Identify intellectual, technical and physical resource requirement for developing the programme
- Coordinate the stakeholders from related industries during programme development
- Provide expert opinion for the program development committee of the Department of Botany to prepare the initial draft curriculum and later finetune the curriculum to capture the programme Learning Outcomes.

- Provide expert opinion to strengthen suitable learning outcomes identified by the programme development committee of the department
- Provide input for course synopsis development and preparation for the concept paper and programme proposal.
- Identify and build industrial linkages that will be necessary for sustainability of the programme via student placements/ firsthand exposure to industry.
- Engage in Course development in the later part of the consultancy period after completing curriculum development

#### **4. Consultancy Period:**

The initial consultation period shall be 9 months from the date of awarding the consultancy. This may be extended for another 3 to 9 months based on the need of the Department and the performance of the consultant.

#### **5. Deliverables**

- I. Report of analysis on the field of plant based-industry with its current-status and future trends
- II. Stakeholder meetings that lead to suitable curriculum development
- III. The curriculum to meet 30 credits in Level 5 and 30 credits of Level 6 courses-adding up to the 4-year proposed degree programme.
- IV. Finalize needs survey
- V. A proposal that will initially be accepted by the Academic Advisory Committee, Faculty Board and subsequently accepted by the Senate and Council of OUSL.
- VI. Industrial linkages that lead to student placements/ field visits/ projects
- VII. Completion of relevant components of course material development within his/ her expertise in the capacity of Course-team Chair based on the new curriculum

#### **6. Qualifications and experience**

##### **6.1. Educational Qualification**

- The Consultant must have a BSc Special/Honors Degree in Botany/ Agriculture  
AND
- PhD, preferably related to Agricultural extension

##### **6.2. Experience**

- Experience in teaching and curriculum development at university level  
AND
- Extensive experience and exposure in working at government and / or private sector institutions that engage in plant-based product development, value addition, and export agriculture sector in Sri Lanka  
AND

- Expertise in coordinating and managing the programmes on plant-based products development at national / international level.
- Experience in university community outreach programmes is an added advantage

### **7. Terms of Payment**

The payment (Rs.120,000.00 per month) is based on the tasks completed by the consultant which is certified by the Head of the Department.

### **8. General Terms**

- I. The consultant must report to the Department of Botany, CRC premises when requested
- II. The consultant must provide a monthly report on the work accomplished within the month
- III. The consultant may work from home while reporting to the nearest OUSL center one time each week.
- IV. A time-line will be given to the consultant at the time of assumption of duties.