



PROFORMA FOR QUALITY ENHANCEMENT CELL'S WEBSITE

All the Teaching Departments/ Institutes/ Centers of the University of Karachi are requested to provide the following information to the Quality Enhancement Cell for uploading it on its website.

A. Name of the Department/ Institute/ Center :- Institute of Sustainable Halophyte Utilization .

B. Mission of the Departments/ Institute/ Center:-

Utilizing degraded lands and brackish water for growing halophytes of economic use and their domestication as a source of fodder, forage, biofuel, oil seeds and medicinal plants. This would ultimately help poverty alleviation of the affected farmers and could also help improve the economy of our country .

C. Mission Statement of the Programme

1. BS: Not Applicable

2. MS: The focus of the research and course work will be on suitable alternative plants growing on saline lands. Research students would be involved in cognitive learning besides gaining skills in field and laboratory techniques. Exploring the potential of halophytes as food, feed, fibre, medicines and biofuel would help transforming barren lands into pastures using brackish water. Further, the research would help reduce pressure on fertile lands and sweet water resources.

3. Ph.D.: Same as above

D. Objectives of the Programme

1. BS: Not Applicable

2. MS: Exploring the potential of Halophytes through studies on:

I. Salt tolerance mechanisms at seed germination and different growth stages.

II. Ecophysiological, biochemical, and molecular responses.

III. Domestication of halophytes based on nutritive, medical and other economic values.

3. Ph.D same as above

E. The outcomes of programme i.e. the attributes the student will acquire after successful completion of the courses of studies and research degrees

1. BS: Not Applicable

2. **MS:** (i) The students will be able to serve in research and teaching organizations.
- (ii) Could be involved in halophyte cultivation and experimental farming as a team of scientists.
- (iii) Could be involved in national/ international industrial or medicinal research.
3. **Ph.D** (i) _____ Same as above _____

F. Semester wise Courses (syllabus) for BS, MS & Ph.D.

Semester - 1

Course #	Title	Credit hours
ISHU 772	Ecology of Saline Habitats	2+1
ISHU 775	Physiological Ecology of Halophytes	2+1

Semester - 2

Course #	Title	Credit hours
ISHU 771	Plant responses to Abiotic Stresses	3+0
ISHU 776	Functional Genomics of Halophytes	2+1
ISHU 778	Biology of Mangroves	2+1

(Please enclose)

G. Names, qualifications and designations of the faculty members

Name	Qualification	Designation
(i) Prof. Dr. m. Ajmal Khan s./	Ph.D., D.Sc	Professor & Director
(ii) Dr. Bilquees Gul	Ph.D.	Associate Professor
(iii) Dr. Salman Gulzar	Ph.D.	Assistant Professor
(iv) Dr. Irfan Aziz	Ph.D.	Assistant Professor
(v) Dr. Riazuddin Ansari	Ph.D.	Research Co-ordinator