

National Agriculture Education Accreditation Council  
**Evaluation Report**

**90**

on

Plant Protection Programme

Department Of Agriculture and Agribusiness  
Faculty of Sciences  
University of Karachi

By

Prof. Dr. Ghulam Jilani  
Faculty of Agriculture  
Lasbela University of Agriculture, Water and Marine Sciences  
Uthal, District Lasbela  
January 20-21, 2013

# TABLE OF CONTENTS

S. No.	Particulars	Page #
1.	EXECUTIVE SUMMARY	1
		2
1	INTRODUCTION	2
		2
2	DEPTT. OF PLANT PROTECON AND PLANT PATHOLOGY,	2
	Dept History and Main Features	2
	Degree Programs Offered	2
3	CRITERION WISE ANALYSIS	2
	Criterion I Strength and Quality of Faculty	2
	Criterion II Curriculum Design and Development	3
	Criterion III Infrastructure and Learning Resources	3
	Criterion IV Students Support and Progression	3
	Criterion V Research and Consultancy Activities	3
	Criterion VI Governance and Leadership	4
	Criterion VII Recent Innovations and Best Practices	4
4	SWOT ANALYSIS OF THE DEPTT DEGREE PROGRAMS	4
5	ACTIONABLE RECOMMENDATIONS	5
6	EVALUATION CRITERIA FOR AGRICULTURAL DEGREE PROGRAMS	6
7	FINAL RECOMMENDATIONS	7
	Annexure # 1: Area of specialization, qualification and status of teachers.	8
	Annexure # 2: Name, qualification and experience of lab, staff,	9
	Annexure # 3: List of laboratory equipment.	11
	Annexure # 4: Research projects completed during last three years	

## **EXECUTIVE SUMMARY**

Plant Protection programmes of the Department of Agriculture, and Agribusiness, University of Karachi were reviewed by Dr. Ghulam Jilani on 20-21 January 2013. The department was initiated in 2004 with B.Sc (Hons,) four years programme. M. Sc (Hons) and Ph D degree programmes were started in 2009 and 2006, respectively. There are only 2 lecturers for these programmes. However,, some retiprofessors and senior scientists from PARC have been engaged as adjunct faculty but they do follow curricula approved by the HEC.The department is housed in a borrowed old building with 1 class room, 2 experimental laboratories and 1 research laboratory which lacks modern equipment. Departmental library has 200 text books; main library has large number of relevant research journals. They do not have green house and glass house of their own for research studies at post-graduate level. However, they have collaboration with some established institutions such as HEJ Research Institute of Chemistry, PARC, KIBGE, NNRC and others within the university. They do not have experimental farm. There is no boys hostel, however, a female hostel exists with 250 seats for the whole university. Students compete well with others for jobs. Intake of students is likely to increase in future. In the light of above findings it recommended that regular faculty should be immediately appointed and the existing faculty should be provided training in molecular and biotechnological techniques to expand post-graduate research. An experimental farm needs to be established. Based on detailed evaluation Plant Protection programme of the department of Agriculture and Agribusiness has been placed in"Y1" category of National Agriculture Education Accreditation Council of Higher Education Commission of Pakistan.

## 1. INTRODUCTION

Department of Agriculture and Agribusiness- (Plant Protection and plant Pathology), University of Karachi

### 1.1 DEPARTMENT HISTORY AND DEGREE PROGRAMMS OFFERED

The Accreditation Inspection Committee was given a detailed briefing by Chairman regarding its history, mandate/vision, mission statement, Program goals and objectives, faculty, students, research projects and future plans. He also mentioned major achievements of Department of Agriculture and Agribusiness and its role in the agriculture sector and national economy.

Department of Agriculture and Agribusiness was established in 2004. The Department was started in the Department of Botany but later shifted in National Nematology Research Centre building on first floor and old blocks in its front side. B.Sc (Hons.) in Agriculture (4 years) was initiated in 2004; M.Sc in 2009 and PhD in 2006. Therefore, the department is presently offering B.Sc (Hons.), M.Sc (Hons.) and PhD degree programmes with specialization in Plant Protection, Plant Pathology and Agribusiness. The Department is producing skilled and technical manpower in the above areas in collaboration with Southern Agricultural Research Centre of PARC, National Nematology Research Centre, HEJ Research Institute of Chemistry, Departments of Botany and Zoology, KIBGE, Federal Department of Plant Protection etc. They have produced 31 B Sc. (Hons.), Current Enrolment in the Department is 103 in B.Sc, 31 in M.Sc and 10 in PhD.

### 1.2 DEGREE PROGRAMS OFFERED IN PLANT PROTECTION

- 1.3 B.Sc. (Hons.) Plant Protection (Four years)
- 1.4 M.Sc. (Hons.) Plant Protection (Two years)
- 1.5 PhD, Plant Protection (3-5 years)

## 2. CRITERION WISE ANALYSIS

### Criterion I: Strength and Quality of Faculty

The regular faculty members for the Programme in Plant Protection are two lecturers (B Sc. Hons.- Plant Protection) having about three year teaching experience. However, they have 5 Senior Professors (Rtd.), and scientists working as adjunct faculty in almost all the three areas of specialization. This gives a sufficient strength to the programme. This is mainly because of the availability of experienced manpower in the University and other related departments in Karachi.

Most of the faculty members are satisfied with their jobs and salary package. Students are generally satisfied with lectures and practical. The entire faculty, both regular and adjunct have membership of various national and international professional societies.

## **Criteria II: Curriculum Design and Development**

The Department is undertaking teaching and research for 4 years B.Sc. (Hons.), 2 years M.Sc.(Hons.) and 3-5 years Ph.D. degree programs in Plant Protection.. The curricula have gone under major revision during 2010 in the curriculum committees through brainstorming by University Professors, Research and Extension Scientists and Business community related to agriculture. The revised curricula approved by HEC have been in vogue. Therefore the current curricula are in line with national and international market demands. This has been implemented through department board of studies, faculty board of studies, academic council and university syndicate. Average teaching load is 9 credit hours for professor and others.

Majority of the students are satisfied with the academic programmes and contents of the curricula. The parents get information regarding education of the students and jobs opportunities offered and are satisfied. As a result students are well equipped with current knowledge and skills. The graduates have brought good name to the program by rendering services to pesticides companies, agriculture research and other departments related to agriculture and private sector.

## **Criteria III: Infrastructure and Learning Resources**

There is 1 class room (580 sq ft), 2 experimental laboratories (625 sq ft.) and 1 research laboratory (465 sq ft. ) but not equipped with safety arrangements. There is 1 office for officers. The laboratory equipment consists of wooden incubation chambers, refrigerators, microscopes binocular and mono-nocular dissecting stereoscope,, hot plates, refractometer, centrifuge, sieve sets, pH meter, electronic balance etc. There is no agriculture farm. However, they use agriculture fields at the farm houses in the peri urban areas of Karachi. Frequent visits are not possible to such field areas for research purpose. Presently the departmental library contains 200 books having covered area of about 500 sq ft.

## **Criteria IV: Students Support and Progression**

There is lack of resources for the students to get financial assistance from various sources. Facilities are not available to the students of Agriculture and Agribusiness department to get financial assistance from the University of Karachi. The sports facilities are available in the University for both outdoor and indoor games. Reasonable buses are plying in the metropolitan and within the university to facilitate transportation of students.

Week student-teacher interaction exists through tutorial meetings, department/faculty seminars, and workshops. Medical facilities for students are appropriate. There is no hostel facility in the university for boys however, a girls hostel with 250 seats. Students perception about the degree program is positive because of ample employment opportunities both in public and private sectors, especially in pesticide companies.

## **Criteria V: Research and Consultancy Activities**

The department runs on self finance basis. Total income was about Rs.2.00 million in 2009. They have 2 research projects completed/ underway and have organized 9 seminars, workshops and training courses so far. They have attended 6 national and international conferences and symposia. The department has close

collaboration with HEJ Research Institute of Chemistry, PARC, KIBGE and related Departments of Botany, Zoology, and Nematology etc.

### **Criteria VI: Governance and Leadership**

The management and administration powers of the University of Karachi are well defined like other Public sector Universities. The chairman is responsible for all administrative and management matter of the Department. Defined and documented rules and regulations are being implemented in day to day governance. Alumni record is well maintained for getting regular feedback from them. Annual Calendar of activities is prepared with the help of the faculty and staff. Course files are not well maintained.

### **Criteria VII:Recent Innovations and Best Practices**

Plant Protection Programme of the department regularly gets information about performance of their students employed in corporate sector. Multimedia , Internet-based assignments are given to the students to acquaint them with recent innovations in the subject. Regular visits of students to SARC| PARC, HEJ Research Institute of Chemistry, KIBGE AND OTHER Institutions are a big source of inspiration for both students and teachers.

## **3. SWOT ANALYSIS OF THE DEPT DEGREE PROGRAMS**

(A brief SWOT of the Department of Agriculture and Agribusiness, University of Karachi)

### **STRENGTHS**

2. Availability of adjunct faculty consisting of retired Professors and senior scientists is a source of strength till regular appointments.
- Collaboration with HEJ Research Institute of Chemistry, SARC/PARC, KIBGE, Departments of Botany and Zoology

### **WEAKNESS**

There are certain areas regarding faculty, equipment and manpower which need further improvements.

- The programme lacks basic and modern research equipments such as rotary evaporator, gas chromatograms, PCR, potters spray tower, etc
- Lack of green house facility to conduct research trials.
- Tthere is serious shortage of full time regular especially senior faculty.
- There is no experimental farm for field research.

## **OPPORTUNITIES**

- Bright chance of Scholarships for Post-doc. and promotion of faculty members to higher vacant positions.
- Graduates of this department compete well for private jobs especially in pesticide companies and other organizations related to agribusiness which are located in Karachi.
- Student intake is likely to increase at B.Sc. (Hons.) level providing more financial resources to the department as it runs on self finance basis.
- Collaboration with institutes like HEJ Research Institute of Chemistry Provides ample opportunities to the students as well as to the faculty for bright professional future.

## **THREATS**

- There is no residential facility for male students and hostel for female students has only limited vacancies.
- Intake of the students is very low in M.Sc. (Hons.)
- Buildings in which the department is housed is very old.

## **4. ACTIONABLE RECOMMENDATIONS**

- There is an immediate need to appoint regular senior faculty and strengthen labs and library.
- A green house is required for research at post-graduate level.
- The faculty needs training in modern molecular and biotechnological areas.
- The capacity of young faculty members may be enhanced through short term and long term training abroad.
- Post-graduate research should be expanded to molecular and bio-technological level.
- Funds should be arranged for faculty members to regularly participate in conferences, seminar and workshops at national and international level.
- More research projects should be obtained from HEC to establish laboratories.
- Proper and permanent agriculture farm should be established for field research.

Signature: \_\_\_\_\_

Name: Ghulam Jilani

Professor Faculty of Agriculture

Lasbela University of Agriculture, Water and Marine Sciences

**AIC Draft Report Visit on January 21-22, 2013**

**Evaluation Criteria Weightage for Agriculture Degree Programs**

Sr. No.	Program Evaluation Criteria	Points Assigned	Points Awarded
			M.Sc (H) & B.Sc (H)
<b>Major Criteria</b>			
1	Strength and Quality of Faculty	250	146
2	Curriculum Design and Development	150	103
3	Infrastructure and Learning Resources	200	130
4	Students Support and progression	100	75
<b>Sub - Total (a)</b>		<b>700</b>	<b>454</b>
<b>Minor Criteria</b>			
5	Research and Consultancy Activities	150	87
6	Governance and Leadership	100	60
7	Recent Innovations and Best practices	50	35
<b>Sub - Total (b)</b>		<b>300</b>	<b>182</b>
<b>Grand Total (a+b)</b>		<b>1000</b>	<b>636</b>

**Prof. Dr. Ghulam Jilani**

Name and Designation

Signature of Program Evaluator

## Final Recommendation

- The team unanimously declared the Programme of Plant Protection in the Department of Agriculture and Agribusiness, Faculty of Sciences, University of Karachi, Pakistan in the “Y1” category of National Agriculture Education Accreditation Council.

1. **Dr. Ghulam Jilani** (Convener) \_\_\_\_\_  
Professor Faculty of Agriculture,  
Water and Marine Sciences, Uthal

2. **Prof. Dr. Muhammad Ibrahim Keerio** (Member) \_\_\_\_\_  
Professor Department of Plant Pathology,  
Sindh Agriculture University, Tandojam

I agree with the observations and recommendations made by the peer team in this report.

Chairman, National Agriculture Education Accreditation Council.

## Annexure-1

NAEAC Inspection Team

The Chairman NAEAC nominated an Accreditation Inspection Committee (AIC) for the evaluation of Department of Agriculture and Agribusiness - ( Plant Protection and Plant Pathology Programmes ), University of Karachi for accreditation. The committee comprised of the following members who undertook a visit to the said institution on January 21-22, 2013.

1. Prof. Dr. Ghulam Jilani (convener- Report on Plant Protection)

Faculty of Agriculture,  
Lasbela University Agriculture,  
Water and Marine Sciences,  
Uthal, Distt. Lasbela

2. Prof. Dr. Muhammad Ibrahim Keerio ( Member- Report on Plant Pathology )

Department of Plant Pathology,  
Sindh Agricultural University, Tandojam

The Accreditation Inspection Committee shall have the following **TORs**:

- To validate the self-assessment report (SAR) of the degree programs (B.Sc. (Hons.) and M.Sc. (Hons)) prepared by the Department of Agriculture and Agribusiness, University of Karachi.
- To carry out external evaluation of the degree programs in a transparent, neutral, holistic and participatory manner for accreditation and rating **based on seven (7) evaluation criteria given in the Evaluation Manual.**
- To submit a synthesized and concise analytical report (4-5 pages only) consisting of SWOT Analysis and actionable recommendations based on the interactions with the Dean, Chairman, Faculty Members, Students and Support Staff and alumni as well as detail visit of physical infrastructure, facilities and other teaching- learning resources available for the degree programs.
- To submit clear, specific and justified degree programs accreditation and rating recommendations to the Chairman NAEAC.

**Annexure -2**

**Area of specialization, qualification and status of faculty.**

Faculty	Qualification	Specialization	Status	
			Regular	Contract
Mr. Talha Azeem.	B. sc. (Hons.) Plant Protection	Systematic & Biodiversity	Regular	
Syed Rameez Hasan Rizvi	B. Sc. (Hons.) Plant Protection	IPM & Acarology	Regular	
<b>Adjunct Professors</b>				
Prof. Dr. Imtiaz Ahmed	Ph. D ( London)	Entomology		Visiting
Dr. Anwer Arain	M. Sc. (Entomology), Ph. D. (Agronomy)	Entomology		Visiting
Mr. Ikhtlaq Ahmed	M.Sc. (Entomology)	Entomology		Visiting
Mr. Shahan Aziz	B. sc. (Hons.) Plant Protection	Plant Protection		Visiting

**Annexure-2**

**Name , qualification and experience of lab. Staff.**

<b>S. #</b>	<b>Name</b>	<b>Designation</b>	<b>Qualification</b>	<b>Experience (Years)</b>
<b>1</b>	Mr. Nadem Baig	Office Assistant	M. A.	2
<b>2</b>	Mr. Nooruddin	Lab. Assistant	B. Sc.	4
<b>3</b>	Mr. Syed Kamran	Lab. Attendant	Intermediate	2
<b>4</b>	Mr. Mohammad Sheraz	Messenger	Matriculation	7
<b>5</b>	Mr. Hashmat Masih	Sweeper	Middle	1

**Annexure-3****List of Laboratory Equipment**

<b>Equipment</b>	<b>Number</b>	<b>Functional</b>
Incubator	1	1
Cool Incubator	1	1
Shaking Incubator	1	1
Side Arm Shaker	1	1
Luminar Air Flow Chamber	1	1
Inoculation Chamber	4	4
Refrigerator	2	2
Microscopes (monocular)	30	30
Microscopes(binocular	20	20
Research Microscope with drawing Tube	2	1
Disecting/Stereo Microscopes	5	5
Hot plate/Magnetic Stirrer	2	2
Electric Balance	3	3
pH meter	3	3
EC meter	2	2
Refractometer	1	1
Soil thermometers	4	4
Solar dehydrator	1	1
Centrifuge	1	1
Sieve sets	2	2

## **Annexure-4**

### **Research projects completed during last three years**

- “Mass production of biocontrol agents for field application” funded by ALP-PARC (completed in 2010)
- “Studies on the production of disease suppressive compost” funded by HEC, Pakistan (completed; final research report under compilation)