



National Agriculture Education Accreditation Council

75

Evaluation Report

on

Plant Protection Program

**Department of Plant Protection
Faculty of Crop Protection**

Sindh Agriculture University, Tandojam

By

Prof. Dr. Shafi M. Nizamani

**National Centre of Excellence in Analytical Chemistry,
University of Sindh, Jamshoro**

March 19-20, 2013

TABLE OF CONTENTS

Sr. No.	Particulars	Page
	EXECUTIVE SUMMARY	3
1	INTRODUCTION	4
	DEPTT. OF PLANT PROTECON	
	Department History and Main Features	4
	Degree Programs Offered	4
2	CRITERION WISE ANALYSIS	5
	Criterion I Strength and Quality of Faculty	5
	Criterion II Curriculum Design and Development	5
	Criterion III Infrastructure and Learning Resources	5
	Criterion IV Students Support and Progression	5
	Criterion V Research and Consultancy Activities	6
	Criterion VI Governance and Leadership	6
	Criterion VII Recent Innovations and Best Practices	6
3	SWOT ANALYSIS OF THE DEPTT DEGREE PROGRAMS	7
4	ACTIONABLE RECOMMONDATIONS	8
5	EVALUATION CRITERIA WEIGHTAGE FOR AGRICULTURAL DEGREE PROGRAMS	10
6	FINAL RECOMMENDATIONS	11
	Annexure # 1: NAEAC Inspection Team	12
	Annexure # 2: Area of specialization, qualification and status of teachers.	13
	Annexure # 3: Name, qualification and experience of lab, staff,	14
	Annexure # 4: List of laboratory equipment.	15

EXECUTIVE SUMMARY

Plant Protection program of the Department of Plant Protection, Sindh Agriculture University, Tandojam was evaluated by Prof. Dr. Shafi M. Nizamani on March 18-20, 2013. Initially Plant Protection program (B.Sc. (Hons) five year post matric and M.Sc. (Hons)) was initiated in 1974 by Entomology & Plant Pathology department at Sindh Agriculture College Tandojam. The Department of Plant Protection was established in July 1977 at Sindh Agriculture University, Tandojam and B.Sc (Hons,) four years program after Inter, M. Sc (Hons) and Ph D degree program were started in 1987. The department has seven full-time faculty members out of which two are Ph.Ds and three are pursuing Ph.D. HEC approved curricula is followed. The total covered area of the department is 10,000 sq. ft. comprising of 03 research/teaching laboratories, 03 class rooms, one class room with multimedia facility and 01 departmental library. The labs have enough capacity to accommodate undergraduate as well as postgraduate research students. HEC approved curricula is followed. The total covered area of the department is 10000 sq. ft. comprising of 03 research/teaching laboratories, 03 class rooms, one class room with multimedia facility and 01 departmental library. Each laboratory has enough capacity to accommodate for undergraduate as well as postgraduate research students. Departmental library has 225 text books; main library has large number of relevant research journals. Department has access to green house and glass house and other equipment/research facilities of Nuclear Institute of Agriculture, Tandojam as well Agriculture Research Institute, Tandojam. The department has sufficient experimental field at Latif farm of the University. Moreover, university has separate boys and girls hostels to accommodate the registered students. Intake of students is good (~50 students per year). Based on detailed evaluation it is recommended the degree programs of the Plant Protection Department may be graded as the upper band of "X" category with 77.0% of National Agriculture Education Accreditation Council of Higher Education Commission of Pakistan.

1. INTRODUCTION

Department of Plant Protection, Sindh Agriculture University, Tandojam

1.1 DEPARTMENT HISTORY AND DEGREE PROGRAMS OFFERED

The chairman briefed the Accreditation Inspection Committee (AIC) team through a presentation about the history, mandate/vision, mission statement, program goals & objectives, degree programs, curriculum, research projects, students and future plans.

Initially Plant Protection program (B.Sc. (Hons) five year post matric and M.Sc. (Hons)) was initiated in 1974 by Entomology & Plant Pathology department at Sindh Agriculture College Tandojam. The Department of Plant Protection was established in July 1977 at Sindh Agriculture University, Tandojam and B.Sc (Hons,) four years program after Inter, M. Sc (Hons) and Ph D degree program were started in 1987. The department has seven full-time faculty members out of which two are Ph.Ds. HEC approved curricula is followed. The total covered area of the department is 10,000 sq. ft. comprising of 03 research/teaching laboratories, 03 class rooms, one class room with multimedia facility and 01 departmental library. The labs have enough capacity to accommodate undergraduate as well as postgraduate research students. HEC approved curricula is followed. Since the Department was established with the mission “To develop and undertake educational and research programs that foster the creation and adoption of agricultural plant protection systems that are profitable, environmentally sound and sustainable” it has built linkages with Nuclear Institute of Agriculture (NIA) Tando Jam, Agriculture Research Institute Tando jam, Agriculture Extension Sindh and Department of Plant Quarantine Karachi. The Department has developed good rapport with multinational and national pesticide agencies. Besides that the department also provides advisory service to the farming community at their door from time to time. The department has produced 1000 B.Sc. Hons, 700 M.Sc (Hons) and three Ph.Ds. Current yearly intake in the department is 50, 25 and 5 students in Bachelors’ Masters’ and doctoral program respectively.

1.2 DEGREE PROGRAMS OFFERED IN PLANT PROTECTION

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

2. CRITERION WISE ANALYSIS

Criterion I: Strength and Quality of Faculty

The AIC team held the meeting with faculty members and obtained opinion about their professional, academic back ground, salary package, teaching/research environment, students attendance record, examination system, question paper settings, training facilities available, research project completed, ongoing and submitted projects and others problems existing in degrees programs of the department.

Following conclusions were drawn:

- The teaching faculty showed full satisfaction over the salary package. However, they expressed concerns over the operational budget provided to the Department by University for research purposes which is a major constraint in carrying out research activities and practical work.
- Faculty needs in-service training regarding innovations and new disciplines emerging out in Plant Protection.
- The faculty members were satisfied from the working environment in the Department.
- All the faculty members were satisfied with the Chairperson's cooperation.
- Course files and review reports were also maintained by the faculty.
- The workload of the faculty is, however, exceeding the limit set in S7

Criteria II: Curriculum Design and Development

The curriculum was revised in 2010 and the Plant Protection curriculum is revised after every 5 years by HEC National curriculum revision committee keeping in view feedback by stakeholders such as students, employers, alumni, researchers, etc. to improve the quality of education and to update the curriculum at international standards. Adequate teaching aids and well defined curriculum were provided for teaching. Students were very much satisfied with curriculum and teachers performance. The Committee however, observed that regular meetings of the departmental board of studies were held in the previous years. The meeting of the faculty board of studies was held as per the need of the department/faculty.

Criteria III: Infrastructure and Learning Resources

The total covered area of the department is 10,000 sq. ft. comprising of 03 research/teaching laboratories, 03 class rooms, one class room with multimedia facility and 01 departmental library and 07 faculty offices and 01 clerk office. Each laboratory has enough capacity to accommodate for undergraduate as well as postgraduate research students. In one research laboratory there is mass rearing of bio-control agents established for research purpose, which may enhance the mass production technology in the field of pest management. Three desktop computers with internet facilities were reserved for post-

graduate students. The AIC team also visited the departmental as well as central libraries and was satisfied with the facilities available for the students. The department library possesses more than 200 books and few research journals. One desktop computer with internet facility was also available in the departmental library to access the digital library. However, the department has insufficient budget for its maintenance. Access of students to the computer is limited and needs attention due to large number of undergraduate students.

Criteria IV: Students Support and Progression

The department every year receives maximum number of students for joining as major subject in all degree programs. The AIC team interviewed the students on various aspects of their educational programs and overall environment of the Department. They were of the opinion that the Department needs more support from the University in terms of funds to promote research and to achieve international standards. However, they were fully satisfied with the teachers' interaction as well as library and internet facilities available in the Department. The students were fully satisfied with library and internet facilities with shortage of computers. They further added that more books and journals be provided to the Department. Teachers-students interaction was encouraging.

Criteria V: Research and Consultancy Activities

The department receives research grants occasionally, however, the department has arranged and participated in different seminars, conferences and constantly provides advisory and consultancy services to farmer community. The faculty has played significant role in publishing scientific papers in HEC recognized national and international journals every year.

Criteria VI: Governance and Leadership

The highest administrative position in the University is the Vice Chancellor, followed by Pro-Vice Chancellor (if any), Registrar, Director Finance and Controller of Examinations. Dean is the academic head of faculty and Chairman has been working under the Dean of the Faculty of Crop Protection. The AIC committee observed the good understanding amongst the faculty members and the Dean and Chairman. 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. Annual Calendar of activities is prepared with the help of the faculty and staff. Course files are maintained in well manner. Placement bureau and departmental alumni exist and is partially operational. However, there is need to increase development budget. Regular issues of news bulletin/magazine are also needed.

Criteria VII: Recent Innovations and Best Practices

The department always encouraged the faculty members for acquiring post-doctoral and other professional trainings. One external member of Board of Studies is constantly attending the department meetings regarding curriculum revision and post graduate

meetings. Regular visits and internships have also been arranged for students to improve their skills. Research projects are assigned to all students to orient them towards innovative ideas and to improve their research expertise. 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 plant protection. Regular visits of students to NIA, ARI, CCRI, Plant Quarantine, and other Institutions are a big source of inspiration for both students and teachers.

3. SWOT ANALYSES

(A brief SWOT of the Department of Plant Protection, Sindh Agriculture University, Tandojam)

Major strengths:

- The Department has 07 faculty members, out of which 2 are Ph.D. degree holders in which one has Post-Doctoral exposure and one faculty member have also submitted their three Ph.D. progress reports and he will submit thesis for final Ph.D. defense seminar for acquiring degree. One faculty has proceeded abroad on study leave for getting Ph.D. degree from China. The faculty consists of experts in various important disciplines including, Integrated Pest Management, Integrated Disease Management, Biological Control, Fruits pest management, weed pest, agricultural pest management and vertebrate pest management.
- Department has established post-graduate, graduate and under-graduate laboratories. Recently work on bio-control agents like predators and parasitoids have been started. Nine M.Sc. students are working on various topics. The lab facilities for rearing natural enemies are upgraded. To facilitate M.Sc. students three computers are available in the laboratory for review search through internet.
- The classes are being conducted regularly and course contents are completed in stipulated time period.
- Faculty have good number of publications in HEC approved National and International Journals.
- The department is equipped with Digital microphotography camera, microscopes, incubators, Electric weight Balance, ELISA micro well reader and washer, Binocular microscope, Stereo-microscope, Autoclave, Colony counter, ph meter, microtone, Generator, rearing cages, Power sprayer, Hand operated knapsack sprayer for demonstration to the students.

Major Weaknesses:

- Insufficient operational budget hinders the research and academic activities.
- The Department has a library with about 225 books, but it needs more newly published books and regular subscription of International and National Research Journals.
- There is limited numbers of computers for student's access.
- The class rooms were not equipped with multimedia and audio aids.
- Non-availability of green house,

Opportunities:

Graduates of this department can find employment in Academic, Provincial as well as Federal Government sectors including Extension, Research [PARC, PAEC (NIAB, NIBGE, NIFA, NIA), SUPARCO, PCCC, Pakistan Science Foundation, Pakistan Museum of Natural History (PMNH), FSC&RD (Seed Certification & Registration), Federal Plant Protection/Plant Quarantine, Banks, Rural Support Programs (RSPs), NGOs working in Agriculture and Rural Development and Private Pesticides Companies etc.). Plant Protection Graduates may also find jobs in International Organizations such as; FAO of the United Nations, The World Bank, Asian Development Bank, ICRISAT, ICARDA, IRRI etc. They also can start their career through self-employment, as Plant Clinicians, Advisers/Consultants and Pesticide Dealers and by starting mushroom cultivation

Major Threats:

- The University is facing acute problem of shortage of funds due to which the Department is not getting funds for maintenance of laboratories, building and to carry out research experimental work.
- Faculty may be encouraged to hunt for grants from National and International funding/donor agencies.
- Stand by generator (uninterrupted electric facilities) may be provided to the Department to save/protect the high-tech equipment from electrical fluctuation.

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: Prof. Dr. Shafi Muhammad Nizamani
National Centre of Excellence in Analytical
Chemistry, University of Sindh, Jamshoro

5. Evaluation Criteria Weightage for Agriculture Degree Programs

Sr. No.	Program Evaluation Criteria	Points Assigned	Points Awarded
			M.Sc. (H) & B.Sc. (H)
Major Criteria			
1	Strength and Quality of Faculty	250	207
2	Curriculum Design and Development	150	140
3	Infrastructure and Learning Resources	200	151
4	Students Support and progression	100	81
Sub - Total (a)		700	579
Minor Criteria			
5	Research and Consultancy Activities	150	87
6	Governance and Leadership	100	70
7	Adoption of Good Practices	50	35
Sub - Total (b)		300	191
Grand Total (a+b)		1000	770

Dr. Shafi Muhammad Nizamani

Professor

Signature of Program Evaluator

6. Final Recommendation:

The Department has been offering various degree programs since 1977. It has played a significant role in producing the graduates in the field of Plant Protection and caters to the need of agro based industries, Banks, research and agriculture extension and private sector but there is still a lot of demand of Graduates to be absorbed in the public and private sector. Based on NAEAC prescribed criteria , the committee after deliberation and brain storming, unanimously recommended the degree programs of the Department to be graded as the upper band of “ X “ category with 77.0% (i.e. The classification of degree programs with minor shortfalls expected to meet the criteria as set by the Council of Accreditation).

- Prof, Dr. Shafi M. Nizamani (Convener)
National Centre of Excellence in Analytical
Chemistry, University of Sindh, Jamshoro

- Dr. Rab Dino Khuhro (Member)
Visiting Professor,
Department of Entomology,
Faculty of Crop Protection,
Sindh Agricultural 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 Committee was constituted by the Chairman, NAEAC, HEC, Islamabad, for the external assessment of various degree programs offered by the Department of Plant Protection, Sindh Agriculture University, Tandojam. Following committee had visited the Department on March, 19 and 20, 2013 as scheduled by the NAEAC.

- Dr. Shafi Muhammad Nizamani
Professor,
National Centre of Excellence in Analytical Chemistry,
University of Sindh, Jamshoro

Convener

- Dr. Rab Dino Khuhro
Visiting Professor,
Department of Entomology,
Faculty of Crop Protection,
Sindh Agricultural University, Tandojam

Member

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 carryout 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 -II**Area of specialization, qualification and status of faculty.**

Sr. No.	Name of teacher	Designation	Qualification	Teaching Experience	Specialization
1.	Muzaffar Ali Talpur	Associate Professor/ Chairman	M.Sc.	31 Yrs.	Plant Protection
2.	Dr. Jan Muhammad Mari	Associate Professor	Ph.D.	18 Yrs.	Plant Protection
3.	Imtiaz Ahmed Nizamani	Assistant Professor	M. Sc.	18 Yrs.	Plant Protection
4.	Khalid Hussain Qureshi	Assistant Professor	M.Sc.	18 Yrs.	Plant Protection
5.	Dr. Muhammad Ali Khanzada	Assistant Professor	Ph.D.	3 Yrs.	Plant Protection
6.	Aslam Bukero	Lecturer	M. Sc.	7 Yrs.	Entomology
7.	M. Ibrahim Khaskheli*	Lecturer	M. Sc.	3 Yrs.	Plant Pathology

*on study leave

Annexure-III**Name, qualification and experience of lab. Staff.**

Sr. No.	Name of teacher	Designation	Qualification	Experience
1.	Sher Muhammad Chandio	Herbarium Keeper	M.A. (Economics)	24 Yrs.
2.	Mazhar Ali Rajper	Lab. Assistant	M.A. (Islam. Culture)	20 Yrs.
3.	Allah Dino Abbasi	Lab. Attendant	NiL	24 Yrs.

Annexure-IV**List of Laboratory Equipment**

Sr. No.	Equipments	Nos.
1.	Refrigerated Incubator	01
2.	ELIZA	01
3.	Digital Microscope with camera	01
4.	Stereomicroscope	01
5.	Compound microscope	01
6.	Electric digital weight Balance	01
7.	ph meter	01
8.	Humidifier	01
9.	Colony counter	01
10	Drying oven	01
11.	Microwave oven	01
12	Microtome	01
13.	Autoclave	01
14	Boom Sprayer	02
15.	Hand operated knapsack sprayer	01

Criteria I: Strength and Quality of Faculty **207/250**
(Please consult standards (S1-S14) at page#18)

1.1 Full -Time and Part - Time Faculty **38/55**

Regular and full-time faculty, teaching core subjects

<u>Designation</u>	<u>Full Time</u>	<u>Part Time</u>	<u>Total</u>
Professor	--	--	--
Associate Professor	02		02
Assistant Professor	03	--	03
Lecturer	02	--	02
		Total	07

1.1.1 Status of Faculty

Full time Faculty required	23	Full time Faculty in position	07
Visiting faculty required	05	Visiting Faculty in position	0

1.2 Faculty Qualifications and Teaching Experience **17/20**

Status of Faculty qualification and experience.

<u>Qualification</u>	<u>Number</u>	<u>Average Teaching Experience (Years)</u>
Post Doctorate	01	Av. 21years
Doctorate	01	Av. 3 years
M. Phil/M.Sc(Hons)	05	Av. 17 year

1.3 Teaching Work Load **17/20**

Number of credit-hours teaching per week, based on actual number of different categories of teachers

<u>Designation</u>	<u>Existing Teaching Load</u>
Professors	---
Associate Professors	16 hours
Assistant Professors	20 hours
Lecturers	24 hours

1.4 Use of Students Assessment Instruments by Faculty 15/15

Assessment Instruments (Tick)	Adequately used	Inadequately used	Not used at all
• Quizzes	√		
• Assignments	√		
• Projects/seminars	√		
• Sessional tests	√		
• Mid-term	√		
• Final exams	√		

1.5 Faculty Course Review Reports 15/15

Preparation and submission of Course Review Reports (CRR) by each Faculty member at the time of course evaluation

Course Review Reports (CRR) submitted:

Regularly √ Occasionally _____ CRR submitted Rarely _____
(Evidence of course review reports may be ensured)

1.6 Degree Program Monitoring System 8/10

Adequate program monitoring system exists at the department level. √

Monitoring system exists but not implemented _____

Inadequate monitoring system _____, Monitoring system does not exist _____

1.7 Training of Newly Inducted Faculty Members 13/15

In order to become an effective teacher, all newly inducted faculty members are to receive 4-6 weeks training suitably designed to encompass the important aspects of teaching.

Systematic teachers training plan in place √

Some orientation but no formal training plan _____

No system of teachers training in place _____

1.8 Faculty Development and Career Planning 15/15

Improvement plan of faculty qualification leading to PhD and Post-Doc etc

Well planned and implemented √ Poorly planned and rarely implemented _____

Not planned at all _____

- 1.9 Salaries and Fringe Benefits of the Faculty** **8/10**
 Attractive _____ Reasonable √ _____ Low _____
 Evidence of implementation of incentives (if any) _____
- 1.10 Environment at workplace of Teaching Faculty** **05/05**
 Very Good √ _____ Good _____ Satisfactory _____ Unsatisfactory _____
- 1.11 Faculty Stability Computed Index** **04/05**
 Very Good _____ Good √ _____ Satisfactory _____ Unsatisfactory _____
- 1.12 Awards/Recognitions received by the Faculty Members** **06/10**
 Sufficient awards _____ Insufficient awards √ _____ No awards _____
- 1.13 Participation of Faculty in Seminars/Conferences during Last 3 years** **05/05**
 Adequate Participation √ _____ Inadequate Participation _____ No Participation _____
- 1.14 Textbooks/Chapters of Books Written by the Faculty Members** **06/10**
 Text books written _____ Chapters of books written _____
 Conference proceedings √ _____
- 1.15 Graduate Research Supervision** **10/10**
 Average No. of PhD Students supervised by each HEC approved Professor **03** _____
 Average No. of M.Sc Students supervised by each Faculty Member **05** _____
- 1.16 Job Satisfaction** **5/5**
 Very much Satisfied √ _____ Moderately Satisfied _____ Least Satisfied _____
 Reasons for Satisfaction/Dissatisfaction _____
- 1.17 Opportunities to Faculty for Academic Progress** **5/5**
 Adequate Opportunities √ _____ Inadequate Opportunities _____
- 1.18 Faculty Perception About on-going degree Programs** **5/5**
 Performing well √ _____ Not performing well _____
 Degree Programs need up-gradation Yes √ _____ No _____
 Reasons for not performing well _____

1.19 Teaching-Learning Methods Adopted by the Faculty 13/15

	Fully	Partially	None
• Uses variety of appropriate instructional techniques.	√		
• Promote analytical and critical thinking.	√		
• Encourages questions from students.	√		
• Believes in dialogue and discussion.	√		
• Professional code of ethics is observed.		√	

Criteria II: Curriculum Design and Development 140/150
 (Please consult standards (S15-S22) at page#18)

2.1 Curriculum Objectives of Degree Programs 20/20

Well defined √ Vaguely defined _____ Not defined _____

Curriculum objectives supportive to degree programs Fully Partially
 √ _____

Objectives examined and found relevant √ Objectives are achievable _____

2.2 Curriculum Contents are: 15/15

	<u>Fully</u>	<u>Partially</u>	<u>None</u>
• Well-structured and rich in contents.	√	_____	_____
• Compatible with emerging needs.	√	_____	_____
• Information technology integrated into the curriculum.	√	_____	_____
• Able to achieve students learning outcomes.	√	_____	_____
• Flexible to offer sufficient choices for the students.	√	_____	_____

2.3 Curriculum Revision 12/15

Curriculum revision in the light of National, HEC and International requirements and on the demand of the market.

Revised regularly (every 5 years), Revised occasionally _____ No revision _____

2.4 Students Perception about the Curricula 8/10

Students perception regarding the quality, innovation, new Knowledge and technology.

- | | | | |
|---------------------|--------|-----------------------------------|--------|
| • Innovative | _____ | • Good quality of course contents | _____√ |
| • Current | _____√ | • Fair quality of course contents | _____ |
| • Obsolete | _____ | • Poor quality of course contents | _____ |
| • Latest technology | _____ | | |

2.5 Textbooks, Reference Books and Journals etc 08/10

Prescribed textbooks/reference books may be examined in the light of International practices.

- | | | | |
|----------------------|--------|---|--------|
| • Highly recommended | _____ | • Available in the uni/deptt. library | _____√ |
| • Acceptable | _____√ | • Old Edition/New Edition | _____ |
| • Sub-standard | _____ | • Available/Not available in the market | _____ |
| • Inadequate | _____ | | |

2.6 Course Contact Hours 10/10

Total contact hours committed to theory and practical work for effective teaching of different courses.

- | | | | |
|----------------------------|--------|---|-------|
| • More than HEC guidelines | | • Average Contact hours for theory course | 2 hrs |
| • Sufficient | _____√ | • Average Contact hours for practical | 2 hrs |
| • Insufficient | _____ | • Total Contact hours for a course | 4 hrs |

2.7 Completion of Courses 10/10

Completion of theory courses during the prescribed period as per official record (To be verified by the Program Evaluators/Experts).

Very good_____√_____, Satisfactory_____, Unsatisfactory _____

2.8 Course Registration & Withdrawal Policy 10/10

Policy with adequate details_____√_____ Policy with inadequate details_____

Policy not available_____ policy is well spelled_____

Policy adequately disseminated to the students _____

2.9 Admission Policy **10/10**

- Well documented and notified √ Documented but not notified
- Appropriately documented Not documented.

2.10 Maintenance of Course Files (To be verified) **9/10**

The practice of maintaining course file is adopted internationally to monitor as how effective the course has been taught. A course file may include all relevant data (such as given below) which could become the basis of evaluation.

- Lecture breakdown for entire semester.
- Schedule of monthly/mid-term tests and final examination and daily attendance record.
- Breakdown of laboratory experiments pertaining to the course and record of successful conduct.
- Listing of textbooks and other reference books pertaining to the course.
- Recommendations and suggestions related to the course for the next session.

Maintained and well organized √ , Not properly organized , Not maintained

(The Program Evaluators may examine a few course files for the Faculty Members the previous and on-going semesters.)

2.11 Meetings of Board of Studies/Faculty (Evidence of the meetings held) **18/20**

Held regularly √ Held occasionally Never held

Regular and frequent meetings of Board of Studies √

Changes/Updating the curriculum during the last 2-3 years √

Stakeholders feedback is solicited and incorporated in the curricula √

Mechanism of stakeholders feedback exists √

2.12 Students View-point about Teacher's performance **10/10**

Very much satisfied √ Satisfied Not satisfied

Criteria III: Infrastructure and Learning Resources **151/200**

(Please consult standards (S23-S53) at page#18)

3.1 Labs and their Capacity **25/30**

No. of Research Labs 03 No. of Teaching Labs 03

Working capacity of Research Labs. 10-15, Working capacity of Teaching Labs. 10-15

3.2 Adequacy and Quality of Lab Equipment **18/20**

- | | | |
|-----------------------|----------------------------------|-------------------------|
| • Adequate <u>√</u> | • Fully operational _____ | • Good quality <u>√</u> |
| • Inadequate _____ | • Partially operational <u>√</u> | • Average quality _____ |
| • Not available _____ | • Not operational _____ | • Poor quality _____ |

3.3 Lab Equipment Utilization **8/10**

- | | |
|-------------------------------|--|
| • Properly utilized <u>√</u> | Reasons for inadequate utilization _____ |
| • Inadequately utilized _____ | Reasons for poor utilization _____ |
| • Poorly utilized _____ | Apparatus/Equipment out of order _____ |

3.4 Availability and Qualification of Lab. Staff **07/10**

- | | | |
|---|---------------------------------|-------------------------|
| • Available <u>√</u> | Partly Available _____ | Not Available _____ |
| • ¹ Trained for the job _____ | Partly Trained <u>√</u> | Not Trained _____ |
| • Highly Experienced _____ | Moderately Experienced <u>√</u> | Least Experienced _____ |
| • Lab Staff with professional qualification _____ | | |

3.5 Lab Safety Measures **10/10**

- | | | |
|--|--------------------|---------------------|
| • Availability & use of Lab manual & Protocols | Available <u>√</u> | Not Available _____ |
| • Lab safety equipment & manual | Available <u>√</u> | Not Available _____ |

3.6 Annual Budget Allocation for Maintenance and Operation of Labs **6/10**

More than Adequate _____ Adequate _____
 Inadequate √ Amount Allocated Rs. 0.470 Million

¹ Qualified & Trained as Lab Technician, Lab assistant and Lab attendant

3.7 Library Annual Budget 5/10

Main Lib. Annual budget Rs. 2.810 million Department Lib. Annual budget _____
 More than Adequate _____ Adequate _____ Inadequate ✓

3.8 Students Views about Lab Practical 5/5

<u>Conduct of Practical</u>		<u>Coverage of Course practical</u>	
• Regular	<u>✓</u>	All practical arranged	<u>✓</u>
• Irregular	_____	Some of practical arranged	_____
Practical Note-books complete and maintained (Evidence to ensure Please)		<u>Yes</u> <u>✓</u>	<u>No</u> _____

3.9 Subject Books: Total and Purchased (during Past two years) 7/10

	<u>Main Library</u>		
	<u>Text Books</u>	<u>Ref. Books</u>	<u>Total</u>
Total No. of books	2300	1500	3800
Books purchased Last two years	450	215	665
No books purchased			

	<u>Department Library</u>		
	<u>Text Books</u>	<u>Ref. Books</u>	<u>Total</u>
Total No. of books	150	75	225
Books purchased Last two years	--	--	--
No Books purchased			

3.9 Subscription to Foreign Journals during last two years (Rs. _____) 0/10

Adequate number of magazines and journals for each program may be subscribed through hard copies.

Number of Foreign Journals Subscribed _____

3.10 Local and Foreign Journals 4/5

Local Journals _____ Foreign Journals _____

Sufficient and variety available ✓ Sufficient but variety not available _____

Insufficient _____ Non – existing _____

3.11 Book Bank**05/05**

Availability of discipline textbooks and reference books in the central library for borrowing by the students for the whole session.

Sufficient \checkmark Total No. of books in book bank
 Exist but insufficient Books purchased for the last two years
 Does not exist

3.12 Library Equipment**8/10**

Equipment in the central library such as computers, photocopiers, typewriters, scanners, video and audio equipment, CD Writer, computerized search etc (please give number).

Computers 24 Photocopiers 01 Typewriters 02 Scanners 0

Video & Audio Equipment CD Writer 15

3.13 Library Space/environment**05/05**

No. of Chairs/Seats 100 Peace of mind \checkmark Lack of least noise

3.14 Students Access to various Facilities**07/10**

	<u>Sufficient</u>	<u>Insufficient</u>
Computer seating capacity	<u> </u>	\checkmark
Online surfing capacity	<u> </u>	\checkmark
	<u>Yes</u>	<u>No</u>
Students Access to Library Facilities	\checkmark	<u> </u>

3.15 Students opinion about the quality of services provided by the library 06/10

Comments: They are partially satisfied from library facilities available

3.16 Faculty/Students Computer Ratio**05/05**

Computers for Faculty 06 Computers for Students
 Computers for M.Sc (Hons) 03

3.17 Website of the Institution/Department**05/05**

Maintained and updated regularly \checkmark Maintained but not updated
 No Website

3.18 Buildings and Total Covered Area **5/5**

Departmental building infrastructure as per academic and administrative requirements.
 Total Covered area (Sq.ft) 10000 Sq.ft.

3.19 Class Rooms and Faculty Offices **4/5**

No. of Class rooms 03 Covered area (sq. ft) 2400 sq.ft
 Class rooms with multimedia 01 No. of Faculty offices 08
 Faculty offices Covered area (sq.ft) 1500 sq.ft. Faculty offices with internet 06
 Computer lab _____ Common room _____

3.20 Experimental Area and Farm Machinery **10** **8/10**

Total Farm area (acres) 05 Acres Distance from the Department 01 KM
 Buildings at the Farm √
 Adequate Research facilities for post-graduate students √
 Details of Farm Machinery & Equipment (List) _____
 (Please ensure complete list of farm equipment)

Criteria IV: Students Support and Progression **81/100**
 (Please consult standards (S54-S64) at page#19)

4.1 Nature of admission Response to Degree Programs of the Discipline **3/5**

Overwhelming _____ Moderate √ Low _____

4.1.1 Annual intake of students **3/5**

More than requirement _____ Average intake in B.Sc (Hons) 5th Term 42
 According to requirement √ Average intake in M.Sc(Hons) 1st Term 20

4.2 Yield Index **4/5**

Yearly percentage of the graduating students with respect to total admission in a year.

<u>Academic Year</u>	<u>Students Enrolled</u>		<u>Students Graduated</u>	
	<u>B.Sc (Hons)</u>	<u>M.Sc(Hons)</u>	<u>B.Sc (Hons)</u>	<u>M.Sc(Hons)</u>
2009-10	<u>35</u>	<u>15</u>	<u>29</u>	<u>12</u>
2010-11	<u>43</u>	<u>21</u>	<u>30</u>	<u>14</u>
2011-12	<u>47</u>	<u>24</u>	<u>38</u>	<u>18</u>

4.9 Transport facilities for Students 5/5

Adequate	<u> √ </u>	No. of university buses	<u> 24 </u>
Inadequate	<u> </u>	Total Seating capacity	<u> 985 </u>
Not available	<u> </u>		

4.10 Medical Facilities for Faculty and Students 5/5

Adequate √ Inadequate Not Available

4.11 Academic Counseling 5/5

Guidance available to the students from discipline teachers beyond teaching hours.

Well organized √ Unarranged & occasional No counseling at all

4.12 Internship/Project Training 8/10

Eighth semester Undergraduates internship/project training carrying (5) credit hours or Engagement of students in practical training

Compulsory √ Reasonable provision No provision

Evidence/verification of internship (reports with emphasis quality) from department

4.13 Students Interaction with Teachers 2/3

Very Encouraging Encouraging √ Discouraging

4.14 Students General Attitude Towards Studies 2/2

Very Encouraging √ Encouraging Discouraging

4.15 Students Attendance Record 5/5

Properly maintained √ Improperly maintain Not maintained at all

Attendance % Required 70%

Students Perception about Degree Programs 3/5

Best Aspects of the degree programs

More employment opportunities are available in Public and Private sector organizations.

Aspects of the degree programs that could be improved

Research, Internships

4.17 Opportunities/resources for students to participate in seminars/conferences/field tours 3/5

Students take active part in organizing different program in the Department and always ready to participate in symposia/conferences/seminars

4.18 Involvement of students in the community welfare activities by organizing university students club. 3/5

*Students are actively participated in such events,
They always warmly welcome these activities.*

Criteria V: Research and Consultancy Activities 87/150

(Please consult standards (S65-S68) at page#19)

5.1 Total Annual Research funds received from HEC and other sources 15/30

Total Research fund during Past three years Rs. 1.0 million

Regular/Irregular √ Occasional _____

5.1.1 Utilization of Annual Research Grant 10/15

Faculty Research Rs. 0.200 million Graduate Research Rs. _____

Both Activities 0.200 million

5.2 Faculty Publications (Other than Student Thesis) during last 3 years 16/20

Each faculty member is expected to publish at least 1-2 good papers in a reputed referred journal.

Impact Factor Journals	<u>04</u>	HEC approved Journals	<u>12</u>
Other Journals	<u>20</u>	All Types of Proceedings etc	<u>10</u>

5.3 Continuity of Faculty Research 10/10

Adequate √ Inadequate _____ Does not exist _____

5.4 Academic Collaboration (Meetings, Seminars, Journals, Research Projects) 8/10

The collaboration can be quite effective if the objectives of the collaborative programs are clearly defined.

Collaborating agencies

- | | |
|---|--|
| 1. Nuclear Institute of Agriculture Tandojam | 2. Agriculture Research Institute TandoJam |
| 3. Central Cotton Research Institute, Sakrand | 4. Plant Protection Karachi |

5.6 Budgetary Allocations for Seminars and Conferences, etc (last 3 years) 0/20

Amount Allocated Rs. _____

5.7 Funded Research Projects underway and completed during last 3 year **15/20**

Projects Completed **01** Projects Underway **01** Projects in pipeline **03**

5.8 Advisory Services rendered to other Organizations **5/5**

Organization receiving services

- | | |
|--|---|
| 1. <u>Farmers community</u> | 2. <u>Agriculture Training Institute, Sakrand</u> |
| 3. <u>Agriculture Extension Department</u> | 4. <u>Non-government Organizations</u> |

5.9 Dissemination and Use of Research Results **0/5**

Evidence of Publication and dissemination of completed research (e.g. booklets, brochures, leaflets, flyers, etc for the end users) _____

5.10 Organized the following during Last 3 Years N/A **8/15**

<u>Activity</u>	<u>Yes</u>	<u>No</u>	<u>Number</u>
• Farmers Field Days	<u>√</u>	_____	<u>02</u>
• Zari Mella Stall	<u>√</u>	_____	<u>01</u>
• Farmers Moot	_____	_____	_____
• Farmers Colloquia	_____	_____	_____

Criteria VI: Governance and Leadership of the Institution **70/100**
(Please consult standards (S69-S71) at page#19)

6.1 Administrative Authority/Governance **10/10**

Clearly defined √ vaguely defined _____ Status not defined _____

6.2 Organizational Setup **10/15**

Organizational Setup of financial and academic infrastructure.

Well laid out √ Overlapping _____ Weak _____

6.3 Rules and Procedures Documented **15/15**

Well documented √ Not appropriately documented _____ Not documented _____

6.4 Administrative Control **7/10**

Academic and administrative powers delegated to essential organs.

Powers clearly delineate _____ Not clearly delineated _____ not delineated _____

Highly Centralized Moderately Centralized _____ Decentralized _____

6.5 Financial Resources **5/10**

Financial resources available to the Department from various sources. Stability of Financial Resources:

Highly stable _____ Stable Existing but unstable _____

6.6 Operational Budget **4/10**

Allocated current budget compared with the required budget of the Department.

Total operational budget requirement Rs. 1.0 million

Available Operational Budget Rs. 0.470 million

6.7 Development/ Research Budget **2/5**

Budget available to department for Research, development & administrative functions for last 3 years. 0.150 million

6.8 Placement Bureau **5/5**

Each teaching department should have placement bureau and maintain record of students' employment, assist the students in placement and interact with relevant employers.

Exists and operative Exists but not operative _____ Does not exist _____

6.9 Alumni's Profile **6/10**

The Department is encouraged to develop a database of outgoing graduates to receive their feedback through establishment of a placement bureau and form an alumni's association.

Satisfied Unsatisfied _____ Not available _____

6.10 Calendar of Activities of Degree Programs **5/5**

Annual Calendar prepared regularly in consultation with Faculty and Support Staff

Annual calendar is available Not available _____ Not prepared _____

6.11 News Bulletin/Magazine **0/5**

Department regularly issues the followings:

Newsletter No News Bulletin No Magazine No

Criteria VII: Adoption of Good Practices**35/50****7.1 Please describe at least two good practices adopted related to Curriculum Review and Development and Faculty Development. 13/20**

1. The department continues to search and gather the information on recent development in the of Plant Protection by incorporating these emerging technologies in the curricula.
2. The Department encourages faculty members in several ways to improve their potential for upgrading their teaching and research. The department facilitates the faculty to seek admissions in foreign Universities for higher studies, grant of long leaves for trainings and attending workshops nationally and internationally

7.2 Please indicate at least two good practices adopted pertaining to quality instructions and teaching methods by the faculty. 08/10

1. The department provides the use of audio-visual aid, internet and digital library for the purpose of acquiring recent information on numerous aspects of research and teaching.
2. The faculty members are all devoted with their profession and hard working. We observed the classrooms environment and found a high level of satisfaction among students as far as the learning was concerned. The teachers were found to act in the class in a very friendly manner and they are well known for getting the students involved in classroom activities.

7.3 Good Practices adopted for Students – Teachers Assessment 07/10

1. The students are frequently assessed in various forms like quizzes, Assignments, Midterm exams and final exams. Class discussions on important topics help the teachers know the student involvement in the course and show their level of interest in the program.
2. The Department of Plant Protection has developed a strategy to assess the teachers through several vigilance committee constituted by the Vice Chancellor and circulation of teacher's evaluation proforma among students at end of the course.

7.4 Good Practices adopted for Knowledge Acquisition and Skill Development in Graduate Students 07/10

1. Students are provided adequate opportunities to attend workshops, training programs and also undertake internship in various disciplines related to the department to gain a practical knowledge of the subject.
2. Study tours are arranged to take the students to visit various public and private sectors for inclusive knowledge and to familiarize them with agro-based industries.

Standards/Criteria for Degree Awarding Teaching Departments

The students are supposed to qualify all the courses enrolled and pass these following the University procedure for examinations and the award of degree.

Standards/Criteria for Degree Awarding Teaching Departments

Standards	Parameter	Criteria /Standard
Strength and Quality of Faculty		
S1.	Faculty Strength	Minimum 6 teachers per department
S2.	Visiting faculty	20% of teaching staff
S3.	PhD Qualified Faculty	At-least 5 PhD
S4.	Faculty composition	1:1:2:2
S5.	Teacher student ratio	1:20
S6.	Support staff vs. Teaching staff ratio	1:2
S7.	Teaching load (Credit Hrs/Week)	Prof-8, Associate-8, AP- & Lecturer-12
S8.	Research Publications	At least 1-2 Research papers/year by each faculty member
S9.	Submission of course review reports at the end of semester	Essential
S10.	Training of newly inducted faculty	Must be in place
S11.	Environment at workplace	Good
S12.	Participation in seminars/conferences	Adequate
S13.	Opportunities for academic progress	Adequate opportunities
S14.	Job satisfaction	Essential
Curriculum Design and Development		
S15.	Revision/updating of curriculum	After Every 2-3 years
S16.	Feedback on curriculum	Essential from all stakeholders
S17.	Completion of courses (Theory) Practical:	Unsatisfactory (< 75% coverage) Satisfactory (> 75% coverage) Excellent (100% coverage) Unsatisfactory (< 75%) Satisfactory (> 75%)
S18.	Eighth semester internship for B.Sc.(Hons)	Internship project report (evidence) essential
S19.	Objectives of curriculum	Mandatory to highlight as preamble to curriculum
S20.	Meeting of BOS and BOF	Regular, essential
S21.	Maintenance of course files	Essential
S22.	Admission and withdrawal policy	Well document and transparent
Infrastructure and Learning Resources		
S23.	Maintenance of course files by the teachers	Mandatory to maintain an updated and complete file of each course offered by a faculty member (evidence)
S24.	Meetings of Board of Faculty and Board of Studies	Regular meetings with minutes and follow-up actions (evidence)
S25.	Text books/Reference books	One set of textbooks/reference books in department library
S26.	Department library	Essential. HOD maintains a small department library of text books and theses.
S27.	Library space for students	30-35 sq. ft per student
S28.	Availability of required library facilities (as per Evaluation Manual)	Essential
S29.	Books in the main library	At least 100 text books/reference books from major international/national publishers
S30.	Computers	1 for 5 students
S31.	Internet service	Access should be provided to at-least graduate students
S32.	Access to online journals	Essential for all graduate students

Standards/Criteria for Degree Awarding Teaching Departments

Standards	Parameter	Criteria /Standard
S33.	Minimum covered area of department	100 sq. ft per student
S34.	Research Journals	At least 15 current journals of the subject. Access to electronic journals be provided. Subscription to Foreign journals desirable.
S35.	Faculty office	As per faculty requirement
S37.	Faculty/student computer policy	All faculty should be computer with internet facility
S38.	Class rooms space	12-15 sq. ft per student
S39.	Minimum number of class rooms	Two per department
S40.	Normal class size	40 students
S41.	Class size with Multimedia	60 students
S42.	Seminar room	One
S43.	Reading room	One
S44.	Committee room	One
S45.	Laboratory	At least one functional lab with needed lab equipment for degree programs.
S46.	Laboratory space	25-30 sq. ft per student
S47.	Purchase of Chemicals and Glassware	Adequate budget provision essential
S48.	Repair and Maintenance of Lab Equipment	Budgetary provision as per requirement
S49.	Laboratory Manuals/Catalogues	Essential
S50.	Safety and Security measures in the Laboratory	Essential
S51.	Students Lab Manuals/Practical Notebooks	Each student maintains lab practical notebook
S52.	Qualification of Laboratory staff	Relevant qualification or at-least F.Sc. /B.Sc.
S53.	Capacity building plan for technical support staff	Essential
Students Support and progression		
S54.	Easy access to counseling and guidance facilities for students	Essential
S55.	Students scholarships	At-least 10% of the total students
S56.	First-aid & medical facility for faculty & student	Adequate medical facilities essential
S57.	Transport facility for commuting	Adequate transport facilities essential
S58.	Hostels space for cubicles	80-120 sq.ft
S59.	Dormitories	50-80 sq. ft
S60.	Yield Index	More than 75% of intake
S61.	Average CGPA (3 Years)	B.Sc and M.Sc(Hons)
S62.	Recreation facilities	Reasonable
S63.	Sports ad indoor games	Reasonable
S64.	Field/study trip opportunities	Adequate
Research and Consultancy Activities		
S65.	Research budget for students & faculty Research	At-least 10% of the department budget
S66.	Internship/hands on trainings/projects	Mandatory for B.Sc and M.Sc(Hons)
S67.	Funded research projects in hand	Reasonable to support graduate research
S68.	Academic collaboration with other Institutions	Essential
Operation Budget		
S69.	Operational Budget	Reasonable
S70.	Alumni Association	Should be in place
S71.	Calendar of activities	Essential