



AIC Report

Dr. Ghulam Jilani

February 15-16, 2012

Department of Entomology
University College of Agriculture, BZU, Multan

Dated: 2nd March 2012

**The Chairman
NAEAC Secretariat
HEC Sector H-8/1, Islamabad**

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**Subject: Accreditation Inspection Committee's (AIC) Report
Deptt. of Entomology (University College of Agriculture, BZU
Multan)**

Sir:

Reference your letter No. 675/NAEAC/ HEC-2012 dated Jan 20, 2012, on the above subject the committee visited the University College of Agriculture, BZU, Multan and conducted the accreditation through review meetings, interviews, individual meetings and group consultations and visits, etc. as per schedule given to us.

The report prepared by the committee is hereby submitted for your kind perusal and further necessary action. We are thankful to you for providing an opportunity for the above important assignment.

Dr. Ghulam Jilani
CSO/Sr. Director (Rtd.), PARC

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ACKNOWLEDGMENT

The assessment Team is grateful to the Worthy Vice Chancellor, Principal/HOD of University College of Agriculture, BZU, Multan for providing cooperation and facilitation.

We are also thankful to the NAEAC for their assistance guidelines and logistic support during the assessment process. The support provided by Mr. Naseer Alam Khan (Secretary), and Malik Muhammad Kashif Anwar (IT Coordinator), NAEAC Secretariat is highly acknowledged.

Accreditation Inspection Committee (AIC)

NAEAC

General

NAEAC Inspection Team

The Chairman NAEAC nominated an Accreditation Inspection Committee (AIC) for the evaluation of Department of Entomology, University College of Agriculture, BZU, Multan for accreditation. The committee comprises of the following members who undertook a visit to the said institute on February 15-16, 2012.

1. **Dr. Ghulam Jilani** **(Convener)**
Chief Scientific Officer (Rtd.),
NARC, Islamabad
2. **Prof. Dr. Muhammad Naeem** **(Member)**
Chairman,
Department of Entomology,
PMAS-Arid Agriculture University,
Rawalpindi

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

- To validate the self-assessment report (SAR) of the degree programs (B.Sc and M.Sc (Hons)) prepared by the Department of Entomology
- 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.

1. INTRODUCTION

Deptt. of Entomology, University College of Agriculture, BZU, Multan

• DEPARTMENT HISTORY & MAIN FEATURES

The Accreditation Committee was given a detailed briefing by Principal/HOD 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 Entomology and its role in the national economy.

Agricultural Entomology as major subject was started with the establishment of Agriculture College in 1989. During 2008 entomology was included Department of Plant Protection. In year 2010 entomology emerged as department. The Department is presently offering three degree programs viz; B.Sc. (Hons.), M. Sc (Hons.) and PhD in Entomology. The department is engaged in producing highly skilled and technically sound man power to solve the problems relating to insect pests and diseases in field crops, horticultural crops and stored commodities and transferring technologies for various stakeholders.

• DEGREE PROGRAMS OFFERED

- B.Sc.(Hons.) 130-140 Credit hours (Four years)
- M.Sc.(Hons.) 36 Credit hours (Two years)
- PhD , 3 to 5 years 18 Credit hours (3-5 years)

2. CRITERION WISE ANALYSIS

Criteria I: Strength and Quality of Faculty

The Faculty members at the Deptt. of Entomology, UCA,BZU, Multan are competent having current knowledge and skills in their field of specialization. Presently they are 8 in number comprising of 7 Assistant Professors and 1 Lecturer (**Annexure # 1**). Two Faculty have availed PDF (Post-Doctoral Fellowship), four have PhD degrees and two faculty members are in the process of completing their PhDs. The range of the experience of the faculty is from 2-16 years. This makes enough expertise to meet the needs of an independent Department to fit into the HEC requirements. Deptt. has produced 2 PhDs and 50 M.Sc.(Hons.) and 380 B.Sc.(Hons.).

Faculty members of the department also teach General Entomology courses to B.Sc. (Hons) Part. I and Part II. Existing teaching workload is as per HEC requirement = 1:16, However, if there is consideration in research teaches are overloaded. Teaching load for entomology major B.Sc.(Hons.) is 1:4 and for M.Sc.(Hons.) is 1:3.

Most of the faculty members are satisfied with their jobs and agreed that salary package is fair and reasonable. Students are generally satisfied with lectures and practical's. Seminars by eminent scientists are occasionally held in the department. The entire faculty have membership of various national and international professional societies.

Criteria II: Curriculum Design and Development

The Department of Entomology at UCA, BZU, Multan is undertaking teaching and research for 4 years B.Sc.(Hons.), 2 years M.Sc.(Hons.) and 3-5 years Ph.D. degree programs. The curricula has gone under

major revision during the last five years 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 since July, 2011. 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.

Majority of the students are satisfied with the academic programs and contents of the curricula. The parents get information regarding education of the students and jobs opportunities offered. They are satisfied. As a result students are well equipped with current knowledge and skills. The faculty members of the department are also involved in serving in various fields at national and international levels. Graduate have brought good name to the programs by rendering services to pesticides companies.

Criteria III: Infrastructure and Learning Resources

There are four specific research labs., two for postgraduate and two undergraduate teaching laboratories. Laboratories are spacious and but not equipped with safety arrangements, having Equipments such as Micropipettes, Digital balance, Hygrometer, Humidifiers, Stereoscope, Spraying machine, Autoclave, Refrigerated centrifuge machine, Mixed blender, Advanced zoom stereoscope, Rotary microtome, Digital camera, Spectrophotometer, Incubator, Laminar Air Flow, GPS, PH-meter, Rotary Shaker, Digital microscope, Over head projector and Multimedia projector. There is no greenhouse facility in the Department but insect rearing labs with control temperature and humidity condition are available. The total experimental area of the college research form is 45 acre. As per requirement on seasonal basis, the space is allotted to various departments for their research work.

Presently there is no departmental library However, Thesis and Dissertation of its qualified students are present. Also the library is having very few text books. Faculty and students use the College Library. The departmental library needs to be established and strengthened. The College library is air-conditioned and contains around 800 entomological books most of which are very old editions. In addition to this few journals, relating to various disciplines in agriculture including entomology and allied subjects are also present. However, the College library needs further improvement and fresh arrivals of journals and books.

The library is linked with digital library developed by Higher Education Commission of Pakistan, where, over 15000 full text journals and 25000 abstracted journals are available free of cost. The library also has good electronic equipment including internet, multimedia, and other facilities. There is central computer lab containing thirty three systems available for students. Internet facility are available for all the students. There are two multimedia available in the department for teaching and seminar purpose. Most of faculty's offices are having separate offices with ACs and telephone facilities as per statutory provision.

Criteria IV: Students Support and Progression

Most of the students get financial assistance from various sources. There are university merit and need based scholarships, Interest free loans from bank, and some private companies. Facilities are available in the university for both outdoor and indoor games. Thirty commuter buses are plying in town and inside the university to facilitate transportation of students.

A strong student-teacher interaction exist through tutorial meetings, department/faculty seminars, and workshops. Medical facilities for students are appropriate. Residential facilities in the university and hostels are excellent. Students perception about the degree is positive because of ample employment opportunities both in public and private sectors. Especially in pesticides in companies.

Criteria V: Research and Consultancy Activities

Amount of research grant received during last five years from HEC, PARB, minfal ACIAR Australia, Sultanat of Oman and BZU is amount Rs. 25.52 million. Out of this seven research projects worth Rs. 18.02 million

have been completed and two projects worth Rs. 7.5 million are in progress. There are a couple of research projects awaiting approval of various funding agencies. This indicates a broad base of research in the department. There is no allocated departmental budget to meet the day to day requirements of the department. The budget is control by the Principal of the College.

Criteria VI: Governance and Leadership

The Governance and administration of the University is 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.

They have started maintaining necessary records of Alumni and to get feedback from them. The Deptt graduates are performing well in public service commission and pvt sector in and abroad. Annual Calendar of activities is prepared with the help of the faculty and staff. Course files are well maintained. Regular news bulletin is issued by the University regularly.

Criteria VII: Recent Innovations and Best Practices

The faculty of Entomology have developed of protocol for management of Mango insect pests.They identified two new species, cotton mealy bug *Phenacoccus solenopsis* and Mango bark beetle *Hypochryphalous mangiferae*. They also declared the first record of new mango insect pest as a vector of mango fungal diseases. The deptt. has explored the fauna of best insect pollinators of forest, fruit orchards and agricultural crops. They identified new record of *Arestalinus* species from Multan as a pollinator. They also identified of insect pollinators as a factor of yield enhancement in mango, cotton, canola and cucurbits. Insect pest and natural enemy fauna of Brassica crops have been established from Southern Punjab. Two aphid species i.e. *Brevicoryne brassicae* L.and *Lipaphis erysimi* (kalt.) has been proved as devastating pests with more than 70% losses to late sown crops. Action threshold has been developed to manage these insect pests. Economic threshold level (ETL) is its final stages for insect pests of okra particularly jassid. Timing of insecticide application for mango midges in southern Punjab has been identified. Research is also underway to manage insect pests of *Bt* cotton through optimum sowing time. Insecticide resistance and genetic mechanism has been explored in almost cotton insect pests. Role of fungal pathogens for epizootic of insect pests has been explored recently

The faculty hopes to get business and development support from the stakeholders to improve their functions further and support the private farmers in a more meaningful way.

3. SWOT ANALYSIS OF THE DEPT DEGREE PROGRAMS

(A brief SWOT of the Deptt. of Entomology, UCA, BZU, Multan.

STRENGTHS

- Out of 8 faculty members 6 hold Ph.D. degrees and remaining 2 are near to completion of their Ph.D. degrees. They have expertises in different fields of entomology (insect bio-ecology, biological control, bio-systematics, physiology and IPM)
- Laboratory facilities (two teaching and three research laboratories) are present.
- Sufficient land for on-farm research is available both for faculty and students.
- Controlled temperature and humidity rooms are available for research.
- There is a broad base of research; 7 projects worth Rs. 18.020 million have been completed during last 5 years; 2 are ongoing; and 3 in the pipeline.
- About 250 research papers have been published in nation and international journals.
- Course files are well maintained by every teacher

WEAKNESS

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

- There is no departmental library.
- There are no senior faculty members at Professor and Associate Professor level.
- Lack of greenhouse facility.

OPPORTUNITIES

- There are bright chances of promotion of faculty members to higher vacant positions.
- Graduates of this department compete well for government and private jobs especially in pesticides companies because of being in Multan.
- Some of the students have availed national and international competitive grants for higher studies.

THREATS

- Lack of coordination with other universities and institutions for course work and research.
- Intake of students is comparatively low at B.Sc. (Hons.) and M.Sc. (Hons.) level.

4. ACTIONABLE RECOMMENDATIONS

- The requires faculty at Professor and Associate Professor level should be appointed immediately. Promotion of Assistant Professors on TTS to higher positions may not be stopped.
- There is an immediate need to build a departmental library and computer laboratory.
- The department needs equipments like camera-fixed stereomicroscope, high magnification stereomicroscope, drying cabinets, ovens, cool incubators, desiccators, electrophoresis and high speed centrifuge, growth chambers, chemicals for protein detections, rearing cages and field cages for semi-field studies, data loggers, user defined glass and green houses.
- Faculty members need to be trained in digital teaching methods.
- 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.
- Linkages with national and international universities should be further strengthened.
- 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.
- Some budget should be allocated to HOD for faculty members for urgent and unforeseen requirements which can render strong hurdles in the experiments if not dealt immediately.

Signature: _____
Name: Ghulam Jilani
Designation: Ex CSO/Sr. Director, (Rtd),
PARC, Islamabad

Evaluation Criteria for Agricultural Degree Programs

Sr No	Criteria	Points Assigned	Points Awarded	
			M.Sc. (Hons.)	B.Sc. (Hons.)
Major Criteria				
1	Strength and Quality of Faculty	250	179	178
2	Curriculum Design and Development	150	112	119
3	Infrastructure and Learning Resources	200	122	131
4	Students Support and Progression	100	65	64
Sub-Total (a):		700	478	492
Minor Criteria				
5	Research and Consultancy Activities	150	114	111
6	Governance and Leadership	100	71	62
7	Recent Innovations and Best Practices	50	36	37
Sub-Total (b):		300	221	210
Grand Total (a+b):		1000	699	702

Dr. Ghulam Jilani

Name and Designation

Signature of Program Evaluator

Final Recommendation

On the basis of the inspection/evaluation, the team recommends accreditation/rating of the degree programs of Department Entomology, University College of Agriculture, BZU, Multan, Pakistan in the Middle band (70%) of “X” category of National Agriculture Education Accreditation Council/HEC.

1. **Dr. Ghulam Jilani** (Convener) _____
Chief Scientific Officer (Rtd.),
NARC, Islamabad

2. **Prof. Dr. Muhammad Naeem** (Member) _____
Chairman,
Department of Entomology,
PMAS-Arid Agriculture University,

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

Chairman Department of Entomology.

Annex -1

- **Area of specialization and sections/labs in the department**

Faculty	Faculty with Ph.D. Degree	Specialization	Status	
			Regular	Contract
Dr. Muhammad Razzaq (Assistant Professor)	Ph. D (Pakistan)	Toxicology, HPR	Regular	
Dr. Shafqat Saeed (Assistant Professor)	Ph.D (S.Korea) Post-doc. (Korea)	IPM, Crop Pollination and Conservation	Regular	
Dr. Sarfaraz Ali Shad (Assistant Professor)	Ph. D (Pakistan)	Insect Toxicology	Regular	
Dr. Shoaib Fareed (Assistant Professor)	Ph. D (China)	IPM, Biological control,	Regular	
Dr. Syed Muhammad Zaka (Assistant Professor)	Ph.D (China) Post-doc (China)	IPM, HPR		contract
Mr. Qamar Saeed Lecturer	Ph.D Scholar	Stored Grain management and Toxicology	Regular	
Total			05	01

Annex-2**Annexure # 1 : Area of specialization and sections/labs in the department**

S.#	Laboratory	Laboratory Assistant	Laboratory Attendant	Required
1	Entomology Research Labs	Muhammad Ali Saddique Wali Muhammad	Hafiz Muhammad Khalid Humair Mahmood	1 lab. Assistant 1 Lab. Attendant
2		Khurram Shahzad	Naiab Qasid	1 needed