

## **AIC Report**

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Gomal University, D.I. Khan

## AIC REPORT

(For Gomal University, D.I.Khan)

### Executive Summary.

The Accreditation Inspection Committee (AIC) was constituted by the National Agriculture Education Accreditation Council (NAEAC) for the external review of the Degree programs, B.Sc. (Hons) and M.Sc. (Hons) of the Department of Plant Breeding and Genetics, Gomal University, D.I.Khan, (KPK). The team visited the University/Department on **29-30 April, 2013** and review the degree programs. The Dean, Faculty of Agriculture briefed about the faculty staff and its teaching/ research activities. The Faculty of Agriculture was established in December 1979, and classes were started in 1980 for B.Sc. (Hons) PBG, and in 1988 for M.Sc. (Hons) in PBG. The PhD program was initiated in this department in 1996. In 2006 the Gomal University was shifted to a new campus. In October, 2011 the Gomal University started classes in newly constructed building. The faculty follows HEC recommended curriculum for B.Sc. (Hons) & M.Sc. (Hons) degree programs as per decision of the National Curriculum Revision Committee and duly approved by statutory bodies such as Board of Studies and Academic Council. It is generally revised/updated after every five (05) years. The PBG discipline is one of the core subjects and intergral part of the faculty/University. There are some short comings in the program and infrastructure/other facilities, required for the high quality degree program. There is acute shortage of senior faculty, more faculty members such as Professors/Associate Professors and Assistant Professors are needed to be appointed/promoted. Upgradation and strengthening of the Lab facility and qualified lab staff is urgently needed. More labs are needed to strengthen the degree program. Computer facilities for the students within the discipline for approaching the online journals and textbooks are also needed. Alumni Association, Placement Bureau, functional tutorial group system for counseling and arrangements may be made for proper guidance of the students. The degree programs in PBG are also deficient in major criteria namely “Infrastructure and Learning Resources and Strength and Quality of faculty. Hence the degree programs are not meeting some of major criteria and are recommended as “Y” category.

## **Introduction**

The Faculty of Agriculture was established in December 1979, and classes were started in 1980 for B.Sc. (Hons) PBG, and in 1988 M.Sc. (Hons) PBG. In 1996 classes of PhD in this discipline of PBG were started. In 2006 construction of new campus for Gomal University was started and in October, 2011 the Gomal University was shifted to newly constructed building.

The mission of the University faculty is to create conducive environment and quality manpower and to train them in such a way that they may promote excellence in production and cooperation in any practical field such as Agricultural research, Agriculture Extension, Agriculture Industry and various public and private sector organization where they will render their expertise. Efforts are made to groom their personalities regarding leadership, administrative capabilities, research and development wing, financial institution or in any public or private educational institute. Certainly it would be a foundation stone for their self-reliance long-learning that consequently will create healthy and meaningful society.

The main goal and objective is to provide flexible yet solid undergraduate and postgraduate program. To prepare an ethnically diverse spectrum of entering students. Real proliferation of information technology along with its implication at postgraduate and undergraduate level. Strong collaboration between faculties of other universities at regional and national levels. Maximum and true access to digital libraries and to ensure postgraduate and undergraduate student with comprehension of fresh literature pertaining to Genetics and allied sciences.

All admission lists are made available on internet. Marked copies of mid-term and final exams are shown and discussed by the students. Lecture shortage warning is displayed at least twice before the onset of final exams. The Plant Breeding & Genetics Department has one research lab, two teaching labs and one lecture room. Some lecture rooms are shared with other departments of the faculty. Some shared facilities like Desktop, Laptop Computers, and multimedia are available for student in the Labs./lecture rooms with internet connections. It is also recommended that the departmental teaching staff should submit research proposal to win grant from different funding agencies and publish students/faculty

research findings in the form of quality research paper in the journal of national and international repute. Staff members should also make endeavours to prepare practical manuals and some text books helpful for the students of the Department of Plant Breeding and Genetics.

The experimental area was also visited, it is near to the Department/faculty. The students have conducted their experiments on wheat, cotton, maize and some other crops. They were advised to properly label the experiments, showing the date of sowing, number of treatments/varieties and layout plan etc. Special attention is needed to develop research area for students/faculty research. There are 6 faculty members, one Associate Professor, one Assistant Professor, and four Lecturer and whereas according to HEC standard criteria in case of strength and quality of faculty composition is 1:1:2:3 and at least there should be five PhD qualified faculty members. The recommended student ratio is 1:20 and supporting staff is 1:2. The detail can be seen in the Annexure-II (a,b).

## Criterion wise analysis

### Major criteria

- **Strength and quality of faculty:** There are six faculty members, one Associate Professor, one Assistant Professor, four Lecturers. More senior faculty members needed to be appointed for strengthening the department and proper imparting of quality education and modern research technology. According to HEC standard criteria there should be atleast five PhD and the ratio of Professor, Associate Professor, Assistant Professor and Lecturer should be 1:1:2:2 respectively.
- **Curriculum Design and Development:** The curriculum is designed according to the Higher Education/HEC policies and examination system is also followed by the HEC policy. The curriculum is revised every five years with improved version. New research findings and books are included in the revised curriculum at postgraduate and undergraduate level.
- **Infrastructure and learning Resources:** There is some deficiency in case of infrastructure i.e. classrooms/laboratories and offices for the teaching staff. However, offices are almost sufficient for providing seating facilities to the present staff of the Department of Plant Breeding and Genetics.
- **Students Support and progression:** The program offered in the Department is a 4 year degree program named B.Sc. (Hons) Agriculture and a two years degree named M.Sc. (Hons) Agriculture Plant Breeding and Genetics. Presently there is 6<sup>th</sup> Batch of B.Sc. (Hons) and about 220 students per year are enrolled and now the total number of students is 488 in over all college strength. A number of supporting and minor courses are being taught according to HEC approved curriculum with 19 credit hours in each semester. There are 14 B.Sc. (Hons), 3 M.Sc (Hons), 1 M.Phil, and 1 PhD student is working in the department. In case of an F grade or a D grade by a student, he/she is given a chance to improve as per the rules & regulations.

- **Standard 4-1: Frequency of Courses:** all courses are offered once in an academic year. However, if 4 or more students want to repeat a course, it is offered in the summer semester.
- **Standard 4-2: Structure of courses:** All core courses are carefully planned by the faculty ensuring its 100% delivery. The major courses are three credit hours duration. The assignments, quiz tests and student presentations, suitable field research work in all such courses ensure that students keep in contact with instructor throughout the semester. Also in case of unplanned holiday, make-up classes are arranged so that total students contact hours with instructor remains the same as originally planned. Both the teachers and students have frequent informal meetings about the course.
- **Standard 4-3: Student Support:** All senior teacher also offer the advise if required by any student. System is needed to be established. In this system meetings are managed by all teachers on one hour per week basis, where 25 students are given under one teacher. This method provides the opportunities to all students and teachers to get familiarized with each other. The basic aim behind these TGM classes is to educate the students through career counseling, professional counseling, confidence building, co-curricular & extracurricular activities for character building effectively.

#### **Minor Criteria**

- **Research and Consultancy activities:** Students research at farms and lab is satisfactory. However, to equip the lab with latest equipments like electrophoresis, PCR machine, Gel documentation system etc. is needed for research work based on biotechnology/molecular breeding. Collaborative programs are being run at NARC, Islamabad and Rata Choullachi. Advisory Services are also rendered to private companies dealing with seed and pesticides/herbicides.
- **Governance and leadership:** In this regard there is needed for the establishment of Placement Bureau, Alumni Association office and increase in financial resources/operational budget. Placement Bureau will be very helpful for the recruitment of qualified and relevant staff at both level. Alumni Association could also

play crucial role for interacting nationally as well as internationally to improve the activities of the Department of Plant Breeding and Genetics, Gomal UniversityIslamia University, D.I.Khan.

- **Recent innovations and best practices:** It is also reasonably satisfactory. The stakeholder are included in the departmental meetings. Better incentive are also given to the hardworking teachers. There is transparent assessment system for assessment of the teachers by the students at the end of the each semester as required by QEC.

### **SWOT analysis:**

#### **A. Strength**

- New building have been constructed for teaching / research work and office of the staff.
- A farm research with reasonable area and water supply is available for experimental purposes.
- Germplasm of various crops has been collected by the Department to develop new breeding material for teaching/faculty research, and development of a new varieties.
- Collaboration of Plant Breeding Department with NARC, and Rata Choullachi.

#### **B. Weaknesses**

- Shortage of recurring budget for conducting research and maintenance of laboratories
- Limited laboratory, class room and office facilities, and there is no departmental library.
- Lack of senior faculty members especially Professor/Associate Professors
- Non availability of sufficient no of computers for students and staff
- Technically trained lab staff is not sufficient

#### **C. Opportunity**

- Collection/creation of new germplasm of major crops is under progress.
- Breeding for abiotic stress tolerance in maize, wheat and brassica has initiated

- Good employment job opportunity for graduate/postgraduate students in public and private sector.
- Newly constructed building will also provide a conducive environments for teaching and research activities of the department.

#### **D. Threats**

- Lack of research funds may cause hinderance for the provision of quality education and to trained skilled human resource.
- Establishment of independent biotech lab is necessary for the molecular breeding program to cater the present and future need.
- More teaching staff should be recruited especially with PhD degree for dissemination of quality education and proper skill and advanced knowledge and technology.
- Sufficient no of research journal are not available to the department.

#### **E. Actionable recommendations**

Having discussions with the faculty members / students and visiting lecture rooms and labs of the Department of Plant Breeding and Genetics the following recommendations may be considred for the uplift of the department of PBG, Gomal University, D.I.Khan.

- More faculty members particularly Professors/Associate Professors needed to be recruited for proper research guidance and imparting of new knowledge and technology to the students.
- Upgradation and strengthening of the lab facilities and qualified lab staff is direly needed.
- Computer facilities for students within the department should be provided for easily approaching online journals, books and research paper etc.
- Greenhouse should be constructed for proper conduct of experiment especially for stress breeding experiments.
- Funds for postgraduate studies should be increased to a reasonable extent.



- Alumni Association, Placement Bureau, Functional Tutorial group system for proper counseling and guidance of the students.
- More furnished lecture rooms and teaching aids like the use of multimedia within the department are recommended.
- Emphasis must be given for practical training through practical work especially in the field for conducting of field experiments.
- Teaching exchange programme with other universities needs to be initiated.
- New reference books/text books, and book bank facility may be provided to the students as suggested by the students during interaction with them.
- US AID merit based/Need based scholarship may be introduced to help the needy students.

A special attention is needed for M.Phil/PhD students to complete their degree in time.

On the basis of the inspection/evaluation, the team recommends Accreditation of the Degree Programs of Plant Breeding and Genetics, Islamia University Bahawalpur in “Y” category of National Agriculture Education Accreditation Council/HEC.

## Signatures of AIC Members

### Name and Designation

### Signatures

<b>Prof. Dr. Abdus Salam Khan, Chairman Dept. PBG, UAF.</b>	<b>(Convener)</b>	
<b>Rao Abdul Qayyum, Assistant Professor Dept. PBG, BZU, Multan</b>	<b>(Member)</b>	
Dated: 18.06.2013		

## Annexures-I

### TORs

- To validate the Self-Assessment Report (SAR) of the degree programs (B.Sc and M.Sc (Hons) prepared by the department/discipline.
- To carryout external evaluation of the degree programs in a transparent, neutral, holistic and participatory manner for accreditation and rating of degree programs **based on the evaluation criteria of NAEAC.**
- To submit synthesized and concise analytical report (7-8 pages) consisting of short introduction, brief criterion-wise analysis, **Self-explanatory SWOT Analysis and explicit actionable recommendations along with completely filled-in and signed Evaluation manual (Toolkit)** based on the validation of SAR and interaction with the Chairman, Faculty members, Students and Support Staff and Alumni as well as detail on-site visit of physical infrastructure, facilities and othr teaching-learning resources available for the offering of degree programs.
- To submit clear, precise and justified actionale accreditation and rating recommendatins about the degree programs to the Chairman NAEAC.

**Annexures-II (a)**

FACULTY SUMMARY							
Sr #	Name	Designation	Qualification	Experience	Area of interest	Journal publications	
						Intl	Local
01	Mr. Umar Qiaz Khan	Assistant Professor/Chairman	M.Sc. (Hons) Agri./M.S. USA.	31 years	Cotton physiology & phenology	Nil	9
02	Dr. Shah Jehan Khan	Associate Professor	PhD	28 years	Tissue culture & Genetic Engineering	2	16
03	Dr. M. Mohib Ullah	Lecturer	PhD	7 years	Molecular plant breeding	Nil	10
04	Mr. Kalim Ullah	Lecturer	M.Sc. (Hons)	3 years	Resistance breeding in cereal crops	1	8
05	Mr. Obaid Ullah Sayal	Lecturer	M.Sc. (Hons)	3 years	Bio informatics & molecular breeding	Nil	19
06	Mr. Ehteram Ullah	Lecturer	M.Sc (Hons)	3 years	Stress physiology	Nil	Nil

**Annexures-II (b)**

SUPPORT STAFF				
Sr #	Name	Designation	Qualification	Experience
01	Muhammad Aslam	Senior Lab Assistant	D.Com	24 years
02	Muhammad Usman	Lab Assistant	F.Sc.	18 months
03	Amjed Rizwan	Naib Qasad	Middle	18 years

### **Annexure-III**

#### **Inventory of apparatus/equipments/Books etc.**

Sr #	Laboratories apparatus / equipments
1	Laminar flow cabinet
2	Electronic Balance
3	Electrophoresis machine
4	pH meter
5	Centrifuge machine
6	Refrigerator
7	Triopreservation refrigerator
8	Digital Autoclave
9	Oven
10	Grain counter
11	Simple/high power microscope
12	Cool incubator
13	Safety cable.
14	Cultivator
15	Blade
16	Cheisel Plow
17	Ridger
18	Disc Plow
19	Harrow
20	Reaper
	Total number of books 300

### **Annexures-IV**

#### **Financial Information about the Institution**

<b>Budget allocation</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09*</b>	<b>2009-10*</b>
i. Total budget	31.373	30.384	47.240	51.302
ii. Repair & maintenance budget	5.412	7.094	7.302	8.724
iii. Library & internet budget	0.11	0.07	0.06	0.06
iv. Labs. Budget	5.275	6.935	7.236	8.596
v. Income from students fee	0.185	0.260	0.308	0.577
vi. Income from all sources	-	-	-	-
Income from other sources (donations, endowment, grants, etc.	-	-	-	-