



## **AIC Report**

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## **1. EXECUTIVE SUMMARY**

The Accreditation Inspection Committee (AIC) visited the Department of Horticulture, College of Agriculture, Dera Ghazi Khan from January 21-22, 2013 for evaluation and accreditation of the degrees offered by the department as per necessary guidelines and the tool-kit provided by the National Agriculture Education Accreditation Council (NAEAC). The committee was informed that there was Horticulture discipline in the College but not as a separate Department of Horticulture because the College has not been divided in departments yet and still functioning as a single unit, headed by a Principal. In the Horticulture discipline, there were only four teachers i.e. two Assistant Professors and 2 Lecturers. Among those, only one Assistant Professor had Ph.D. degree and one Lecturer was on study leave. The teachers were over loaded with their class work. There were no separate class rooms and laboratories for Horticulture discipline but these were shared with other disciplines. There was no separate library for the Horticulture discipline and no journal in the subject of Horticulture was subscribed in the main library of the College. Further, there no specified research area at Experimental Farm for vegetables and other horticultural crops.

Keeping in view the ground realities and the criteria provided by the NAEAC, it is proposed that the University authorities may be given about six months to make up the deficiencies and follow the actionable recommendations of the AIC. The Department may be revisited by the Accreditation Inspection Committee (AIC) for evaluation and accreditation.

## **2. INTRODUCTION**

### **2.1. Department of Horticulture, College of Agriculture, D.G. Khan**

College of Agriculture, Dera Ghazi Khan is Sub-Campus of University of Agriculture, Faisalabad. The College was established in 1998 as a constituent college of University of Agriculture, Faisalabad on the directive of the then Prime Minister of the Pakistan. B.Sc. (Hons.) Agriculture class was started in a rented building (Sadat Building) situated at Multan Road, Near Bypass, D.G. Khan in November 1998. The PC-1 for the establishment of the College was submitted in February 1999, which was approved on August 07, 1999. Horticulture as a major subject in B.Sc. (Hons.) Agriculture was introduced in the year 2000. In the beginning of year 2008, the College was shifted to its own newly constructed building opposite to D.G. Khan Air Port. The College has not been divided in departments yet and still functioning as a single unit, headed by a Principal. In the Horticulture discipline, there are only four teachers i.e. two Assistant Professors and 2 Lecturers. Among those, only one Assistant Professor holds Ph.D degree and one Lecturer is on study leave. The College is facing many problems including financial constraints, shortage of faculty and buildings, barren area, shortage of good quality water for irrigation and drinking purposes etc.

### **2.2. Degree programs offered**

- B.Sc. (Hons.) Agriculture with major Horticulture

The College is offering B.Sc. (Hons.) Agriculture, 4-year degree program, with specialization in various disciplines including Horticulture. The College is also offering M.Sc. (Hons.) program in few disciplines. However,

currently in Horticulture discipline no post-graduate program {M.Sc. (Hons.) and Ph.D.} is being offered.

### 2.3. Mission statement

Produce quality graduates in the field of Horticulture

### 2.4. Objectives

- To train human resource in the field of Horticulture to meet the increasing challenges of food production, food safety and environmental protection
- To arrange exhibitions and competitions for promotion of various aspects of Horticulture
- To provide awareness among local people regarding growing and marketing of horticultural produce
- To educate growers regarding postharvest management of fruits and vegetables for improvement of marketable crop

### 2.5. Present enrollment

| Sr. # | Session | Total students enrolled | Students in Horticulture Discipline |
|-------|---------|-------------------------|-------------------------------------|
| 1     | 2009-13 | 129                     | 20                                  |
| 2     | 2010-14 | 137                     | 20                                  |
| 3     | 2011-15 | 136                     | -                                   |
| 3     | 2012-16 | 101                     | -                                   |

### 2.6. Graduates produced so far

A total of 155 students have completed B.Sc. (Hons.) Agriculture with major Horticulture so far.

## 3. CRITERION ANALYSIS

### Criteria I: Strength and quality of Faculty

The composition and number of Faculty Members at College of Agriculture, D.G. Khan is lower than the criteria set by the HEC for Degree Awarding Teaching Departments. Out of total 4 faculty members, 3 are working in place and one member is on study leave. Out of these, only one possesses Ph.D. degree. Further, there is no Part-Time faculty. As per HEC criteria, there should be at least 5 PhDs. The composition should be one Professor, one Associate Professor, two Assistant Professors and two Lecturers. Therefore, under the situation, senior positions should be created and filled immediately. However, it was also informed that two Assistant Professors were performing additional duties in the management as Warden and in Quality Control Cell, which may affect time availability for teaching. The matter needs urgent and serious attention.

There is not enough number of regular Faculty members and there is no visiting Faculty or Foreign Faculty which is required to meet the deficiencies, if any. Further, there is no proportion among the available positions. The insufficient number of presently working faculty is also not well qualified as only one of them possessing Ph.D. qualification and required experience as per HEC criteria. However, the department is deficient in senior positions and specific areas as there is no proper qualified teacher for Floriculture, Post Harvest Management and Plant Tissue Culture & Biotechnology, which are most important areas for horticulture sector.

It is observed that the total teaching load is not proportionate because only 3 teachers are working. Further, work load is un-evenly distributed. The working faculty is too much over burden and taking more credit hours than the recommended teaching load.

It was noticed that different assessment tools were used for evaluation of students but the record was poorly

maintained. It is suggested that the system should be made formal with proper record maintained.

It is noted that such reports were hardly maintained by the faculty but were informally discussed. The program monitoring system exists in the department and the programs are reviewed regularly in the departmental meetings and improvements made accordingly.

There is no regular program for the training of newly inducted faculty, however, informal training is provided through interaction with the existing faculty. There is no regular system for career planning but the members are supported through personal contacts. The faculty is satisfied with the existing salary structure but is also looking for other benefits to face current inflation such as hardship allowance. Most of the faculty members were satisfied about the environment at the workplace i.e. College of Agriculture, D.G. Khan. There seems good stability among the faculty members. There is hardly any award for the faculty; however, the department has received some awards in different exhibitions particularly for floriculture and design arrangements. There seems low participation in seminars and conferences outside the University probably due to low linkages. Faculty members do participate in local seminars and conferences. There has been little effort for writing books.

Most of the faculty members were having B.Sc. (Hons.) students while the M.Sc. (Hons.) program needs to be started after provision of Senior Faculty. Most of the faculty members were satisfied with their job. There were hardly any formal opportunities for academic progress but the authorities were helpful in finding such facilities. The faculty feels that the degree programs were not performing quite well due to lack of senior positions and the interaction with the students revealed that all is not good and lot of improvements was required. It is observed that the faculty is using the routine methods of Teaching / Learning because they do not have the access to such facilities. However, the faculty involves the students in discussions and questioning which can promote critical thinking.

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

It was informed that the curriculum objectives, development and design is mainly the responsibility of HEC and the instructions/ guidelines are followed, however, some changes to adjust local requirements are made if required. The students feel that some of the courses are well developed and meet the demand of the market but some are not well developed and thus cannot meet the demand for local problems. Further, non-availability of senior teachers for specific areas has created some deficiencies. There was no departmental library. It is observed that the some text / reference books were available in the main Library but the availability of research journals was low, however, the addition of e-journal facility has helped the students to some extent. The credit hours for most of the courses were as per HEC guidelines. The completion of courses is satisfactory. The policy is existent as per HEC guidelines but the details were not available. The admission policy existed but needs some improvements. The course files were maintained by the teachers. They followed the process of evaluation through tests, quizzes, assignments etc. but did not maintain the record properly. The meetings of Board of Studies are held regularly at the main campus i.e. University of Agriculture, Faisalabad but meetings of faculty for other purposes are held occasionally. Generally students seem satisfied with the teachers.

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

There is only one lab which has been apportioned for different purposes and seems insufficient and needs additional space. In our opinion the department do not has enough Lab Equipments. The available equipments

were mainly in use by the graduate students jointly with other disciplines on share basis. It was noted that lab facilities for Floriculture, Post Harvest Management, Plant Tissue Culture & Biotechnology, Plant Physiology and Seed Science & Technology were not available. There are only a few Lab Assistants with Matric qualification and are not properly trained. Thus the maintenance and operation of equipments was done by the students. There was hardly any safety measure adopted in the labs. There is no specific budget allocation for labs, however, demand is sent on need basis and generally it was accepted. There is no specified budget for departmental Library. Students were partially satisfied. There are not enough books in main library. Only 194 books in the subject of horticulture are available. Among these, only few were purchased during the past few years. Foreign Journals were not purchased but e-journal facility has been provided. No local or foreign journal in the subject is subscribed or available. There is no Book Bank. The central library has the facility for different equipments but is not sufficient for the large number of students enrolled every year. Library space was not enough and satisfactory. The students have the access to the facilities but due to shortage of equipments they faced problems many times. According to the students, the quality of service provided by the library was poor. There are common computers for all students 1:20. The College of Agriculture, D.G. Khan has no website. Building and Total Covered Area was not sufficient for hosting the department. The department has only one class room, one lab on share basis, which is also used as class room and 3 offices with internet facility. As such there is a need to add the space for offices and class rooms. The department has about a few acres of farm area close to the campus, mostly under the jujube (ber) plantation. Some land has been allotted at the new farm which may be considered enough for future experimental / teaching purpose. Farm Machinery is shared with central facility.

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

There is good response for admission to the degree programs and enough number of students enrolled. Annual Intake was about 20 for B.Sc. (Hons.) Agriculture - Major Horticulture. About 95 % of the students admitted, get graduated. Dropouts in an academic year were up to 5% only. CGPA of students of degree programs for the last three Years was on average about 3.5 out of 4.0. Formal financial support was hardly available. Availability of Interest-free Loans to the students was limited. Scholarship opportunities for the students, other than University resources were reasonably available. Availability of hostel(s) accommodation was limited. Regarding convocation hall/ auditorium, a meeting room with limited capacity is available. Sports facilities were available but limited. Transport facility for students was reasonable. Medical facilities for faculty and students were insufficient. Academic counseling was occasional. Internship/ practical training opportunities were reasonably available and of good quality. Students' interaction with teachers was quite encouraging. Students' general attitude towards studies was encouraging. Students attendance record was properly maintained. Most of the students had good perception of the program which attracted them for admission but during the studies they showed some reservations of low practical knowledge. Opportunities/ Resources for students to participate in seminars/ conferences were only for local seminars/ conferences. Involvement of students in the community welfare activities was occasional.

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

Total Annual Research Grant received from HEC and other Resources was nominal, except in some years. There is hardly any grant for faculty research. The grant for student research is utilized as it is bare minimum. No

evidence could be found for publications other than faculty/students theses. There is no faculty research except students' theses where also continuity is informal as the problems/ issue/ topics are not documented. There is no academic collaboration with local agencies; however, collaboration with outside institutions is being established. Budgetary Allocation for Seminars / Conferences was hardly available. Concerning Funded Research Projects (underway and completed during last three years), two got approved and two were underway. Advisory services are provided to local administration, farmers and NGO's. There is no formal system for dissemination and use of research results, however, technical advices are provided to visiting farmers and extension workers. Farmers Field days and Zarai Maila Stall were also organized by the College during last three years.

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

The Administrative Authority is highly centralized and most of the powers rest with the Vice Chancellor and his management team. The situation may result in biased support for certain departments, which is not considered desirable. The Organizational set up is well defined but has flaws in implementation resulting in confusion in the system and hence need to be rationalized.

The College of Agriculture, D.G. Khan being a constituent College of University of Agriculture, Faisalabad is obliged to follow the rules and regulations adopted by the mother institution where the rules are documented at the university level and are followed by all the departments.

The department / the College is facing with financial problems but it is expected that the situation would improve in near future. There is no specifically allocated budget for the department but demands are met when submitted, subject to the availability of funds. There is no development budget allocated for the department. There is no formal system of Placement Bureau but students are assisted by the teachers and the management. Alumni's Profile and list is maintained in the department. The Calendar of Activities is prepared for teaching matters / classes and other activities and displayed on Notice Boards but not circulated individually. News Bulletin / Magazine has been recently started.

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

Department of horticulture has higher positions in number of research publications in HEC recognized journals and journals of good impact factor. Some faculty members also got funding for the projects some projects are in pipe lines. The department developed a link between different organizations and faculty members rendered services to the farmer community. Also developed fruit and ornamental plant nurseries and provided guideline in landscape installation and maintenance of public places/parks. Department also organized various trainings.

## **4. SWOT ANALYSIS**

*(A brief SWOT of the Department of Horticulture, College of Agriculture, D.G. Khan is presented below)*

### **SWOT Analysis of the Dept degree programs**

#### **i. Major Strengths:**

- Qualified faculty and well experienced with vision and capacity to impart quality education.
- The faculty has enthusiasm to guide for problem oriented research by students.
- The University management is highly supportive for the uplift of the department.

- Prescribed rules and procedures are followed for admission and conduct of teaching programs.
- ii. **Major Weaknesses:**
  - Non-availability of faculty for Floriculture, Plant Tissue Culture & Biotechnology and Post Harvest.
  - Inadequate space for class rooms, laboratories and offices.
  - Inadequate lab equipments particularly for Post Harvest Management / Physiology, Plant Tissue Culture, etc.
  - Insufficient Farm area, lack of Plastic Tunnels, Growth Chambers, Cold Store, Lath House, etc.
  - Shortage / non-availability of trained support staff for lab to operate and maintain the equipment.
  - Insufficient funds for research and maintenance of lab equipments and farm.
  - Weak linkages with institutions and stakeholders.
- iii. **Major Opportunities:**
  - Horticulture declared as high priority area at national level and has vast opportunity in the country because of highly suitable climate and topography.
  - Vast potential of horticultural crops including floriculture and seed production.
  - Large potential for export of different fruits and vegetables existed and need to be exploited.
  - Diversity in horticulture production attracted private sector entrepreneurs thus creating more job opportunities.
  - National and International agencies are looking for cooperation for research and development in horticulture sector.
  - High demand for trained and skilled manpower locally and internationally for fruits, vegetables and flower production and processing.
  - Increasing demand for certified vegetable seed / hybrids, fruit nursery plants, cut flowers, flower extracts & processed products, etc.
- iv. **Major Threats / Challenges:**
  - High post harvest losses for horticultural crops.
  - No system for transfer of technology for horticultural crops.
  - Value addition and processing is in high demand but not available in the country.
  - Safety standards and WTO requirements becoming mandatory for exports to high end markets.

## 5. ACTIONABLE RECOMENDATIONS

- A separate Department of Horticulture may be established, headed by a Chairman.
- At least one Professor and one Associate Professor may be recruited immediately.
- A reading room / library for students in the department is required.
- A book bank should be established in the College of Agriculture.
- More area for trials on Horticulture crops should be made available as existing research farm is too small in size.
- The student and faculty member should be facilitated and encouraged to attend seminars and workshops at national and international level by providing more funds.



- Faculty members may be encouraged for writing project proposals to get research grants.
- There is need to create more opportunities of scholarships and financial support. University may grant five scholarships for five students of B.Sc. (Hons.) Agriculture at top positions in merit.
- Sports activities, seems less, so these facilities may be enhanced for extra curricular activities.
- Accommodation facilities should be established at the campus for both Boys and Girls.
- In the Labs. Fire Alarms and Fire extinguishers may be installed and Training should be given to the new entrants in the labs.
- Contribution by faculty in writing of the books is low, it needs improvement.

**EVALUATION CRITERIA WEIGHTAGE FOR AGRICULTURE DEGREE PROGRAMS (DEPARTMENT OF HORTICULTURE, COLLEGE OF AGRICULTURE, D.G. KHAN).**

| S. No.                   | Program Evaluation Criteria           | Points Assigned | Points Awarded |
|--------------------------|---------------------------------------|-----------------|----------------|
| <b>a) Major Criteria</b> |                                       |                 |                |
| 1.                       | Strength and Quality of Faculty       | 250             | 124            |
| 2.                       | Curriculum Design and Development     | 150             | 95             |
| 3.                       | Infrastructure and Learning Resources | 200             | 84             |
| 4.                       | Student Support and Progression       | 100             | 61             |
| Sub-Total (a)            |                                       | 700             | 364            |
| <b>b) Minor Criteria</b> |                                       |                 |                |
| 5.                       | Research and Consultancy Activities   | 150             | 44             |
| 6.                       | Governance and Leadership             | 100             | 49             |
| 7.                       | Recent Innovations and Best Practices | 50              | 30             |
| Sub-Total (b)            |                                       | 300             | 123            |
| <b>Grand Total (a+b)</b> |                                       | <b>1000</b>     | <b>487</b>     |

Prof. Dr. Muhammad Akbar Anjum  
Convener

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Signature of Program Evaluator

**Final recommendation**

The University authorities may be given about six months to make up the deficiencies as mentioned in section 5 (ACTIONABLE RECOMMENDATIONS) and the Department may be revisited by the Accreditation Inspection Committee (AIC) for evaluation and accreditation.

## **6. List of Annexure**

- TORs of the committee
- Profiles of the faculty and support staff
- Inventory of apparatus/equipment
- List of last 3 years completed and on-going research projects
- List of text and reference books of the subject in the departmental and main library