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National Agriculture Education Accreditation Council

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**Report of the
Accreditation Inspection Committee (AIC)
on
Department Agronomy
University College of Agriculture,
University of Sargodha**

by
**Prof. Dr. Muhammad Ashraf
Dr. Rashid Ahmad Shad**

NAEAC Secretariat, Room # N-2, N-Block, Old Campus –old Campus building, HEC, H-8/1, Islamabad
Ph # 051-90802681, Fax # 051-90802682
Website: www.naeac.org, Email: infonaeac@yahoo.com

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Acknowledgment

The evaluation team acknowledges the support and cooperation of the honourable Dean - Principal, Chairman and faculty/staff members of the Department of Agronomy, University College of Agriculture, University of Sargodha, Pakistan. The immense help, guidance and logistic support of Mr. Naseer Alam Khan (Secretary) and other staff of NAEAC Secretariat is highly appreciated.

**Accreditation Inspection Committee (AIC),
NAEAC**

1. EXECUTIVE SUMMARY OF AIC EVALUATION REPORT

The Accreditation Inspection Committee (AIC) constituted by the National Agriculture Education Accreditation Council (NAEAC) for the external assessment of the degree programs of B. Sc. (Hons) Agri. and M. Sc. (Hons) Agri. offered by the Department of Agronomy, University College of Agriculture, University of Sargodha, visited the department on May 07-08, 2012. The NAEAC secretary and the AIC members visited the office of the Dean, Faculty of Agriculture. The secretary Naseer Alam Khan highlighted the aims and objectives of this review process. Dr. Muhammad Afzal, Dean briefed about the academic programs being offered in the college. The tentative schedule provided by the NAEAC was followed by the AIC and detailed interviews and discussions were held with the Chair, Dean, Principal, faculty members and senior students of the department. Visits were also made to review the lab facilities, research programs, classrooms, offices faculty library and main university library.

a) Accreditation Inspection Team

In pursuance to its mandate given by the HEC under clause 10 subsections (d) and (1) of the byelaws of NAEAC, an Accreditation Inspection Committee (AIC) constituted was comprised of following scientists to review the Department of Agronomy, University College of Agriculture, University of Sargodha for assessment and accreditation of degree programs:

i) Prof. Dr. Muhammad Ashraf

Professor
Agronomy Department
Pir Mehr Ali Shah Arid Agriculture University,
Rawalpindi.

Convener

ii) Dr. Rashid Ahmad Shad

Chief Scientific Officer (Rtd),
National Agricultural Research Centre,
Islamabad.

Member

b) Terms of References of the Committee (TORs)

1. To validate self-assistance report (SAR) of degree programs (B.Sc. and M.Sc. (Hons)) prepared by the department/discipline.
2. To carry out external evaluation of the degree programs in a transparent, neutral, holistic and participatory manner for accreditation and rating of the degree programs based on evaluation criteria of NAEAC.
3. To submit synthesized and consolidated report (7-8 pages) consisting of short introduction, brief criterion-wise analysis, self-explanatory SWOT Analysis and explicit actionable recommendations based on the validation of SAR and interaction with Chairman, Faculty Members, students and supporting staff and alumni as well as detailed on-site visit of physical infrastructure, facilities, and other teaching-learning resources available for degree programs.
4. To submit clear, precise and justified actionable accreditation and rating recommendations about the degree programs to the Chairman NAEAC.

History & main features of Agronomy department, UCA

The Accreditation Committee was given a detailed briefing by Chairman Agronomy department regarding its history, mandate/vision, mission, program goals and objectives, faculty, students, research projects and future plans. He also mentioned role of Agronomy in national economy.

The establishment of University College of Agriculture was announced on May 11, 2005 by Government of Pakistan. Agronomy as a major subject was offered in 2009 for B.Sc. (Hons) Agri. program and Agronomy department was established in January 07, 2012. The

department is engaged in producing highly skilled and technically sounds manpower to solve the problems related to crop production and soil management. The department of Agronomy has so far produced 14 B.Sc. (Hons) Agri graduates with an average 3.35 CGPA. The student intake in B.Sc. (Hons) Agri Agronomy in year 2009 was only 14 and current intake in this department is 47.

Degree programs offered

- B.Sc. (Hons.) Agri. (Four years)
- M.Sc. (Hons.) Agri. (Two years)

2. CRITERION-WISE ANALYSIS

Criterion I: Strength and Quality of Faculty

The faculty members at department of Agronomy, University college of Agriculture, Sargodha are competent enough having current knowledge and skills in their field of specialization. The department has 11 faculty positions i.e. 05 Assistant Professors, 04 Lecturers and 02 Teaching Assistants. The range of experience of the faculty is from 3 months to 10 years. Two Assistant Professors are on leave. Two Ph.D. Assistant Professors are on interim placement and have recently joined the department. One post each of Professor and Associate Professor of Agronomy has been advertised and posts will be filled within due course of time. Faculty composition of the department does not conform to HEC criteria. There is no system in place for training of newly inducted faculty. The department is deficient in supporting staff according to the standard criteria. Six books have been written by agronomy faculty and also there are fairly good number of publications by this young agronomy faculty in proceedings/journals of international repute. Teacher-student ratio conforms to the standards laid down by NAEA council. This makes enough expertise to meet the needs of an independent Department to fit into the HEC requirements.

Most of the faculty members are satisfied with their jobs and agreed that salary package is fair and reasonable. The faculty members are enthusiastic about establishing collaboration with the foreign universities. Moreover, adequate opportunities exist for academic progress. The entire faculty has membership of various national and international professional societies and the faculty participation in seminar/conferences is adequate. Students are generally satisfied with course content taught in lectures and practicals.

Criteria II: Curriculum Design and Development

The Department of Agronomy at University College of Agriculture, Sargodha is undertaking teaching and research for 4 years B.Sc. (Hons.) Agri. and 2 years M.Sc. (Hons.) Agri. degree programs. The objectives of curricula are well defined, narrated as preamble and are inline with the HEC guidelines. The revised curricula approved by HEC have been in practice since 2009. The curricula adopted have been gone under major revision during the last 2-3 years through brainstorming efforts by University Professors, Research Scientists and related business community. Therefore, the current curricula are in line with national and international standards. This has been implemented through department board of studies, faculty board of studies, academic council and university syndicate. Admission and withdrawal policy was found well documented and transparent.

Majority of the students are satisfied with academic programs and contents of the curricula. Classes are being taken regularly and course contents of various courses are covered within the stipulated period of time. Evidence of internship program and course file was also produced before the AIC team. The parents get information about education of students and jobs opportunities being offered. As a result, students are being well equipped with the latest subject knowledge. The faculty members of the department are also involved in various activities at national and international levels.

Criteria III: Infrastructure and Learning Resources

There are 02 research laboratories and 01 undergraduate teaching lab in the Agronomy department. Laboratories are spacious and working capacity of each of these labs is 50 students at a time. The scientific equipments available in the labs included: compound microscope, binocular microscope, pH meter, EC meter, photosynthetic apparatus, soil sampler set, oven, electrical balance, field balance, vacuum desiccator and digital grain moisture meter (Annexure-1). The laboratories are fully operational but inadequately equipped. Moreover, safety arrangements are not observed in labs. There is no greenhouse facility in the department. The experimental area of the research farm is 04 acres. The field area is easily approachable. The department owns tractor and tractor mounted implements viz: tractor, ridger, cultivator, plunker, blade, bed maker, rotavator, disc plough, disc harrow, drill, inter-row cultivator, trolley, thresher, reaper and rotatry machine (Annexure-2).

Presently, there is only a faculty library and text books are arranged subject-wise in steel almirah. There are 194 text books of Agronomy in faculty library. Copies of Agronomy Journal, Crop Science, Weed Science, Science International are also there in faculty library. Space for students in the library is sufficient. Moreover, a departmental library is in a process of being established. There is no computer lab at departmental level but a computer lab with 50 computers was found functional at college level. The work is in progress to provide internet services and access to online journals to each and every student and faculty member.

Criteria IV: Students Support and Progression

The admission response in B.Sc (Hons) Agri. Agronomy program is overwhelming and 14 students earned graduation with an average 3.35 CGPA. The yield index for B.Sc (Hons) Agri. has been 100% for year 2009-10. There are only university merit scholarships. The USAID/ HEC need-based scholarships and interest-free loans are not available. The student scholarship opportunities are inadequate. The college owns four commuter buses for student transport.

A strong student-teacher interaction exists through tutorial meetings, department/faculty seminars, and workshops etc.. However, there is no seminar or reading room in the department. Medical facilities for students are appropriate. Residential facilities in the college hostels are not available for boys. Field trips are being carried out by the department. Sports and indoor games' facilities exist at college level.

Criteria V: Research and Consultancy Activities

There are a couple of research projects awaiting approval of various funding agencies. There is no allocation of departmental budget to meet day-to-day needs. The Chairman has recently submitted a departmental budget i.e. 0.76 million to the college authorities for next financial year.

The Chairman has recently won an HEC project of Rs. 5.3 million. A project amounting to Rs. 0.865 million has also been submitted to HEC to strengthen college library.

The findings and outputs of the research of graduate research students is being regularly published in HEC approved/impact factor journals. The articles of immediate impact on crop productivity are published in "DOAB" and "Zarat Nama". The faculty also renders advisory service to NGOs, general farmers, seed growers and through University radio broadcast services etc.

The department has effective academic collaboration with all main agricultural research institutes of Punjab and nearby namely Fodder Research Institute, Sargodha; Adaptive Research Farm, Sargodha; Citrus Research Institute, Sargodha, In-service training institute, Sargodha.

Criteria VI: Governance and Leadership

The Governance and administration of the College is well defined like other public sector institutions. The departmental chairman is responsible for all administrative and management matters of the department. Well-defined and documented rules and regulations are being implemented in day-to-day affairs. The academic setup rests with the department and financial matters are controlled by the college authorities.

Annual calendar of activities is prepared and published with the help of faculty and staff and is followed strictly. Course files are well maintained. Placement bureau and alumni association has not been yet established.

Criteria VII: Recent Innovations and Best Practices

A Quality Enhancement Cell (QEC) has been established by university authorities to ensure the quality of degree programs. Distribution of courses is well balanced in terms of theory and practical classes. The allocated credit hours to theory and practical are satisfactory and well maintained. The classes are being taught regularly and course contents are completed within stipulated period of time. The students-teacher assessment is well adopted and operated through the questionnaires provided by QEC as per HEC directives. The good practices noted in this department are the student excursion in rural areas, use of farm machinery, regular Kisan mela, internet facility and enthusiasm about seminars and workshops etc. It was observed that compilation of data generated through questionnaires is assigned to faculty members. These tasks are an extra burden on the faculty and supposed to be done by the QEC staff. The Agronomy faculty members showed an enthusiastic look towards teaching and research.

3. SWOT ANALYSIS OF THE DEPARTMENTAL DEGREE PROGRAMS

SWOT analysis of degree programs is given below:

1) Major strengths

- The admission response in agronomy major is overwhelming and currently 47 students out of 200 students' class are majoring agronomy.
- The classes are being taught regularly and course contents are completed within the stipulated period of time. Computer and internet facilities are available in the department.

- The entire faculty is highly skilled and has expertise in their respective areas of teaching and research. They are in a process of formulating research groups.
- The departmental library and laboratories are being established. Young teachers are very enthusiastic about their career development and trying to seek collaboration with international institutions.
- The department owns tractor and the latest tractor-operated implements.

2) Major weaknesses

- Inexperienced faculty and vacant posts of Professor and Associate Professor of Agronomy are the major weaknesses of the department.
- Budget for departmental library and lab maintenance have not been allocated at all.
- Agronomy department also lacks qualified and well-trained lab staff.
- Inadequate office space for the faculty, shortage of communication facilities, lack of controlled environment facilities and lack of computer lab etc.

3) Major opportunities

- Abundant job opportunities for agronomy graduates in different government and non-government organizations.
- Technical guidance for students is available from agronomy faculty of diverse background for their undergraduate and post-graduate studies.
- Technical faculty of agronomy has an opportunity of training leading to Ph.D and post-doctorate for their career development.
- An opportunity to win projects from national and international donors.

4) Major threats

- Admission of students in B. Sc (Hons) based on F. Sc. (Pre-Medical) having urban background.
- Reduction of credit hours of general courses of agronomy for B. Sc. (Hons) Agri. program.
- Violation of merit in admission and recruitment of faculty and staff.
- A trend of shifting emphasis from teaching to publications is developing.

Actionable Recommendations

- The vacant posts of Professor and Associate Professor Agronomy should be filled immediately.
- The department needs more space for faculty offices
- There is an immediate need to strengthen departmental labs and library.
- The department needs equipments like drying cabinets, ovens, cool incubators, desiccators, electrophoresis and high speed centrifuge, growth chambers, chemicals for protein detections.
- A computer lab should be established for students with the latest computers and internet facilities.
- Lab's supporting staff must be selected on the basis of relevant qualification/ experience for handling scientific instruments/equipments safely. A qualified electric engineer may be appointed at faculty level to look after the working and maintenance of lab equipments.
- The latest editions of the books should be purchased, international journals be subscribed and communication facilities be upgraded.
- A trend of shifting emphasis from teaching to only publications may not be encouraged and emphasis should be placed on writing text books.

- The principle of merit/natural justice may strictly be observed for admission of students, selection/promotion of faculty/staff etc. Moreover, Admission in agriculture should be restrained only to sons of farmers.

Evaluation Criteria for Agricultural Degree Programs

Sr No	Criteria	Points Assigned	Points Awarded	
Major Criteria			M.Sc. (Hons.)	B.Sc. (Hons.)
1	Strength and Quality of Faculty	250	130	130
2	Curriculum Design and Development	150	134	134
3	Infrastructure and Learning Resources	200	118	118
4	Students Support and Progression	100	60	60
Sub-Total (a):		700	442	442
Minor Criteria				
5	Research and Consultancy Activities	150	85	85
6	Governance and Leadership	100	75	75
7	Recent Innovations and Best Practices	50	40	40
Sub-Total (b):		300	200	200
Grand Total (a+b):		1000	642	642

Prof. Dr. Muhammad Ashraf

Name and Designation

Signature of Program Evaluator

4. FINAL RECOMMENDATION

The department has research farm, laboratories, equipments and qualified teaching faculty to cater the needs of present level of enrolment of B.Sc. (Hons) Agri. and M.Sc. (Hons) Agri. On the basis of inspection/evaluation the team unanimously recommends the accreditation of degree programs of department of Agronomy, University college of Agriculture, University of Sargodha in “Y₁” category of National Agriculture Education Accreditation Council/HEC with scope for up-gradation to category ‘X’ and then ‘W’ after appropriate improvements with due course of time.

Signatures of AIC Members

Name and Designation

Signatures

Prof. Dr. Muhammad Ashraf

(Convener)

Professor Agronomy Department
Pir Mehr Ali Shah Arid Agriculture University,
Rawalpindi.

Dr. Rashid Ahmad Shad

(Member)

Chief Scientific Officer (Rtd)
National Agricultural Research
Centre, Islamabad

Comments and Signatures of Chairman

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

Chairman

Department of Agronomy
University College of Agriculture,
University of Sargodha

Faculty Profile

Sr. No.	Name	Designation	Highest qualification	Experience
1	Dr. Abdul Rehman	Assistant professor	Ph.D.	1 year and 2 months
2	Dr. Ahsan Aziz (on leave)	Assistant Professor	Ph.D.	1 tear and 6 months
3	Dr. Muhammad Mansoor Javaid (Interim)	Assistant Professor	Ph.D.	3 months
4	Dr. Athar Mahmood (Interim)	Assistant Professor	Ph.D.	3 months
5	Mr. Muhammad Ehsan safdar (on leave)	Assistant Professor	M.Sc. (Hons.)	5 years
6	Muhammad Yasin	Lecturer	M.Sc. (Hons.)	3 years and 10 months
7	Muhammad Amjad (on leave)	Lecturer	M.Sc. (Hons.)	10 years
8	Mr.Mudassar Aziz	Lecturer	M.Sc. (Hons.)	2 years
9	Mr. Muhammad Asif	Lecturer	M.Sc. (Hons.)	3 years and 10 months
10	Mr. Aurang Zeb	Teaching Assistant	B.Sc. (Hons.)	7 months
11	Mr. Kaleem Ahmad	Teaching Assistant	B.Sc. (Hons.)	7 months

List of Lab. Equipments

Sr. No.	Name of equipment	Quantity
1	Compound microscope	5
2	Binocular microscope	1
3	Ph meter	1
4	EC meter	2
5	Photosynthetic apparatus	1
6	Soil sampler set	2
7	Oven	1
8	Electrical balance	1
9	Field balance(50kg)	2
10	Vacuum dedicator	1
11	Digital grain moisture tester	1

Papers Published by Agronomy Department UCA, University of Sargodha

1	International	52
2	Impacted	43
3	National	35
4	Proceedings	09
5	Books	06

Technical staff

Sr. No.	Name	Designation	Qualification
1	Faisal Shoukat	Lab. Assistant	M.A

LIST OF FARM EQUIPMENTS

S. No.	Implement	Quantity
1.	Tractor	3
2.	Ridger	4
3.	Cultivator	2
4.	Planker	2
5.	Blade	2
6.	Bed Maker	1
7.	Rotavator	2
8.	Disc plough	2
9.	Disc harrow	1
10.	Drill	1
11.	Inter row cultivator	1
12.	Trolley	1
13.	Thresher	1
14.	Reaper	1
15.	Rotatry machine	1