Pir Mehr Ali Shah

ARIDAGRICULTUREUNIVERSITY

RAWALPINDI

DEPARTMENTOFAGRONOMY

Self Assessment Report

Ph. D. Agronomy

2010-12

Program Team

Prof. Dr. Fayyaz-ul-Hassan	Coordinator
Dr. Muhammad Rasheed	Member
Dr. Allah Wasaya	Member
Mr. Safdar Ali	Member

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INTRODUCTION

Agronomy Department was established in 1984 and started its Ph.D. degree program in 1998. The students who fulfill the criteria are offered research oriented Ph.D. degree program, which meet the student's requirements of Agronomy multidimentionally like latest advances in Agronomy, Plant Water Relations, Integrated Agriculture, Crop Nutrition and Principle of Remote Sensing. Statistics and Bio-chemistry courses are compulsory for Ph.D. students.

The Doctorate students are persuaded to present their lab and field research outputs by participating in intra as well as international workshops, seminars, and other training activities for their outstanding role in the flourishment of Agronomy consequently the economy of the country.. The students are always led for research publications after their whole-hearted researches. The faculty has produced 69 publications in journals of national and international repute. The Department has highly qualified and experienced faculty mostly having post doctorate research experience from universities of International fame. The entire faculty is adebt in different primed areas of Agronomy.

CRITERION1

PROGRAM MISSION, OBJECTIVES AND OUTCOMES

Components of Self-Assessment Process:

Department is concerned in the production of food, fiber and fodder about the same agronomic principles for the management of crops production The Department of Agronomy presents the doctorate students the technical skills and command for professional findings parallel to changing input requirements of the world. The objective of the department is to increase crop production, quality and profit by employing their potential skills and experienced expertise of the faculties..

Mission Statements of Agronomy Department:

The Mission of the department is to equip and impart training to Ph.D students for high-quality education which should result in amplified generation of knowledge and skills resulting in enhanced standard of employment, potentialful manpower, whose endeavors may result in a prosperous nation.

STANDARDS

Standards 1.1 : Documented measurable objectives

Objectives:

1. Build up the Department on modern lines for education and research at Ph.D level.
2. Impart practical knowledge and scientific skills in the concerned subject by employing advanced analytical approaches.
3. Broaden the vision of students by teaching them the integrated agriculture.
4. Planning for current and future researchable issues alongwith attachment to the latest teaching & research methods

Outcomes:

1. Department of Agronomy was strengthened by planning the time needed education and research for Ph. D students.
2. Ph.D scholars were imparted practical knowledge using advanced analytical techniques.
3. Integration was achieved through interviews, discussion on latest developments in the field and translation in applied research projects/thesis research.
4. Updating of curricula was done to achieve the objective of anticipation of new teaching/researchable areas.

Main elements of strategic plan to achieve mission and objectives:

- Growth of sound training system based on consultation from world reviews, writing, inventive, measures, symposia, workshops, etc for the award of degrees to these students
- Frequent planning for updating the curricula of core&, elective subjects and specialized areas.
- Improving the research labs. equipping with up to date facilities & equipments
- Publication of research data in scientific journals of world repute, books and other literature.

Program Objectives Assessment

Table 1: Objective Assessment

Sr.	Objectives	How measured	When measured	Improvement identified	Improvement made
1	Development & Strengthe of Agronomy Departmer Doctoral education	On the basis of availability of research facilities and practical application of new technology agronomic areas of agriculture	It is a continuous process as per requirement	Teaching and research methodology is needed to improved	Teaching and research me have been revised in order make them more attractiv understandable
2.	To impart practical / appl knowledge to the Doctora scholars.	Through the semester, oral, Wr and oral comprehensive examinations.	During their Docto research and comprehensive examinations	Some new courses and research facilities are nee to be included in the curriculum	Curricula have been revise per requirement of HEC.
3	Integration of related fie	By examining the students in integration of the things or diff aspects in agri. Production.	During semester ar comprehensive exa And research activ	Integrated agriculture subj needed to include in the P course work	Integrated agriculture cour has been approved for Ph.I classes
4	Anticipation of new teaching/researchable are	With the need of current advancement in the relevant are	Continuous activity	Time need based new cou research problems are nee to be included in curriculu problem -research	Approval of new curricula research areas has been accorded

Standard 1.2: Objectives Vs Outcomes

Table 2: Objectives Vs Outcomes

		Objectives			
	Sr.#	1	2	3	4
Outcomes	1	***	**	*	**
	2	**	**	**	**
	3	***	**	*	**
	4	**	**	**	**

* Relevant

** Relevant and satisfactory

*** Highly relevant and satisfactory

Dr. Muhammad Ashraf

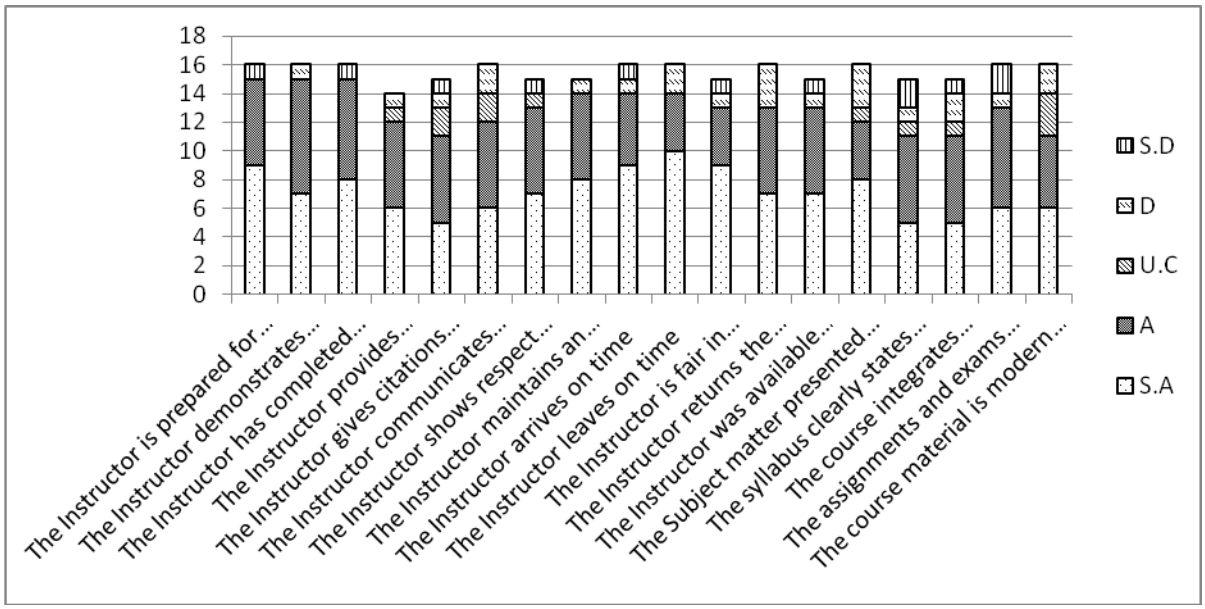
i. **Teacher Evaluation**

Data were collected from 7 Ph.D. The individual parameters showed that the 46% of the students strongly agreed, 37% agreed, 4% uncertain, 8% disagreed, and 4% strongly disagreed that the teacher prepared for each class. Similarly, most of the students agreed that instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor shows respect towards students and encourages class participation effectively, the instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject, the syllabus clearly states course objectives requirements, procedures and grading criteria, the course integrates theoretical course concepts with real-world applications, and the assignments and exams covered the materials presented in the course, the course material is updated.

Comments / Suggestions

1. Environment was gracious and supportive.
2. Good way of teaching, a man of foresight.

3. Scientific approach of teaching.



i. Course Evaluation:

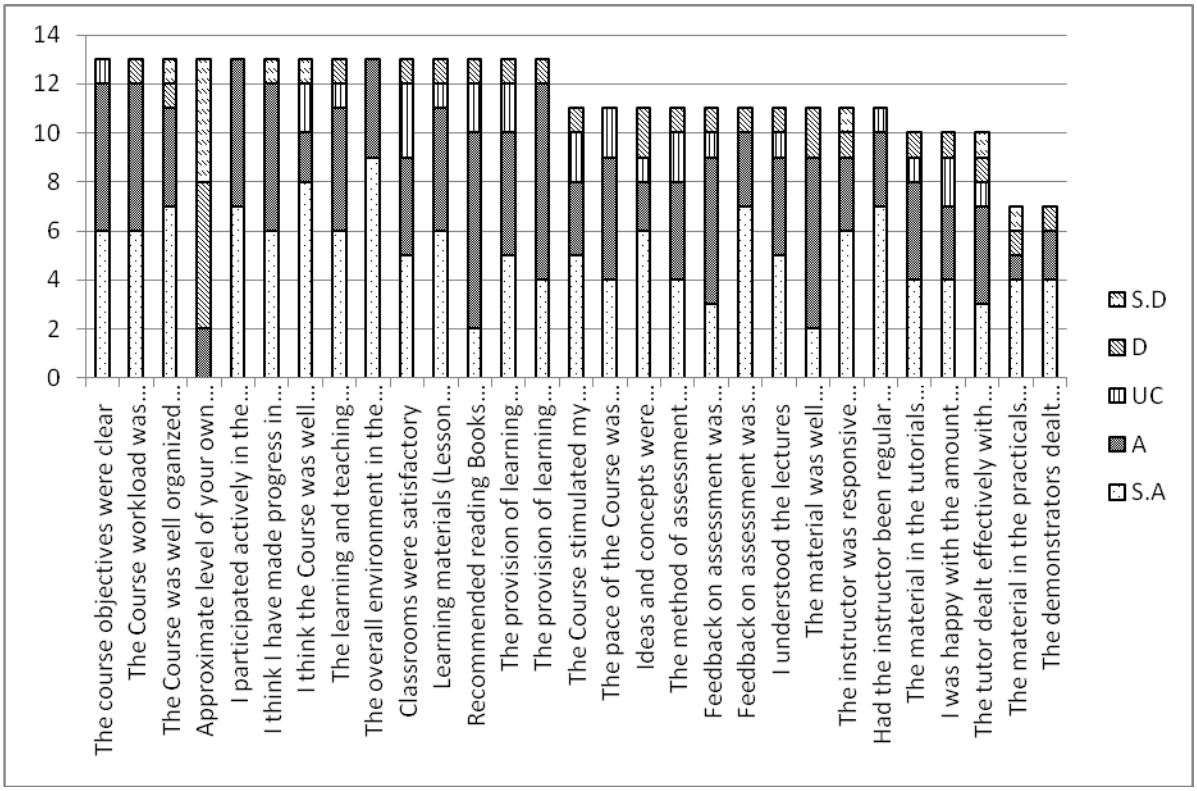
AGR-712	**Plant Water Relations**	**3(2-2)**	**Prof.Dr. Muhammad Ashraf**

Data were collected from 7 Ph.D. students. The individual parameter showed that 45% the students strongly agreed, 38% agreed, 8% uncertain, 9% disagreed and 0% strongly disagreed that the course objectives were clear. For the remaining parameters most of the students agreed that the course was well structured to achieve the learning outcomes. Similarly, they agreed that the learning and teaching methods encouraged the overall environment in the class was conductive to learning, and classrooms were satisfactory, learning materials were relevant and useful, recommended reading books etc. were relevant and appropriate. They described that the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area. According to most of the students, the pace of the Course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable, the material was well organized and presented, the instructor was responsive to student needs and problems, instructor was regular throughout the course and the material in the tutorials was useful.

Comments / Suggestions:

More practical must be arranged in labs.

1. Course should be up graded and updated.
2. Learning environment and resources were not satisfactory.
3. Usage of visuals, practical demonstrations and multimedia can make the course interesting and effective.
4. Course objectives must be clearly defined.



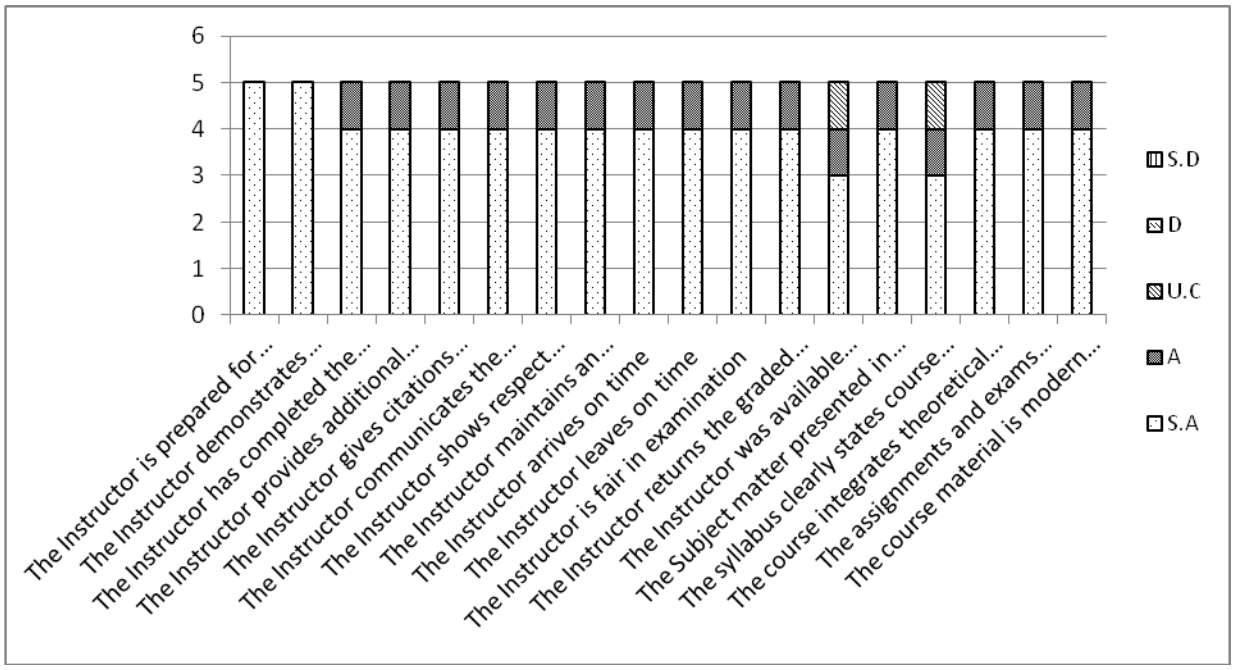
1. Dr. Fayyaz-ul-Hassan

i. Teacher Evaluation

Data were collected from 7 Ph.D. students. The individual parameters showed that the 80% of the students strongly agreed, 18% agreed, 2% uncertain, 0% disagreed, and 0% strongly disagreed that the teacher is fair in examination. Most of the students agreed that the instructor came with good preparation in each class. Most of the students agreed that instructor demonstrates knowledge of the subject and completed the whole course, he provided additional material apart from the textbook, Citations regarding current situations were imparted, communicates the subject matter, shows respect towards students and encourages class participation effectively, the instructor maintained an environment that was conducive to learning, the instructor arrived on time, the instructor returned the graded scripts etc. in a reasonable amount of time, the instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject.

Comments/Suggestions

1. General information given by teacher based on his practical experience from the prevalent environment was indeed very effective.
2. Good behavior of the teacher and was available any time.
3. Course was completed in due time and was very interesting.



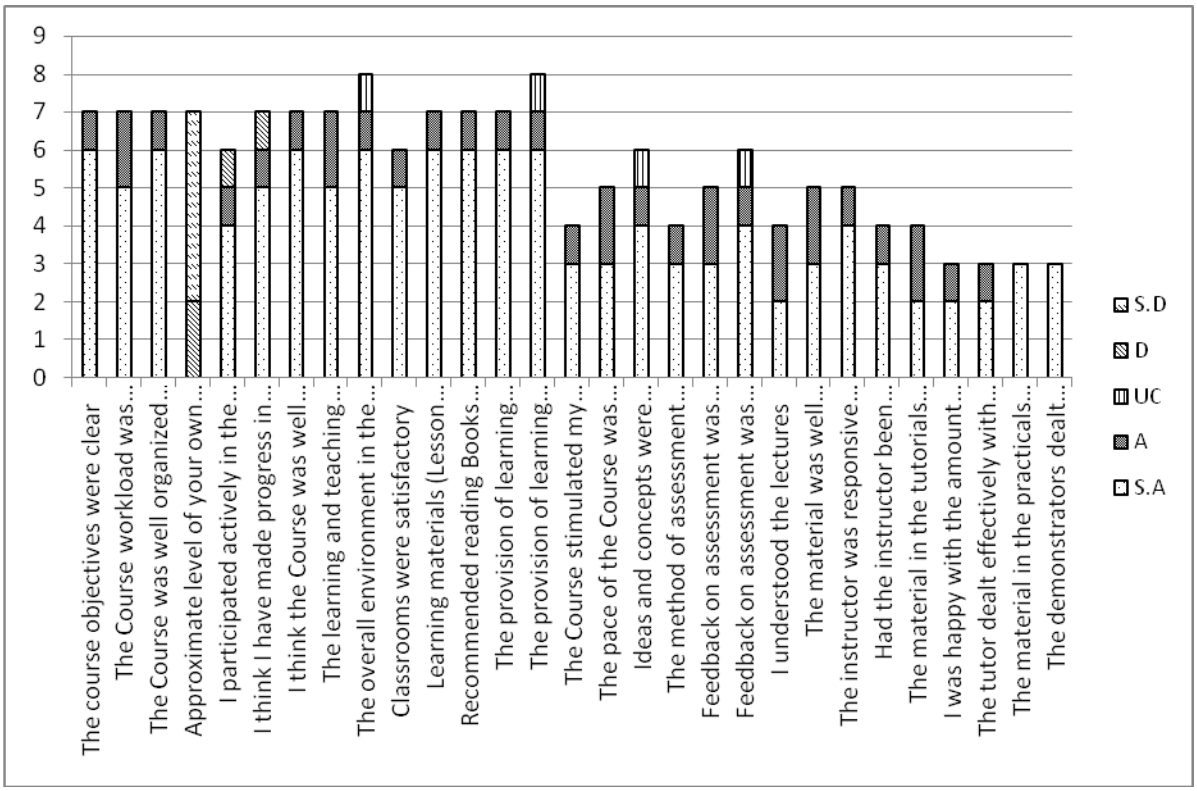
ii. Course Evaluation

AGR-717	**Integrated Agriculture**	**3(3-0)**	**Prof. Dr. Fayyaz-ul-Hassan**

Data were collected from 5 Ph.D. students. The individual parameter showed that 72% the students strongly agreed, 20% agreed, 2% uncertain, 2% disagreed and 3% strongly disagreed that the course objectives were clear. Moreover, most of the students agreed that the course well organized, the course was well structured to achieve the learning outcomes, learning and teaching methods encouraged participation, the overall environment in the class was conductive to learning, and classrooms were satisfactory, learning materials were relevant and useful, recommended reading books etc. were relevant and appropriate. Also the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area, ideas and concepts were presented clearly, the material was well organized. The instructor was responsive to student needs and problems, regular throughout the course.

Comments/Suggestions:

1. More practical will improve the course.
2. Lab equipments were not adequate.
3. Projector and multimedia should be used to deliver lectures.
4. Proper materials were not available for practical demonstrations.
5. Course was informative and interesting



2. Dr. Irfan Aziz

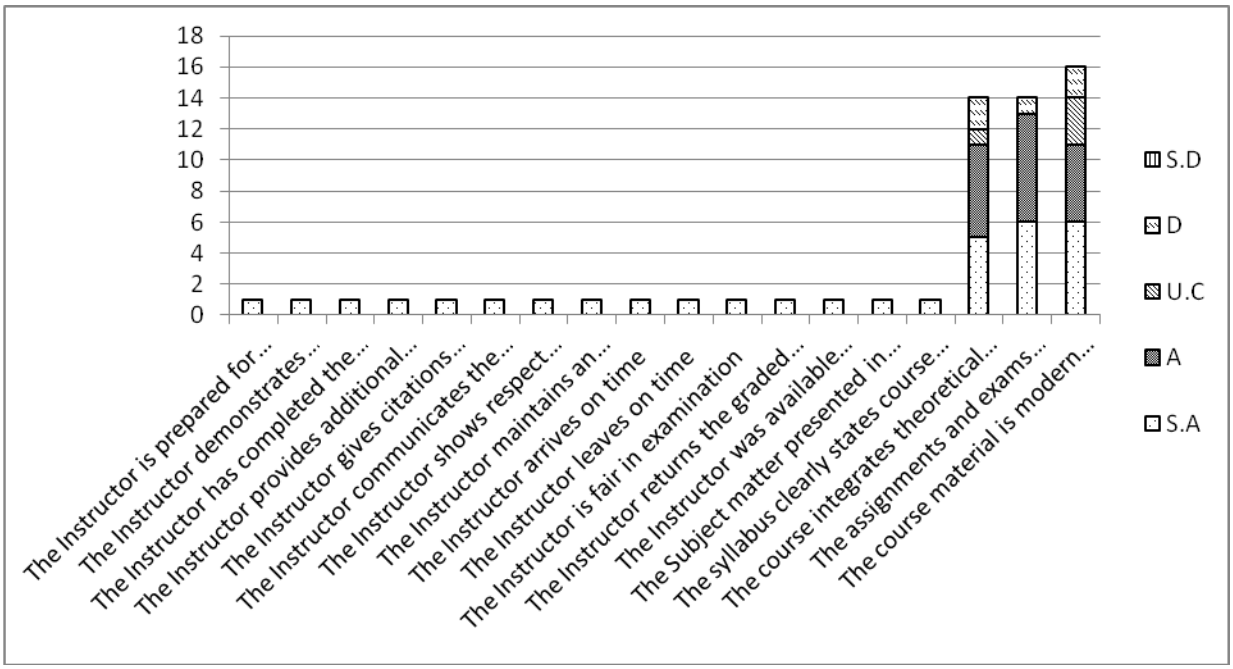
i. Teacher Evaluation

Data were collected from 16 Ph.D. students. The individual parameters showed that the 54% of the students strongly agreed, 31% agreed, 7% uncertain, 8% disagreed, and 0 % strongly disagreed that the teacher is fair in examination. Most of the students agreed that the instructor came with good preparation in each class. Most of the students agreed that instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the instructor gave citations regarding current situations with reference to Pakistani context, the instructor communicates the subject matter, the instructor shows respect towards students and encourages class participation effectively, the instructor maintained an environment that was conducive to learning, the instructor arrived on time, the instructor returned the graded scripts etc. in a reasonable amount of time, the instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject.

Comments/Suggestions

1. General information given by teacher based on his practical experience from the prevalent environment was indeed very effective.

2. Good behavior of the teacher and was available any time.
3. Course was completed in due time and was very interesting.



ii. Course Evaluation

AGR-716	**Principle of Remote Sensing**	**3(2-2)**	**Dr. Irfan Aziz**

Data were collected from 16 Ph.D. students. The individual parameter showed that 100% the students strongly agreed, 0% agreed, 0 % uncertain, 0% disagreed and 0% strongly disagreed that the course objectives were clear. Moreover, most of the students agreed that the course well organized, the course was well structured to achieve the learning outcomes, learning and teaching methods encouraged participation, the overall environment in the class was conductive to learning, and classrooms were satisfactory, learning materials were relevant and useful, recommended reading books etc. were relevant and appropriate. Also the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area, ideas and concepts were presented clearly, the material was well organized. The instructor was responsive to student needs and problems, regular throughout the course.

Comments/Suggestions:

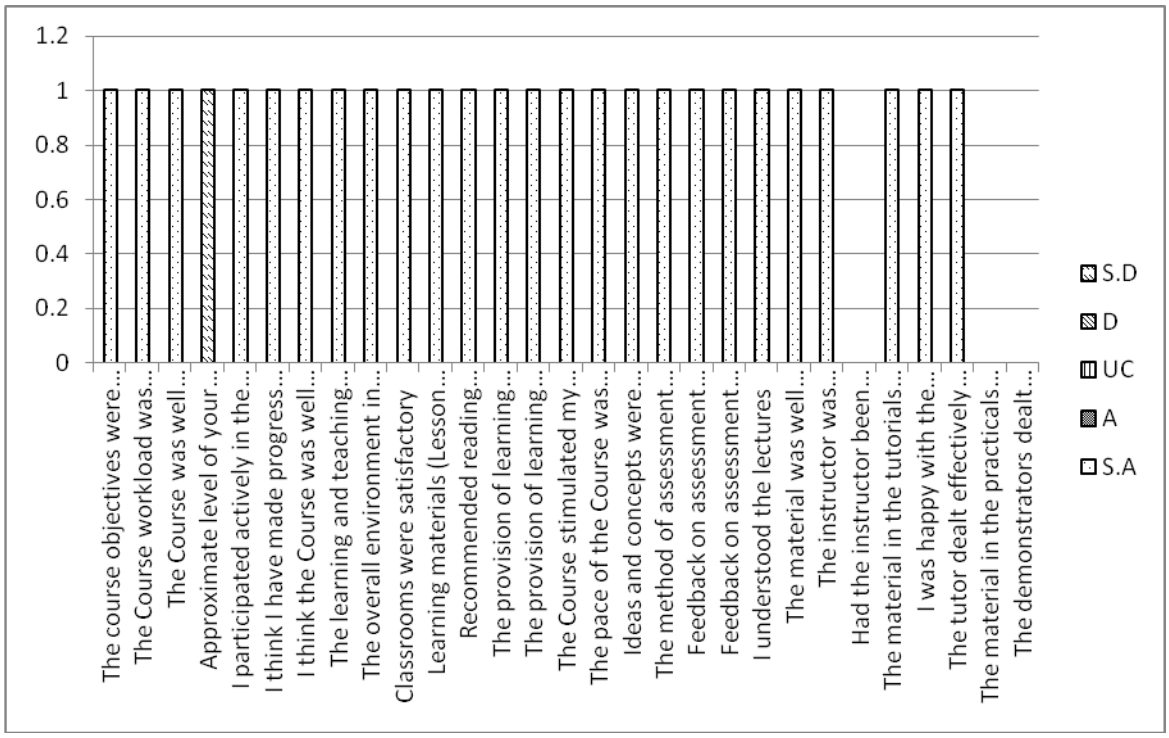
1. More practical will improve the course.

2. Lab equipments were not adequate.

3. Projector and multimedia should be used to deliver lectures.

4. Proper materials were not available for practical demonstrations.

5. Course was informative and interesting



Performa 2: Faculty Course Review Report

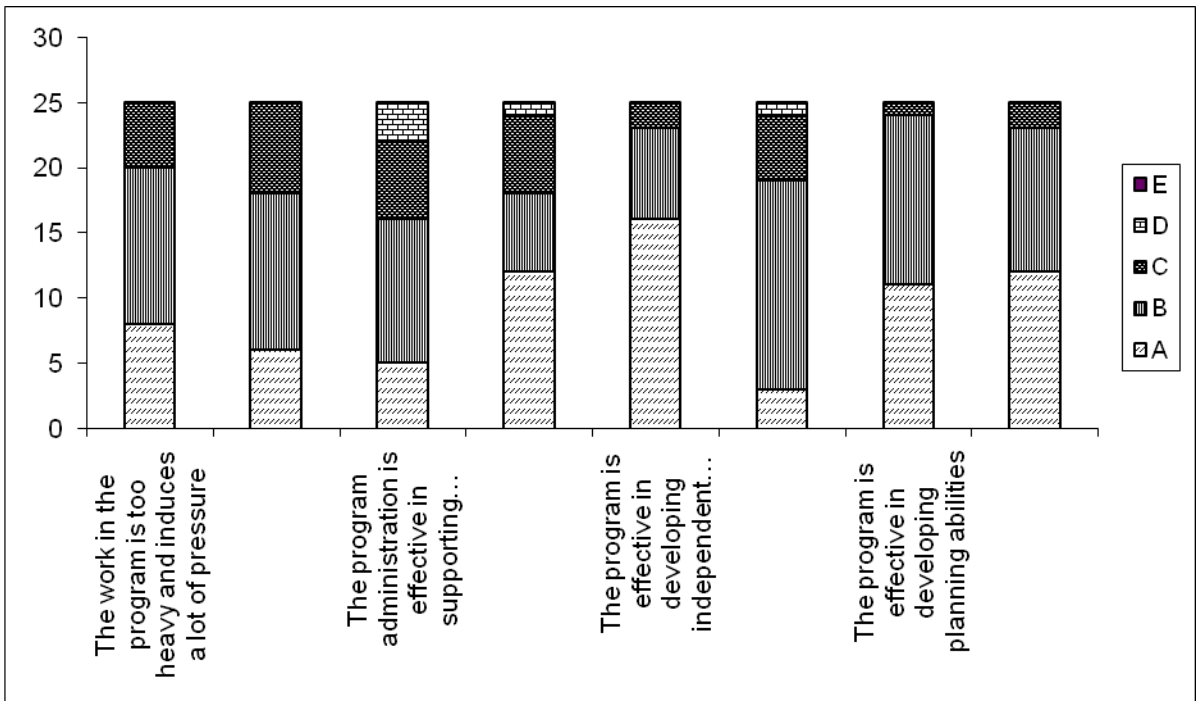
The evaluation revealed that the faculty is satisfied with curriculum. Questionnaire for the evaluation has been filled and analyzed. The internal evaluation was done through with mid and final term examinations for all courses offered by department. Some of the teachers suggested division of certain courses as they were lengthy.

Table 3: Faculty Course Review Report

Course code	Title	Credit Value	Assessment Methods/ Exams	No. of Students	comments on curriculum	Any changes for future in course	Semester	%Grade						Course Instructor
AGR-712	Plant Water Relations	3(2-2)	Midterm And Final	7	Good but lengthy	Should be divided	Spring	61	24	15	-	-	-	Dr. Muhammad Ashraf
AGR-717	Integrated Agriculture	3(2-2)	Midterm And Final	7	Good but lengthy	Should be divided	Fall	59	31	10	-	-	-	Dr. Fayyaz-ul-Hassan Sahi
AGR-716	Principle of Remote Sensing	3(2-2)	Midterm And Final	16	The course was interesting	The course should be simplified	Spring	41	33	18	8	-	-	Dr. Irfan Aziz

Performa 3: Survey of Graduating Students

A total of 11 students were included in the survey. The data showed that 69% of the students were very satisfied (VS), 24% satisfied, 11% uncertain, and 0% dissatisfied for the work in the program is too heavy. For the other parameters, most of the students were very satisfied with program administration, development of analytical and problem solving skills, the program is effective in developing independent thinking, written communication skills and planning abilities, the contents of curriculum are advanced and meet program objectives, faculty was able to meet the program objectives and the environment was conducive for learning.



Performa 4: Research Student Progress Review Form

A total of 11 students of Ph.D. were surveyed. Most of the students are interested in laboratory work and eager to operate modern equipments. They pointed out the problems regarding the availability of space, computers and internet. In fact these facilities are very poor. Skills and capabilities reflected in performance as Agronomist

- Students will be able to work in the field of Agronomy with confidence.
- To develop abilities of effective writing, oral presentations and demonstration.
- To use modern techniques/ tools in research studies.

Performa 5: Results of Faculty Survey

The data generated as a result of faculty survey, showed that 37% of faculty members were very satisfied, 31% satisfied, 12% uncertain, 8% dissatisfied and 12% very dissatisfied are satisfied with their job clarity about promotion process. However, most of the faculty themselves reported as very satisfied mentoring and administrative support, job security, support from the department, their progress through ranks. The least time availability to faculty to interact with their family is due to extra load on present teachers as some times of the faculty members proceed on training, workshops etc so the poor strength of remaining faculty in the campus has to bear out the load of course work and other assignments.

	Dr. M. Azim	Dr. F.U. Hassan	Dr. Z.I. Ahmed	Dr. A. Razzaq	Dr. M. Ansar	Dr. M. Rasheed	Dr. I. Aziz	Dr. A. Manaf	Dr. Mukhtar Ahmed	Dr. A. Wasaya
Your mix of research, teaching and community service	B	A	B	B	A	B	B	B	B	A
The intellectual stimulation of your work.	B	B	B	B	B	B	B	A	B	A
Type of teaching / research you currently do.	B	A	B	B	B	A	A	A	B	A
Your interaction with students.	A	A	A	B	B	B	B	B	A	B
Cooperation you receive from colleagues.	A	B	B	A	B	B	B	A	B	B
The mentoring available to you.	B	B	B	B	B	B	B	B	B	B
Administrative support from the department.	A	B	B	B	B	B	B	B	B	C
Providing clarity about the faculty promotion process.	A	B	C	B	B	B	B	B	D	A
Your prospects for advancement and progress	B	B	C	B	B	B	B	B	D	A

Proforma 6: Survey of department offering Ph.D. programs

Department of Agronomy started its Ph.D. program during 1998 and 4 students have completed Ph.D. from the department while 14 students are currently enrolled in department. Admission in Ph.D. requires M.Sc. (Hons.) Agronomy with a minimum CGPA of 3.0 along with thesis. Ph.D. scholar has to complete minimum 18 credit hours in addition to research thesis with minimum time duration of 3 years. Comprehensive examination is pre-requisite to qualify as candidate for Ph.D. degree and is taken at the end of course work. A research paper is must to publish from Ph.D. thesis in HEC recognize journal. Thesis is sent to two internationally good reputed scientists from academically advanced countries for evaluation. There are 09 permanent faculty members holding Ph.D. degree in the

department out of them 06 are HEC approved supervisors. Faculty members are running 4 research projects in the department funded by different organizations. There are 4 Ph.D.scholars in the department holding HEC indigenous scholarships.

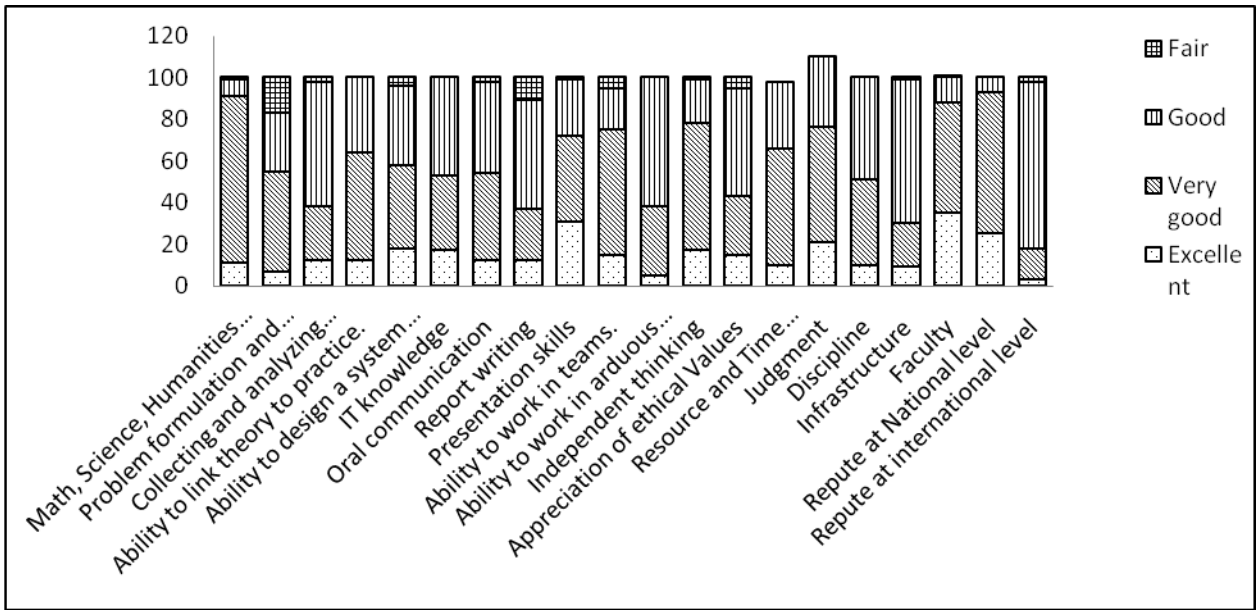
Table 4: Survey of department offering Ph.D. programs

1. General Information:		
1.1	Name of Department	Agronomy
1.2	Name of Faculty	FC&FS
1.3	Date of initiation of Ph.D. program	00-00-1998
1.4	Total number of academic journals subscribed in area relevant to Ph.D. program	Nil
1.5	Number of Computers available per Ph.D. student	Nil
1.6	Total Internet Bandwidth available to all the students in the Department.	Nil
2. Faculty Resources		
2.1	Number of faculty members holding Ph.D. degree in the Department.	10
2.2	Number of HEC approved Ph.D. Advisors in the department.	07
3. Research Output:		
3.1	Total number of articles published last year in International Academic Journals that are authored by faculty members and students in the department.	09
3.2	Total number of articles published last year in Asian Academic Journals that are authored by faculty members and students in the department.	10
3.3	Total number of ongoing research projects in the department funded by different organizations	05
3.4	Number of post-graduate students in the department holding scholarships/fellowships.	08
3.5	Total Research Funds available to the Department	20000 (2 years)
3.6	Number of active international linkages involving exchange of researchers/students/faculty etc.	Nil
4. Student Information:		
4.1	Number of Ph.D. degrees conferred to date to students from the Department during the past three academic years.	07
4.2	Number of Ph.D. students currently enrolled in the department	14

4.3	Ratio of number of students accepted to total number of applicants for Ph.D. Program.	3:5
5. Program Information		
5.1	Entrance requirements into Ph.D. Program	M. Sc. (Hons) Agronomy with a minimum CGPA of 3.0 and 60% GAT score
5.2	Is your Ph.D. program based on research only? (Y/N)	Mini Credit Hour 18 + Thesis research
5.3	Maximum number of years in which a Ph.D. degree has to be completed after initial date of enrollment in Ph.D. program	3 years
5.4	Total number of post M.Sc. (16 year equivalent) courses required for Ph.D.	Courses covering 18 Credit Hours (Mini)
5.5	Total number of M.Phil. level courses taught on average in a Term / Semester.	3-4
5.6	Total number of Ph.D. level courses taught on average in a Term / Semester.	2-3
5.7	Do your students have to take/write:	
Ph.D. Qualifying examination		Yes
Comprehensive examination		Yes
Research paper in HEC approved Journal		Yes (One)
Any other examination		No
5.8	Total number of International examiners to which the Ph.D. Dissertation is sent.	Two
5.9	How is the selection of an examiner from technologically advanced countries carried out?	Subject relevance recent status of research after getting consent of the examiner
5.1	Is there a minimum residency requirement (on campus) for award of Ph.D. degree?	Two years
6. Additional Information		
6.1	Any other information that you would like to provide.	No

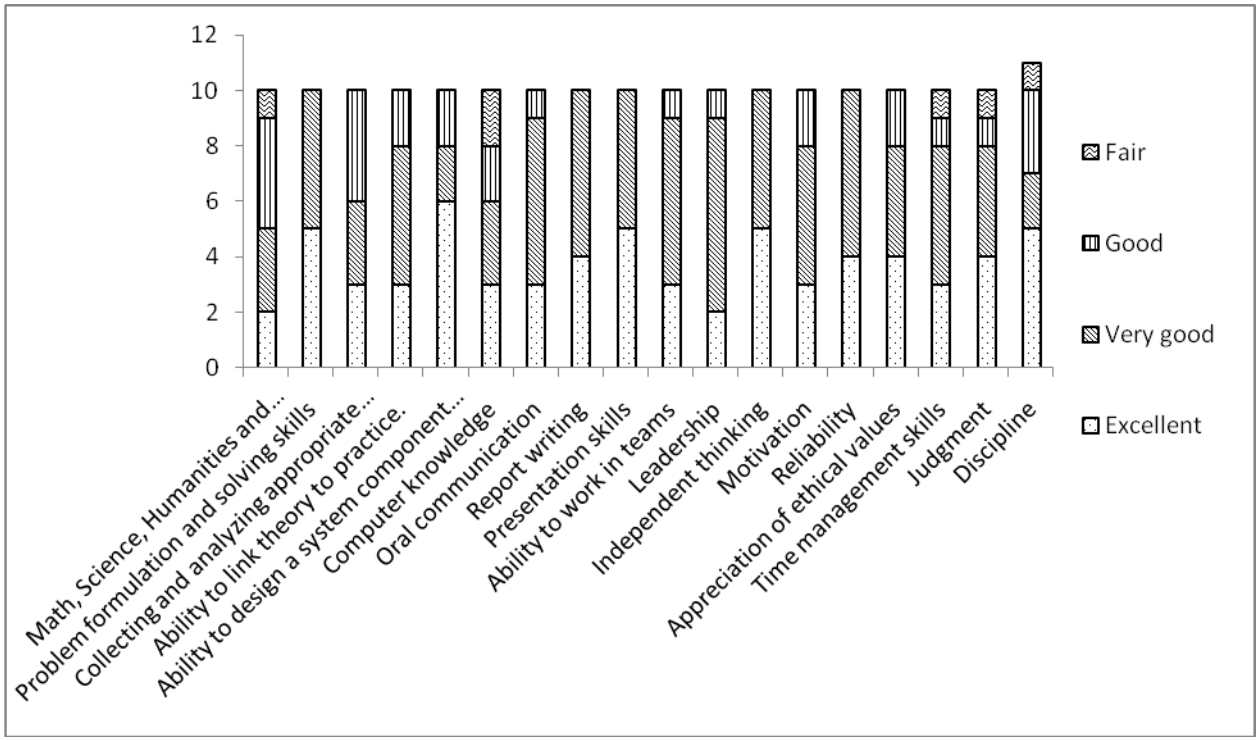
Proforma7: Alumni Survey

The purpose of this survey was to obtain alumni input on the quality of education and research they received and the level of preparation they had at University. A total of 7 alumni were surveyed. The data showed that the alumni reported 53% excellent, 23% very good, 16% good, 6% fair and 2% poor knowledge of Math, Science, Humanities and professional discipline. For other parameters, most of the Alumni reported excellent regarding department trained them excellently to formulate and solve problems and collect and analyze data, IT knowledge, training of oral communication, report writing and presentation skills, excellent interpersonal skills such as team work, working in challenging conditions and independent thinking, learnt excellent management of resource and time, learnt excellent power of judgment, department has excellent infrastructure and repute.



Proforma 8: Employer Survey

The purpose of this survey is to obtain employers input on the quality of education, the department is providing and to assess the quality of the academic program. The survey included University graduates employed in different organizations. A total of 8 employers provided the data. The generated data showed the report of the employers about the Math, Science, Humanities and professional discipline was as 51% excellent, 27% very good, 16% good, 6% fair and 0% poor. Most of the employers reported excellent performance of the candidates regarding different aspects of the professional like power of problem formulation and solving skills, and have great ability of oral communication and are reliable and ethically sound. Employers showed a little concern about computer skills of the candidate.



Standard 1.3: Program's assessment results & documentation

The results of Program's assessment and the extent to which they are used to improve the program are documented.

Strength of the Department:

All the process of updating and improvement of department and program and corrective measures where needed takes place through proper channel from the Chairmen department to Dean Faculty and further to the competent Authority and vice versa. The main strength of the department is the availability of highly qualified teachers and their full acquaintance with respective subjects. Majority of the faculty members are foreign qualified and are well versed in their area of interest.

Weaknesses identified in the program

Lack of space and infrastructure to transfer the recommended practices and technology to farmers. There is no arrangement for training the faculty for enhancing their professional competency so there is a need for short foreign trainings of young faculty members .The improvement feature for quality education in Agronomy department through There is lack of availability of the facility of audio visual aids and the latest equipments in the labs and abroad training of the faculty. Therefore, there is dire need for the overall enhancement of knowledge and skills of faculty members in relation to the

latest global advancements in the discipline through exchange programs, short training and collaborative research project within and outside Pakistan.

Standard 1.4: Overall performance measures of the department

The department must assess its overall performance periodically using quantifiable measures. Performance of the faculty members pertaining to research activities indicates that there are 45 research papers and 6 projects in the credit of faculty members of the Agronomy department in the reporting period of this report (Table 5).

Table 5: Present performance measures for research activities

Sr. Nos.	Name of faculty member	Research Papers	Projects Completed
1.	Dr. Muhammad Azim Malik	8	1(ALP)
2.	Dr. Muhammad Ashraf	7	--------
3.	Dr. Fayyaz-ul-Hassan	9	1 (ALP)
4.	Dr. Zammurad Iqbal Ahmad	6	------
5.	Dr.Abdul Razzaq	7	1(HEC)
6.	Mr. Irfan Aziz	5	--------
7.	Dr. Muhammad Ansar	6	1(PMAS-AAUR)
8.	Dr. Muhammad Rasheed	7	2(PMAS-AAUR)
9.	Mr. Ghulam Qadir	5	----------
11.	Mr. Mukhtar Ahmad	5	1 (PMAS-AAUR)
12.	Dr. Abdul Manuaf	4	----------
13.	Mr. Safdar Ali	1	----------
Total		69 international as well national	6

Program out comes:

Table 6: Quantitative assessment of the department

Sr. #	Particular	Passed out	Currently Registered	Remarks
1.	Ph. D. Degrees awarded	14 (6 indigen	10 (5 indigenous)	Almost of the students joined /got in public and private sector organizations.

The evaluation process indicated high efficiency of system and satisfactory impact of outcomes. Almost all the graduates' students got jobs in various organizations viz provincial agricultural department, universities, research organizations, banks and private firms.

Skills and capabilities reflected in performance as Agronomy:

Students develop ability to apply knowledge of Agronomy and to work as professionals to build confidence and communicate effectively in writing and oral skills. Students are able to demonstrate use modern research tools, techniques and skills for building their professional career. To make them understand how to formulate and design the experiments and to work effectively in a research group.

Faculty satisfaction regarding the administrative services:

- The department upholds a percentage 4:1 for the academic (technical) and administrative non-technical staff which fulfils the standard set by HEC.
- Administrative meeting (departmental, university, academic council and syndicates) are attended as and when required.
- Quick office disposal are never delayed, so for no complaint in this regard, received from authorities

Proper records of the following are maintained:

- Research Reports
- Assignments
- Attendance report
- Evaluation report
- Enrolment

Major future improvement plans

- Establishment of Crop Seed Production, Research and Training Centre
- Execution of research projects funded by different donor agencies.
- Further Strengthening of Linkages with National/ International organizations. Farmers field days, Participatory research activities. Establishment of demonstration plots on farmers fields.

- Arranging faculty trainings in advanced countries to equip them with latest developments and research skills.

CRITERION 2:

CURRICULUM DESIGN AND ORGANIZATION

Curriculum design and update is initiated by the faculty members of the Department after the approval of Board of Studies which comprises of senior faculty members and subject specialist who is taken from other faculties or from other Universities or research Institutions. It is headed by the Chairman of the Department. The approved curriculum is then sent to Board of Faculty, headed by the Dean Faculty of Crop and Food Sciences. This Board consists of senior faculty members from all the Departments of the faculty and subject specialists. Finally the curriculum is presented before the Academic Council which is comprised of the Professors, Associate Professors, Faculty Representatives and nominated experts.

Definition of Credit Hour:

A student must complete a definite number of credit hours. One credit hour is one theory lecture or two hours practical work per week. One credit hour carries 20 marks. The semester is of 18 weeks.

Pre-Requisites

Admission Requirements:

Degree	**Pre-requisites**
Ph.D.	M.Sc. (Hons.) minimum CGPA 3.0/ 4.0 + GAT 60% score + inte

Degree Plan

Ph.D. in Agronomy

The PhD degree program was first time introduced in the PMAS-Arid Agriculture University Rawalpindi, department of Agronomy in 1998. The program designed for quality research is completely coherent with HEC standards. The Ph.D. study Program consists of 3 academic years / 6 semesters. As per HEC rule, a student has to complete 18 credit hours for course work. Degrees are awarded after completion of 18 credit hours course work, two year research work and thesis writing are mandatory for the Ph.D. degree. Thesis is sent to technologically developed countries for recommendation from the foreign examiners for final approval of thesis.

Degree Requirements:

The program contents meet the program objectives as highlighted and provided by the Pakistan Higher Education Commission. Minimum 18 credits of course work is compulsory; out of which 9 credits are of core/compulsory courses. Course work following a synopsis defense, seminar,

comprehensive exam and submission of thesis to be approved by the University and examined by two foreign internationally recognized scientists from the University of Technologically Advanced Countries.

Degree	**Requirements (Minimum)**
Ph.D.	Academic minimum attain of 3.0 CGPA, 18 credit hours compulsory, Comprehensive examination (Written and Oral) and thesis examination.

Examination Weightage:

In course work, student's evaluation is done by mid-term examination, assignments/presentations/quizzes and final examination. A student, who misses the mid-term examination, is not allowed to sit in the final examination and is awarded zero marks in that examination. In case a student does not appear in the final examination of a course, he shall be deemed to have failed in that course. In theory, weightage to each component of examination is as ascribed here under:

Mid Examination	30%
Assignments	10%
Final Examination	60%

For practical examination 100% weightage is given to practical as scored in the final examination. A student is eligible to sit for the examination provided that he/she has attended not less than 75% of the classes in theory and practical, separately.

Eligibility for examination:

A student is eligible to sit for the examination provided that he/she has attended not less than 75 % of the classes in theory and practical, separately. The minimum pass marks for each course are 65%.

Scheme of studies and course contents of Ph.D. Agronomy:

Scheme of studies for Ph.D. Agronomy is given below. List of Courses offered by the Department is given in Annexure-1

Summary of Curricula courses requirements for Ph. D. Agronomy degree.

Table 7: List of courses

S. N	Course No	Title	Credit Ho
11.	AGRO-710	Crop Nutrition	3(3-0)
12.	AGRO-712	Plant water relations	3(2-2)

17.	AGRO-717	Integrated agriculture	3(3-0)
19.	AGRO-720-I	Seminar	1(1-0)
20.	AGRO-720-II	Seminar	1(1-0)

Compulsory courses for Ph.D. are

- Statistics
- Bio-chemistry
- Integrated Agriculture

Table 8: Program's Courses VS outcomes

Courses	**Outcomes**					
	1	2	3	4	5	6
AGR-710,AGR-712,AGR-717	++	++	+++	+++	+++	++

\+ = moderately satisfactory

++ = Satisfactory

+++ = Highly satisfactory

Standard 2.1: Assessment of the Curriculum of Agronomy Department

Table 9: Assessment of curriculum

Courses	**Objectives**		
	HRD	Research oriented	Integrated
Ph. D. Agronomy	Highly satisfactory	Satisfactory	satisfactory

The Curriculum fits very well and satisfies the core requirements for the program, as specified by the respective accreditation body. The Curriculum satisfied the general arts and professional and other discipline required for the program according to demands and requirements set by the Higher Education Commission (HEC). A student is eligible to sit for the examination provided that he/she has attended not less than 75% of the classes in theory and practical, separately. The minimum pass marks for each course are 65% for Ph.D.

Standard 2.2:

Theoretical backgrounds, problem analysis and solution design must be stressed within the program's core material.

Table 10: Elements vs. courses:

Elements	**Agronomy Courses**
Theoretical background	AGR-710,AGR-712,AGR-717
Problem analysis/ Solution Design	There are courses like Stat-711 (Advanced experimental design with data processing)

Standard 2.3: Credit hours distribution

Table 11: Credit hours distribution

Credit Hours					
Degrees	Minimum Course hours	Thesis	Duration in semesters		Passing CGPA
			Min.	Max.	
Ph.D.	18	-	8	10	3.00

Standard 2.4: Credit hours and HEC requirement

The courses offered by the department meet the minimum criteria as laid down by Higher Education Commission.

Standard 2.5: Attendance requirement

Attendance required in each course is 75%, below which the student is not allowed to sit in the examination.

Standard 2.6: Information technology component of the curriculum

Information technology component of the curriculum must be integrated throughout the program. There is deficiency of information technology related courses but some activities and courses in program are useful to give basic training of computer use. Department also lacks IT facilities like computers etc.

Standard 2.7: Enhancing oral and written communication skills of the students

There are two courses of seminars (one credit hour each) compulsory for each Ph.D. student which he has to present in the seminar room thus enhancing his communication skills.
Moreover, the students also present their Doctorate research plan before the audience

Assignments are given to students on specific titles (part of the course) which are presented by them orally and submitted as written report, which not only increasecapacity but oral and written communication skills of the students.

CRITERION 3

LABORATORIES AND COMPUTER FACILITIES

Laboratory title: There are 4 labs in the department designated for specific purposes

Lab #1 .Allelopathy Research lab

Lab #2. General research lab

Lab #3.Stress physiology lab

Lab #4. Nutrient efficacy lab

Location and Area:

Faculty of crop and food sciences, ground floor, Agronomy department

Objectives

Laboratories are used for:

- Practical exercise and demonstrations to students in their introductory and major courses
- Research work for the Post-graduate students
- Used for implementing the funded projects by the University, HEC, PSF, PARC and other agencies.
- Laboratories are well spacious and adequate..
- Major apparatus viz equipments: following major equipments are available but some are out dated and out of order.

List of equipments and instruments in department:

S. No.	Name of Equipment	Quantity/No.
1.	Heating Drying Cabinet	03
2.	Water Distillery apparatus	01
3.	Over Head Projector	02
4.	Computer with Laser Printer	02
5.	Freezer	01
6.	pH Meter	01
7.	EC Meter	01
8.	Centrifuge 14000 Rpm	01
9.	Top Loading Balance	02

10.	Vacuum Pump	01
11.	Water Potential Apparatus	01
12.	Water Bath	01
13.	Spectrophotometer	01
14.	Leaf Area Meter	02
15.	Growth Chamber	02
16.	Flame Photometer	01
17.	Analytical Balance	02
18.	Osmometer	01
19.	Chiller	01
20.	Digestion Block	01
21.	Mechanical shaker	01

Shortcoming in Laboratory facilities for faculty member and Ph.D. students.

- Equipments regards growth analysis/physiological parameters are lacking e.g. IRGA, chlorophyll meter etc, moisture monitoring, Neutron probe, tensiometers, etc water potential measurement devices.
- The department lacks lecture rooms. Currently research laboratories are being used for classes.
- A green/glass house is direly needed for controlled experiments.
- There is no proper safety arrangement and no security plans are in the case of emergency. There is no emergency exit for the lab and classroom.
- No fire extinguishers have been installed in any laboratory.
- No first aid kits/ facilities provided in the laboratory/department.

Standard 3.1: Laboratory manuals/documentation/instructions for experiments

- Laboratory manuals/documentation/instructions for experiments must be available and readily accessible to faculty and students
- Laboratory manuals of each subject are not available.
- The department has no library at all.
- However, individual teachers have their books.

Standard 3.2: Support/Laboratory Personal for Maintenance of Laboratory

Laboratories are maintained by Lab Assistant (01), and Laboratory Attendants (02).

Standard 3.3: Computer and infrastructure facilities

Computer facilities are not available to all faculty members and the Ph.D. students whereas infrastructure for the academic purpose does not support the conduciveness of the teaching environment.

CRITERION 4: STUDENT SUPPORT AND ADVISING

Our university organizes support programs and provides information regarding admission, scholarship schemes, etc. Department in its own capacity arranges orientation and guides various cultural activities and solve the student's problems, however currently there is no parent teacher association.

Standard 4.1: Frequency of courses

- Courses are taught as per policy of HEC.
- At undergraduate and postgraduate level course subjects are offered as per scheme of study provided by HEC and approved.
- Courses are offered according to scheme of study.
- Elective courses are offered as per strategy of HEC and the university.
- For postgraduate Programs, a variety of courses are offered according to demand of the profession.

Standard 4.2: Structure of the courses

- To ensure effective interaction between students, faculty and teaching assistants at the time of course formulation both theoretical and practical aspects are focused.
- Theoretical problems are explained and assignment is also given to the students whereas practical are carried out both in the laboratory and in the field
- Courses are structured and decided in the board of study meetings.
- Emphasis is always given for an effective interaction between each section.

Standard 4.3: Guidance to the Students

Several steps have been taken to provide guidance to the students such as:

- Students are informed about the program requirement through the office of the head of the department.
- Through the personal communication of the teachers with the students..

- In case of some problems, Director, Student Affairs is available who is ready to help the students. Senior tutor has been entrusted with tutorial, counseling and for extracurricular activities.
- Student can interact with the teachers in university, whenever they need.
- Realizing the need for exploring job opportunities for the university graduates, Directorate of placement bureau has been established at PMAS-AAUR.

CRITERION 5: PROCESS CONTROL

It includes student admission, registration, faculty recruitment activities which are dealt by various statutory bodies and the university administration.

Standard 5.1: Program admission criteria

The process of admission well established and followed as per rules and criteria set by HEC. For this purpose an advertisement is given in the National Newspapers by the Registrar office.

Table 12: Admission requirements

Degree	**Pre-requisites**
Ph.D.	M.Sc. (Hons.) with minimum CGPA 3.0/4.0 + GAT 60% subjective score + interview

Standard 5.2: Process of registration

- The student name, after completion of the admission process, are forwarded to the registrar office for proper registration in the specific program and registration numbers are issued to the students
- Students are evaluated through Mid, Final and Practical exams and through assignments.
- Registration is done for one time for each degree but evaluation is done through the result of each semester, if the students fulfill criteria of the university, they are promoted to the next semester.

Standards 5.3: Recruiting process for faculty

- Recruitment policy followed the university is recommended by HEC for induction of new faculty is done as per rules:
- Vacant and newly created positions are advertised in the National Newspapers, applications are received by the registrar office and call letters are issued to the short listed candidates on the

basis of their experiences, qualifications, publications and other qualities / activities as fixed by the university.

- The candidates are interviewed by the university selection Board. Principal and alternate candidate are selected.
- Selection of candidates is approved by the syndicate for issuing orders to join within a specified period.
- Induction of new candidates depends upon the number of sanction posts.
- Standard set by HEC are followed.
- At present, no procedure exists for retaining highly qualified faculty members, however, the revised pay scales of structures is quite attractive.
- HEC also supports appointment of highly qualified members as foreign faculty professors, National Professors and place them in various departments of the university.

Standard 5.4: Teaching and delivery of course material

- To help providing high quality teaching, Department periodically revises the curriculum depending upon requirements, innovations and new technology
- With the emergence of new fields, new courses are set and included in the curriculum
- Most of the lectures are also supplemented by overheads, slides, pictures.
- All-out efforts are made that the courses and knowledge imparted should meet the objectives and outcomes. The progress is regularly reviewed in the staff meetings.

Standard 5.5: Completion of Program Requirements

The controller of examinations announces the date of commencement of examination. After ~20-30 days of the examinations, the controller office notifies the results of the students. The evaluation procedure consists of mid and final examinations, practical formulas, assignments and reports, oral and technical presentations. Candidates who secure 80% or more marks are awarded grade A. Gold medals are awarded to the students who secure highest marks. Degrees are awarded to the students on the annual convocation that is held every year.

Examination Weightage:

Grading Policy

A grade = 80 % and above

B grade = 65-79 %

C grade = 50-64 %

D grade = 40-49 %

F grade = below 40 %

CRITERION 6: FACULTY

Standard 6.1: Full Time Faculty

There must be enough full time faculty who are committed to the program to provide adequate coverage of the program areas/courses with continuity and stability. The interests and qualifications of all faculty members must be sufficient to teach all courses, plan, modify and update courses and curricula. All faculty members must have a level of competence that would normally be obtained through gradual work in the discipline. The majority of the faculty must hold a Ph.D. in the discipline

Table 13: Full Time Faculty

Program area of specialization	Number of faculty members in each area	Number of faculty with Ph.D. degree	Names of the Faculty Members
Integrated Weed Management, Zero-Tillage, Allelopathy	02	02	Dr. Muhammad Azim Malik Dr. Muhammad Ashraf
Oilseed Crops, Crop Water Management	03	03	Dr. Fayyaz-ul-Hassan Dr. GhulamQadir Dr. Abdul Manaf
Integrated Plant Nutrient Management, Drought stress physiology, NRM & GIS	03	02	Dr. ZammuradIqbal Ahmed, Dr. Muhammad Rasheed Mr.Irfan Aziz
Stress Physiology, Genetic Transformation of Crops.	01	01	Dr. Abdul Razzaq
Fodder & Forage Production	02	01	Dr. Muhammad Ansar Mr. Safdar Ali
Plant Physiology, Crop Growth Modeling and climate change	02	00	Dr. NaveedTahir Mr. Mukhtar Ahmed

Standard 6.2:

All faculty members must remain current in the discipline and sufficient time must be provided for scholarly activities and professional development. Also, effective programs for faculty development must be in place.

Table 14: Faculty qualification

S. No.	Name of faculty member	Designation	Qualific	Country Awarding Highest Degree	Date of Birth	Email address
1.	Dr. M.Azim Malik	Professor	Ph.D.	USA	20-06-1955	drazim61@gmail.com
2.	Dr. Muhammad Ashraf	Professor	Ph.D.	USA	01-09-1952	drashraf_150@yahoo.com
3.	Dr. Fayyaz-ul-Hassan Sahi	Professor	Ph.D.	UK	15-05-1963	fayyaz.sahi@uaar.edu.pk
4.	Dr. Zammurad Iqbal Ahmed	Assoc. Prof.	Ph.D.	PK	01-05-1960	azammurad@htomail.com
5.	Dr. Abdul Razzaq	Assoc. Prof.	Ph.D.	China	01-08-1957	abdul.razzaq@uaar.edu.pk
6.	Dr. Muhammad Ansar	Assoc. Prof.	Ph.D.	UK	14-10-1964	Muhammad.ansar@uaar.ed
7.	Mr. Irfan Aziz	A. Professor	M.Sc. (Hons.)	PK		dIrfan.aziz@uaar.edu.pk
8.	Dr. Muhammad Rasheed	A. Professor	Ph.D.	PK	09-10-1962	drrasheed786@gmail.com
9.	Dr. Ghulam Qadir	Assoc. Prof.	Ph.D.	PK	01-12-1968	Qadir@uaar.edu.pk
10.	Dr. Mukhtar Ahmed	A. Professor	M. Sc. (Hons.)	PK	01-10-1979	mukhtarahmad@uaar.edu.p
11.	Dr. Abdul Manaf	A. Professor	Ph.D.	PK	20-02-1970	munafawan@yahoo.com
12.	Mr. Safdar Ali	Lecturer	M. Sc. (Hons.)	PK	01-10-1974	safdaraliarid@yahoo.com

Standard 6.2: Effective programs for faculty development

- Professional training and availability of adequate research and academic facilities are provided to the faculty members according to the available resources.
- Currently one faculty member is abroad for post-Doc as sponsored by the HEC.
- Incentives in the form of allowances to theses supervisors have been implemented lately to promote high standard research.
- Existing facilities include mainly internet access, which is available through networking system in addition to library facility with latest books also available.
- Effective programs for faculty development have been introduced.

Standard 6.3: Faculty member motivation

Time to time provision of enthusiasm to the young faculty by the senior faculty members (Table 15)

	Dr. M. Azim	Dr. F.Ul. Hassan	Dr. Z.I. Ahmed	Dr. A. Razzaq	Dr. M. Ansar	Dr. M. Rasheed	Dr. I. Aziz	Dr. A. Manaf	Dr. Mukhtar Ahmed	Dr. A. Wasaya
Your mix of research, teaching community service	B	A	B	B	A	B	B	B	B	A
The intellectual stimulation of work.	B	B	B	B	B	B	B	A	B	A
Type of teaching / research you currently do.	B	A	B	B	B	A	A	A	B	A
Your interaction with students.	A	A	A	B	B	B	B	B	A	B
Cooperation you receive from colleagues.	A	B	B	A	B	B	B	A	B	B
The mentoring available to you	B	B	B	B	B	B	B	B	B	B
Administrative support from th department.	A	B	B	B	B	B	B	B	B	C
Providing clarity about the facu promotion process.	A	B	C	B	B	B	B	B	D	A
Your prospects for advancemer and progress	B	B	C	B	B	B	B	B	D	A

A= Very Satisfied; B= Satisfied; C= Uncertain; D= Dissatisfied; E= Very Dissatisfied

Summary

The Department of Agronomy has well research based program of Ph.D Agronomy guided by highly qualified faculty. The course aims to develop and strengthen students' capacity to grasp principles and practices Agronomy based on scientific basis and get research training on farmers' oriented problems. The strong academics learned during Ph.D Agronomy helps them to design and conduct quality research for their doctorate degree. In addition they have sufficient specialist knowledge in selected areas to allow them to pursue a research degree in crop science. Doctorate students acquire scientific background as well as having gained experience in problem solving and have developed the communication, numerical and computer skills required for a wide range of careers. In order to assess whether department is fulfilling its objectives or not, surveys on various aspects such as course evaluation, teacher evaluation, alumni survey, research/graduating students surveys and faculty survey etc. have been conducted by the departmental members of the program team. The data were collected on prescribed Performa and later on analyzed and presented in the form of graphs and tables. The data revealed that students are satisfied with the subject approach of faculty members, their fairness in examination, and level of knowledge. The availability of internet and access to various scientific journals is limited. Course evaluation survey showed that students are satisfied with workload and value of knowledge provided to them. Similarly, department has limited budget for research purposes which cannot support laboratories and research activities.

According to employer students are good at job but they have very basic knowledge of information technology and computer skills. Faculty members are satisfied with their salaries but they have severe concerns about the workload as most of them are agreed that they have very less time for themselves.

- The performance of the department may be further improved considering; separate class rooms are required to enable the Ph.D students to continue laboratory works without breaks.
- Departmental Laboratories need strengthening through new equipments.
- There is also need to improve mix of research and teaching proportion to produce professionally sound graduates,
- At present there are no arrangements for professional training of the staff. Such trainings will improve their abilities for enhancing the quality of research and teaching. It would be worthy to mention here that proper man at proper place is not being practiced.
- There is a shortage of personal computers and unavailability of Internet which creates many impediments. Improvement in this area will also speed up the level of research and teaching,

- The budget allocated to the department hardly meets the requirements of the research,
- At present there is no departmental library. Allocation of sufficient funds for this purpose will be helpful in subscribing reputed journals and purchase of books that will ultimately boost quality of learning, teaching and research,

Annexure-1

List of courses offered by the Department for Ph.D. students

S. No	Course No.	Title	Credit Hours
1.	AGRO-710	Crop Nutrition	3(3-0)
2.	AGRO-712	Plant water relations	3(2-2)
3.	AGRO-717	Integrated agriculture	3(3-0)
4.	AGRO-720-I	Seminar	1(1-0)
5.	AGRO-720-II	Seminar	1(1-0)

Compulsory courses for Ph.D. students

(i) Statistics

(ii) Bio-chemistry

(iii) Integrated Agriculture

Annexure-2

Proforma 9 : FACULTY RESUME

Name	**Dr. Muhammad Ashraf**
Personal	Father's Name: Faiz Ahmad Date of Birth: 01-09-1952 Teaching & Research Experience: 27 years Address: PMAS- Arid Agriculture University, Rawalpindi Academic Qualification Uni. of Agric. Faisalabad 1974 Agronomy B. Sc. (Hons.) Uni. of Agric. Faisalabad 1976 Agronomy M.Sc. (Hons.) Oregon State Univ.USA 1992 Agronomy Ph. D.
Experience	ARO-Agric. Department :1981-82 Lecturer Agronomy Barani Agric. College, RWP: 1982-86 Teaching Agronomy: Assistant Professor :1986-98 Barani Agric. College Associate Professor:Univ. of Arid Agriculture: 1998-2007 Professor PMAS-AAUR: 28-4-2007 to-date

Honor & Awards	First National Training Course on Biological Nitrogen Fixation, October 1982 NARC, Islamabad . National In-Service Training Course on "Manpower Planning & Employment" Pakistan Manpower Institute Ministry of Labor, Manpower & Overseas Pakistani (Manpower Division) Islamabad, 7th August, 1986		
Publications	Aziz, I., M. Ashraf., T. Mahmood And K.R. Islam. 2010. Crop Rotation Impact On Soil Quality. Pak. J. Bot., 43(2): 949-960.		
Memberships	Membership Professional Societies Agronomy Society of America, Crop Science of America and Soil Science Membership Academic Bodies Member Academic Council, Univ. of Arid Agriculture, Rawalpindi Member Finance and Planning Committee, Univ. of Arid Agriculture, Rawalpindi (2003- onwards).		
Graduate Students Postdocs Undergraduate Students Honour Students	Name of Student	Title	completion date
	Amir Aman Ullah	Effect of potassium on growth, development and yield of maize	1993-95
	Safdar Ali	Effect of nitrogen on growth, development and yield of maize (Zea mays)	1993-95
	Farooq Ahmad	Performance of soybean varieties under Islamabad conditions	1995-97
	Abid Mahmmood	Productive efficiency of of soybean intercropping in spring sunflower	1995-97
	Ijaz-ul-Hassan	Association of Rhizobium japonicum strains with soybean genotypes	1995-97
	S. Mujahid H.	Effect of magnesium on growth, development, yield and components of maize (Zea mays)	1994-97
	Hafiz M. Bakhsh	Effect of Rhizobium strains on nodulation and yield of groundnut genotypes	1998-2000
	Iftikhar Ahmad Chaudhry	Interaction of Rhizobium strains and varieties of lentils	1998-2000
	Aftab Afzal	Effect of phosphorus solubilizing microorganisms on phosphorus uptake, yield and yield traits of wheat (Triticum aestivum L.)	1999-2001
	ZafarIqbal	Allelopathic effects of sorghum on suppression of weeds inrainfed wheat (Triticumaestivum L.)	2000-2002
	Muhammad Akhlaq	Weed suppression by water extract of sorghum plant parts in wheat	2001-2003
	ShahbazNaeem	Sunflower and sorghum water extracts for weed control in wheat	2001-2003
	IshaqZafar	Yield attributes of mungbean in response to inoculum strains	2002-2004
	Mehr Ali	Yield and yield components of groundnut under different rainfed conditions	2003-2005
	AhsanMunir	Effect of nitrogen supply on growth, development and yield of wheat	2004-2007
	YasirHabib	Allelopathic effects of brassica and barley herbage	2008

		water extract on wheat weeds suppression under rainfed conditions	
	Fahad Karim Awan	Allelopathic effects of sorghum, sunflower and brassica weed control in wheat	2008
	Zahid Iqbal Khan	Influence of concentrated sorghum water extract alon e and in combination with herbicide for weed control in rainfed wheat	2009
	M. Sajid Mahmood	Effect of Barley Residue Water Extract in ombination with Low Doses of Herbicide on Weed Control and Yield of Mungbean	2010

PH.D. STUDENTS THESIS SUPERVISED

Shuiab Kaleem 2010 Physio-morphic expression of sunflower in response to environmental variations.

Naeem Ahmad 2006 Response of wheat to subsurface soil compaction and improvement strate

Abdul Manaf 2006 Phenotypic plasticity of Brassica in response to environment and sulphur nutrition

M.Sc(Hons) Students thesis supervised

Samiullah Khan, 2000. Heat units requirement of Sunflower.

RanaAshfaq Ahmad, 2001 Seasonal variation in sunflower.

AbidHussain, 2001 Performance of sunflower in relation to root depth.

AsimIrfan 2005 Feasibility of intercropping Mungbean in Sunflower under Rainfed conditions.

Ahmad Sher 2006 Performance stability of Canola cultivars under different Agro-ecological regions of Pothwar.

Muhammad Tahir 2007 Integrated use of herbicide and tillage methods for moisture conservation and subsequent canola yield.

YasirKhurshid 2008 Comparative evaluation of some local and exotic safflower genoty

Muhammad Arif 2009 Response of Sinapis alba to Agro-management techniques.

Muhammad Farooq 2009 Effects of Agro-management Techniques on Camelina sativa.

Mubashir Ali 2009 Response of Linola to Agro-management techniques.

Annexure-2

Proforma 9 FACULTY RESUME

Name	Prof. Dr. Fayyaz ul Hassan		
Personal	Professor of Agronomy: Cell: 0300-9514597 Fax Office: +92-51-9290160 , fayyaz.sahi@uaar.edu.pk Phone Residence: +92-51-4848187		
	Name	Fayyaz-ul-Hassan	
	Date of Birth	15-05-1963	
	Father's Name	Abdul Latif	
	Permanent Address	Village & Post Office Toor, Teh. & Distt. Jhelum	
	EDUCATION		
	University/Board	Degree	Year
	Curtin University of Technology, Perth, Australia	Post Doc	2007

	University of Wales Aberystwyth (UK)	PhD	1995
	University of Agriculture, Faisalabad (Pakistan)	M. Sc (Hons.)	1988
	University of Agriculture, Faisalabad (Pakistan)	B. Sc (Hons.)	1986
	HSSC Mirpur Pre-medical)		1981
	SSC		1979

Experience	**Date of Appointment**	**Title**	**Institution**
	23-06-2007	Professor of Agronomy	PMAS-AAU, Rawalpindi
	29-05-2004 to 22-06-08	Associate Professor	As above
	22-01-1998 to 28-05-04	Assistant Professor	As above
	15-01-1992 to 22-01-98	Assistant Agronomist	Agric. Dept. Govt. of Punjab
	16-11-1989 to 14-01-92	Agricultural Officer	As above
	01-01-1989 to 15-11-89	Assistant Research Officer	As above

Honor and Award
University Best Teacher Award for 2007, Awarded by HEC, Islamabad
Endeavour Pakistan Research Award by Govt. of Australia, 2007
Overseas Research Students Award 1994-95(Awarded by CVCP UK).

Memberships
Life Member of Old Student Association, University of Wales, Aberystwyth.
Life Member of Agriculture Society, of Wales, Aberystwyth
Life Member Soil Science Society of Pakistan
Life Member Pakistan Society of Agronomy
Life Member Agricultural Foundation of Pakistan
Life Member Pakistan Botanical Society

Supervised Stude

PH.D STUDENTS THESIS SUPERVISED

Shuaib Kaleem 2010 Physio-morphic expression of Sunflower in response to environmental variations

Mukhtar Ahmad 2011 Climatic Resilience of Wheat (Triticum aestivum) using simulation modeling i Pothwar

M.Sc. (Hons.) students thesis supervised

Obaid Afzal 2011 Response of Safflower to Integrated Nutrient management.
M. Usman Qadir 2011 Comparison of Brassica genotypes for yield and quality traits under rainfed conditions
Fozia Kanwal 2011 Response of Safflower to Silicic acid for physio-morphic attributes
Farina Shaheen 2011 Response of Safflower to Potassium silicate for drought tolerance
Munir Jillani 2012 Response of Brassica hybrids to detoping

Service Activity
Teaching and Research.

Brief Statement o Research Interest

- Crop production and Management.
- Oilseed crop production and enhancement.
- Soil conservation and crop production

Publications

PUBLICATIONS IN IMPACT FACTORS & HEC RECOGNIZED JOURNALS

1. ***Fayyaz-ul-Hassan*** and Muhammad Arif. 2012. Response of white Mustard (*SINAPIS ALBA* L) to spacing under rainfed conditions J. Anim. & Plant Sci. 22:137 -141. **(IF.0.585)**
2. Ahmad Sher, Muhammad Ansar, ***Fayyaz-ul-Hassan***, Ghulam Shabbir and M. Azim Malik. 2012. Hydrocyanic Acid Content Variation amongst Sorghum Cultivars Grown with Varying Seed Rates and Nitrogen Levels. Int. J. Agric. & Biol. 14:720-726. **(IF.0.94)**

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Research Grants and Contracts	**<u>Research Grants and Contracts</u>** **Date** **Title** **Funding Agency/Amount** July, 2008-June 2011 Phenotypic plasticity of safflower (*Carthamus tinctorius*) in response to environment and integrated PARC, 1.9 million

	.
Selected Professi presentation	**Participation in Workshops/Conferences/Symposiums** 1. 12th National and 3rd International Botany Conference held at Quaid-I-Aza University, Islamabad, 1-3 September, 2012. 2. International Seminar on "Crop Management: Issues and options" held at Uni of Agriculture, Faisalabad. 1-2, June, 2011. 3. Stakeholders workshop "Edible oilseed Crops: Threats and challenges from Production to consumption" held on 4th Aug. 2010 at University of Agriculture Faisalabad.

Proforma 9

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Experience	Lecturer Agronomy 15-8-1997 to 06-01-2005 A. Professor (UAAR). 07-01-2005 todate. • Land cover and land use mapping. • Change detection in land use/cover. • Accuracy assessment of the map. • Advanced Remote Sensing and GIS techniques for monitoring and early warning in agriculture. • Effect of irrigation frequencies and fertilizer application on yield and quality of Maize. (M.Sc.(Hons.) Agri Thesis). • Quality Analysis of Cotton crop seeds. **Research publication:** • Comperative study of different weed management techniques in wheat (Triticum . aestivum) under rainfed conditions. Pak.j .arid, 4(1-2): 19-23, 2001. • Feasibility of Intercropping Lentil and lathyrus in wheat under rainfed condition. Pak. j. arid, 5(1) 13-16, 2002. Field Work: • Collection of field Data for accuracy assessment. Sweden. • Use of Global Position system.
Honor and Awards	• National convention of Scientists and Engineers 27 may 1999, at Islamabad.. • Corporate Agriculture: Issues and Option on 27 July 2001 at UAAR. • Tenth Meeting of OIC Ministerial standing Committee on Scientific and Technological Cooperation (COMSTECH) 18 Feb. 2002 at Islamabad.

	• 3rd International Science Conference on 26 Sep 2002 at UAAR. • Application of Satellite Remote Sensing/GIS Techniques for land Resources Mapping 5-9 Jan 2004 at SUPARCO Islamabad.
Service Activity	Teaching and Research.