



AIC Report

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**Department of Agronomy
Bahauddin Zakariya University Bahadar Campus, Layyah**

BZU Bahadar Campus, Layyah
Criteria for Agriculture Degree Program Evaluation
Agronomy B.Sc. (Hons) 2014-15

Sr. No.	Criteria	Points Assigned	Points Awarded
A. Major Criteria			
1	Strength and Quality of Faculty	250	180
2	Curriculum Design and Development	150	125
3	Infrastructure and Learning Resources	200	130
4	Students Support and progression	100	60
Sub - Total (A)		700	495
B. Minor Criteria			
5	Research and Consultancy Activities	150	85
6	Governance and Leadership	100	60
7	Recent Innovations and Best practices	50	30
Sub - Total (B)		300	175
Grand Total (A+B)		1000	670
(Six hundred and seventy only)			67%

Name and Designation

Signature of Program Evaluator

EXECUTIVE SUMMARY

The degree program at the Bahadur Campus, Layyah is at its infancy, and classes in agronomy major started only during previous semester in 2015. The sub-campus does not own a permanent administrative set up. A full time Assistant Professor at the College of Agriculture, BZU, Multan is deputed as Principal/Director of Bahadur Campus, Layyah.

At present 18 students are pursuing agronomy degree program in the fifth semester. The teaching faculty is Ph.D. qualified with six members but without any senior and experienced member of associate professor and professor level. The courses offered by the discipline are being taught successfully. However, there is no Board of Studies for any program at the Bahadar Campus. The faculty have few research projects to its credit. The entire faculty is working on full time basis and has an experience ranging from 2 to 8 years. Students as well as the faculty have access to internet via Wi-Fi broadband connection.

Two class rooms and few faculty offices are available. Practical facilities both under Lab. And field condition is available for the undergraduate students. Field trips are arranged frequently for practical training of the students. Nonetheless, some of the land at the farm is properly developed for experimental and practical work, but still a lot is needed to be done in that direction. A set of books covering undergraduate curriculum in agronomy are also available in the library of the Bahadur Campus.

Keeping in view the teaching facilities and the available faculty it is recommended that a senior faculty in agronomy (at least Associate Professor) be appointed on regular basis at the Bahadar campus to implement and guide the program properly. The administrative and academic issues pertaining to the smooth functioning of the campus may be resolved on priority basis.

Introduction

Keeping in view the agricultural potential and specific ecological conditions of the region, BZU Bahadur Campus, Layyah was established in 2009 as an off-campus of B. Z. U, Multan. The Campus offers programs in MBA, Agriculture, M.A. (Economics, English and Psychology). Distance Learning programs are also launched by the Campus.

Criterion Wise Analysis

Strength and Quality of Faculty

There are 6 faculty members working in Agronomy all holding Ph. D. degree and one has got postdoctoral training as well. The entire faculty is quite young having an experience of about 6 to 7 years. They are serving on regular basis and some on interim placement through HEC after completing their Ph. D. The entire faculty is working on full time basis at the campus. Three of the teachers in agronomy also have HEC funded projects. The faculty has a good number of research papers to their credit published both in impact factor and HEC recognized journals. However, there is no senior faculty present to provide leadership in agronomy in the days to come. Faculty benefits from the faculty development program of the BZU, Multan. The first session of undergraduate program is in 5th semester with 19 students with major in agronomy. The faculty is capable of guiding agronomy as a major subject. The student-teacher ratio is quite good. Teaching/learning methods adopted by the faculty are good, and they believe in dialogue and discussion with the students. Faculty exhibited satisfaction for job and environment, and the faculty stability index is good. Professional code of ethics is fully observed. The faculty members participate in professional seminars/conferences/workshops.

Curriculum design and development

All the courses offered at undergraduate are adopted from the scheme of studies as finalized by HEC constituted National Curriculum Committee in Agronomy. However, the objectives of curriculum are vaguely defined and need to be re-visited. The contents of curriculum are well structured and rich, compatible with emerging needs, and only partially flexible enough to offer choices for the students. There is need to incorporate courses on information technology so that graduates can meet the demands of modern tools in communication and dissemination of knowledge. Student's perception about the quality,

innovation and new knowledge is only fairly satisfactorily. The faculty and students rely primarily on the main library, which has a satisfactory collection of textbooks. However, there is dire need to have access to reference books, and journals of good repute as well.

Completion of theory and practical courses are very good as has been evident from faculty course files. The course registration and withdrawal policy is well spelled and with enough details. It is adopted without any discrimination. Admission to all programs is under well-documented and properly notified policy of the Main campus of the University.

All faculty members maintain course files as was evident after a random verification by the AIC. Nonetheless, there was need to have a break up for laboratory experimentation, and recommendations need to be outlined for same course to be offered in next semester. Meeting of Board of Studies and Faculty are held regularly. The students were generally satisfied about teacher's performance.

Infrastructure and Learning Resources

There are two classrooms with enough covered area and the facility is sufficient for the current enrollment. There are 2 teaching labs present with the capacity of 25 students and is sufficient for students in agronomy. The laboratories have basic practical facility, and apparatus that is operational and properly utilized. Laboratory safety measures are observed properly. There are more than 500 books in the library related to the program in agriculture, but only 30 books are related to agronomy. Some of these books provide a good base in agronomy teaching and learning. Online access is available to digital library of HEC. Some (8) local journals are subscribed. Library environment is quite suitable for peace of mind, and student's opinion about library facility was satisfactory.

Faculty has proper sitting facility. Computers and internet facilities are available for faculty, and need to be further expanded to bring in reach of students. The Campus has farm area of 125 acres reserved for agronomy with ample supply of irrigation water, and in the reach of the students. One tractor with basic tillage implements is available. The area needs to be developed properly for student practical work. The area is located quite away from main campus at present. However, it is on walking distance from the proposed new building of the campus.

Students Support and Progression

The admission response to degree programs of Campus is moderate. Need based scholarships are available to students. Two hostels (one each for boys and girls) are available and sufficient to meet requirements of boarding students. An auditorium/hall is available at the Campus, and indoor and outdoor sports facilities are present. One bus is available for student transport. A dispensary is present in the Campus to provide medical aid to the faculty, students and support staff.

Although academic counseling is present, but needs proper arrangement. Internship is not present now. The student-teacher interaction as well attitude of students towards studies was encouraging. The student's attendance record was well maintained. Students perception about degree programs was quite positive but with more demand for emphasis on improvement of fieldwork and lab experiments. Students are encouraged to participate in seminars/conferences but there is shortage of financial support for this purpose. Students participate in community welfare activities through professional societies.

Research and Consultancy Activities

The Campus receives annual research grant from University that is equally distributed amongst different disciplines. There is shortage of research grants from external sources as HEC, PARC or other competitive grants. The amount of research grant of agronomy department during past three years was about Rs. 1 million, and has been utilized properly. The finding and outputs of research activities of projects are published in journals of good repute.

There is no constraint on the faculty to continue their research. The department has limited collaboration with some organizations. Department has some budgetary allocation for seminars and conferences. The faculty in the department renders advisory services to farmers, NGOs and private companies. None of the research findings has been communicated to farming community through booklets, brochures, leaflets, etc., and hence, need attention.

Governance and leadership

Bahadar Campus at Layyah is run under the Statutes and Regulations of BZU, Multan. The Vice Chancellor is the chief executive of the University and is assisted by the Deans of the Faculties, Principals/Project Directors of Colleges/Sub campuses, Heads of the Departments and Principal Officers of the University. The organizational setup, rules and procedures, administrative control, financial resources are all well documented and defined. University catalogue is published every year. The implementations of statutory rules/regulations are intact. The operational budget is available to run the Campus quite smoothly. The academic setup rests with the Agronomy Department at the main campus of University while financial matters are controlled by the Treasurer office. The financial resources of the department mainly depend on the university. A placement bureau exists and is operational in the University. The Campus does not keep Alumni's profile, and it was true for calendar of activities, may be because they are in its infancy.

SWOT Analysis

Major strength

- The entire faculty in Agronomy holds PhD degree and have enough potential for teaching.

Major weaknesses

- Absence of senior and experienced faculty.
- Shortage of farm machinery and implements including latest farm equipment.
- Library facility are grossly insufficient.

Major opportunities

- Students graduating in agronomy in both public and private sector organizations.
- Faculty in agronomy may develop a model agronomy farm for research.
- Scope for winning projects from national and international agencies.
- Potential for transferring newly developed technologies to farmer's fields.

Major threats

- Limited resources and transitory phase of the degree program may lead to drop in student intake.
- Admission of students in B.Sc. (Hons) having urban background.
- Layyah being the hard area may discourage intake of students from other districts.

Actionable Recommendations

- Agronomy program of Bahadar campus may induct senior faculty in agronomy.
- Posting of full time regular professor as principal/director of Bahadar campus.
- Strengthening the faculty of Agronomy by conducting the selection board of those posts that are already advertised.
- The farm facility needs to be developed further to provide a sound base for practical training of students.
- Procurement of farm machinery and implements on priority basis.
- Recruitment of supporting staff based on relevant qualification/experience for handling the scientific instrument/equipment safely.
- Budget allocation for development, research; library and labs may be specified.
- The program in agronomy should be awarded Accreditation, but a continuous supervision/revisit of NAEAC each year is recommended until it starts running on smooth basis.

Final Recommendation

A critical evaluation of the B. Sc (Hons.) degree program in Agronomy scored 67% score, and made it illegible for Accreditation in 'X3' category, i.e. Degree Program having minor shortfalls. Nonetheless, the program in Agronomy should be kept under continuous observation and re-evaluated by Council after at least one year.

Name, Qualification, and experience of faculty and support staff:

Faculty:

Sr. No.	Name	Qualification	Teaching Experience	Field of Specialization
1	Dr. Mubshar Hussain	Ph.D	8 years	Agronomy
2	Dr. Ahmad Sher	Ph.D	6 years	Agronomy
3	Dr. Tauqeer Ahmad Yasir	Ph.D	4 years	Agronomy
4	Dr. Omar Farooq	Ph.D	1 year	Agronomy
5	Dr. Muhammad Ijaz	Ph.D	1 year	Agronomy
6	Dr. Abdul Sattar	Ph.D	1 year	Agronomy

Technical staff:

Sr. No.	Name	Qualification	Experience	Designation
1	Mazhar Iqbal	B. Com/ B.Ed	4 Years	Sr. Clerk
2	M. Saddiq	B. Com	1 Year	Clerk

Supporting staff:

Sr. No.	Name	Qualification	Experience
1	Ghulam Hussan	Nil	4 Years
2	Ameer Bukash	Primary	5 Months
3	Ghulam Abbas	Matric	2 Years
4	Fayyaz Ahmed	Primary	2 Years
5	Asif	Middle	2 Months

LIST OF BOOKS PERTAINING TO THE SUBJECT OF AGRONOMY

1. Rao, V.S. 2002. Principles of weed science. Second edition. Science publishers, Inc. NH, USA.
2. Zimdhal, R. L. 2007. Fundamental of Weed Science 3rd Ed. Elsevier, Academic Press, USA.
3. Martin, J.H., R.P. Waldren and D.L. Stamp. 2006. Principles of Field Crop Production, 4th Ed., The Macmillan Co., Pearson Prentice Hall, New York.
4. Nazir, M.S. (managing author). 1994. Crop production. (Ed. Bashir E., Bantel R.) National Book Foundation, Islamabad, Pakistan.
5. Khalil, I.A and A. Jan. 2002. Cropping Technology. National Book Foundation, Islamabad.
6. Shrestha, A. 2003. Cropping Systems: Trends and Advances. Food Products Press, an Imprint of The Hawprth Press, Inc., Binghamtpon, N.Y.
7. Karthikeyan, C. K. 2007. Dry Land Agriculture Traditional Wisdom. Kalyani Pub. New Delhi, India.
8. Saxena. N.P.S. 2003. Management of Agricultural Drought. Oxford & IBH Publishing Co. New Delhi.
9. Wolfe, T.K. and M.S. Kipps. 2004. Production of Field Crops: A Textbook of Agronomy. McGraw Hill Book Co. NewYork.
10. Reddy, S.R. 2004. Agronomy of Field Crops. Kalyani Publishers, India.
11. Byerlee, D. and T. Hussain, 1992. Farming Systems of Pakistan. Vanguard Books, Lahore
12. Abbas, M. A. 2006. General Agriculture. Emporium Urdu Bazar, Lahore
13. Rashid, A. and K.S. Memon. 1996. Soil Science. (Ed. Bashir E., Bantel R.) National Book Foundation, Islamabad.
14. Cheema, Z.A. and M. Farooq. 2007. Agriculture in Pakistan. Allied Book Centre, Urdu Bazar, Lahore.
15. Mengel, K., E. A. Kirkby, H. Kosegarten and T. Appel. 2010. Principles of Plant Nutrition. 5th Ed. International Potash Institute, Bern, Switzerland.
16. Taiz, L. and E., Zeiger. 2012. Plant Physiology 4th Ed. Sinauers Associate, Inc. Sunderland Massachusetts, USA.

17. Havlin, J.L., Tisdale, S.L., J.D. Beaton and W.L. Nelson. 2005. Soil fertility and fertilizers. 7th Ed. Macmillan Publishing Co., NY, USA.
18. Epstein, E. and A. J. Bloom. 2004. Mineral Nutrition of Plants: Principles and Perspectives. John Wiley and Sons Inc., USA.
19. Prihar, S.S. 2003. Intensive Cropping, Efficient use of Water, Nutrients, and Tillage. Pak Book Corp. Lahore.
20. Copeland, L.O. and M.F. McDonald. 2001. Principles of Seed Science and Technology 4th Ed. Burgess Pub. Co., USA
21. Mead, R. 2003. Statistical Methods in Agricultural and Experimental Biology. 3rd Ed. Pak Book Corp. Lahore
22. Hussain, S.S. 2003. Manual of Plant Ecology. National Book Foundation, Islamabad.
23. Shukla, R. S. and P. S. Chandel, 2006. A Text book of Plant Ecology. S. Chand & Co. Ltd. New Delhi, India
24. Micheal, M. A. 2003. Irrigation Theory and Practices. Vikas Pub. House, New Delhi, India
25. Choudhary, M, R. 2009. A Text Book of Irrigation and Drainage Practices for Agriculture. University of Agric. Faisalabad, Pakistan.
26. Reddy, D.V. 2006. Fodder Production and Grassland Management for Veterinarians. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
27. Fossil, P.V. 2007. Organic Farming: Every thing you need to know. MBI Publishing Co., USA.
28. Palaniappan, and K. Annadurani. 2006. Organic farming theory and practice. Scientific Publishers. Jodhpur, India.
29. Floor M. B. and M. van Ittersum. 2010. Environmental and Agricultural Modeling: Integrated Approaches for Policy Impact Assessment, Springer, Heidelberg, Germany

LIST OF EQUIPMENT AVAILABLE IN THE LABS

Sr. No.	Name of Instrument	Specification
1	Digital pH Meter	PHS-38W micro-processor pH/mV/temperature meter
2	Digital Weighing Balance	Maximum Capacity 0-80 Kg
3	Muffle Furnace	Model: SX- 2R-10, Maximum Temperature 1000°C
4	Hot Air Oven	100-800 memmert/ maximum tempt. 100°C
5	Centrifuge	5000 rpm
6	Sieve	2mm mesh size
7	Soil Augar	
8	Meter Rod	
9	Measuring Tape	
10	Single Row Rabi Drill	
11	China Dish	
12	Soil moisture probe	Irrrometer company riverside, Calif
13	Dry-Wet Thermometer	
14	Infrared Thermometer	
15	Microwave Oven	
16	Petri Dish	
17	Printer	