

SUBJECT REVIEW REPORT

**DEPARTMENT OF
CROP SCIENCE**



**FACULTY OF AGRICULTURE
UNIVERSITY OF RUHUNA**

28th to 30th June 2005

Review Team :

Prof. M. J. S. Wijeratne, University of Kelaniya

Prof. S. Jayasekera, Wayamba University of Sri Lanka

Prof. S. H. Upasena

1. THE PURPOSE AND AIM OF THE SUBJECT REVIEW

The purpose of the subject review was to evaluate the quality of education of the undergraduate and postgraduate programmes offered by the Department of Crop Science of the Faculty of Agriculture of the University of Ruhuna and focus on the quality of students' learning experience and their achievements. It is aimed at examining and reviewing the appropriateness of academic standards set for the programmes and the effectiveness of curriculum in delivering the intended learning outcomes stated in the self evaluation report. It is also aimed at examining the suitability and effectiveness of the assessment methods used to measure the achievement of students with respect to learning outcomes relevant to the programme.

The review team for the subject review consisted of Prof. S.J.B.A. Jayasekera (Dean / Faculty of Agriculture and Plantation Management, Wayamba University of Sri Lanka), Prof. S.H.Upasena (Former Dean / Faculty of Agriculture, Rajarata University of Sri Lanka) and Prof. M.J.S. Wijeyaratne (Senior Professor of Zoology, University of Kelaniya).

During the subject review, the following eight aspects were evaluated.

- Curriculum design, content and review
- Teaching, learning and assessment methods
- Quality of students including student progress and achievements
- The extent and use of students feed back, qualitative and quantitative
- Postgraduate studies
- Peer observation
- Skills development
- Academic guidance and counseling

The review team perused the subject review report prepared by the Department before the review visit which took place from 28th to 30th June 2005. During the review visit, the review team had discussions with the Dean of the Faculty of Agriculture, Head of the Department of Crop Science, members of the academic staff and non-academic staff and selected groups of undergraduate and postgraduate students.

The review team examined several documents, including the minutes of Departmental meetings, curriculum descriptions of courses offered by the Department, samples of students' answer scripts, project reports of the final year students, postgraduate dissertations, teacher evaluation reports, practical handouts, Student hand book 2001/2002, academic calendar 2005/2006, past question papers, marking schemes and model answers. Samples of herbariums and seed collections prepared by students were also examined.

The review team also visited the teaching and research laboratories of the Department to examine the facilities available. The lecture theatres, poly-tunnel, plant house, instrumentation rooms, green house, tissue culture laboratory, medicinal plant herbarium, Departmental library, Faculty library, and Faculty computer center were also examined by the review team.

Peer observation of the teaching process in a lecture theatre and a practical class was also carried out during the review process. The review team also observed a farm practical class during the review visit.

2. BRIEF HISTORY OF THE UNIVERSITY AND DESCRIPTION OF THE DEPARTMENT:

The enactment of the University act No. 16 of 1978 enabled establishment of Ruhuna University College in 1978 at former Technical College premises, Meddawatte, Matara. The Ruhuna University College commenced its activities with three faculties, viz. Agriculture, Science and Humanities & Social Sciences. Since the premises where the University College was located were inadequate to meet the needs of a new university, a new location was identified at Wellamadama, 2 km from Matara on Matara – Kataragama highway. The construction work commenced in 1981 at the main campus at Wellamadama as well as in two other sites at Mapalana (to house the faculty of Agriculture) and at Karapitiya (to establish a Faculty of Medicine). In 1984, the Ruhuna University College was upgraded to university status fulfilling long cherished desire of the people of southern Sri Lanka for a university in the region.

After completion of construction work in 1985, the central administration, Faculties of Science, and Humanities & Social Sciences were shifted to Wellamadama and the faculty of Agriculture was shifted to Mapalana. Medical Faculty was established in 1980 at Karapitiya. The Faculty of Engineering was established in 2000 at Hapugala and the Faculty of Management and Finance was established in 2003 at Wellamadama.

The Vice Chancellor's residence, guest house, bachelors' quarters, gymnasium, two auditoriums, lecture theatres, laboratories, two female hostels etc. were also established at Wellamadama complex.

Over the years the university developed rapidly with significant increase in student intake. The present student population in all six faculties is approximately 5000.

The Faculty of Agriculture is located in Mapalana, 16 km north of Matara and 2 km south of Kamburupitiya. The faculty premises of 50 ha include several academic and administration buildings which house lecture theatres, laboratories, library, computer centre, English unit, canteen, auditorium, student hostels, staff quarters and student recreational facilities. The faculty farm is also located within its premises, integrating farm activities with teaching, research and out reach programs. Plans are being drawn up to expand the premises by acquiring another 50 ha from an adjacent rubber estate.

The faculty has six departments of study namely, Agricultural Biology, Agricultural Chemistry, Agricultural Economics & Extension, Agricultural Engineering, Animal Science and Crop Science. The B.Sc. (Agriculture) Degree program is 4 years of duration and the course is conducted in the English medium. The annual enrolment grew over the years from 15 in 1978/79 to 150 in 1997. Presently there are, approximately, 650 students being accommodated in the faculty. In addition to the undergraduate program, the faculty also offers M. Phil. and Ph. D. degree programmes to promote specialized training and scholarly research in higher education.

The department maintains an effective functional relationship with all the leading agriculture related research, development and educational institutions and policy making bodies of the government as well as with private sector organizations. The department consists of a teaching, analytical and research laboratories, plant tissue culture and micro propagation unit, a plant house, a net house, a poly tunnel, land for field practical and a library which are adequately equipped to cater the on going teaching and research programs. In recognition of the scientific merits of research

programs conducted in the Department a number of research grants have been offered to several senior members of the Department from national and international agencies. The review team noted that, among the undergraduates about 25 – 30 %, opt to specialize in Crop Science each year. They are fortunate enough to get themselves involved in carrying out certain components of the regular research projects and in some outreach programs, thus improving their application and analytical skills.

The staff of the Department comprises of 2 Professors, an Associate Professor, 3 Senior Lecturers (permanent), 2 Senior Lecturers (temporary), 5 Lecturers, a Scientific Assistant and 2 Temporary Lecturers. Six of the staff members have obtained their Doctoral Degrees while 7 are qualified with Master's degrees. In addition, the department has a Technician, 2 Laboratory Assistants and a Laborer. The department also gets the services of visiting lecturers from other institutions for specialized subject areas when the need arises.

3. AIMS, LEARNING OUTCOMES AND PROGRAMME DETAILS

Crop Science is one of the subject areas in the syllabus, taught through out all four years of the undergraduate course offered by the faculty.

3.1 Aims

- 3.1.1 The prime objective of the department is to produce graduates with necessary skills and knowledge to handle the real world issues related to crop science and allied fields.
- 3.1.2 Provide current knowledge in crop science and allied subjects
- 3.1.3 Provide opportunity for students to cultivate all important field crops and vegetables during their farm practice course in third year 2nd semester to apply their theoretical knowledge and get hands on experience.
- 3.1.4 To expose students to laboratory techniques, use of laboratory and field equipment during their practical programmes.
- 3.1.5 Offer field trips to expose students for more practical aspects allowing them to broaden and deepen their knowledge and experience under real situations.
- 3.1.6 To give opportunity to students to work independently, identify the problems, design experiments, use of statistical tools, analysis of data, data reporting, presentation and defend their results.
- 3.1.7 The department is offering post-graduate degree to enhance their knowledge in specialized field in crop science.
- 3.1.8 Develop human resources and technologies on present needs and future challenges for the purpose of assuring well being of mankind.

Learning outcomes

The successful completion of the four years crop science program offered by the department, the students should have obtained following knowledge and understanding.

- 3.2.1 General knowledge and understanding in various disciplines of crop science
- 3.2.2 Acquired the ability to face the future challenges of the crop sector
- 3.2.3 Use the knowledge and experience gained during the four year period to design future research for the development of crop sector
- 3.2.4 Develop personnel and transferable skills such as clear observations, critical thinking, data handling, analysis of data and interpretation of results,

comprehensive expression and also acquired the ability to apply these skills in various situations.

3.2.5 Develop the skills of necessary ability to self directing learning

On the successful completion of the course modules offered in the undergraduate curriculum by the department, students should be able to demonstrate their knowledge of training they had on each discipline of,

Principles of Agronomy and Horticulture
Vegetables and Field crop production
Horticultural crop production
Perennial crop production
Agro-forestry
Sustainable agriculture
Applied statistics of crop experimentation
Farm practice course
Floriculture and landscape horticulture
Plant tissue culture

During the specialization programme,

1. Students acquire the skills to analyze complex problems in the crop sector and allied fields in preparation of their thesis research
2. Students may base their theses in an institute outside the university such as agricultural research institutes, private sector industries and other related government and private sector institutions.
3. The thesis research entails writing a research proposal and a thesis which offers students, the opportunity to apply their newly acquired insight to a concrete situation
4. The students learn to deal with a research problem independently. This will involve, understanding the problem, choice of the appropriate methodology of studying the problems, organizing field work, analyzing data, application of statistical techniques writing a research report and the presentation of research findings
5. The students have a presentation in front of the staff and students in the Department followed by a defense examination.
6. Students are also encouraged to publish their work at national and international academic sessions
7. Graduates who specialized in crop science are well equipped for academic and executive level positions in the public and private sector institutes of non-governmental organizations

4. THE JUDGMENT ON THE EIGHT ASPECTS REVIEWED

4,1 Curriculum design, content and review

The courses are designed and developed to acquire both knowledge and practical skills in the field of crop science. Practicals, field trips, assignments, audio and video presentations, exhibitions, demonstrations and research projects etc. are all designed to develop skills and to encourage team work and independent learning. The curriculum was developed according to the guidelines formulated by the Curriculum Committee of the Faculty of Agriculture. The curriculum of the Department was revised to incorporate several new disciplines in keeping with most recent developments in the agriculture sector and cater to the needs of the private sector job opportunities. Recent changes include the introduction of new disciplines

like agro forestry, sustainable agriculture, advanced floriculture, landscape gardening and post-harvest physiology. Further, additional lecture series was introduced to specialization students in silviculture, instrumentation, export standards of agricultural produce, medicinal plants etc.

The most recent revision of the entire curriculum was completed and semester based academic year system including continuous evaluation system of examination was introduced in 2001. Under the new curriculum, teaching and learning activities are designed to fulfill the aims and objectives of the program of studies in crop science.

The Department of Crop Science makes a significant contribution to the BSc degree program by conducting courses in Agronomy, Horticulture, Crop physiology, Plant tissue culture and micro propagation, Field crop production, Post harvest physiology, Floriculture, Landscape gardening, Agro forestry, Sustainable agriculture, Plantation crop management, Export agricultural crop management and Applied statistics. In general, all courses offered under crop science are strongly practical based and accompanied with practical programme in laboratories or in the field. During the sixth semester students are expected to cover all field practices of crop production gaining hands on experience and skills of modern agriculture. It further covers nursery management for fruit and plantation crops with special reference to plant propagation as well as modern techniques of crop production such as protected agriculture, hydroponics, mushroom culture and floriculture.

The practical training in all aspects of crop science is given under farm practice course in the 3rd year second semester. Practicals are held in land preparations, nursery management, crop establishment, cultural practices (fertilization, weed control, pest and disease management, irrigation etc.), harvesting and post – harvest practices etc. In addition, protected agriculture, floriculture, land scaping principles, mushroom cultivation and tissue culture are also covered.

Practical training in plantation crop management (tea, rubber, oil palm) is given during the 3rd year 1st semester in different estates such as Diddenipota estate and Nakiyadeniya estate.

Field trips and field practical classes are planned to enhance the practical knowledge and study field problems. Visits to Royal Botanical Garden, Horticultural Crop Research and Development Institute, Plant Genetic Resources Center and Maha Illuppallama Research Institute help in further strengthening the practical knowledge of students.

During the 1st semester of the final year, the students are given lectures on advanced modules of important disciplines. During the 2nd semester of the final year, each student carries out a research project under the supervision of a senior academic, submits a dissertation and makes a presentation at the end of the semester. The student has an opportunity to select a research topic of his or her choice but within the scope of the Department. Such projects enable students to develop their intellectual, interpersonal skills as well as to enhance the student staff relationships. The students may work with either public sector or private sector institutions or enterprises which probably could be their future employer.

The curriculum of the Department is reviewed regularly in line with the main curriculum revision of the Faculty. The views of the students, both present and past, and the professionals from the government sector, private sector and non governmental organizations are taken in to consideration in revising the curriculum.

The revised curriculum has to go through the Curriculum Committee of the Faculty and the University senate before its acceptance. The next revision of the curriculum is due to take place shortly.

The review team noted that the intended learning outcomes have been identified only for few courses.

There is no flexibility in the choice of courses. This is mainly due to the absence of a course unit system.

It was also noted that in some courses, there is a large temporal gap between the delivery of lectures and conducting practical classes.

The review team was informed by the students that in some instances the same subject matter is repeated by several departments.

The review team noted also the absence of a credit based course unit system in the current curriculum. The Department may consider implementing such a system in the anticipated review exercise.

The review team is of the view that the aspect of curriculum design, content and review could be judged as Satisfactory.

4.2 Teaching, learning and assessment methods:

Almost all courses are taught through a combination of lectures, practical classes, tutorials and individual assignments. The lectures are conducted to provide specific knowledge to students, promoting their enthusiasm on the subject and encourage further studies throughout the programme covering all four years. The department uses visual aid, handouts, library references and the web for teaching. Certain teaching materials are made available in the library. Practical classes are conducted throughout the academic programme to enhance the practical knowledge and promote active teaching process in laboratories. Live specimens are used in practical classes of weed science, plantation crops, export agricultural crops, vegetables, fruits and ornamental plants for identification. Assistant lecturers, support services are sought in conducting practical classes throughout the study programme.

Tutorials, seminars and assignments encourage student centered learning and staff–student interaction. Seminars provide an opportunity for collecting necessary information and data. The presentations made in seminars enhance presentation skills, communication skills, team work and self study process.

Practical classes, conducted either in the laboratory or in the field, permit students to learn experimental methods and develop transferable skills, which help to transfer subject specific knowledge in to practice. This is further strengthened through individual assignments and field trips organized by the Department, which help to gain first hand knowledge and experience on actual situations. Sufficient space in lecture halls, laboratories and in the field is provided to carryout the work without much difficulty. The necessary equipment and background material are provided regularly when conducting practical classes.

Inadequate number of trained technical staff had been identified as a major constraint in conducting some of the practical classes. Due to increase in intake, certain practical classes need to be conducted with smaller groups of students repeating the same practical several times.

The farm practice course conducted during the 6th semester provides a sufficient practical exposure and hands on experience for majority of field crop production activities. It develops transferable skills and provides opportunities for small groups to work together and for more student-teacher interaction. Further it encourages discussion, student centered learning, problem identification, interaction and skill development. However in certain occasions, temporary setbacks have been experienced due to non availability of an efficient irrigation system.

The final year research project is crucial component to the aims and objectives of the program. It enables students to experience research in an area of their preference and it encourages, initiative, self reliance, originality and skill development. It also develops laboratory and transferable skills and promotes active learning in dynamic research environments. The review team noted that the Department has played an active role in carrying out research projects for which contribution and participation of students were significant. Considerable amount of presentations at meetings and publications have been made with the participation of students.

The computer assisted learning and use of internet facilities, however, are confined only to a single semester (4th year 1st semester). This was mainly due to non availability of sufficient number of computers at the computer centre. Hence, students are deprived of using computers and developing their IT skills during the first three years of education at the Faculty.

The review team also noted that English teaching/learning activities are not geared to reach the expected level, mainly due to non availability of permanent English instructors at the English Language Teaching Unit of the Faculty. Getting down instructors from the main campus at Wellamadama seems to be not working properly, may be due to lack of commitment of the instructors.

The Faculty library is well equipped with books, journals, periodicals etc. to assist the learning and teaching processes in the department. Students use the library frequently which also encourage student centered learning.

The Department practices different assessment procedures throughout the program. End semester examinations form the major component which contributes about 70-80% to the final marks. The remaining portion is based on individual reports, presentations, assignments and continuous assessments (for practical only). The final year research project is totally assessed based on the thesis and its presentation, while the assessment of group work, field trips, case studies etc. are based on presentations, panel evaluation, discussions, attendance and reports.

The Department maintains strict regulations on attendance (80%) for practical components of the course. The examination papers are moderated by a senior academic in the department to ensure that individual questions are clear, fair and discriminatory and that the overall balance and coverage are appropriate. However, the marking of the answer scripts is done only by an internal examiner. There is no practice in the Department to get the assistance of a second examiner.

The aspect of teaching, learning and assessment is judged as 'Satisfactory'.

4.3 Quality of students including students' progress and achievements

The students who gain admission to the Department of crop science comes from the general pool of students entering the Faculty of Agriculture through the centralized admission procedure of the UGC, which is based on the results of the GCE (Advanced level) examination. It appears that the students selected to the Faculty of

Agriculture of the University of Ruhuna are not those who secure the highest Z scores.

The competence in English is highly variable among the students. The English language skills of the students who are selected from remote, resource poor areas are generally poor. However, it appears that the students who are poor in English language skills tend to acquire some language skills when they progress towards the end of the degree programme mainly because the courses are conducted in English medium. However, conducting a well organized English language programme would be very useful for the students to improve their English language skills. At present, although there is a course on English language, the discussions with the students revealed that this course does not help in achieving intended learning outcomes. It is recommended to recruit at least two qualified English instructors to the English language teaching unit of the Faculty and conduct well organized courses to improve the language skills of the students.

The students who are selected to specialize in crop science should secure a minimum of 'C' grade in the subjects offered by the Department in the 1st three years of their study programme. The statistics indicate that the number and % of students who are specializing in crop science has gradually increased in the recent past.

The review team noted that the students do not get the results of the examination on time to assess their achievements. The results appear to be released more than 3 months after the examinations. The Department may consider releasing the results within 4 weeks of holding examinations.

The review team noted that the progression rates of students who are specializing in crop science are satisfactory. The programme completion rate is also good. The information provided by the Department indicates that the all students who passed out recently are employed.

The review team is of the view that the aspect of overall quality of students, their progress and achievements could be judged as 'good'.

4.4 The extent and the use of student feedback; Qualitative and quantitative

It is commendable that the student feedback is obtained at the end of each semester. At the beginning, the students have been asked to write the comments on a piece of paper and submit them to the course coordinator and/or relevant lecturer. However, at present a formal questionnaire is distributed and the feed back is obtained. In addition, the student feed back on learning resources is obtained through the student representatives at the Faculty Board. Further the students provide feed back through informal meetings with the lectures and/or Head of the Department As in some other universities the Department may consider administrating the procedure of obtaining student feed back through the Dean's office. For this, however, the consent and cooperation of all Departments of the Faculty are needed.

The review team noted that action has been taken to improve the quality of teaching based on the student feedback. Some comments have been discussed by the entire Department and action has been taken

Review team noted that the students are satisfied with the action taken by the Department on some aspects based on their feed back.

There is no evidence for analyzing students' feedback quantitatively.

The aspect of the extent and use of student feed back: qualitative and quantitative could be judged as good.

4.5 Postgraduate Studies

The Department of Crop Science has a fairly strong dedicated academic staff to support the postgraduate students. However, the Department has been conducting only research degrees leading to the degrees of M. Phil and Ph. D. The numbers enrolled are also rather low. The reasons for low numbers may be the availability of the Postgraduate Institute of Agriculture (PGIA) and Postgraduate Institute of Science (PGIS) at Peradeniya, which are better organized and the non availability of funding agents. Nevertheless, two M. Phil students have successfully completed their degrees at the Department. Currently three students are involved in postgraduate studies at the Department. One student is conducting research for a two year M.Sc. degree and the other two for M. Phil degrees. The M. Sc. Student is self funded and the two M. Phil students are funded through research grants.

The three students currently involved in their research are satisfied with the facilities offered by the department and they are progressing well.

The review team is of the view that the aspect of postgraduate studies could be judged as 'good'.

4.6 Peer observation

Currently there is no formal mechanism in the department to evaluate the teaching skills and abilities of staff members by a fellow academic who is competent in the specialized area. However, the staff members informally discuss the short comings and weaknesses of teaching methodologies adopted by individual staff members at the departmental meetings and make necessary adjustments accordingly. Further, the review team noted that the practical classes conducted by the Demonstrators and the junior staff are peer observed by senior staff members.

Teaching approach of certain courses such as Farm Practice Course, are being reviewed and discussed regularly with all staff members in order to meet the course objectives and aims and to overcome the constraints.

The review team observed that, though there is no formal mechanism for making peer observations, the staff members of the department are cooperative and they work as a team. Hence, they have a good relationship and understanding among each other and discuss their weaknesses, strengths, experiences etc. informally which would contribute to improve their own teaching and academic skills.

Since there is some peer observation, especially in practical classes, the review team decided to pass the judgment of 'satisfactory' for this aspect.

4.7 Skills development

The Department of Crop Science being an applied science field of study, the subject specific skill development has been built into the curriculum design of the degree programme. Farm Practice Course conducted in the 3rd year and the research projects in the fourth and final year are specially designed to develop subject specific skills as well as interpersonal skills.

In the Farm Practice Course, students are involved in "learning by doing". During that period students get "hands on" experience in field operations such as land preparation, seed bed preparation, chemical applications, safe handling of poisonous and non healthy materials, weed identification, landscaping, plant propagation techniques, nursery management, harvesting and processing of field crops etc. The students thoroughly enjoy working in groups while developing their practical skills in crop production and understanding field problems.

At the conclusion of the Farm Practice Course the groups of students are expected to make a short dissertation of their experience. This gives an opportunity for students to develop their organization, leadership and presentation skills and working in a team.

The final year project work is designed to test variety of skills such as subject specific skills, communication skills and report writing skills. However, there was no evidence to show that employers of graduates have been consulted regarding their opinion about the skills of the students.

IT skill development in the Department was rather weak and the reasons for this have been two fold, i.e., the inadequacy of the computer laboratory facilities and non existence of a well functioning English Language Teaching Unit. The review team noted that these inadequacies are beyond the control of the Department. It is strongly recommended to rectify these shortcomings.

Since the programme is designed to develop subject specific skills and some interpersonal skills, although there is less facilities and provisions to develop important skills in the present day context such as development of IT skills and English language skills, the review team judged this aspect to be good.

4.8 Academic guidance and counseling

Academic guidance and counseling mechanism is available in the department to all undergraduate and postgraduate students. At present two staff members of the Department of Crop Science serve as student counselors. There are four student counselors in the entire faculty. Academic guidance is mainly provided during the orientation programme.

Although the review team was provided with a copy of a student hand book published for 2000/2001 academic year, the discussions with the students revealed that this handbook is not provided to each and every student. The review team was not provided with the handbooks for more recent years. The review team wishes to emphasize the importance of providing a copy of the student hand book to every student on the first day of their university career.

The discussions with the students revealed that they are satisfied with the guidance and counseling they received from the student counselors of the department. The other members of the staff, including the Head of the Department also provide guidance and counseling as and when required. There are no formal time allocations for counseling. The students could meet them at anytime when they are present in the department. It was also noted that there is no system of allocating a personnel tutor/counselor to every student of the faculty. This may be done as they enter the university.

The review team noted that there is a good interpersonal relationships among the staff and students. The personal problems of the students are also attended to by the student counselors and necessary guidance is provided.

The student counselors have not undergone any formal training in counseling. However, the counseling activities carried out by the student counselors are commendable.

The review team wishes to recommend that formal training in counseling be provided to the student counselors.

This aspect of academic guidance and counseling could be judged as good.

5 CONCLUSION

The good practices, weaknesses and judgments for each aspect considered in the subject review could be summarized as follows.

5.1 Curriculum design, content and review

Good Practices:

- Intended learning outcomes of the programme and for some courses are identified.
- Contents are of adequate breadth and depth.
- There are opportunities to develop subject related skills and interpersonal skills.
- Detail curricular for each course is identified.

Weaknesses:

- Intended learning outcome for all courses are not identified.
- There is no flexibility in the choice of courses.
- The courses are not weighted according to a credit system.
- In some courses, there is a large temporal gap between the delivery of lectures and conducting practical classes.
- Repeating of subject matter by several departments.

Judgment: Satisfactory.

5.2 Teaching, learning and assessment method

Good Practices:

- Use of multimedia
- Preparation of student guides
- Providing handouts
- Getting good student response during the lectures
- Giving hands on experience in practical classes to each and every student in the practical group
- Designing assessment methods to test knowledge as well as skills.
- Providing farm experience and field experience
- Providing lesson material prepared by teachers at the library for reference
- Extended opening hours of the library
- Moderation of question papers
- Continuous assessment in practical classes
- Adequately qualified staff

- Assistance from visiting lecturers for specialized areas
- Adequate laboratory and lecture hall facilities
- Adequate equipment and facilities for practical classes
- Farm practice course for skill development
- Field trips
- Student participation in existing research and outreach programs
- Exposure to real situations through research projects conducted outside the Department
- No significant delays in conducting scheduled courses
- Good library facilities to encourage student centered learning

Weaknesses:

- Non availability of sufficient number of computers.
- Not keeping the computer center open after 4.00pm
- Not availability of a qualified system analyst at the computer center
- Not providing adequate facilities to improve IT skills of the students at the beginning of their university career
- Not providing adequate facilities to improve English knowledge skills of students
- Non availability of second marking of the answer scripts
- No continuous assessment in theory classes
- Limiting the number of field visits
- Inadequate number of farm machinery
- Delay in the release of results
- Frequent changes in examination time table, even during the study leave period

Judgment: Satisfactory

5.3 Quality of students, including student progress and achievements

Good Practices:

- Availability of an intensive English programme at the beginning of the degree programme
- Requirement of 80 % attendance in practical classes

Weaknesses:

- Non availability of provisions to improve IT skills of the students until they come to the fourth year
- Non availability of qualified teachers to teach English at the ELTU
- Non availability of qualified instructors and a system analyst at the computer center
- Delay in release of results

Judgment Good

5.4 The extent and use of the student feed back

Good Practices:

- Implementation of teacher evaluation system
- Qualitative analysis of students' feed back
- Taking action on students' comments

Weaknesses:

- No quantitative analysis of student feed back

Judgment Good

5.5 Postgraduate studies

Good Practices:

- Provision of adequate supervisors
- Provision of adequate laboratory and field facilities.
- Availability of research funds
- Dedication of the staff

Weaknesses:

- Insufficient internet facilities

Judgment Good

5.6 Peer observation

Good Practices

- Carried out informally
- Cooperative staff who could discuss in harmony each other's strengths and weaknesses of teaching
- Peer observation of junior staff in practical classes by senior staff

Weaknesses:

- No peer observation in theory classes

Judgment Satisfactory

5.7 Skills development

Good Practices:

- Identification of development of various skills as learning outcome
- Development of subject specific skills
- Development of some interpersonal skills

Weaknesses:

- Lack of facilities to develop IT skills
- Lack of facilities to develop English language skills

Judgment Good

5.8 Academic guidance and counseling

Good practices:

- Good interaction with students and teachers
- Provision of good academic guidance during orientation programme
- Peer mentoring by students

Weaknesses:

- No formal training on counseling for student counselors
- No personal counseling system where few students are allocated to one teacher.

Judgment Good

OVERALL JUDGMENT

Aspect Reviewed	Judgment Given
Curriculum design, content and review	Satisfactory
Teaching learning and assessment methods	Satisfactory
Quality of students including student progress and achievements	Good
Extent and use of student feed back, qualitative and quantitative	Good
Postgraduate Studies	Good
Peer Observation	Satisfactory
Skills Development	Good
Academic Guidance and Councelling	Good
Overall Judgment	Suspended