

SUBJECT REVIEW REPORT

DEPARTMENT OF ZOOLOGY



**FACULTY OF SCIENCE
EASTERN UNIVERSITY OF SRI LANKA**

23rd to 25th July 2007

Review Team :

Dr. (Ms.) Manel Goonasekera, Rajarata University of Sri Lanka

Dr. (Ms.) Hemantha Wegiriya, University of Ruhuna

Prof. S. Mohandas

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1. SUBJECT REVIEW PROCESS

Higher education is a 'public good' and is of crucial importance to health, wealth and well being of the society and the economy. Universities must conscientiously exercise their responsibility for quality and standards. University accountability for quality and standards is a key factor in promoting and safeguarding public confidence in Sri Lankan higher education.

Subject review evaluates the quality of education within a specific subject or discipline. It is focused on the quality of student learning experience and on student achievement and is designed to evaluate the quality of both undergraduate and postgraduate programs.

Subject review process was introduced by the Committee of Vice-Chancellors and Directors (CVCD) and the University Grants Commission (UGC). The Quality Assurance and Accreditation (QAA) Council of the UGC is now conducting subject reviews and institutional reviews in Sri Lankan universities. The following Review Team has been appointed by the QAAC to perform the subject review of the Department of Zoology (DZ), Faculty of Science, Eastern University of Sri Lanka (EUSL) from 23rd to 25th July 2007.

- Dr. (Ms.) Manel Goonasekera, Rajarata University of Sri Lanka
- Dr. (Ms.) Hemantha Wegiriya, University of Ruhuna
- Prof. S. Mohanadas

Key features of the subject review process are, preparation of a Self Evaluation Report (SER) by the relevant department on the disciplines they teach, on student learning experience and student achievements in the subject, all of which are evaluated by a subject review team, according to the aims and learning outcomes stated in the SER.

SER of the Department of Zoology (DZ), EUSL was submitted to the members of the Review Team who were requested to perform the subject review. It contained 15 pages of Undergraduate Studies and 08 pages of Appendix totaling 23 pages.

The Review Team evaluated the quality of education in the DZ according to the aims and learning outcomes as claimed in their SER. The purpose of the visit was to consider and test the evidence provided by the department.

At 8:30 am on the 23rd of July 2007, the Review Team arrived at the university with the QA Specialist of QAA Council of the UGC. The QA Specialist had a meeting with the members of the Review Team for half-an-hour to recapitulate the subject review process. At 9:00 am the Review Team including the QA Specialist was invited to a welcome meeting by the Acting Vice-Chancellor of the University along with Acting Dean of the Faculty of Science, Dean of the Faculty of Commerce & Management and Head, Department of Management. The Acting Dean of the Faculty of Science, Mrs. C. Devadasan is also the Head of the Department of Zoology. Thereafter the Review Team met the Head of the DZ and finalized the agenda for the review process. During the morning session Head of the DZ gave a presentation which comprehensively covered the progress made by the department on all aspects included in the SER in the presence of all members of the academic staff of the department. The review process was thereafter conducted by the Review Team according to the agenda (Annex 1).

The Review Team held meetings with the following groups and individuals.

- Head of the DZ
- Members of the Academic staff
- Members of the Non-academic staff
- Undergraduate students

- Academic advisor and Student counselors
- Instructors of the English Language Teaching Unit & Computer Unit

The Review Team visited the following places for observations.

- Lecture Halls
- Laboratories
- Research laboratories
- Aquaculture Center with in-door & out-door fish tanks
- Museum
- Department computer laboratories
- University Computer Center
- Department Library
- Department Staff Rooms
- University Library

Lecture halls and laboratories were visited again when the students were following lecturers and a practical respectively.

The list of documents observed by the Review Team is given in Annex 2.

In order to make the judgments the Review Team focused on eight key aspects namely (i) curriculum design, content and review (ii) teaching learning and assessment methods (iii) quality of students including student progress and achievement (iv) extent and use of student feedback, qualitative and quantitative (v) postgraduate studies (vi) peer observation (vii) skills development and (viii) academic guidance and counseling.

2. BRIEF HISTORY OF THE UNIVERSITY, FACULTY AND THE DEPARTMENT

The Eastern University was established in October 1981 and was initially affiliated to University of Peradeniya as the Batticaloa University College. On inception there were two faculties, Agriculture and Science. The faculties of Commerce & Management and Arts & Culture were added in 1986 when the status of the Batticaloa University College was changed to the fully fledged Eastern University of Sri Lanka (EUSL). Additionally the Eastern Province Affiliated University College has been upgraded as the Trincomalee Campus of the EUSL with the faculties of Communication & Business Studies and Applied Sciences. Recent establishment of a new faculty of Health Care Sciences and the absorption of Swami Vipulananda College of Music and Dance are additional assets to the university. The main campus situated at Vantharumoolai has service centers including the English Language Teaching Unit (ELTU), Center for Information and Communication Technology (CICT), Staff Development Center and the Career Guidance Unit.

The Faculty of Science presently consists of the Departments of Botany, Chemistry, Computer Science, Mathematics, Physics and Zoology. The Faculty Board of Science regulates all the academic activities of the faculty under the direction of the Senate. Faculty of Science offers mainly the undergraduate courses *viz.* B.Sc. General Degree of three year duration and B.Sc. Special degree of four year duration. At present the student population of the Faculty of Science is 254, out of which the total number of students registered for the Biological Sciences stream is 74. In addition an external degree program is conducted by the faculty.

The DZ is one of the three departments in the Biological Science section of the faculty. The department offers core and optional course units covering basic and applied fields in Zoology

for students registered for the B.Sc. General and Special Degree programs. All undergraduate programs follow a course unit system of evaluation with a specific workload.

The DZ currently has 05 academic staff members (4 Senior Lecturers and 1 Probationary Lecturer), 02 Temporary Assistant Lecturers, 05 Demonstrators, 02 Technical Officers, 02 Lab Attendants and 01 Laborer. The cadre position of Professor of Zoology is vacant at present.

According to the information provided by the Head of the department, the total number of students registered for the B.Sc. General Degree program in the academic year 2006/2007, for 1st Year, 2nd Year and 3rd Year is 17, 23 and 31 respectively. The number of students registered for optional courses is usually more than 80% of the student population in the biological science study program. Total number of students registered for B.Sc. Special Degree Programme in Zoology is 03 (Special part II), while six students from the 2nd Year batch have been selected to follow Special part I.

The DZ has one general elementary laboratory, one special research laboratory museum, aquarium, fingerling production hatchery, five cemented fish tanks and poultry rearing unit for teaching and research purposes. The DZ also has a collection of 50 books and magazines for teaching and for undergraduate research. Lectures are conducted in five lecture rooms belonging to the Faculty of Science.

The library has a fair collection of books in Zoology and related fields. Computers available for students in the Computer Center of the faculty are adequate. The Review Team noted that students have no restriction to use computers which are freely available. The infrastructure and other facilities available in the department are merely sufficient to conduct the theory and practical classes. However, it was indicated that facilities would improve after completion of the new faculty complex, in near future.

3. AIMS AND LEARNING OUTCOMES

3.1. Aims

The DZ aims to provide a broad multidisciplinary course in Zoology and to train students in a wide range of zoological science-based skills that provide the learning base for future careers in disciplines such as Applied Fisheries, Health Sciences, Agriculture, Environmental Management and Emerging Biotechnology.

Zoology is the study of life of animals from prokaryotic to large eukaryotic organisms including man. An abundance of animals is found in land and water. The subject of Zoology consists of vast areas of studies from pioneer to advanced, through teaching Theoretical Zoology to Applied Zoology & Technology. Thus there is an increasing requirement to prepare graduates carefully for continuing their self-education and development after graduation to maintain their knowledge and understanding of rapidly changing areas and become competent in employment.

Presently, in the DZ, Zoology is taught as one of the subjects in all three years for Biological Science students concurrently with Botany, Chemistry and Computer Science. In addition, core-courses (Biomathematics & Biostatistics, Sri Lankan Studies, Social Harmony and Entrepreneurial Study and Computer Literacy) are offered with interfaculty collaboration and English is offered to all the students by the English Language Teaching Unit (ELTU). In the subject of Zoology, some courses are compulsory and some are optional.

The objectives of the DZ are given below.

The DZ offers a hands-on program of study associated with animal life, preparing the student for a career in Biological Sciences or as a professional scientist. It has four (4) well trained members of the academic staff, who offer theoretical and practical knowledge and guidance in research in the areas of Cell Biology and Biochemistry, Ecology, Animal Behaviour, Fisheries and Fish Biology, Aquaculture, Entomology, Aquatic Health and Management Studies, Natural Resource Management and Developmental Planning, Genetics and Developmental Biology.

The DZ has to act towards the Vision and the Mission of the Eastern University to produce qualified graduates to compete at national and international research oriented employment market with available resources.

Eastern University of Sri Lanka aims to be a national center of excellence for higher learning and research with a competitive advantage responsive to the dynamics of the regional global conditions.

Thus the EUSL strives to produce graduates who are exposed and trained in the spheres of local needs and also competent enough to face the global scenario.

The mission of the EUSL states that

“the purposes of the Eastern University of Sri Lanka are

- *to pursue excellence in teaching, research and scholarship*
- *to offer through its management, campuses and other facilities unsurpassed opportunities for education and training to all those who be able to benefit*
- *to enhance public welfare, prosperity and culture by encouraging applications of learning and research and*
- *to secure and administer resources to achieve these aims effectively”*

(Eastern University, Sri Lanka Corporate plan 2003)

Hence, the major objectives of the DZ are as follows.

- To provide applied and advanced innovative research methodology and applications to promising graduates interested in knowledge related to animal life
- To produce graduates who will contribute to the growth of economies and welfare of developing countries through careers in research and teaching
- To conserve animal resources for future generations
- To devise ways for sustainable utility of natural resources.
- To provide outreach services to communities
- To transfer technology to rural parts of the region

Considering the above, four main objectives of the degree program have been identified in the corporate plan, which includes:

- to offer a range of opportunities for education and training;
- to pursue excellence in teaching, research and scholarship;

- to encourage applications of learning and research to enhance public welfare property and culture;
- to secure and administer resources fully and
- to become a good citizen of Sri Lanka

3.2. Learning Outcomes

As stated in the Self Evaluation Report (SER), on successful completion of the B.Sc. General and Special Degree programmes the student should be able to do the following.

- a) The students would be able to identify and classify the animal forms and its related functions that are essential to become a zoologist.
- b) They would be able to understand and express the importance of animal studies and how it would help in their career opportunities
- c) They would be able to understand the importance of field studies in the field of Applied Zoology and gaining experience in practical work and research.
- d) They would be marketable graduates who would be able to adapt and suit to any prevailing condition.

4. FINDINGS OF THE REVIEW TEAM

4.1. Curriculum Design, Content and Review

Faculty of Science, Eastern University of Sri Lanka (EUSL) offers a modularized course unit system for its study programs. The total number of credits that should be earned by undergraduate students in order to get the degree is in accordance with the standard practice in other national universities. In addition students have exit points at the end of the first year (Award of Certificate in Science) and at the end of the second year (Award of Diploma in Science) if the candidates fulfill the eligibility for each category (Faculty Handbook 2005).

The common core courses for Biological stream are Fundamentals of Computer Systems & Introduction to Application of Software, Social Studies for Science, Introduction to Social Harmony, Management & Entrepreneurship, Introduction to Career Guidance and Sri Lankan Studies. These course units will help to improve the IT and interpersonal skills of the students. The other core courses such as Biomathematics and Biostatistics are useful for Biology students to improve their analytical skills. In addition, students are expected to pass the examination of the proficiency course in English conducted by the English Language Teaching Unit (ELTU) of the university and this practice helps to improve the English knowledge of the undergraduates.

At present the second and third year Biological Science students follow the modularized curriculum designed in 2000. The curriculum has been revised by a Curriculum Evaluation Committee, of the Faculty Board of Faculty of Science during 2003 - 2004. Now, a newly revised curriculum (Handbook of Faculty of Science 2005) is implemented from the present first year batch of Biological Science students. The curriculum reflects adequate academic standards and enables students to achieve the intended learning outcomes identified in the SER. The course units offered at different levels enable the students to develop their knowledge and understanding.

The Zoology degree program of the first year comprises four compulsory course units of two theory units (two credits each) and two laboratory course units (Cell Biology, one credit and Animal Diversity two credits) aggregating to a total of seven core credits for that year. Syllabi for the second year comprise four compulsory course units, two theory units (Ecology, one credit and Genetics and Developmental Biology two credits) and two laboratory course units (one credit each) aggregating 5 core credits for the second year. Credit value for core courses is therefore twelve. The Review Team feels that the amount of core course units offered by the DZ, EUSL is lower than the standard norm. However during the meeting with the academic staff it was indicated that more than 80% of the students in Biology stream select most of the optional courses offered by the DZ to make up the credit requirement. It was indicated at the discussion that the DZ may consider this issue in the next curriculum revision and increase the number of core courses to provide knowledge to students in the core areas of Zoology before proceeding to the next levels.

For the B.Sc. (General) degree program, the DZ offers 12 optional course units (6 theory units and 6 laboratory course units) among which 2 theory course units and 2 laboratory course units are conducted for the second year students. These optional course units provide basic knowledge and skills in four important areas in Zoology namely Fish Biology & Fisheries, Entomology, Parasitology and Animal Behaviour. Though the DZ offers a core course unit on Environmental Studies for Physical Science students, the DZ does not provide any course unit in Environmental Science for students who follow the B.Sc. General Degree Biological Science program. Since the department has qualified senior academic staff it is possible to introduce new course units with current national interest such as Conservation & Management of Environment, Immunology etc. This will further improve the variety and flexibility of the curriculum.

Course units offered for the B.Sc. (Special) Degree program in Zoology help to provide advanced knowledge in some of the core areas of the general degree program with special emphasis on fish biology and fisheries. The laboratory course units provide the subject specific practical skills of the theory course units. In addition course units such as essay and presentation, research project and laboratory techniques help to develop some important interpersonal skills as well as subject specific skills and generic skills of special degree students. The Review Team noted that there are sufficient opportunities for students to gain suitable subject knowledge and subject specific and generic skills under the present curriculum offered by the DZ for the special degree undergraduate program.

Curriculum Review

According to the SER, curriculum has been initially changed from Term system to Semester system in year 2000. At present the first, second and third year biological science students follow this revised curriculum. However, the DZ having realized the need of a further curriculum revision to avoid duplication of course units within the department as well as with course units in Botany, did a minor revision in 2003/04, for all three year courses with addition of new contents. Further, new course units such as Natural Resource Management & Developmental Planning and Environmental Studies were also introduced for the special degree program. The newly revised curriculum is implemented from the present first year batch of biological science students.

There was no evidence of obtaining feedback from students, alumni and potential employers and other stakeholders when revising the curriculum. The Review Team hence recommends considering the feedback from all stakeholders when developing and reviewing the curriculum to improve the quality and relevance of the undergraduate study program.

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

The DZ uses several approaches for the teaching and learning process of students. There are lectures, tutorials and assignments, laboratory and field practical classes and individual or group projects. For the B.Sc. General Degree students, the teaching process for the theory course units was mostly based on formal didactic teaching and for the B.Sc. Special Degree students some indication on self learning was noted. Practical course units are adequately designed to give sufficient practical knowledge and skills to the students.

The Review Team had the opportunity to observe two lectures delivered to the B.Sc. General Degree (1st Year) and B.Sc. Special Degree (3rd year) students. The Review Team noted that both lectures were delivered in a teacher centered and less interactive manner. The DZ may consider exploring suitable ways to improve teaching methods from mainly teacher centered to be more student centered.

The Review Team observed one practical class, conducted for Second year students on Animal behaviour. Use of different techniques such as video display and observations and data recording were noted. During the discussions held with students it was indicated that students do not have enough opportunities for field excursions and to be exposed to modern trends in teaching and learning Biology. With the prevailing politically disturbed condition in the area it might not be possible to introduce such activities immediately. However, the DZ may consider giving more emphasis for such activities in future to develop the generic and subject specific skills of students.

The students following the B.Sc. Special degree program have more opportunities to develop their self learning ability through Essay and Presentation and Research projects. It was informed that each special student has to present a seminar. The academic staff evaluates these presentations, and feedback is given to the students in order to improve their presentation skills. Increasing the number of presentations allocated per student would help to develop their communication skills further. For the evaluation of research projects, students have to present their findings to a team of three examiners other than the supervisor of the project.

Under the course unit system the DZ conducts examinations at the end of semester for theory course units and at the end of the course unit for practical units. The continuous assessment component is 30% of the final mark both for the practical and theory components. Moderation of question papers of the first year and second year is done by internal examiners and the third year papers are moderated by a local external examiner. For final year Special Degree papers, moderation and second marking are done by an international examiner. Although answer scripts were not available for inspection by reviewers, the DZ provided the communication made by one international examiner regarding a second marking of special degree answer scripts, carried out in 2005. Moderation and second marking by external examiners and international examiners is a good practice for transparency and quality assurance of the degree program. However during the discussion held with the students it was indicated that there is a long delay in releasing results. Though this is beyond the capacity of the department it is essential to organize these activities to release the results within the stipulated period as decided at the Faculty Board.

The Review Team had opportunity to examine samples of question papers. In general question papers have been formulated to achieve the intended learning outcomes. The

students have to answer all the questions and questions were formulated to reach a satisfactory academic standard.

The Review Team is of the view that the Teaching, Learning, and Assessment aspects are GOOD.

4.3. Quality of Students including Student Progress and Achievements

The students who follow the subject of Zoology are first selected to the Faculty of Science, of the Eastern University, by obtaining the required Z score for the Biological Science stream for the respective year. The average Z score of the students who were selected for the Biological Science stream in the academic years 2006/2007 and 2005/2006 were 0.8265 (39 students) and 0.8484 (47 students) respectively. Though the total number of places available for Biological Science is 100 per year, the number of students who finally enroll is around 30. This could be due to the fact that most students leave as a result of the “Filling of Vacancies List” in which they are allowed to go to the other universities of their choice, situated in trouble-free areas. Further, some students do not enroll but either prefer to follow other more attractive fee-levying courses or opt to re-sit the A/L exam aiming for better results. This reflects the situation in the faculties of science in other universities but to a much greater degree. The students of the EUSL are able to obtain inter-university transfers to the University of Jaffna and the same applies vice-versa to the students of the University of Jaffna.

At present the total student population of the Faculty is 254. Students who are enrolled in the Biological Science stream have the option of selecting Zoology out of the four subjects that are available to them. At present 100% of the students who have entered from the Biological Science stream (74) have opted to follow Zoology as a subject for their degree.

The average Grade Point Averages (GPAs) achieved by the 3rd year General degree students have showed a progressive improvement during the last three years. (e.g.: 2.73, 2.86 and 3.3 for the batches 2001/2002, 2002/2003 and 2003/2004 respectively). While the Batch that entered in 2001/2002 showed an improvement in their G.P.A. over the 3 years, (e.g.: 2.85, 3.26 and 3.3 during the years 2001/2002, 2002/2003 and 2003/2004 respectively) it was not the same for all the batches.

The drop out rate during the last three years was found to be 3/23 in year 2002/2003, 3/9 in 2003/2004 and 3/34 in 2004/2005, and the output to input ratio was 0.86.

The length of study of the General Degree program which is of 3 year duration has increased to 4 years during the last few years while the Special Degree program has a length of approximately 5 years. Factors beyond the control of the faculty have contributed largely to this increased length.

Student performance in each course unit is monitored each semester so that the academic progress of a particular batch of students can be assessed. The progress of the students over the last three years have increased in certain course units (e.g.: ZL 302, ZL 303, ZL 304, ZL 32, ZL 254) while the performance in the course unit ZL 301 has declined over the 3 years. No consistent trend was seen in the other course units.

The overall success rate of the students at the examinations cannot be called satisfactory even though students have fared well in the subject of Zoology. The results of the last 3 years starting from the most recent showed a completion rate of 17/31, 4/6, and 9/20 respectively in the first attempt. The highly volatile political situation in the province may have contributed to this unsatisfactory situation. During the last 3 years no student has obtained a First Class in

the General degree. Six out of the 57 (11%) students that have graduated have obtained Second Class Upper division passes while nine (15%) have obtained Second Lower.

It is commendable that the question papers and answer scripts of special degree students are sent to foreign examiners for moderation and second marking respectively. Up to year 2003, the papers were sent to examiners of the University of Edinburgh, UK and thereafter to the University of Aberdeen, UK. The comments and recommendations of these examiners are discussed at the department meetings and appropriate steps taken to implement the decisions.

The graduate employment records are available only up to year 2003. However the staff and students assured that 100% of the graduates are employed, mostly in the non-government sector.

The Review Team judges the Quality of Students, Student Progress and Achievements as SATISFACTORY.

4.4. Extent and Use of Student Feedback, Qualitative and Quantitative

Students' feedback on the quality of academic programs, teaching and learning processes and the quality of other facilities, is obtained by the DZ at various forums. The DZ has adopted a method to get the students' feedback quantitatively by using an evaluation form (questionnaire) which is given to the student at the end of each course of lectures. Majority of the students make comments requesting for more tutorials, practicals and field visits. The teachers observe these responses and comments made in the questionnaire and take steps to improve the quality of teaching & teaching environment. The findings are discussed with the Head or at departmental staff meetings, for everyone to share the information for further improvement. The Review Team found that the good practices initiated due to the quantitative students' feedback have been further confirmed as the responses of the students were statistically analyzed.

The Review Team found that the questionnaire did not carry questions on medium of instruction, time gap for release of results and selection procedure for the special degree. However the students expressed the requirement for a longer period of intensive course on English language familiarization before the commencement of the course on principal subjects. They were also concerned on the delay in releasing results particularly that of second year second semester which is vital for choosing of a special degree program of studies.

It was also revealed to the Review Team at the meetings with the staff that the department acquires students' feedback qualitatively at the discussions in the laboratory sessions/tutorials where a close interaction is possible. Students also stated that they express their views at the Faculty Board meetings or to the Head of the DZ or Dean of the Faculty from time to time whenever the necessity arises. At these occasions students' suggestions on all matters of quality of education were well received by the authorities.

The Review Team judges the Extent and Use of Student Feedback as GOOD.

4.5. Postgraduate Studies

Research Degrees

The Faculty Higher Degrees Committee meets when the need arises and makes decisions relevant to the post graduate degrees offered by the faculty and the minutes of these meetings are available. However, there is no set of guidelines which could be followed by the students and their supervisors. Progress reports of the students were also not available. The Review

Team is of the opinion that if printed guidelines are provided to the students with regard to their research the process would be much more efficient.

The DZ currently has three students registered for three post graduate degrees viz. Ph.D., M.Phil. and M.Sc.. The students are supervised by three senior members of the department. Approximately 11, 4 and 2 years have elapsed respectively since the date of their first registration.

Research Methods and Training

The DZ does not offer any taught course units to the post graduate students. They obtain their research training while doing their research project. Considering the fact that one of the major objectives of the DZ is to provide advanced innovative research methodology to the students, it is recommended that some course units in Research Methodology is introduced. At present the faculty offers two compulsory courses relevant and related to research for all the undergraduate students during the first year viz. Bio Statistics, Application Software.

Supervision of Research

Two senior academic staff members supervise the three postgraduate research students at present. It was noted that the available major equipment and infrastructure facilities are not sufficient for research work in the department. The equipment such as the microtome, environmental kits and ovens are outdated and need to be replaced immediately. Some equipment such as the spectrophotometer, microbiological apparatus are being shared with the other faculties.

Research, conducted by the Academic Staff

All the three permanent senior lecturers in the DZ are engaged in research and have published several papers in the local as well as international journals during the last three years. It is appreciated that the staff is conducting research while being involved in a very heavy workload.

The Review Team is of the opinion that Postgraduate Studies is SATISFACTORY.

4.6. Peer Observation

Good practices such as moderation of question papers, second marking of answer scripts are carried out. The DZ engages staff of other universities in Sri Lanka for this purpose for the 1st and 2nd year papers. For some special degree papers, the moderator and second examiner come from foreign universities. Evaluation of the presentation, viva and research project seminar is also done by a group of academic staff. The comments made by the external moderator, second marking examiner and external member in the viva and other presentations have been taken up at staff meetings for further improvement in the quality of teaching and evaluating processes.

The Review Team found that there is no practice of actual peer observation of lectures or practicals, although this matter has been discussed at staff meetings by the members of the academic staff of the DZ.

The Review Team is of the opinion that Peer Observation is SATISFACTORY.

4.7 Skills Development

The DZ has revised its curriculum in year 2000 and 2004 in order to introduce new course units for general and special degree students with a view to improving the relevance and quality of the degree program. It was noted that the DZ has given more emphasis on Fish Biology and Fisheries which has a significant regional importance.

The core course units of the DZ are based on four major areas in Zoology namely Cell Biology, Animal Diversity, Ecology and Genetics & Developmental Biology. Amount of practical work allocated for each course unit is sufficient for students to develop subject specific practical skills in these core areas of Zoology.

The DZ offers several optional course units for the B.Sc. General Degree students to improve their subject specific knowledge and relevant practical skills according to their choice. However, the component of field visits needs to be increased as was also stated by most of the students (General and Special Degree) who met the reviewers. Therefore the DZ may consider introducing more field practical classes and industrial visits to support the practical component in future especially after the improvement of the present political conditions in the area.

Students who are selected for the special degree program have more opportunities for skill development. Theory and practical course units are designed to give subject specific skills further. Research project is aimed to develop research skills together with analytical and presentation skills. Observations on research project dissertations of the final year special degree students indicated a satisfactory level of skill development. The Essay and presentation module is expected to improve the self learning skills and presentation skills of students. To improve presentation skills further it is recommended to increase the number of seminars allocated for each student from one seminar per student at present to at least 2 or 3 seminars per students in future.

The Review Team noted that assignments and group projects were given under different course units to improve the self learning skills of the special degree students. During the meeting with special degree students it was indicated that the students do not have any opportunity to work with modern equipments or visit other research Institutes to get information in new fields. The DZ may consider suitable ways to expose students to such new technologies in future.

Study program of the Faculty of Science offers several common core courses such as Social Studies for Sciences, Introduction to Social Harmony, Management and Entrepreneurship, Introduction to Career Guidance and Sri Lankan studies. In addition students of Biological science have to complete course units in Biostatistics and Biomathematics. These common core courses would help to improve and develop important interpersonal skills in students.

The Review Team had the opportunity to meet faculty coordinator of Career Guidance Unit, Instructors of IT and ELTU. The opportunities for development of IT skills are at good level. The common computer pool is equipped with sufficient number of computers for students work without any disturbance. It is an eligibility requirement to have at least a pass in English course units offered by English Language Teaching Unit (ELTU) to obtain the degree. This is a good practice adopted by the university in order to improve the language skills of the students.

The Review Team noted that curriculum of the DZ is designed to facilitate the development of subject specific and generic skills especially in Special Degree students. Assessment methods are also designed suitably to evaluate the development of such skills. However

there is no evidence for consulting employers regarding the skills they require from graduates who have followed Zoology as a subject for their Degree program.

The Review Team judged Skills Development to be SATISFACTORY.

4.8 Academic Guidance and Counseling

Senior academic staff members of the DZ have been engaged as Academic Advisors (03) and Student Counselors (02). The Student Handbook is made available and updated annually. Every student has the opportunity to meet the Academic Advisor or any academic staff of the department to obtain advice regarding selection of subject combinations and special degree. New entrants are given an orientation program where the Dean of the Faculty, Director of the Student Counseling Unit, Student Counselors, Heads of departments and Academic Advisors address them and provide appropriate guidance.

Whenever the students face personal problems they meet the Student Counselors or any member of the academic staff of the DZ to find out a solution. For professional counseling, students approach the Professional Counselor of the university who is engaged on a part time basis. Unfortunately this trained counselor is not available during the current year. For health related problems, students approach the University Medical Officer. Whenever students encounter financial or accommodation problems, the Student Counselors direct the students to the welfare section of the university, for assistance.

The students expressed happiness on the academic guidance and counseling provided by the department and the university. They also stated the tsunami affected students have been given due attention by the university and the UGC. The Review Team noted that as the total number of students enrolling in a batch is thirty or less, it is not too problematic to look after their welfare activities to the satisfaction of the student.

In relation to Academic Guidance and Counseling the judgment of the Review Team is GOOD.

5. CONCLUSIONS

1. Curriculum Design, Content and Review

Strengths/Good Practices

- Modular course unit system
- Contents of courses have adequate breadth and depth
- Designed to cater to the demand in the area
- Provision of an optional course unit for non biology students
- Introduction of an External degree program
- Curriculum review is satisfactory

Weaknesses

- Low credit values for core course units
- Limited number of optional course units for general degree students
- Amount of credits offered for general degree students is low

- Lack of involvement of Alumni and other stakeholders in curriculum review

2. Teaching, Learning and Assessment Methods

Strengths/Good Practices

- Moderation of Special Degree question papers by external/international examiners
- Formulating questions to achieve intended learning outcomes
- Opportunities for skill development in special degree students
- Well maintained museum

Weaknesses

- Less opportunities to develop self learning abilities in General degree students
- Less field studies
- No indication on student centered learning
- Delay in releasing results

3. Quality of Students, including Student Progress and Achievements

Strengths/Good Practices

- A great demand for the subject of Zoology within the faculty
- High success rate in Zoology
- Action taken in respect to external examiners recommendations
- Good employment rate

Weaknesses

- Current increased length of study due to prevailing political situation
- Low number of student enrollment
- Insufficient overall completion rate

4. Extent and Use of Student Feedback, Qualitative and Quantitative

Strengths/Good Practices

- Use of evaluation form (questionnaire) to obtain the students' feedback
- Statistical analysis of findings of the student feedback
- Discussions of findings of the student feedback with the Head or at departmental staff meetings

Weaknesses

None

5. Postgraduate Studies

Strengths/Good Practices

- Two course units to improve research methodology knowledge of undergraduates
- A project conducted in collaboration with a foreign University
- Compulsory research projects for the special degree undergraduates
- All staff members involved in research
- Sharing of research facilities with other departments

Weaknesses

- Lack of facilities for research
- Unavailability of proper guidelines for postgraduate studies
- Long duration of study
- Lack of courses to improve research methodology knowledge of post graduates

6. Peer Observation

Strengths/Good Practices

- Use of moderators and second examiners for their end semester examinations.
- For special degree papers foreign examiners and for general degree papers outside local examiners are employed

Weaknesses

- No actual peer observation is practiced for lectures or practicals

7. Skills Development

Strengths/Good Practices

- Identification of skill development as a learning outcome
- Designing of curriculum for the development of subject specific skills
- Opportunities for the improvement of IT and English language skills
- Introduction of diverse core course units from the faculty

Weaknesses

- Limited interaction with other stakeholders regarding the skill development
- Limited opportunities for skill development in General Degree courses

8. Academic Guidance and Counseling

Strengths/Good Practices

- Availability of updated students' Faculty Handbook and University Handbook
- Organized academic guidance and student counseling system

Weaknesses

- Professional Counselor service is not made available after the previous Counselor left the University

Based on the observations made during the visit by the Review Team, the eight aspects were judged as follows:

Aspects Reviewed	Judgment
Curriculum design, content and review	Satisfactory
Teaching, learning and assessment methods	Good
Quality of students including student progress and achievements	Satisfactory
Extent and use of student feedback, qualitative and quantitative	Good
Postgraduate studies	Satisfactory
Peer observations	Satisfactory
Skills development	Satisfactory
Academic guidance and counseling	Good

The overall judgment is suspended

Acknowledgements

The Review Team appreciates the excellent working arrangement made by the department during the review visit. The staff members understand about the review process and displayed all necessary documents to assist the review. Whenever the Review Team needed more information or documents the Head of the department and the academic staff provided the same. The non-academic staff too facilitated the process with the common objective towards the development of the department. The Review Team is grateful to all the categories of staff in the DZ for the support given during the visit.

6. RECOMMENDATIONS

The Review Team would like to make the following recommendations in order to improve the quality of education in the DZ.

- The DZ may consider revising the curriculum to adopt a standard number of credits for core courses in Zoology.
- It is recommended that the next curriculum revision be held with the participation of all stakeholders.
- The DZ may consider including optional course units on Environmental Science in the curriculum for Biology students.
- Increasing the component of field studies is recommended.
- The DZ may explore the possibility of modifying teaching sessions from teacher centered learning to student centered learning, especially for General Degree students.

- The comments, suggestions and other feedback obtained from the moderators of the question papers and second examiners, both local and foreign shall be considered at the curriculum review committee meetings.
- The DZ may consider attracting more students to do postgraduate programs leading to M.Phil and Ph.D. as the department has the necessary man power. Improved research culture would uplift the teaching and recognition of the DZ. In turn, this recognition would bring more research students to the department.
- It is recommended that proper guidelines regarding their program be provided to the postgraduate research students.
- It is desirable to commence taught postgraduate courses in Applied Zoology
- It is suggested that some course units in Research Methodology be introduced to postgraduate research students.
- Peer observation practices may be commenced as soon as possible.
- The past practice of employing Professional Counselors is recommenced.

7. ANNEXES

Annex 1. AGENDA FOR THE SUBJECT REVIEW VISIT

DAY 1: 23rd July 2007 (Monday)

08.30-09.00	Arrival of team
09.00-09.30	Meeting with Vice chancellor and Internal QA team
09.30-10.00	Finalizing the agenda
10.00-10.30	Meeting with the Head and Academic staff at Tea
10.30-11.30	Department Presentation on the Self Evaluation Report.
11.30-12.30	Discussion
12.30-13.30	Lunch
13.30-14.00	Observing Department Facilities (Museum, Fish Tank, Poultry shed, hatchery .etc.)
14.00-15.00	Observing other Facilities (Library and Computer Centre)
15.00-15.30	Tea
15.30-16.00	Meeting with All Staff of Department of Zoology
16.00-16.30	Meeting with Undergraduate students
16.30-17.00	Brief Meeting of Reviewers.

DAY 2: 24th July 2007 (Tuesday)

09.00-09.30	Observing Teaching documents
09.30-10.00	Observing Teaching-Lectures (<i>First year lecture by Dr. S. Srikantha</i>)
10.00-11.00	Observing document (<i>Working Tea</i>)
11.00-12.00	Meeting with Technical Staff and other Non-Academic Staff
12.00-12.30	Observing documents
12.30-13.30	Lunch
13.30-14.00	Observing Teaching- Practical class (<i>Practical for Second Years</i>)
14.00-15.00	Discussion with students (Student Feed back)
15.00-15.30	Observing Teaching- Lectures (<i>Third year lecture by Mrs. C. G. Devadasan</i>)
15.30-16.30	Meeting with Special degree students (<i>Working Tea</i>)
16.30-17.00	Meeting of Reviewers

DAY 3: 25th July 2007 (Wednesday)

09.00-9.30	Meeting with Student Counselors, Academic Advisors and Demonstrators
09.30-10.00	Observing Teaching (<i>3rd year special degree lecture by Dr. M. Vinobaba</i>)
10.00-10.30	Observing Teaching (<i>2nd year lecture by Mrs. C. G. Devadasan</i>)
10.30-11.00	Reviewer Private Discussion (<i>Working Tea</i>)
11.00-12.00	Meeting with Head and Staff for Reporting
12.00-13.00	Lunch
13.00-17.00	Report writing (<i>Working Tea</i>)

Annex 2. LIST OF DOCUMENTS OBSERVED

- Lecture schedule
- Lecturers roster
- Time table- Internal, External , Diploma
- Time table – Final Exam, Practical Exam
- Five year result sheet, Internal, external
- Hand book
- Course combination
- Course advisors
- Field visit
- Seminar, Presentation, students, staff
- Attendance – student, staff , leave etc
- Student name list five years, Internal, External, Diploma
- Question papers- five years
- Lecture notes (if necessary)
- Practical record book
- Practical guide
- Lecturers notices
- Tutorial notices
- Staff activity report file
- Annual report of dept
- List of duties for lab staff
- List of duties for demonstrators
- Department meeting file
- Faculty Board meeting file
- Senate meeting file
- Curriculum committee file
- Higher Education committee file
- Board of examination notices
- Marking scheme
- Moderated paper
- Examiner detail
- Community programme
- Teachers seminar

- Workshop
- Training programme for community
- CV of the staff
- Research and Publication
- Special students project report
- Short term projects of students
- Students feed back
- Scholarship staff obtained
- Technical staff training
- Laboratory attendant training
- Inventory book
- Daily practical entry
- New Zoology building
- Post graduate file
- External Examiner file
- Result sheets