# SUBJECT REVIEW REPORT

## DEPARTMENT OF AQUACULTURE AND FISHERIES


## *FACULTY OF LIVESTOCK FISHERIES AND NUTRITION*

## *WAYAMBA UNIVERSITY OF SRI LANKA*

22nd to 24th September 2009

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ost entirely supported by the consolidated fund provided from the General Treasury. Therefore, the Higher education provided by universities in Sri Lanka is a public good. Hence, it is expected that the universities conscientiously exercise their responsibility to maintain quality and standards. A key factor required to promote and safeguard public confidence in higher education is university accountability for quality and standards.

In order to maintain and ensure the quality of higher education provided by Sri Lankan Universities, a system of quality assurance was introduced by the Committee of Vice-Chancellors and Directors in 2001. Later, under the Improvement of Relevance and Quality of Undergraduate Education (IRQUE) project of the Ministry of Higher education, which was funded by the World Bank, the Quality Assurance and Accreditation Council (QAAC) of the University Grants Commission (UGC) was established. Subject reviews is one of the components of the external quality assurance programme carried out in Sri Lankan universities by the QAAC. Subject review evaluates the quality of education provided to the main stakeholders, the students, within a specific discipline. It is focused on evaluating the student learning experience, student achievements and the teaching learning process.

Salient features of the subject review process include critical analysis of self evaluation report, peer observation of teaching, observation of documents, observation of facilities, and gathering information on activities towards quality assurance through discussions with as many stakeholders as possible. Documents that are observed include, examples of student work, handbooks, student handouts, lesson guides, statistics on student achievements and progress, samples of answer scripts, external examiners reports, peer evaluation reports, student feedback reports, minutes of Departmental committees etc. Peer observation carried out during the review process includes observing teaching both in theory and laboratory classes. The stakeholders with whom the discussions are held include the Vice-Chancellor, Dean of the Faculty, Head of the Department, members of the academic and non-academic staff, alumni, student counselors, undergraduate students and postgraduate students.

Subject reviews evaluate how teaching-learning process helps in the achievement of intended learning outcomes stipulated in the self evaluation report.

***Aspects of the subject review***

Following eight aspects are evaluated in the subject review process.

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

owing members

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The Self Evaluation Report prepared by the Department was provided to the review team on 24th August 2009 by the QAAC of the UGC. The review was carried from 22nd to 24th September 2009.

On 22nd morning, the review team discussed about the quality assurance process and writing of the review report. The review team then met the Vice-Chancellor of the Wayamba University of Sri Lanka (WUSL). He explained the action taken by the to ensure quality. The Dean of the Faculty of Livestock, Fisheries and Nutrition (FLFN) and the Head of the Department of Aquaculture and Fisheries (DAF) were also present at this meeting. The review team then finalized the agenda for the review visit with Head of the Department. This agenda is given in Annex 1. The Head of DAF then explained the contents of the Self Evaluation Report which was followed by a discussion. The members of the academic staff of DAF were also present at this meeting. During the visit, the review team had discussions with the members of the academic staff, non academic staff, student counselors of the FLFN and Makandura premises, Alumni, Librarian, Head of the English Unit, IT instructor, postgraduate students registered at other universities but are conducting research at WUSL and undergraduate students. The list of persons met is given in Annex 2.

During the review visit, several documents were also perused. These included the Student Handbook, Course curriculum, Minutes of Departmental meetings, Minutes of the Faculty Board, handouts given to students, question papers, student feedback reports, peer evaluation reports, in-plant training reports etc. The documents examined are listed in Annex 3.

The review team also examined the facilities available for teaching and learning. These included the lecture halls, teaching laboratory, equipment, library, student computer unit, Counseling unit, English Language teaching unit, Language laboratory, outdoor aquaria, mud bottom ponds etc. The list of facilities observed is given in Annex 4. The review team also observed teaching in two theory classes and two laboratory classes.

On 24th September, a feedback of the findings was given to the Head of the Department and senior members of the academic staff.

***Publication of the review report***

A report incorporating the findings of the review team is prepared after the review visit. In the report, the strengths/ good practices and the weaknesses of each aspect reviewed will be highlighted together with some recommendations. Each aspect will also be given a judgment of good, satisfactory or unsatisfactory. The draft report will be sent to the DAF and the feedback will be obtained. If there is disagreement with any judgment, it would be resolved by the QAAC through discussion. The judgment will be submitted to the Standing Committee

for approval. After its approval, the report will be w.qaacouncil.lk. The DAF has to take action to improve ve a judgment of unsatisfactory within six months of approving the judgments by the Standing Committee on Quality Assurance of the UGC.

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

The Wayamba University of Sri Lanka (WUSL) was established in 1999 under the provisions of the Section 21 of the Universities Act No16 of 1978 by upgrading the Wayamba Campus of the Rajarata University. However, the origin of the university goes back to establishment of the Northwestern Province Affiliated University College in November 1991 under the provisions of Section 18 of the Universities Act No 16 of 1978. This affiliated university college consisted of two academic sections namely the Home Science and Nutrition Section which was affiliated to the University of Kelaniya and the Agricultural Science section which was affiliated to the University of Peradeniya. The Home Science and Nutrition Section functioned at Kuliyapitiya while the Agricultural Science section functioned at Makandura. Academic work in both sections of the affiliated university college commenced on 23rd March 1992. The first batch consisted of 98 students in the Home Science and Nutrition Section and 88 students in Agricultural Science section.

In 1996, the two academic units were merged together to form the Wayamba Campus of the Rajarata University under the provisions of Sections 18 and 47(1) of the Universities Act No 16 of 1978 and Campus Board Ordinance No 3 of 1995. The Wayamba Campus consisted of 2 faculties, namely the Faculty of Agricultural Sciences and the Faculty of Applied Sciences. The Faculty of Applied Sciences was located at Kuliyapitiya while the Faculty of Agricultural Sciences was located at Makandura. Each Faculty has 3 academic departments. The three departments of the Faculty of Applied Sciences were the Department of Mathematical Sciences, Department of Industrial Management & Computer Studies and the Department of Nutrition and Community Resource Management. The first batch of students of the Wayamba Campus of the Rajarata University was enrolled in 1997.

The Wayamba University was established in 1st October 1999 under the provisions of Section 21 of the Universities Act No 16 of 1978 with the objective of providing, promoting and developing higher education in the areas of Applied Sciences, Business Studies and Finance, Agriculture, Plantation Management, Livestock, Fisheries and Nutrition. As such, the new university consisted of four faculties namely the Faculty of Applied Sciences, Faculty of Business Studies and Finance, Faculty of Agriculture and Plantation Management and Faculty of Livestock, Fisheries and Nutrition; the first two are located at Kuliyapitiya and the latter two are located at Makandura.

The Department of Aquaculture and Fisheries (DAF) was established under the Faculty of Livestock, Fisheries and Nutrition (FLFN) in 2001. At Present it caters for all students that enter the FLFN during their first two years and to those who are specializing in Aquaculture and Fisheries during their 3rd year and 4th years in the university.

## OMES

Aims of the Department are as follows.

- To provide knowledge on freshwater, brackish water and marine systems and their aquatic life.
- To provide knowledge on the local, regional & world aquatic production and recent trends.
- To give hands on experience in analysis of water and soil quality in Crustacean, Mollusc and fish culture environments.
- To provide opportunities to familiarize with ornamental fauna & flora farming practices.
- To provide knowledge on enhancing fish production and culture techniques that could be used in aquatic systems.
- To provide hands on experience on the design and construction of shrimp hatcheries and farms.
- To provide knowledge on sustainable harvesting and resources management.
- To provide knowledge on the scientific background, principles, technologies and their applications in aquatic resources handling, harvesting, processing and preservation.
- To provide knowledge on different technologies involved in minimizing post harvest losses.

### 3.2. Learning Outcomes

After following the degree programme of B.Sc. in Food Production and Technology Management offered by the FLFN, a student will b able demonstrate knowledge and understanding on

- Anatomy, physiology and biochemistry of livestock, avian and aquatic resources
- Distribution of livestock, avian, aquatic and plant food resources.
- Availability, characteristics and composition of major food sources and their sustainable production and contribution to food security.
- Management of aquatic, livestock, avian and food crop systems.
- Chemical, physical properties and nutritional role of aquatic, livestock, avian and crop resources.
- The impacts of food manipulation, modification, storage, processing, and its bioethics related to aquatic, livestock, avian and crop resources.
- The use of technologies in food production systems.
- Relationship between food, nutrition, health and environment.
- Microbiological aspects of food quality and safety.
- Food standards, legal framework and policies and their role in crop, livestock, avian and fisheries.
- Marketing, economic, social and behavioural factors affecting food security.
- Catering and mobility of food resources and standards.

and Fisheries will be able to;

age aquatic production systems.

r issues related to aquatic resource exploitation and environmental management.

- Perform analytical, regulatory and advisory services related to food safety and quality management of aquatic food resources.
- Participate in aquatic food production processes in terms of quality assurance, traceability studies, processing, life cycle assessment and marketing.
- Develop self employment opportunities and supplementary incomes in fisheries and aquaculture production and product sector.

***Program Details***

The distribution of credits in first two years of the degree programme offered at present by the FLFN and the contribution from DAF are summarized in Table 1. The distribution of credits during the third and fourth years and the contribution to those specializing in aquaculture and fisheries is summarized in Table 2.

The faculty has just gone through a comprehensive curriculum revision and as a result B.Sc. in Food Science and Nutrition degree programme was fully revised. Accordingly, considering the future potentials, a new degree, namely B.Sc. in Food Production and Technology Management was also introduced. Hence from 2009, the FLFN will be offering 02 new degree programmes (the revised B.Sc. in Food Science and Nutrition and B.Sc. in Food Production and Technology Management) while continuing the existing degree for another 03 more years until already recruited undergraduates are graduated.

The DAF along with the Department of Livestock and Avian Sciences (DLAS) from 2009 will be mainly responsible for conducting lectures for the B.Sc. in Food Production and Technology Management degree programme. However, this DAF will also be serving the revised BSc Food Science and Nutrition degree as well as the commitment for the existing degree.

The new degree is a four year programme with the opportunity to specializing in selected disciplines. Initially such specialization is offered in DAF and DLAS. This degree consists of three levels, Level 1 (first two years), Level 2 (third year) and Level 3 (fourth year). Level I will provide basic training to all students. The distribution of the credits in the new degree programme is summarized in Table 3. Specialization will be done in level II and in level III and students will be exposed to industrial attachments, research and other generic skills.

**Table 1. Percentages of contribution by the DAF to the curriculum of the first two years of the B.Sc. Degree programme offered by the FLFN**

| Year | Semester | Total No. of Credits offered by FLFN | No. of Credits offered by the DAF | % of credits offered by the DAF for the degree programme |
|---|---|---|---|---|
| 1 | I | 20 | 4 | 20.0 |
| 1 | II | 22 | 4 | 18.2 |
| 2 | I | 23 | 4 | 17.4 |
| 2 | II | 16 | 4 | 25.0 |
| Total | | **81** | **16** | **19.8** |

by the DAF for the curriculum of those who are
eries during the third and fourth years.

| | | Credits offered by FLFN | No. of Credits offered by the DAF | % of credits offered by the DAF for the degree programme |
|---|---|---|---|---|
| 3 | I | 23 | 7 | 30.4 |
| 3 | II | 21 | 5 | 23.8 |
| 4 | I | 21 | 4 | 19.0 |
| 4 | II | 10 | 10 | 100.0 |
| Total | | **75** | **26** | **34.7** |

Table 3: Distribution credits of the new degree programme among the academic semesters

| Level | Year | Semester | No. of credits | % of credits of the total |
|---|---|---|---|---|
| **I** | 1 | I | 12 | 10.0 |
| | | II | 16 | 13.3 |
| | 2 | I | 16 | 13.3 |
| | | II | 16 | 13.3 |
| **II** | 3 | I | 20 | 33.3 |
| | | II | 20 | 33.3 |
| **II** | 4 | I | 10 | 16.7 |
| | | II | 10 | 16.7 |
| **Total** | | | 120 | 100.0 |

## 4. FINDINGS OF THE REVIEW TEAM

### 4.1. Curriculum Design, Content and Review

The curriculum of the DAF is designed to cater for the 4 year B. Sc Special degree in Food Science and Nutrition. A credit value based course unit system is in place since the establishment of the DAF. An academic year consists of two semesters and the duration of a semester is 15 weeks. From Semester 5 onwards, students are given the option of join any one of the four specialized area i.e., Food Science and Technology, Applied Nutrition, Livestock and Avian Science, and Aquaculture and Fisheries.

The curriculum of the DAF is broad and covers almost all the areas related to aquaculture and fisheries. Curriculum content reveals the adequacy of the academic standards of the degree programme which enable students to achieve the intended learning outcomes in the form of knowledge and understanding of the subject matter and development of necessary generic and subject specific skills.

The review team noted that the contribution from the DAF to the degree program is limited. The subjects directly addressing the aquaculture and fisheries are optional units in all 4 years. Even after selection for specialization, the fisheries subjects are optional. During 1$^{st}$ year and the 2$^{nd}$ year, contribution from DAF to the degree programme is only 20%, which should have been 25%. In the 3$^{rd}$ and 4$^{th}$ years even for the students who specialize in aquaculture

credits out of 75. The DAF may strongly consider gree programme.

The review team noted that the workload is not equally distributed among the semesters and also among academic years. There are some modules which are designated as zero credit courses although students have to spend time on those. Therefore actual workload is not reflected in the transcripts.

Further, the students who met the review team mentioned that the credits to be gained in the first semester is too high, total of 20 while they are facing extra difficulty in medium of instructions since most of the students have studied for their G.C.E. (A.L.) in Sinhala or Tamil.

It was noted that the University has gone through a curriculum revision recently. According to the available information at the Faculty, curriculum revision has started in 2006 and the outcome appeared in 2009. As a result, the existing B.Sc in Food and Nutrition degree programme was revised and a completely new degree programme named as B.Sc in Food Production Technology Management was introduced. The students who wish to specialized in Aquaculture and Fisheries under this degree programme chose their specialization after two years.
In the revised curriculum there is more flexibility in the selection of courses. Depth and breadth of the subject matter covered appear to be satisfactory. Important study areas such as Human Resources Management, Mass Communication and Organizational Management are included in the Level 3 Semester 1 as elective units. Students requested more industry oriented courses such as marine fisheries, ornamental fish and plant culture to be added to the curriculum. The number of credits required have also been reduced to a minimum value of 120. The flexibility is also high since there are many elective courses. However, even in the revised curriculum the distribution of the credit requirement for each year is not fairly distributed. Further the degree is still holds 3 levels and Final Year as Level 3. This is disadvantageous to students because even in the $4^{th}$ year they are following level 3 courses, while in other universities, during the $4^{th}$ year level 4 courses are offered. The DAF may consider introducing Level 4 courses to the curriculum as done in other universities.

**4.2 Teaching, Learning and Assessment Methods**

A multitude of teaching and learning strategies are used. A teaching and learning committee is in place. Some staff members have received subject specific training abroad and all lecturers have received training in teaching methodology at the staff development centre. The library holds books on teaching development. Review team noted that these are frequently used by teachers which is commendable.

The library has a sizable collection of books but the space in the library appears to be insufficient. Similarly, number of copies of frequently used text books in the lending section appears to be insufficient. Lecture halls are equipped with modern audio-visual equipment and teachers frequently use them, which is commendable.

are identified and these are known to the students and assessment methods help to achieve intended leaning

Comprehensive handouts are given in practical classes, which is commendable. However, review team did not observe that handouts are given in theory classes. Review team noted that the power point presentations used are not made available to the students after the lecture although it can be done easily through intranet.

The DAF has only one technical officer and one Laboratory attendant. The laboratory attendant is sometimes used for purposes other than technical such as the Assistant of the Driver of the University bus when students go on field visits.

The space in the aquaculture laboratory is not sufficient at all. However, the DAF possesses basic laboratory equipment. Nevertheless, the number of equipment appears to be not sufficient when the student numbers are considered. It was noted that the quality of some of the equipment and glassware is not up to expectations. The University may consider purchasing good quality equipment and glassware, not going for cheaper low quality ones as this will benefit financially in the long run. The Faculty has a central equipment laboratory which is commendable.

Although there are outdoor mud bottom ponds, they are not in a usable condition. The DAF may consider getting them renovated giving priority because these are essential to conduct a high quality programme in aquaculture and fisheries.

IT facilities are good and the students have uncontrolled excess to the internet. Internet is also very fast.

Variety of assessment methods are used, which is commendable. Assessment methods are clear to students. Continuous assessments are conducted and papers are moderated. Marking schemes are used only by some teachers when marking the answer scripts. Second marking is conducted by the faculty staff. However there is no marking by external examiners.

Attendance is marked for classes and the data are used to check the eligibility for sitting at examinations.

### 4.3 Quality of Students, Student Progress and Achievements

The FLFN has no control over the students they get because the selection is done by the UGC. It was evident from the Z scores that a mixed group of students is admitted to the FLFN to follow the B.Sc. degree in Food Science and Nutrition. In the past, the students who have not performed well during the first two years of their university career have been selected to specialize in Aquaculture and Fisheries. The students prefer to specialize in Applied Nutrition and in Food Science and Technology than in Aquaculture and Fisheries. However, review team noted that this trend has changed now. Students are aware that the most qualified staff is in the DAF. Further they indicated that the staff of the DAF is very friendly and helpful. Nevertheless, some students do not like to specialize on fisheries due personal and social reasons.

ess by themselves due to the availability of credit based te the Grade Point Average (GPA) and necessary action ss if necessary. In addition, the mentoring program also helps to monitor the progress. Students have to send their results and semester GPA to their respective mentor together with a self evaluation report. Studentsô progress meetings are also held with mentors at every six months period. Although such a mechanism is available, review team noted that only few students participate at the studentsô progress meetings, inform their results and send a self evaluation report to the mentor. However, it is commendable that such a mechanism to monitor the progress is available. In addition, the continuous assessments and grading of practical reports also help the students to monitor their progress within a semester.

Review team noted that the qualifications awarded are at suitable academic level. They are in line with institutional and national academic standards. However, the qualifications awarded are not in line with university qualification framework of Sri Lanka because the students have to complete 156 credits, where as the students in other universities in Sri Lanka have to complete only 120 credits for a four year degree. This total of 156 credits is also an underestimated value because the studentôs efforts for some courses are not considered since those are designated as zero credit courses. Further, although students spend 4 years for the degree programme, there are no level 4 courses, where as in other universities level 4 courses are offered during the fourth year. This is disadvantageous to students in the competitive employment market.

Review team noted that there had been no students so far graduated with first classes and only about 6% had graduated with 2$^{nd}$ class (Upper Division) Honors. Nearly 70% had graduated without a class and about 11% had not completed their degree. As such, the dropout rate is fairly high and needs more attention.

Students achieve intended learning outcomes and they are also satisfactory that they achieve their potential. Studentsô first destination in employment reflects their level of achievement. Most of the students are employed as soon as they graduate.

The best presenters at the Annual Food and Nutrition Symposium of the WUSL had been the students specializing in Agriculture and Fisheries for the past three years, which also indicates that the achievements of students of DAF is good.

The DAF may consider establishing as Alumni Association which will help to identify success cases so that the students could be motivated more. This will lead to better achievements.

**4.4 Extent and Use of Student Feedback**

A well organized structured questionnaire is used to get student feedback on theory and practical courses as well as on teaching. This feedback is obtained at the end of the semester for every course. Student feedback is quantitatively analyzed and a figure known as GATE score is calculated for each course and each lecturer.

the faculty board. There is a consultative committee level but the minutes of these meetings are not available at this committee is not frequently met.

The review team noted that student feedback is not obtained for the courses offered by the English Language teaching unit.

Feedback is qualitatively obtained during the field visits and practical classes also. Review team noted that there are suggestion boxes also installed. However, these was no evidence that students have used these to provide feedback.

### 4.5. Postgraduate Studies

It is noted that for the past ten years no effort has been made to commence post graduate programmes by the DAF even the staff strength is adequate. However, it is commendable that the University has now taken steps to establish the required legal framework by developing by-laws etc. to start post graduate studies.

The University has established a committee named as ñResearch and Higher Degree subcommitteeò which is responsible for the University Senate for all matters regarding higher degrees.

Some senior staff members of the DAF are already involved in teaching in , supervision, the Postgraduate Programmes and supervising postgraduate students in other universities. Some staff members have obtained research grants from local and foreign donor agencies, which is commendable.

Research facilities are available in DAF for specific subject areas such as aquaculture, limnology and freshwater ecology. The geographical situation of the university is an added advantage since it is close to many wetlands, aquaculture farms, Makandura lake, marine fish landing centres etc.. However, lab space and modern scientific equipment are not adequate. The aquaculture pond systems is also in a dilapidated condition and has to be renovated. Internet access and IT facilities are sufficiently available to conduct postgraduate studies.

### 4.6. Peer Observation

Peer observation in the DAF is carried out in several ways. The lectures conducted by a teacher are peer observed by another teacher. A structured questionnaire is used for this purpose. Many aspects of teaching including the lecture contents, organization, presentation, interaction with students, use of teaching aid and class control are evaluated, and feedback is given. This is done for all permanent staff including the senior teachers. So far, every teacher has been subjected for peer evaluation only once as this system had been introduced very recently. Staff perceives that peer observation is very effective. Review team also noted that lectures are conducted in an effective manner, and peer observation may have contributed to this in great extent. However, the temporary staff and the teachers at the English Language Teaching Unit are not subjected to peer observation.

he senior staff during the practical classes when they are also done by moderation and scrutinizing of question

**4.7 Skills Development**

The team noted the Department has given special attention for skill development of the students. These include subject related skills, soft skills and language skills. Subject related skills are developed throughout the programme specially in practical classes. Considerable number of field work is included in the curriculum so that students have opportunities to develop hands on experience in the subject matter. Some of the areas that the srudents get an opportunity to develop subject specific skills are aquarium keeping, ornamental fish culture, pond and cage culture, food processing, aquatic plant culture, fishing gear technology.

In-plant training and research at the final year gives an ample opportunity for the students to develop their practical skills and research skills in addition to providing opportunities to work with the industrial sector and research institutes. This also helps to develop many subject specific skills as well as generic skills.

In addition to the subject specific skills department provide opportunities to develop soft skills such as communication skills, IT skills, presentation skills, team work, leadership skills and scientific writing skills etc

Skills development has been identified in learning outcomes and assessment methods evaluate skills also. Students are well aware that they have opportunities to develop subject specific as well as generic skills.

The DAF may consider providing more training should be provided on ornamental fish culture, prawn culture including marketing and human resources management to expose students to the real world requirements

**4.8 Academic Guidance and Counseling**

There is an organized system for mentoring and counseling. Mentors are appointed as soon as the students join the faculty. Student progress and achievements are enhanced by the academic guidance provided by the mentors. As there seems to be a ñchange of handsò when the students commence work on their specialization areas, the mentors appointed two years prior may not have much influence on the students. Hence, changing the mentors after the second year may be considered

.

All staff members are trained in student counseling. The documents maintained indicated the counselorsô involvement in studentsô academic, non academic as well as personal problems.

Students are satisfied with the guidance they receive from the mentors and counselors.

Academic guidance is provided through the student handbook also. This hand book is given to each student at the time of admission. Academic guidance for first year students is provided during the orientation programme also.

F and other support services provided by the University.
Faculty are the members of the DAF.

Based on the observations made during the study visit by the review team, the eight aspects were judged as follows:

| Aspect Reviewed | Judgment Given |
|---|---|
| Curriculum Design, Content and Review | Satisfactory |
| Teaching, Learning and Assessment Methods | Good |
| Quality of Students including Student Progress and Achievements | Good |
| Extent and Use of Student Feedback, | Good |
| Postgraduate Studies | Satisfactory |
| Peer Observation | Good |
| Skills Development | Good |
| Academic Guidance and Counseling | Good |

## 5. CONCLUSIONS

The strengths/ good practices and the weaknesses of each of the eight aspects considered in the subject review process are summarized as follows.

### 1. Curriculum Design, Content and Review

***Good Practices/Strengths***

1. Faculty has taken steps to publish student handbooks giving course contents, intended learning outcomes and aims under each and every course module.
2. Revision of the curriculum has been done with stakeholder consultations
3. All staff members were trained in curriculum development, teaching methodology, assessment procedures and problem based learning.

***Weaknesses***

1. Workload is not equally distributed among semesters
2. Some courses are designated as ) credit courses, thus not giving due credit considering the students efforts put into such courses
3. The contribution from the DAF to the degree programme is low
4. Although students study for 4 years, there are only 3 levels in the curriculum

### 2. Teaching, Learning and Assessment Methods

***Good Practices/Strengths***

1. A number of teaching and learning methods are used.
2. A teaching and learning committee is in place
3. Most members of the teaching staff are trained abroad.

g methodology.
in place.
to internet.

7. Attendance at classes is considered as criteria to sit for examinations.

***Weaknesses***

1. Space in the library appears to be insufficient.
2. Number of copies of frequently used text books in the lending section of the library is insufficient
3. Space in the laboratory is grossly inadequate.
4. The ponds are in a dilapidated condition
5. Not enough laboratory equipment in student laboratories.
6. Not enough laboratory support staff.

**3. Quality of Students, Students Progress and Achievement**

***Good Practices/Strengths***

1. Students can monitor their progress by calculating their GPA every semester.
2. Continuous assessments and grading of practical work also help in monitoring progress.
3. Mechanism is available to monitor progress by student sôprogress meeting s with the mentor.
4. Students have to prepare a self evaluation report at every six months and send it to mentor.
5. Staff is very friendly and students can discuss their progress freely with the teachers.
6. Qualification awarded is at suitable academic level.
7. Qualification awarded is in line with institutional and national standards.
8. Students achieve intended learning outcomes.

***Weaknesses***

1. Qualification awarded is not in line with university qualification frame work.
2. Drop out rate is fairly high.

**4. Extent and Use of Student Feedback**

***Good Practices/Strengths***

1. A structured questionnaire is used to get student feedback
2. Feedback is quantitatively analyzed.
3. Feedback is obtained in informal ways too.
4. Student representatives of the Faculty Board also provide feedback.

***Weaknesses***

1. Records of student consultative committee meetings are not kept.
2. The suggestion box is in a very open place which discourages students giving any feedback

1. The staff is academically qualified and are in sufficient numbers to supervise postgraduate students.
2. Staff has close links with the private sector and with other research institutes
3. Academic members All of them have ample research experiences in fisheries and aquaculture
4. Teachers are involved in post graduate supervision in other universities
5. The location of the campus is suitable for research
6. Grants are available for research studies

***Weaknesses***

1. Research facilities such as laboratory space and equipment to conduct post graduate studies are not adequate.
2. Sufficient publicity is not given to attract students to carry out postgraduate studies

**6. Peer Observation**

***Good Practices/Strengths***

1. Formal peer observation is done using a structured questionnaire.
2. All members of permanent staff are subjected to peer observation.
3. Moderation and scrutinizing of question papers are carried out.
4. Junior staff is peer observed by senior staff while demonstrating.

***Weaknesses***

1. Teachers of ELTU are not subjected to peer observation.

**7. Skills Development**

***Good Practices/Strengths***

1. Many opportunities to develop bench skills, IT skills, presentation and communication skills are available
2. Field practical classes provide students hands on experience and opportunities to develop job oriented skills
3. In-Plant training provides students to gain research skills and industry related skills
4. Development of skills are identified in intended learning outcomes

***Weaknesses***

1. Opportunities to develop Skills on marketing, confidence building, Financial management and human resources management are not adequately provided

**8. Academic Guidance and Counseling**

***Good Practices/Strengths***

1. There is a good system for counseling.
2. Staff members are trained in counseling.
3. Counselors get involved in solving studentsô personal problems in addition to Academic and non academic problems.

lents when the students reach their 3rd year.

## 6. RECOMMENDATIONS

Based on the findings of the review, the review team wishes that the DHLG may consider the following recommendation in order to improved the quality of the study programmes further.

1. Offering more courses for the students
2. Equally distributing the workload among semesters and among academic years
3. Reducing the workload in the first dsemester
4. Introducing level 4 units to the curriculum
5. Making available the power point presentations to the students after the lecture in the library or through intranet.
6. Checking at least a percentage of answer scripts by an external examiner.
7. Getting the mud bottom pond repaired giving priority
8. Increasing number of copies of frequently used text books in the lending section of the library
9. Improving the laboratory space
10. Getting more equipment to laboratories.
11. Having some state of the art ponds established for teaching purposes.
12. establishing an exit point after completion of year 3.
13. reducing number of credits to 120.
14. giving credit values to the courses presently designated as óZero credit coursesô based on the work load of these courses.
15. designating course units offered during 4th year as level 4 course units.
16. establishing an Alumni Association for the Department
17. Getting student feedback for the courses offered by ELTU also.
18. establishing a staff student liaison committee at the Departmental level and conducting regular meetings.
19. Having at least annual meetings with Dean or the Head of Department regarding their GATE scores.
20. Developing a strategy to attract students for postgraduate studies.
21. Introducing postgraduate programmes in the areas which are very relevant to the industry.
22. Developing more links with outside institutions for postgraduate studies
23. encouraging senior staff members to take steps to get research grants from outside sources and conduct more high quality research by providing room for research students to register for postgraduate studies at the Department.
24. convince relevant authorities to carry out peer observation on teachers of ELTU.
25. carry out formal peer observation on temporary demonstrators also.
26. Providing more hands on experience in the industrial sector such as prawn framing, ornamental fish farming so they can establish their own enterprises.
27. Providing training on HR Management and basic marketing and financial
28. Reallocating mentors when the students reach their third year.

## VIEW VISIT

***22nd September 2009***

| | |
|---|---|
| 08.30 am - 09.00 am: | Private meeting of Review Panel |
| 09.00 am - 09.30 am: | Meeting with VC/WUSL, Dean/FLFN and Head/DAF |
| 09.30 am - 10.00 am: | Finalizing the Agenda |
| 10.00 am - 11.45 am: | Presentation by Head on Self Evaluation Report and Discussion |
| 11.45 am - 12.15 pm: | Observing 4th year Practical Class |
| 12.15 pm ï 12.45 pm | Observing 3rd year Lecture |
| 12.45 pm ï 01.30 pm: | Lunch |
| 01.30 pm ï 02.30 pm: | Observing facilities of FLFN |
| 02.30 pm ï 03.30 pm: | Meeting with the 3rd year students specializing in Aquaculture and Fisheries |
| 03.30 pm ï 04.30 pm: | Meeting with Academic taff of DAF (Working tea) |
| 04.30 pm ï 06.00 pm: | Meeting with representatives of undergraduate students of the FLFN |

***23rd September 2009***

| | |
|---|---|
| 08.30 am - 09.30 am: | Observing Departmental Facilities |
| 09.30 am - 10.45 am: | Observing documents |
| 10.45 am - 11.15 am: | Observing 2nd year lecture |
| 11.15 am - 12.15. pm: | Meeting with the 4th year students specializing in Aquaculture and Fisheries |
| 12.15 pm - 01.00 pm: | Lunch |
| 01.00 pm - 01.30 pm: | Meeting with the staff who are doing postgraduate studies |
| 01.30 pm - 02.00 pm: | Meeting with mentors |
| 02.00 pm - 03.00 pm: | Meeting the Non academic staff of DAF |
| 03.00 pm - 04.30 pm: | Meeting with the alumni of DAF |
| 06.00 pm - 09.00 pm: | Meeting of reviewers |

***24th September 2009***

| | |
|---|---|
| 09.00 am - 09.30 am: | Observing 2nd year Practical Class |
| 09.30 am - 10.30 am: | Meeting with Student Counselors and the Director of the Career Guidance Unit (Working tea) |
| 10.30 am - 11.00 am: | Reviewersô private Discussion |
| 11.00 am - 12.15 pm: | Meeting with Head and staff of DHLG for reporting |
| 12.15 pm - 01.00 pm: | Lunch |
| 01.00 pm - 04.00 pm: | Report writing |

- Dean of FLFN
- Head of DAF
- Academic staff of DAF
- Alumni of DAF
- Representatives of undergraduate students all 4 years including those who are not specializing in Aquaculture and Fisheries
- 3rd year undergraduates specializing in Aquaculture and Fisheries
- 4th year undergraduates specializing in Aquaculture and Fisheries
- Non Academic staff of DAF
- Senior Assistant Librarian of Makandura Premises
- Head of English Unit
- Computer Instructor
- Student Counselors
- Career Guidance Counselor

## Annex 3. FACILITIES OBSERVED

- Pathology Laboratory
- Aquaculture Laboratory
- Glass aquaria
- Outdoor Cement tanks
- Mid-bottom ponds
- Studentsô Computer Unit
- Staff Computer Unit
- Library
- Office of the Head of DAF
- Lecturersô Rooms
- Ovens
- Microscopes
- Water quality kits
- Specimen room
- Fishing gear
- Smoking unit used for demonstrations
- Specimens collected for teaching purposes
- Mini-auditorium
- Lecture theaters
- Counseling unit
- Outreach centre
- Printing Unit
- Media Unit
- General equipment laboratory

**ED**

- ...embers
- Research publications of students
- Research publications of the staff
- Minutes of the Faculty Board meetings
- Minutes of the Senate meetings
- Minutes of the Departmental meetings
- Reports on Drop-out rates
- Studentsô comments Book
- Student Handbooks
- Curriculum
- Field Visit reports
- In-plant Training Reports
- In-Plant Training Diaries
- Reports of Directed studies
- Students attendance sheets
- Course Material Prepared by lecturers (for each course unit)
- Photo albums of field visits
- Academic calendar & time tables
- Contacts with foreign universities
- Aquatic Resources Explorersô Society documents and photo album
- Practical Handouts
- Peer evaluation reports
- Reports on Local/overseas training of staff
- Information on the consultancies done by the staff
- Information on community services carried out by DAF
- Studentsô feedback questionnaires
- GATE scores
- Reports on allocation of Mentors and Mentorsôreports
- List of awards received by staff
- Lists of teaching aids used by staff
- Past question papers (Moderated and Scrutinized)
- Answer scripts
- Marking schemes
- List of activities carried out by the Career Guidance Unit