

# **SUBJECT REVIEW REPORT**

**DEPARTMENT OF  
FOOD SCIENCE AND TECHNOLOGY**



***FACULTY OF LIVESTOCK FISHERIES AND  
NUTRITION***

***WAYAMBA UNIVERSITY OF SRI LANKA***

25<sup>th</sup> to 27<sup>th</sup> May 2009

**Review Team :**

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## **1. SUBJECT REVIEW PROCESS**

A key factor required to promote and safeguard public confidence in Sri Lankan Higher Education University is accountability for quality and standards. As higher education is a public good, universities must conscientiously exercise their responsibility for quality and standards. The subject review is one of the components of the external quality assurance programme carried out in Sri Lankan universities. It evaluates the quality of education within a specific discipline. It is focused on evaluating the student learning experience, student achievement and the teaching learning process at the subject level.

Key features of the subject review process include the critical analysis of the self evaluation report prepared by the academic department concerned, peer observation of teaching, observation of documents, observation of the facilities available, and gathering information on activities towards quality assurance through conducting discussions with as many stakeholders as possible.

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

Peer observation carried out during the review process includes observing teaching both in the theory and laboratory classes, and if possible in the field classes. The documents that are observed include, examples of student work, student handbooks, student handouts, lesson guides, statistics on student achievements and progress, samples of answer scripts, external examiners reports, peer evaluation reports, student evaluation reports, minutes of departmental committees etc. The stakeholders with whom the discussions are carried out include the Head of the department, members of the academic and non-academic staff, undergraduate students, postgraduate students, alumni, academic administrators, and student counselors.

The subject review is carried out to evaluate the success of the processes employed to achieve the aims and intended learning outcomes stipulated in the self evaluation report.

### ***Aspects of the subject review***

In the subject review process, the following eight aspects are evaluated.

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

### ***The Review Process***

The review team consisted of Prof S Mohanadas, Former Vice Chancellor, University of Jaffna, (Team Chair); Dr KKDS Ranaweera, Head of the Department and Senior Lecturer in Food Science and Technology, Faculty Applied Sciences, University of Sri Jayawardanapura and Mr. Marian Arsekularathne, Quality and research development executive, The Ceylon Cold Stores, Ranala. The review visit took place on 25–27 May 2009.

The Self Evaluation Report prepared by the Department was provided to the review team on 04th of May, 2009 by the Quality Assurance and Accreditation Council of the University Grants Commission. The review team carried out the review process on 25th, 26th, and 27th of May, 2009.

On 25th morning, the review team met the Q. A. Specialist who briefed about the review process and met the Vice-Chancellor together with the Dean / Faculty of Livestock Fisheries & Nutrition and Head & former Head, Department of Food Science and Technology . The Vice-Chancellor at this meeting briefed the reviewers on the present situation at the University.

The review team then finalized the agenda for the review process with Head of the Department and the Dean of the Faculty. The Agenda for the review visit is given in Annexure 1. After finalizing the agenda, the review team met the Head of the Department and other members of the academic staff. At this meeting, the Head of the Department explained the contents of the Self Evaluation Report which was followed by a discussion. The review team during the course of the visit had discussions with the members of the academic staff, technical officers & non-academic staff, student counselors, directors of career guidance centre & staff development centre and the present undergraduates following the B.Sc. programmes as well as past students. The list of persons met is given in the Annexure 2.

Several documents were also perused. These included the Faculty handbooks, handouts given to students, minutes of the Departmental meetings, answer scripts, question papers, student feedback forms, peer observation reports etc. The complete list of the documents examined is given in Annexure 3.

The review team also examined the facilities available for teaching and learning. These included the lecture theatres, teaching laboratories, equipments etc. The list of facilities observed is given in Annexure 4.

On the 27th, May 2009, the review team gave a feedback of the findings to Head of the Department and other members of the academic staff.

### ***Publications the review report***

A report will be prepared after the review visit incorporating the findings of the review team. In the report, the strengths and good practices will be highlighted and the weaknesses will also be stated together with some recommendations. Each aspect will be given a judgment of good, satisfactory or unsatisfactory. The draft report will be sent to the Department and the feedback will be obtained. If there is disagreement with any judgment, it would be resolved by the Quality Assurance and Accreditation Council (QAAC) through discussion. The judgment will be submitted to the Standing Committee on Quality Assurance of the UGC for approval. After its approval, the report will be published in the QAAC website, [www.qaacouncil.lk](http://www.qaacouncil.lk). The Department has to improve the quality of the aspects that receive a judgment of unsatisfactory within 6 months of approving the judgments by the Standing Committee on Quality Assurance of the UGC.

The primary source of documented information for this review was the self-evaluation report prepared by the DFST. The review team was also provided with supporting documents by the Department including the curriculum, detailed syllabi, teaching materials, student work

records, question papers, marking schemes, answer scripts, marks, student feedbacks and peer observations. The team had useful discussions with the Vice Chancellor, Dean of the faculty of Livestock, Fisheries and Nutrition and the Head/DFST and senior and junior academic staff members, Co-ordinator of the English Learning Career Guidance director, students counselors, non-academic staff members and students from the first, second, third and final years. The team also visited laboratories (Microbiology lab, Food processing lab and Chemistry lab), lecture theatres (common lecture theaters and modern lecture rooms at department level), library, computer unit, out-reach centre, English Learning Centre, Central equipment room, Hostels, Playground and canteen.

### ***Human Resources of the Department of Food Science and Technology (DFST)***

According to the presentation made by the Head of the department, at present, the Department of Food Science and Technology has cadre for one Professor, three Senior Lecturers, seven Probationary and Assistant Lectures, five Demonstrators (In the table information is given as three demonstrators). The department also has one Technical Officer, one Laboratory Attendant and a Labourer,

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

The Wayamba University of Sri Lanka (WUSL) was established on the 1st October 1999. The WUSL consists of four faculties; Faculties of Business Studies and Finance and Applied Sciences located in Kuliyaipitiya and the Faculties of Agriculture & Plantation Management and Livestock, Fisheries & Nutrition located at Makandura. The faculty of Livestock, Fisheries and Nutrition (FLFN) established at the Makandura premises on 17th August 2001 consists of 4 departments of study namely, Department of Food science & Technology, Department of Applied Nutrition, Department of aquaculture and fisheries and the Department of Livestock and Avian sciences. The Food Science and Nutrition Study programme was commenced in 2001 and the B. Sc Food Science & Nutrition has four specializations namely in the area of nutrition. The Department of Food Science and Technology has been the major contributor to the present degree programme which is evaluated by the review team. As mentioned at the presentation made the head of the DFST, the mission of the Department is to contribute to the society through the pursuit of education in Food Science and Technology in meeting with international standards in research and teaching at the highest level of excellence.

The DFST offers curricula and professional development for students pursuing careers in government, the food industry or other sectors involved in the food manufacturing chain. The emphasis is on utilizing knowledge of nutrient requirements, food sources and physiological systems to determine nutrient and dietary needs of individuals in various life cycle stages and/or with nutrition-related diseases. This programme of Food Science and Technology specialization is designed with contact hours provided through lecture-laboratory courses, directed study programmes, in-plant training placements and field experiences with practitioners.

### **3. AIMS AND LEARNING OUTCOMES**

#### **3.1 Aims**

Broadly, the DFST provides the students with theoretical knowledge and the practical training in related areas enabling them to be gainfully involved in employments and higher degree education with great confidence.

Food Science & Technology Specialization Program is aimed at providing;

1. a curriculum that provides strong background in the principles underlying the sciences of food technology in a student-centered, friendly environment, which will eventually reaches the standards of locally and internationally recognized higher education centre.
2. knowledge and understanding of the characteristics and nutritive value of major food sources, food processing & preservation systems, microbiological and biochemical aspects of food quality and safety, marketing economics and social and behavioral factors affecting food security.
3. opportunities to develop intellectual skills, generic & transferable skills, practical/enterprise/ professional skills, personal skills e.g. strong verbal and written communication skills, team work, initiative and creativity.
4. high quality learning experiences that develop ability to evaluate and undertake research in Food Science & Technology and to expose students to novel knowledge and technologies which reflect the research strength of the department.
5. opportunities for students to widen the skills, attitudes and enthusiasm required for an enduring learning and develop students' ability for self directed learning.
6. an opening for the students of other departments in the Faculty to study Food Science and Technology at a level suitable to their needs by offering several optional course modules.
7. the support to the academic staff in their career development by providing supervision and guidance for the postgraduate studies and provision of feedback and peer advice to continuously improve the teaching and research skills.

#### **3.2. Learning outcomes**

On successful completion of the Specialization Program in Food Science & Technology, students will be able to;

1. design, develop, and manage the unit operations in food handling, processing, preservation, and packaging systems in order to improve shelf life and safety of food.
2. select and perform chemical, physical, microbiological and sensory test/techniques for analysis of chemical, physical and microbiological properties of food sample and interpret the values.
3. evaluate adoption, interpretation and enforcement of standards, laws, regulations and policies governing food production process and food service systems in terms of quality assurance and management.
4. participate in food related research and food product development programs.
5. recognize the size, structure and organization of the food industry & the food supply chain and also food & agriculture markets in Sri Lanka regionally and globally.
6. collect, analyze and interpret food marketing and other economic data and construct basic marketing and business plans.
7. retrieve information related to food science & technology issues appearing in the media/web based resources, critically evaluate them and select the appropriate experimental design to test hypothesis in the same discipline.

8. prepare and deliver effective presentations to professionals and general public on relevant technical information of food technology orally and in writing.

The objectives and learning outcomes of the program are explained prior to the selection of students to the specialization program. Learning outcomes of each course module are explained in detail at the introductory session of the respective course and are provided to students as a document “Course overview/ Course outline”.

## **4. FINDINGS OF THE REVIEW TEAM**

### **4.1. Curriculum Design, Content and Review**

The curricula of both degree programmes (Food Science and Nutrition Study Programme current version and the revised version) reviewed are constructed on a semester-based course unit system. All BSc students follow a common core programme during first 4 semesters. On successful completion of this course, there is a provision for students who desire to specialize in Food Science and Technology, to get them selected to follow the curriculum offered by the DFST for the next 4 semesters. The students are offered an English course which offered on non-credit basis. It is compulsory for the students to pass the English program before graduation.

Students are selected to the Food Science and Technology specialization through a separate window based on the performances prior merit. On the other hand, students entering into the BFST programme are selected by the UGC on an all-island Z-score performance at the GCE Advanced Level examination. However, the Z-score has been declined from 1.5252 (in 2004/2005) to 1.3414 (in 2007/2008) during past four years. Students recruited represent all the districts and the student community has ethnic, religious/cultural diversity.

The review team noted that students follow well-structured series of basic and advanced interdisciplinary and multidisciplinary course units throughout their student career. The students specializing the FST programme are provided with requisite subject knowledge and transferable skills, interpersonal and teamwork skills, abilities and attitudes required to work in the real world. However, at the meeting the review team had with students representing all the four batches and the passed out graduates who are working in both public and private sector institutions and the WUSL, the participants of the meeting were of the opinion that more subject related to Human Resource Management, Time management and the like should be incorporated into the curriculum. In addition, they recommend the English programme be revised to contain more components of Business English which improves students' communication skills. However, the team observed that, many components related to communication skills and managerial skills necessary for young employees have been incorporated into the revised syllabus.

The team observed that, under the current curriculum, students should be offered minimum of 155 credits in order be eligible for the award of the degree, in addition to passing the English course. Basing on the feedback of the students, the team recommend the Faculty management to seek the possibilities to offer the students a revised the English course with a well-devised assessment mechanism and to award a certificate on successful completion of the same. The BFST students receive a specialized training through their curriculum (Annex 2). The course modules provide an excellent coverage of basic sciences, food science and all aspects of subject and practical knowledge required for the food industry. The team observed that the

BFST programme curriculum contains some optional course units in Semesters 5 – 7, which provide a certain degree of flexibility and choice for students. The mini research projects are planned under the subject Directed Study where students are given 1-2 days per week to carry out the research work. Students are required to take additional courses in the selected field of specialization in fifth, sixth and seventh semesters and to carry out research project/industrial training in the eighth semester. These courses will provide opportunities for students to prepare themselves to evaluate and to undertake research in their specializing fields or in related areas in future. The review team is of the opinion that the exposure to the industrial environment given through the Industrial placement facilitates progression to employment of graduates. The reviewers are satisfied that the learning outcomes of the courses are reflected in the content of the curriculum, which would facilitate obtaining employment in the Food Science & Nutrition sector. The use of modern methods of teaching, multi-media presentations and audio visual equipment in teaching were observed during the review process. However, at the meeting with students, it has been pointed out that the field of Food Science and Technology is developing fast and new technologies are being introduced into the field. However, present curriculum has no provision for updating the students with such novel technologies and products. The team also observed that both existing and revised curriculum has no room for such updates. Therefore, the team recommends a subject (nomenclature of the said subject can be termed as “Emerging food technologies”) be introduced into the curriculum.

#### ***Curriculum review***

The present curriculum has been reviewed regularly by the department in order to overcome drawbacks met in achieving intended learning outcomes. This could be considered as an additional strength in the Department. The DFST has revised the existing curriculum considering several facts including students’ feedback on the same. Students’ comments which were addressed by the curriculum revision included heavy credit load and necessity of incorporating essential food science related subjects. Accordingly, the number of credits has been reduced from 155 to 130 (Annex3).

The faculty has also developed a new curriculum under a new nomenclature “The Food Science and Nutrition programme” with specialization on Food Science and Technology. In developing the new curriculum, the department has considered the views of the food industry, employees, graduates and undergraduates and other stakeholders in the food manufacturing sector. This newly developed study programme too offers 130 credits. The team paid major attention to the existing and revised curricula. However, the team is of the view that the proportion between theory and practical components of each subject need to be reexamined.

***The reviewers rate this aspect of the Dept of Food Science and Technology as ‘GOOD’.***

#### **4.2. Teaching, Learning and Assessment Methods.**

The above aspects of the DFST were evaluated using (a) the Self-Evaluation Report (b) peer observation of lectures and laboratory practical classes, (c) meetings with academic and supporting staff and students. The review team also examined the Faculty handbook, time tables, project reports, question papers, marking schemes and answer scripts (of the year 2008).

The review team noted that courses are delivered through a combination of lectures, practicals, discussions, assignments, group work and PowerPoint presentations, and field /

industrial visits. The review team was happy to observe that, at the beginning of each lecture or practical course, the BFST students are provided with detailed information on intended learning outcomes, assessment procedure and a list of reference material. The documents provide very clear information regarding expected learning outcomes and assessment strategy to students, staff and any outsider. The current teaching - learning and assessment methods appear to facilitate achievement of the stated aims of the department.

It should be mentioned that during the meeting between the review team and the students, the latter expressed general satisfaction with the courses conducted by the DFST. However, they also expressed their concern regarding the lack of free time for extra curricular activities. They also pointed out the importance of extending the continuous assessment system to practical evaluation. The team noted that all question papers are routinely moderated and/or scrutinized in the department often by the Senior Academics.

The review team noted that students' evaluation of teachers, peer observation of teaching activities, moderation of examination question papers by internal or external (whenever internal academics are not found for those subjects) senior academics and monitoring the marking process by second marking examiners ably improve the teaching learning and assessment process.

The team observed that 3-4 credit subject consists of theoretical and practical components. The team also of the opinion that breaking down of these subjects into theoretical and practical components and conducting lectures and practicals as separate subjects would enable the department to pay more attention and strengthen the practical components. This adjustment would also give a clear picture of students' performances for both students and lecturers concerned.

***The reviewers rate this aspect of the Dept of Food Science and Technology as 'GOOD'.***

#### **4.3 Quality of Students including Student Progress and Achievements**

Students who have been admitted have Z- scores ranging from 1.5252 (in2004-05) to 1.3414 ( in 2007-08). This indicates that the students enter, are of relatively of good quality. They represent Colombo schools as well as schools of other areas in the island. This is due to the demand for this course as it is the only programme in the university system which deals with the both areas of food, technology and nutrition.

The top performances of the batch with respect to related subjects of the department are taken to follow the special degree. By them students have already been given a detailed awareness of the specialization degree. With this students know the carry options available for them.

Passed out graduates and final year special students exchange their experience with the students selected for the specialization enhancing the eagerness of students to perform better.

The academic barrier enforced at the end of second year ensure that only good performances get into the third year. Monitoring of the performance by faculty is carried out in a professional manner by having continuous assessment and end semester examination for both theory and practical.

Records of the students are maintained properly to have a track on their performance improvement. Records are available even for passed out graduates. Practical examination results show an improvement from an average of 69.6% (In 2007) to 92.41% (In 2009). Research outputs increased from 16 (In 2007) to 45 (In 2009).

The Review Team recommends that the students are given more opportunity to speak out to ensure that every student develop proper verbal communication ability.

*The reviewers rate this aspect of the Dept of Food Science and Technology as 'GOOD'.*

#### **4.4. Extent and use of Student Feedback**

The Department obtains qualitative student feedback about the academic programme and the requirement of infrastructural facilities at various forums such as Faculty Board meeting, practical session and lecture & tutorial classes. Students expressed happiness about their interaction with teachers and higher authorities.

The Department has perceived the importance of quantitative student feedback. The teaching process is evaluated by student feedback using a questionnaire since 2006. The questionnaire includes feedback on several aspects of teaching & learning such as student awareness of learning outcomes, organization & clarity of the lecture, motivation & interaction of the lecturer, speed & audibility of the lecture, etc. Student feedback data obtained by the lecturer have been analysed to identify the strengths and weaknesses of each staff of the department. The outcome of the quantitative student feedback have been brought to the notice of all academic staff at departmental meetings. The Review Team noted that a Faculty Teaching & Learning Committee has been established recently and the issues arose out of student feedback are discussed at this meeting. The Review Team noted that student feedback data has been taken into consideration during the revision of the curriculum and to increase the tutorial classes, practical and industrial visits.

The Review Team recommends that the practice of obtaining students feedback may be extended to all visiting staff as well as for practical classes. Also data may be collected for a lecturer to compare his/her scores over the years on a particular course to evaluate the progress.

*The reviewers rate this aspect of the Dept of Food Science and Technology as 'GOOD'.*

#### **4.5. Postgraduate Studies**

The department has taken steps to commence a masters degree programme on food science and nutrition in collaboration with Department of Applied Nutrition through faculty postgraduate committee. As the research facilities and academics with postgraduate qualifications are improving, the Department has invited students to enroll M Phil degree programmes.

All the junior staff are actively involved in the postgraduate studies. A senior lecturer in the Department is involved with the supervision of two M Phil research works. University research scheme provide fund to the academics to carry out research and two such grants

have been obtained by the departmental staff. Senior academics too were funded with University Research Grant Scheme.

Commencement of a postgraduate programme as soon as possible is a must to the department.

***The reviewers rate this aspect of the Dept of Food Science and Technology as 'SATISFACTORY'.***

#### **4.6 Peer Observation**

The DFST has evolved several mechanisms to monitor the quality of teaching provided to their students and has a mechanism to use the feed back to enhance the quality of teaching. The review team was pleased to find evidence of peer evaluation of teaching by colleagues in their own department, also by undergraduate students. As per the materials provided to the review team, all the permanent staff members have been subjected to peer observation while teaching, by other members of the Department or brother-departments. The team also noted that the Senior Academic staff members are also being peer-evaluated. In addition, the temporary staff members are being monitored by senior academics. The peer observation is found to be a workable tool in the DFST. It can be recommended that the peer observation data be correlated with the student feedback responses for further improving teaching, learning and assessment of lecturers concerned.

***The reviewers rate this aspect of the Dept of Food Science and Technology as 'GOOD'.***

#### **4.7. Skills Development**

Team is in the view that the faculty takes an enormous effort to develop various skills of the students.

Research and mini research projects are aimed at developing students' innovativeness, time management and planning.

Industrial training component expose them to develop skills required to manage the life in the industry environment.

Oral presentation exercises aimed at discussing, practical / mini research outcomes help the students to develop communication skills, computer skills, preparing visuals and defending the ideas and outcome. Such group presentations help to develop team work culture and leadership skills.

Various other exercises such as oral examinations , written examinations, poster presentations and practical examinations are designed to develop all necessary skills required to achieve high standard of performance in any profession.

***The reviewers rate this aspect of the Dept of Food Science and Technology as 'GOOD'.***

#### **4.8 Academic Guidance and Counseling**

When new students are recruited, they are provided with the faculty handbook containing curriculum and a university prospectus. An orientation programme is being conducted during the first week of their entry. The hand book provides information about University, Faculty, Departments, subjects offered, subject combinations, academic programmes and details of course titles. On the first day of the orientation programme, the Vice-Chancellor, Dean of the Faculty, Heads of Department, Career Guidance Officer and Senior Student Counselor

address the students. At this programme an introduction is given to the students on various departments in the faculty, the courses offered by the department, and the selection criteria to offer the special degree programmes. Orientation programmes are also conducted at the beginning of each year to enlighten the students about their progress, selection of special degree programmes and course structures & assessment methods for the academic year. Tutors are appointed and each tutor is assigned with three to four students at every year to clear any doubts arising out of academic matters. In addition the new entrants are assigned with Academic Mentors, who look into the overall aspect of the student and keep a record of the student. This record helps to direct the student to obtain academic, financial or personal assistance.

Whenever students encounter personal problems it has been found that the students can meet the faculty student counselors or any staff member to this effect. There are four student counselors at Makandura site of the university comprising two faculties with four departments. However there is nobody to function as a professional counselor although few of the staff are undergoing training on this field. For health related problems students were directed to Makandura Govt. Hospital which is only 1 KM away from the faculty or they can approach University Health Centre at the main campus, Kuliyaipitiya. There is a Director for Career Guidance Unit (whose work place is at the Makandura site) to facilitate students by giving trainings/seminars on job related matters and improve attitudes to carry out a successful career. Three day training programme on “you are excellent” and other training camps on leadership development and workshop on positive thinking are well received by the students. There are no permanent Offices at Makandura site for Staff Development Centre, Career Guidance Unit or Student Counseling Unit. However there is a lecture hall available for Career Guidance Unit and action being taken to refurbish a portion of the building for Student Counseling Unit.

***The reviewers rate this aspect of the Dept of Food Science and Technology as ‘GOOD’.***

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

<b>Aspect</b>	<b>Judgment</b>
Curriculum Design, Content and Review	Good
Teaching, Learning and Assessment Methods	Good
Quality of Students including Student Progress and Achievements	Good
Extent and Use of Student feedback, Qualitative and Quantitative	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

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

#### Good Practices/Strengths:

1. The review team noted that students follow well-structured series of basic and advanced interdisciplinary and multidisciplinary course units throughout their student career.
2. The present curriculum has been reviewed regularly by the department in order to overcome drawbacks met in achieving intended learning outcomes.
3. The FST programme provides the students with requisite subject knowledge and transferable skills, interpersonal and teamwork skills, abilities and attitudes required to work in the real world.

#### Weaknesses:

1. No enough subjects offered with relation to Human Resource Management, Time management and the like. (However, the team observed that, many components related to communication skills and managerial skills necessary for young employees have been incorporated into the revised syllabus).
2. Present and revised curricula have no provision for updating the students with emerging food technologies and products.
3. English programme offered has fewer components to improve students' communication skills.

**Judgment: Good**

### 2. Teaching, Learning and Assessment Methods

#### Good Practices/Strengths:

1. Courses are delivered through a combination of lectures, practicals, discussions, assignments, group work and power point presentations, and field / industrial visits.
2. At the beginning of each lecture or practical course, the BFST students are provided with detailed information on intended learning outcomes, assessment procedure and a list of reference material.
3. End semester examination question papers are routinely moderated and/or scrutinized.

#### Weaknesses:

1. Subjects consisting of theoretical and practical components have 3-4 credits which hinder a proper evaluation of students' practical skills.

**Judgment: Good**

### **3. Quality of Students, including Student Progress and Achievement**

#### **Good Practices/Strengths:**

1. Only top performers in related subjects in the first year are selected for the special programme.

#### **Weaknesses :**

1. Backwardness -only few students including the final year students came forward to present their views when an opportunity is given.

**Judgment: Good**

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

#### **Good Practices/Strengths:**

1. Obtaining qualitative student feedback is in practice.
2. Obtaining quantitative student feedback procedure has begun three years ago.
3. Availability of analyzed data and scores on the quantitative student feedback responses for the academic staff.

#### **Weaknesses**

1. Obtaining quantitative student feedback practice not extended to practical sessions as well to allvisiting academics.

**Judgment: Good**

### **5. Postgraduate Studies**

#### **Good Practices/Strengths:**

1. Availability of trained staff
2. Availability of research equipments
3. Availability of approved master degree programme

#### **Weaknesses:**

1. No teaching/research on postgraduate degree programme yet commenced

**Judgment: Satisfactory**

### **6. Peer Observation**

#### **Good Practices/Strengths:**

1. The permanent staff members have been subjected to peer observation while teaching, by other members of the Department or brother-departments by using a pre-prepared format.
2. Temporary staff members are monitored by senior academics

**Judgment: Good**

## **7. Skills Development**

### **Good Practices/Strengths:**

1. Every student selected for special degree programme has to take part in these skill development exercises.

### **Weaknesses**

1. Leadership skill development programmes may not be sufficient.

**Judgment: Good**

## **8. Academic Guidance and Counseling**

### **Good Practices/Strengths**

1. Availability of student handbook/prospectus and a website.
2. Availability of an orientation programmes.
3. Availability of Academic Tutors and Mentors.
4. Availability of Student Counselors for counseling.

### **Weaknesses:**

1. Non-availability of Professional Counselor

**Judgment: Good**

## **6. RECOMMENDATIONS**

1. Based on the findings of the review, the review team wishes that the Department may consider the following recommendation in order to improve the quality of the study programmes further.
2. It can be recommended to design a curriculum in Business English with a well-devised assessment mechanism which will consist of components like communication skills to support the main curriculum. It is also recommended to devise a mechanism to encourage the students' attendance in English course. It can be proposed to award a certificate on successful completion of the English course for those who satisfy the requirements of the curriculum.
3. It is recommended to identify the real background for having the Z-score declined from 1.5252 (in 2004/2005) to 1.3414 (in 2007/2008) during past four years in order to encourage the new entrants of higher marks.
4. The team observed that, many components related to communication skills and managerial skills necessary for young employees have been incorporated into the revised syllabus. The team also recommends newer components related to management aspects applied in Food sector be introduced in the next curriculum revision.
5. The team observed that, the time allocated for mini research projects is 1-2 days per week. Considering the fact that the time limitations may affect achieving intended research objectives, the team recommends more time be allocated for the Directed Study.
6. The team observed the urgency for updating students with newly developing food technologies and novel food products. Therefore, the team recommends a subject

- (nomenclature of the said subject can be termed as “Emerging food technologies”) be introduced into the curriculum.
7. The team has been convinced by the Senior Academic staff of the department that the uniqueness of the DFST is that it has senior researchers who were earlier attached to leading institutions. In this context, the team proposes the department to begin exploring possibilities to involve the senior academics in initiating research programmes which will strengthen the degree programme at large.
  8. The team also of the opinion that breaking down of these subjects into theoretical and practical components and conducting lectures and practicals as separate subjects would enable the department to pay more attention and strengthen the practical components. The team is of the view that the proportion between theory and practical components of each subject need to be reexamined and it will be of more effective if practicals are assessed as separate subjects.
  9. The team is also of the opinion that the library needs to be more structured to cater to the needs of the learning process. Therefore, it is recommended to organize the library facilities in a more systematic way to enhance the efficacy of its functioning.
  10. More opportunities should be made available for students to come to front and speak out. Frequency of group / individual presentations can be increased.
  11. Obtaining quantitative student feedback procedure may be extended to practical sessions as well to all visiting academics.
  12. Findings of the student feedback practice may be carried out regularly to see the change over the years for each staff.
  13. Commence teaching/research activities on postgraduate degree programme as early as possible.
  14. The review team is pleased to note that the department is practicing peer observation techniques as a part of improving learning and teaching. It is recommended to hold periodical discussions among peers with a view to upgrade the peer evaluation techniques.
  15. Close guidance be given with more practical sessions to weak students, for example more audio presentations. Academic supervisors even can get the help of better performing students (peer support).
  16. A post of Senior Student Counselor or a Coordinator may be created to the Makandura Centre and a suitable person may be appointed to coordinate the work at the faculty between the four departments and to liaise with the Chief Student Counselor of the university.

## **Acknowledgements**

The Review Team appreciate the excellent working arrangement made by the DFST during the review visit. The HOD and all others in the dept. provided the necessary support to perform our duty well. The documents were displayed very well and any other document needed by the team member, it was provided by the staff. The review team is grateful to all the categories of the staff in the DFST and others for the support given during our visit.

## 7. ANNEXES

### **Annex 1. AGENDA OF THE REVIEW VISIT**

#### **Day 1: 25<sup>th</sup> May 2009 (Monday)**

- 08.30 – 09.30 am Arrival of Team and brief discussion with QAA Specialist
- 09.00 – 09.30 am Meeting with the Vice-Chancellor, Dean, Head of the Dept. and Senior Staff of the Dept.
- 09.30 – 10.00 am Discuss the agenda for the visit
- 10.00 – 11.30 pm Department presentation on the self evaluation report & discussion
- 11.30 \_ 12.30 pm Observing departmental facilities
- 12.30 – 0130 pm Lunch
- 01.30 – 02.30 pm Monitoring university facilities
- 02.30 – 03.30 pm Observing 1<sup>st</sup> year practical class
- 03.30 – 0400 pm Meeting with all staff of department with tea
- 04.00 – 05.00 pm Meeting representatives of all 04 batches of undergraduates

#### **Day 2: 26<sup>th</sup> May 2009 (Tuesday)**

- 08.30 – 09.00 am Monitoring teaching 1<sup>st</sup> year
- 09.00 – 09.30 am Monitoring teaching 2<sup>nd</sup> year
- 09.30 – 10.00 am Monitoring teaching 3<sup>rd</sup> year
- 10.30 – 11.30 pm Meeting student counselors and Career Guidance Director with tea
- 11.30 – 12.30 pm Monitoring documents
- 12.30 – 0130 pm Lunch
- 01.30 – 02.00 pm Meeting with staff who are doing PG studies
- 02.00– 02.30 pm Observing 2<sup>nd</sup> year practical class
- 02.00 – 03.00 pm Observing 3<sup>rd</sup> year practical class
- 03.00 – 04.00 pm Monitoring documents with tea
- 04.00 – 05.00 pm Meeting with passed out and employed students

#### **Day 3: 27<sup>th</sup> May 2000 (Wednesday)**

- 09.00 – 10.00 am Monitoring documents
- 10.00 – 10.30 am Meeting with academic advisors and personal tutors
- 10.30 – 11.00 am Reviewers private discussion with tea
- 11.00 – 12.00 pm Meeting with Head and Staff for reporting
- 12.00 – 01.00 pm Lunch
- 01.00 – 03.30 pm Report writing

## **Annex 2. LIST OF PERSON MET BY THE REVIEW TEAM**

Vice Chancellor  
Dean of Faculty of Livestock, Fisheries and Nutrition  
Head of the Department of Food Science and Technology  
Director, Career Guidance & Quality Assurance Unit  
Director, ICT  
Director, Staff Development Centre  
Librarian  
Head, ELTU  
Student Counselors, Academic Advisors and Personal Tutors  
Academic staff of the department  
Non-academic staff of the department  
Students of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and final year  
Passed out & employed students  
Demonstrators

## **Annex 3. DOCUMENTS PERUSED BY THE REVIEW TEAM**

Student Handbook  
Student handouts  
Lesson guides, theory & practical  
Statistics on student achievements and progress  
Samples of answer scripts  
External examiners reports  
Peer evaluation reports & its analysis  
Student reports on teacher evaluation & its analysis  
Student reports on mini research & research projects  
Minutes of Departmental committees

## **Annex 4. FACILITIES**

New three-story building complex of the faculty with the department of FST on top floor comprising –A large conference lecture hall, seminar room and staff rooms  
Three laboratories one for each of microbiology, food processing and chemistry  
Two old-block lecture halls  
Central computer laboratory with computers & internet facilities  
Central equipment room  
Outreach Centre  
Printing unit  
Career guidance lecture hall  
Library  
English unit  
Gymnasium and play ground