



**PROGRAMME REVIEW REPORT**  
**Bachelor of Science Food Science & Technology**  
**Faculty of Agriculture**  
**University of Peradeniya**  
**27<sup>th</sup> – 30<sup>th</sup> January 2020**



**Review Panel:**            **Professor Renuka Silva**  
                                     **Professor VijithJayamanne**  
                                     **Dr. A Saravanabawan**

**Quality Assurance Council**  
**University Grants Commission, Sri Lanka**

# **Programme Review Report**

**BSc Food Science & Technology Degree Programme**

**Faculty of Agriculture**

**University of Peradeniya**

## *Review Panel*

**Professor Renuka Silva**

**Professor VijithJayamanne**

**Dr A Saravanabawan**

**Quality Assurance Council**

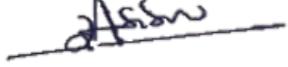
**University Grants Commission, Sri Lanka**

**27-30 January 2020**

**University: University of Peradeniya**

**Faculty: Faculty of Agriculture**

**Program: BSc Food Science & Technology**

<b>Review Panel:</b>	<b>Name</b>	<b>Signature</b>
	<b>Professor Renuka Silva</b>	
	<b>Professor VijithJayamanne</b>	
	<b>Dr A Saravanabawan</b>	

**Date: 16.06.2020**

## Contents

Section 1: Introduction to programme .....	1
Section 2: Observations on Self Evaluation Report.....	4
Section 3: Description of review process.....	6
Section 4: Faculty’s approach to quality and standards.....	9
Section 5: Judgment on eight criteria of programme review .....	11
Criterion 1: Programme Management .....	11
Criterion 2: Human and Physical Resources .....	14
Criterion 3: Programme Design and Development.....	16
Criterion 4: Course/ Module Design and Development .....	18
Criterion 5: Teaching and Learning .....	19
Criterion 6: Learning Environment, Student Support and Progression .....	21
Criterion 7: Student Assessments and Awards .....	23
Criterion 8: Innovative and Healthy Practices .....	25
Section 6: Grading of overall performance.....	27
Section 7: Commendations and recommendations .....	28
Section 8: Summary.....	31
Annexures .....	33

## List of abbreviations

AHEAD	Accelerating Higher Education Expansion and Development
BFST	Bachelor of Science in Food Science and Technology
CDC	Curriculum Development Committee
CGU	Career Guidance Unit
DFST	Department of Food Science and Technology
ELTU	English Language Teaching Unit
FoA	Faculty of Agriculture
FQAC	Faculty Quality Assurance Cell
GEE	Gender Equity and Equality
HETC	Higher Education in the Twenty First Century
HoD	Head of Department
ICE	Innovation Commercialization Enhancement
ICT	Information Communication Technology
IFT	Institute of Food Technologist
ILOs	Intended Learning Outcomes
IQAU	Internal Quality Assurance Unit
KPIs	Key Performance Indicators
LMS	Learning Management System
MIS	Management Information System
OBE	Outcome-based Education
OBL	Outcome-based Learning
OER	Open Education Resources
PBL	Problem-based Learning
PR	Programme Review
QAC	Quality Assurance Council
R&D	Research & Development
SBS	Subject Benchmark Statements
SCL	Student-Centered Learning
SDC	Staff Development Centre
SER	Self-Evaluation Report
SGBV	Sexual and Gender-based Violence
SLQF	Sri Lanka Qualifications Framework
SOP	Standard Operation Procedures
SP	Study Programme
TMU	Teaching Methods Unit
UGC	University Grants Commission
UoP	University of Peradeniya

## Section 1: Brief introduction to programme

The Faculty of Agriculture (FoA) is one of the nine academic faculties of the University of Peradeniya (UoP) which was originally established as the University of Ceylon in 1942. The FoA offers three bachelor's degree programs: Agricultural Technology and Management, Food Science and Technology and Animal Science and Fisheries. The Faculty comprises eight departments of study and three field stations and three research centers for teaching and research in all agricultural and allied fields. Faculty also supports postgraduate programs through the Postgraduate Institute of Agriculture.

The Bachelor of Science in Food Science and Technology (BFST) study programme (SP) was introduced in 2004 at the Faculty of Agriculture, UoP as an expansion of the Faculty's long history of offering a BSc Agriculture degree programme. The objective of the SP is to produce graduates with a BSc degree, capable of handling the technical, supervisory, marketing and managerial functions of the food industry and conduct research leading to product development. The BFST SP has well-defined programme outcomes, graduate profile and well-structured curricula, which is sequentially arranged leading the students to systematically achieve expected outcomes of the SP as well as personality and professional development.

The SP is contributed to by 7 out of 8 Departments of study in the Faculty, while the Department of Food Science & Technology (DFST) is the major contributor. The annual intake of the Faculty is about 300 students under the normal intake through the University Grants Commission (UGC) (50 for BFST, 200 for B.Sc. Agriculture Technology & Management and 50 for B.Sc. Animal Science & Fisheries).

The Faculty consists of a total of 105 permanent academic staff and temporary staff. DFST, the lead Department offering the BFST SP has 12 academic staff members in the teaching panel, who are qualified in various disciplines associated with food science and technology and 6 temporary staff members. In addition to the staff of DFST, several others from different departments in the Faculty engage in teaching in the BFST. The reviewers observed the efforts of the well-qualified as well as committed and dedicated staff of DFST and the FoA in maintenance of the highest standards with respect to education and research.

The BFST study programme spreads through eight semesters (4 academic years) and offers 138 credits of courses, of which 111 are compulsory and 27 are optional. Two thirds of the compulsory courses (74 credits) are offered by the DFST. The SP consists of both theory and practicals with the last semester entirely assigned for the research project. The curriculum developed at the inception of the SP was reviewed on several occasions and revisions had been incorporated based on the stakeholder and expert feedback. However, the SP warrants a comprehensive revision as several cycles have already been completed and some significant modifications to the curriculum have been already identified by the team involved in the curriculum development process.

The students are admitted to the SP through the University Grants Commission based on the General Certificate of Education (Advanced Level) Examination results in the subjects of Biology, Physics and Chemistry. The Number of students in the SP at present (2020) is given in the Table 1. The SP has 161 students representing four batches, at the time of programme review.

**Table 1. Number of students enrolled for the B.Sc. Food Science & Technology Study Programme**

Year	Intake (Batch)	Male	Female	Total
1st Year	2017/18	14	28	42
2nd Year	2016/17	15	31	46
3rd Year	2015/16	10	26	36
4th (Final) Year	2014/15	08	29	37

Table 2 shows the number of graduates awarded the degree in the past five years. A total of 83 graduates were conferred the degree in the last 5 years.

**Table 2. Number of graduates awarded B.Sc. Food Science and Technology Degree (2015-2019)**

Graduation Year	Batch	Male	Female	Total
2019	2013/14	02	16	18
2018	2012/13	06	08	14
2017	2011/12	05	07	12
2016	2010/11	08	14	22
2015	2009/10	07	10	17
<b>Total</b>		<b>28</b>	<b>55</b>	<b>83</b>

The teaching-learning process is supported by resources of the DFST, which consists of laboratories, a food processing pilot plant and classrooms. The students of the SP use facilities of FoA (Library, Computer Unit, English Language Teaching Unit (ELTU), Agribusiness Center, e-learning resources) and common facilities of the UoP. With a long-standing history, UoP possesses outstanding facilities for students in a Sri Lankan and regional context, such as accommodation, health facilities, sports and recreation facilities etc.

The SP successfully incorporated Problem-Based Learning (PBL), Outcome-Based Education (OBE) and Student-Centered Learning (SCL). However, there is room to improve these strategies (online-learning teaching, guided self-learning etc) with curriculum revision and by modernizing teaching-learning activities. The physical infrastructure of the SP had been improved through several projects such as Improving Relevance and Quality of Undergraduate Education (IRQUE) and Higher Education in the Twenty First Century (HETC) in the recent past. However, further upgrading of the physical teaching-learning facility is needed to match the SP with modern world requirements.

The staff conduct research, which plays a complementary role in effective implementation of the SP, although facilities and grants available for them are limited. In contrast, inadequate evidence was observed in outreach, community and industry engagement with respect to the BFST study programme. That may hinder the potential employment

opportunities for graduates, upliftment of academic reputation and contribution to national development expected of academia. Nevertheless, the FoA has a conducive environment to engage in research, outreach and community engagement through several mechanisms and entities.

The quality assurance of the Faculty is led by the Faculty Quality Assurance Cell (FQAC), under the guidance of the Internal Quality Assurance Unit (IQAU) of the University. The effort of the FQAC and the positive response of the present Dean and the staff on the quality assurance process is evident within the educational environment. The FoA has taken steps to address almost all the shortcomings listed in previous Subject Reviews conducted, yet there are constraints faced by the Faculty to address the issues optimally.

## Section 2: Review Team's Observations on the Self Evaluation Report

The Self-Evaluation Report (SER) has been prepared according to the guidelines given in the Programme Review (PR) Manual. The evidence has been presented alongside the standards and criteria as shown in the template provided. The length of the report is acceptable and prepared aligning with the guidelines in the manual and is well structured.

The introductory section (Section 1) gives an overview of the Faculty and SP reviewed. Programme Outcomes, Course Intended Learning Outcomes (ILOs), constructive alignment of ILOs with assessment, overview of the departments contributing to the SP, student enrolment, staff profiles, teaching learning resources, and student support systems and management had been described adequately.

The analysis of the Strengths, Weaknesses, Opportunities and Threats (SWOT) given in the SER is relevant to the SP. The steps taken to improve the SP in recent times has been given in this section. However, reference to outcomes of the previous Subject Review of DFST and the remedial actions taken were not provided in the SER. The remedial measures implemented to rectify deficiencies identified at the previous Subject Review were presented to the reviewers during site visits, and they were acceptable.

Important documents such as the Corporate Plan, Faculty Action Plan and the Faculty Strategic Plan were made available to the reviewers during the site visit. However, development of the Strategic and Action Plans for the Faculty commenced recently. Therefore, such documents covering last 3-5 years were not available. The reviewers observed that the programme reflects the mission, goals and objectives set out in the Corporate Plan of the University. SCL and OBL approaches were successfully adapted to the SP. The standards and quality of the SP are in accordance with relevant national guidelines of the Sri Lanka Qualifications Framework (SLQF). The Subject Benchmark Statement (SBS) was used in developing and subsequent revisions of the curriculum.

Section 2 explained the process of SER preparation. The SER submitted for external programme review was developed by a panel appointed by the Faculty Board. The entire process was facilitated by the FQAC. Initially, Professor DGNG Wijesinghe was assigned as the co-ordinator and subsequently, Prof KMS Wimalasiri led the process. The SER writers received training organized by the Quality Assurance Council (QAC) of the UGC, IQAU of UoP and FQAC. The team that prepared the SER comprised of several academics from the DFST, who had been assigned to write the sections on each criterion. The SER had been prepared using a participatory approach with the involvement of all members of the DFST. The compiled SER was subjected to the review of the Advisory Board appointed by the FoA and was presented to all academic staff of the Faculty and was finalized, considering their inputs. Evidence clearly showed that the Dean and the FQAC gave the leadership at the Faculty level and the Department took the responsibility of writing the SER. The support of the administrative staff, non-academic staff and stakeholders (non-specified) and students had been obtained in the process. The finalized SER was made available to all permanent academic staff, but it was not shared with students as well as the stakeholders.

Section 3 highlighted the "Compliance with the Criteria and Standards". This section was also prepared according to the given format in the PR manual. This section was structured

well with the required eight criteria and relevant standards. Best practices for each standard under 8 criteria were explained. Each criterion was summarized at the end as required by the PR manual. Presentation of documentary evidence was very clear and unique code numbers were given. The Faculty presented documentary evidence indicated in the SER and assistance was provided to trace the documents easily at the site visit. Although most of the evidence were presented to the reviewers, it should be noted that evidence presented for the verification of the claims made on certain standards were not relevant. Therefore, the reviewers, during the site visit, had to request some additional documents to support the verification process, which were ultimately presented by the Faculty on time. Furthermore, the reviewers observed that some standards were not critically analysed when making the claims.

Section 4 summarized the SER, and the annexures were attached at the end of the SER. Finally, it can be concluded that overall compilation of data, evidence and presentation of SER is of a high standard, indicating knowledge of the quality assurance programme, by the SER writers of BFST SP of the FoA of the UoP.

### Section 3: A Brief description of the review process

The QAC of the UGC in agreement with the Dean of the FoA of UoP, decided on the review team and schedule for the review. The review team was guided by Director of QAC, explaining the conduct of the review and objectives of the review according to the Manual for Review of Undergraduate Study Programmes of Sri Lankan Universities and Higher Education Institutions prepared by UGC for the PR, at a workshop held on 14 February 2018. The FoA of UoP requested the review of the BFST SP and the UGC appointed a team of three members based on their expertise: Professor Renuka Silva (Chairman), Professor Vijith Jayamanne (Member) and Dr A Saravanabawan (Member). The review team conducted the desk evaluation individually based on the information provided by the SER. Then the team members met and discussed the results of the desk evaluation report and planned a site visit to verify the documentary evidence referred to in the SER.

The team visited UoP from 27-30<sup>th</sup> January 2020. On Day 1 (27 January), the team visited the office of the Vice Chancellor and the review team was warmly welcomed by the VC, Dean / FoA, Director, IQAU and the quality assurance process in the University was explained. A schedule for the entire period of 27-30 January was provided to the reviewers (Annexure 1). The review team had discussions with the following persons and groups during the site visit (Annexure 2 and 3).

- Vice Chancellor
- Director/IQAU
- Dean/FoA and Heads of Departments (HoDs) & SER writers
- Coordinator of FQAC
- Teaching panel (without the presence of Heads of Departments)
- Temporary academic support staff
- Administrative staff
- Directors of the Centers, Units and Cells – ELTU, Career Guidance Unit (CGU), Agribusiness Centre, Physical Education Department, Computer Center, Agriculture Education Unit, Staff Development Center (SDC), Agricultural Biotechnology Center.
- University Medical Officer and the staff
- Student counsellors / mentors and Proctor
- Students of the SP
- Librarian/Senior Assistant
- Stakeholders - past graduates and employers
- Technical and other non-academic staff members
- Research Committee members

Day 1 (27 January 2020): Followed by the meeting with the Vice Chancellor, Director IQAU briefed the quality assurance activities in the University. At the Faculty premises, Dean/FoA made a presentation outlining the overview of the Faculty, degree programmes, teaching-learning process, curriculum, resources (human and physical), support services, development plans and quality assurance activities in the Faculty followed by a discussion on the

programme review process. The Dean and the HoDs clarified the queries related to the SER raised by the reviewers.

At the meeting with academic staff, matters related to the teaching-learning process, steps taken to enhance the quality of the educational process and challenges and barriers faced by them were discussed in detail. Temporary academic staff members explained how they are involved in the teaching-learning process and the support given to students. The ELTU staff briefed their role in English Language teaching at the Faculty.

At the meeting with the administrative staff, the Registrar and Bursar of the University, Assistant Registrar and Assistant Bursar of the FoA answered questions raised by reviewers, in relation to the administration process including examinations, procurement, staff recruitment, student intake etc.

Directors of several Centers, Units and Cells of the University and Faculty briefed the functions of their respective entities, management structure and how they support the teaching-learning process, administration and other services such as outreach activities conducted by them.

Student counsellors explained their services. Proctor and the counsellors elaborated the mechanisms implemented and strong action taken by the University to curb ragging and other related issues in the recent past.

Day 2 (28 January 2020): The reviewers observed the teaching-learning facilities - classrooms, laboratories, and other physical recourses available at the DFST. They also observed on-going teaching-learning sessions conducted in the classrooms and laboratories.

During the meeting with the Librarian of the Agriculture Library and staff, it was revealed that the library is still used mainly as a repository of materials for staff and students. They have a good collection of printed books, journals and collections. However, access to electronic resources is limited due to financial constraints.

The Department has four Technical Officers, but none of them were provided any formal training or updates of their knowledge recently. The Department office handles the day-to-day administrative activities effectively under the HoD. Lack of opportunities for training and capacity development of the non-academic staff are the shortcomings revealed at the meeting. Reviewers were unable to trace the use of equipment for student and staff research as logbookswere not properly maintained.

Day 3 (29 January 2020): The reviewers met students representing all four batches. They are quite happy and expressed their satisfaction regarding teaching-learning process, assessment, welfare facilities, student support system etc. When asked about the short period of industrial exposure, the students felt that existing mechanism is adequate, although the reviewers think differently. There were no outstanding issues raised or discussed by the students.

At the meeting with the Faculty Research Committee, the research environment and facilities were discussed at length. Overall, the Faculty engages in several national and international level research and the researchers felt that available facilities in relation to agriculture, to carry out research (e.g., farms, experimental plots etc) are adequate. However, based on the information in the SER, improvement of laboratory infrastructure would facilitate the staff and students to engage in high calibre research in the discipline of FST.

A group of stakeholders consisting of recently passed out graduates and employers met the review team. They disclosed the links they maintain with the Department and the SP and expressed overall satisfaction about the quality of the SP. Some individuals opted to introduce a longer industrial training and stressed the need to strengthen the formal links and collaborations with industry.

The reviewers visited several facilities in the University such as SDC, sports facility, hostels, library, computer unit, sales outlets etc., located outside the Faculty premises for observations.

Day 4 (30 January 2020): The review panel meeting was conducted to summarise the findings. Some additional documentary evidence sought were submitted by the HoD and the Co-ordinator of the FQAC, in order to verify the claims they made in the SER.

In the afternoon, the review team met the Dean and the Faculty staff for debriefing of the programme review. The chairman outlined the strengths and weaknesses observed during the site visit, based on the SER of the SP reviewed and major commendations and recommendations were briefed. There was a cordial discussion between two parties and further clarifications and justifications were given by the attendees representing the SP, regarding the points raised by the review team. Overall, the SP administrators and academic staff paid attention to the concerns of the reviewers and agreed to take progressive remedial actions.

The review team observed that the review process at the site was well organized and coordinated as per the guidelines and schedules. The role played by the Co-ordinator of the FQAC is highly appreciated and acknowledged. Great hospitality, friendly atmosphere and professionalism displayed by the Dean, staff and all stakeholders were highly commendable. Even though there were some lapses in producing the relevant documentary evidence at some point, the untiring assistance given by the DFST to rectify it enabled the reviewers to complete the task successfully.

## Section 4: Overview of the Faculty's approach to quality and standards

The IQAU of the UoP was established in the year 2016, in accordance with the guidelines stipulated by the UGC. The aim of the IQAU is to operationalize all quality assurance procedures which would have an impact on the quality of education in the University, so that the students have an optimum educational experience. The management committee of the IQAU comprises of the Vice-Chancellor (who is the Chairman), Deans of the Faculties, Coordinators of the FQAC, Director SDC, Registrar and Bursar. The IQAU oversees all quality assurance activities of the University and facilitates the external and internal quality assurance processes. The IQAU office has been given a prominent space in the main administration building. Director, IQAU (Professor Prasad Sethunga) plays a prominent role in the quality assurance process, by providing guidelines and instructions to carry out quality assurance activities and capacity building of stakeholders. The Vice Chancellor, Senate and the Council recognize quality assurance as an important aspect and has given due priority in the academic activities. It seems that the IQAU mainly implements guidelines issued by the QAC and the UGC, but there is no documented quality assurance policy or framework for the University. The reviewers expressed their reservations regarding the uniformity of the practice and adherence to quality assurance guidelines, and specifically the mechanism of internal quality assurance of SPs.

The FoA established its FQAC in 2016, with a view to assisting in the quality assurance of teaching, learning, assessment and administration related activities, at the Faculty. A Coordinator is appointed by the Faculty Board to handle the routine functions and to liaise with the IQAU. The quality assurance matters are taken up as a permanent agenda item at the meetings of the Faculty Board as well as the Senate, which shows the commitment of the University in persuading all staff to engage in a dialogue to enhance the quality of academic programmes. The FQAC headed by the Dean, is coordinated by Prof Janak Vidanarachchi, who has earned a reputation from both senior and junior staff in implementing the quality assurance-related activities at the Faculty level. The FQAC functions in a highly satisfactory manner under the direction of the Director, especially in maintenance of documents and the external review process. It played a vital role in preparation of the SER. There is adequate evidence of providing various kinds of training to some of the academic staff on quality assurance requirements on various occasions.

All staff of the DFST were very keen and active in the external quality assurance process. Also, all staff attempted to follow the guidance of the PR manual in adhering to the standards as far as possible, in the last few years. Quality assurance activities are an on-going process within the Faculty, with best practices built into day to day academic and administration activities, thus ensuring that the quality culture is well embedded in the Faculty.

The FoA and DFST have sufficient human and physical resources to maintain study programmes at a very high quality and standard. A total of 10 competent and qualified staff members with 7 PhD holders including 2 Professors, together with other postgraduate qualified staff are serving in the Department. Moreover, several other well-qualified teaching staff from other departments, academic support and other relevant non-academic staff are available to assist the academic programme. The BFST SP is conducted under strong organizational and administrative mechanisms that incorporate innovative

and standardized best practices, which ensure optimal participation by students and lecturers. The curriculum of the SP has been designed adopting PBL, OBL and SCL strategies, ensuring that graduates possess up-to date knowledge, skills and competencies required for employment in different field of FST. The entire curriculum focusses on skills development through practical courses, product development, engagement in research and with industry. However, it was noted by the review team, that taking a long time to do a comprehensive curriculum revision may have hampered the expected outcomes of the SP, as the field of FST is changing rapidly. Laboratories, like the Sensory Laboratory developed using an external grant, need upgrading.

The Faculty has a well-maintained, but conventional type of library with a valuable collection of books, periodicals and other teaching resources, to provide much needed knowledge on subject matter to undergraduate students. Since higher education institutions are continually adapting to changing student demographics, technological advancements, and diverse faculty and research needs, the Faculty should adopt modern technology and learning environments such as digital options, study areas and collaboration rooms. An English Language teaching programme and several other student-support mechanisms are put in place in order to provide academic support to students.

Obtaining information on students' experience (student feedback) is an integral mechanism to enhance the quality of teaching, courses offered and the SP. Although the Faculty has a reasonably valid customized system of obtaining student feedback, the entire cycle of analysis, summarising, taking remedial action and informing the students does not take place.

A student-friendly environment was evident by allowing students to be involved in the decision making process, which enables paying attention to their learning as well as well-being. Counselling and mentoring/advisory services are provided to help students deal with personal issues. Student assessment is carried out as per the examination By-Laws of the University and are matched with ILOs. Final evaluation for the degree qualification is in line with the SLQF. During the review process, the review team observed that summative assessment lacks checks and balances as the Faculty has not adopted a second examiner and external examiner mechanism to ensure transparency of assessment. Overall, the review team is satisfied with the quality and standard of the SP.

## Section 5: Judgment on the eight criteria of Programme Review

This section presents the review team's judgment of the level of attainment of quality under each of the eight criteria of the study programme.

### Criterion 1: Programme Management

The FoA has a well-established organizational structure, governance and management procedures. The Action Plan of the Faculty is structured in line with the Strategic Management Plan of the University and the Faculty implements management procedures in compliance with Standard Operation Procedures (SOPs). The FST-SP started in 2004 with a strong foundation with a well-designed curriculum, adhering to the SBS and SLQF. Teaching-learning and assessment procedures are aligned constructively, and the SP adhered to OBE-SCL approach in the education provision.

The FQAC is active and well organized, in terms of facilitating several best practices in quality assurance currently being implemented. However, lack of a documented framework of internal quality assurance at the Faculty level needs to be addressed. Even though the IQAU has not provided specific policy and strategic guidelines to the faculties, it has instructed many individual actions on enhancing the quality of the SPs.

#### *Strengths:*

- The Faculty organizational structure is well defined and structured for effective management and execution of its core functions. Faculty human resources have been used effectively through various faculty committees with clear roles and functions assigned to them.
- The Faculty adopts management procedures that are in compliance with national and institutional SOPs. Most of the SOPs are available as documents and the staff is well aware of them.
- The Faculty adheres to the annual academic calendar, which facilitates students to complete the programme and graduate on time.
- The Faculty adopts a participatory approach in its governance and management and accommodates student representation in several faculty committees. Student participation at the entire Faculty Board meeting, except for examination matters is especially commendable.
- All students are provided with a Guidebook, which provides all necessary information on the Faculty, study programme, learning resources, student support services etc. Additional information on disciplinary procedures, welfare measures etc are provided during the orientation programme.
- A Study Programme Prospectus with necessary information is available to all incoming students.
- The Faculty website is up to date with current information and provides links to necessary publications, notices, announcements, etc.
- The Faculty offers a well-organized orientation programme with leadership training, for all new students which is conducted at Maha-Illupallama.
- The Faculty securely maintains, updates records of all students, and ensures confidentiality.

- The Faculty has a Curriculum Development Committee (CDC), with a well-defined Terms of Reference and consists of experts in curriculum development.
- Although the study programme commenced before the SLQF was introduced, the curriculum has taken into consideration the SLQF as a reference point. SBS and OBE-SCL approach has been used in academic development and planning and education provision.
- The Faculty adopts a rigorous policy and procedure on programme approval and implementation.
- The Faculty has established collaborative partnerships with national and foreign universities/HEIs/ organizations for academic and research cooperation. Such partnerships relevant to the SP is limited and benefits to students following BFST-SP are not clear.
- Academic mentoring, student counselling and welfare mechanisms and procedures are available to support student progression.
- The students have access to health care services, cultural and aesthetic activities, recreational and sports facilities.
- The Faculty adopts and practices University approved By-Laws pertaining to examinations, examination offences, student discipline, and student unions.
- The Faculty practices the policy of zero-tolerance to ragging; it has adopted strategies and implemented preventive and deterrent measures through coordinated efforts of all stakeholders to prevent ragging, harassment and intimidation.
- The Faculty has recently started some good practices to ensure gender equity and equality (GEE) and deter any form of sexual and gender-based violence (SGBV). The University has adopted a policy on SGBV.

### *Weaknesses:*

- Minutes of Action Plan/ Master Plan committee meetings at Faculty level are not available. The Action Plan is not periodically monitored or evaluated against the Key Performance Indicators (KPIs).
- The MIS is not comprehensive and the Faculty as well as the University lack a solid strategy to develop an MIS. Only few tools or modules are available at the Faculty to manage data such as examination results. ICT is not being used to support the overall mission of the Faculty moving forward.
- Regular monitoring of workload and appraisal system for staff is not in use. A Code of conduct for all staff is not provided. Work norms for administrative and non-academic staff are not defined.
- A performance appraisal system or rewarding high performers (except for research excellence introduced recently) prescribed by the University is lacking. No systematic mechanism for academic staff performance appraisal other than the student and peer evaluation.
- The management procedure related with Annual Internal Audit Report, Annual External Audit Report is not documented at Faculty/Department level.
- Although the University and Faculty have taken some measures to assist students with special needs, specific policies and practices are not yet prepared and implemented in case such a situation arises.

- Records of student feedback on the orientation programme were not available at the time of the site visit and, therefore, the success of the programme cannot be determined.
- There is a curriculum implementation and monitoring mechanism through the Teaching Methods Unit (TMU). However, mechanisms for monitoring, reviewing and updating the curriculum at programme level and systematic records of the feedback received from stakeholders and remedial measures taken over the past 4 years were not available.
- No graduate tracer studies had been carried out. Evidence on linking with alumni during the period relevant to the external review (2014-2019) in order to get feedback on curriculum-related matters were not available.
- Although there is a formal body to monitor the implementation of the curriculum (TMU), no evidence was available for effective use of the findings for continuous improvement of the learning provision.
- Records on academic mentoring and student counselling were not available. A suitable physical environment (dedicated space to deal with such matters confidentially, for instance, a counselling centre) is not available for the counsellors.
- The safety system is not adequate at department level as students are involved in laboratory activities frequently. For example, some of the technical staff are not aware of operating the fire extinguisher, first-aid and safety measures. There is no responsible trained safety officer appointed especially for the laboratories.
- Although the Faculty has established collaborative partnerships with national and foreign universities/HEIs/ organizations for academic and research cooperation, such partnerships relevant to SP is limited and the benefits to the students following BFST-SP are not clear.
- Awareness of and programmes implemented on GEE and SGBV are not adequate, and feedback was not obtained from relevant stakeholders and documented.

### *Recommendations*

1. Periodic monitoring of the Action plan of the Faculty and evaluation of the progress against KPIs.
2. Install an MIS for the SP and Faculty which is urgently needed, to support the management of different elements of the SP/Faculty, and for processing, storage and retrieval of relevant, up-to-date and demand driven data and information for management functions, including follow up on the daily activities of the SP/Faculty.
3. Develop a practical approach and a mechanism for regular monitoring of workload and appraisal system for staff and provide a Code of conduct for all staff, including non-teaching staff.
4. Develop a performance appraisal system or a mechanism to reward high performers in teaching and outreach for the University, if not for the Faculty.
5. Develop a University/Faculty policy and procedural guidelines on responding to audit reports.
6. Develop a University/Faculty policy and procedures to assist students with special needs.
7. Consider student feedback on the orientation programme, when planning future programmes.

8. Document the mechanism used by the TMU for monitoring, reviewing and updating the curriculum at programme level.
9. Conduct graduate tracer studies periodically to give careful consideration as to how graduates view the experiences they underwent during their degree study and transition to the job market.
10. Strengthen the links with graduates of the SP through a formal mechanism and collect feedback on SP-related matters.
11. Establish a counselling centre for the FoA to provide an array of integrated services.
12. Establish a formal mechanism for academic mentoring/advising with TOR for mentors, procedural guidelines and record keeping mechanism.
13. Develop and implement a Laboratory Safety Plan which provides certain procedures for health and safety, SOPs that apply to laboratory work involving the use of hazardous chemicals, hazardous biological materials, and/or operations with a high degree of risk.
14. Setup a strong mechanism to facilitate University-Industry interactions and collaborations with national, regional and international universities, HEIs and organizations, particularly relevant to the SP discipline.
15. Formulate a plan of action for the GEE and SGBV policy of the University.

## **Criterion 2: Human and Physical Resources**

The SP is conducted by a well-qualified and competent academic staff of the DFST, supported by other departments of the Faculty. The Faculty possesses well-maintained infrastructure facilities for administration and teaching and learning. The University and the Faculty are equipped with libraries with a large collection of books and limited periodicals. Financial restrictions in the past few years have hindered modernization of the library to be on par with new technology, availability of e-learning resources and providing a conducive, active learning environment. The laboratories are equipped with essential equipment as well as some state-of-art facilities (especially, the Sensory Evaluation Laboratory). A Learning Management System is available, although not all members of the staff use it effectively. Practical training is the strongest point in the curriculum, which consist of a considerable proportion of laboratory sessions and industrial visits. Industrial training is limited to a short exposure to the industry environment in the first year, some visits to the food industry and research projects conducted by some students, in the industry.

### ***Strengths:***

- The Faculty has a well-qualified and competent staff of adequate numbers for designing, development and delivery of academic programmes, research and outreach.
- The Faculty recruited human resources whose profile is compatible with its needs and comparable with national and international norms.
- The Faculty adopts and practices the policy requiring new staff to undergo an induction programme offered by the SDC of the UoP.
- The SDC conducts continuing professional development programmes to ensure that the capacity of all staff is continuously upgraded and enhanced.

- Adequate and well-maintained infrastructure facilities for administration and teaching and learning are available.
- The study programme has specialized training facilities such as industrial exposure training, laboratories, field visits etc.
- The staff has a long-standing practice of OBE-SCL, and they are trained by qualified and experienced trainers. Fairly adequate teaching facilities are provided to implement OBE-SCL.
- The students are provided with training on ‘soft skills’/’life skills’ through the curriculum.
- The Faculty encourages students to engage in multicultural programmes to promote harmony and cohesion among students of diverse ethnic and cultural backgrounds at faculty and university level.

### *Weaknesses:*

- The lecture theatres are equipped with standard technologies (multimedia and sound system) but not configured to facilitate an interactive teaching and learning environment.
- Library facilities are not modernized according to the current needs due to inadequate fund allocation. Internet /wi-fi and adequate electronic learning resources and modern-day facilities such as places to research, to study, to meet, and to discuss, are not adequately provided.
- ICT facilities and technical assistance to provide adequate opportunities for students to acquire ICT skills are limited. No wi-fi zones in the study areas, hostels and lecture rooms.
- The coordinating mechanism of the Faculty (especially the study programme) with the CGU of the UoP is not strong enough and no special programmes are offered to the BSc FST students.
- The staff of the ELTU has not undergone special teaching-learning skills training in providing undergraduates with guidance in learning and use of English as a Second Language (ESL) in their academic work. The existing English programme has not been reviewed and upgraded with novel teaching learning techniques. The certificate offered does not indicate what level of proficiency is achieved by the students at different levels.

### *Recommendations*

1. Classrooms need re-arrangement and physical infrastructure to facilitate interactive learning.
2. Modernizing the Agriculture Library to keep up with the latest developments and use of electronic information tools and techniques to provide services in digital form.
3. Expand ICT services provided to the students in the Faculty and halls of residences and wi-fi / internet facilities made widely available.
4. Coordinate SP management with CGU to provide specific career guidance programmes relevant to the job market of the SP.
5. Training of ELTU staff on developing curricula, modern pedagogies and designing materials. Revision and upgrading of the present English Language teaching courses to meet the unique needs of students and the expected outcomes of the SP.

### Criterion 3: Programme Design and Development

The BFST SP was introduced in 2004 after considering a market need analysis, liaison with industry, national and regional priorities and according to approved procedures. Few revisions were done during the last 15 years to the curriculum. The SP complies with the SBS and SLQF with respect to the award, volume of learning, level descriptors and qualification descriptors. The curriculum is outcome driven and equips students with knowledge, skills and competencies to succeed in the world of work in food science and technology, and for lifelong learning. Although stakeholders were consulted and feedback was obtained in the last few years regarding existing courses and programme, no major revisions have been done. Evidence of adopting a participatory approach inclusive of academic staff, technical staff, students, alumni and external stakeholders in the planned curriculum revision were presented to the reviewers.

#### *Strengths:*

- The Programme is developed collaboratively in a participatory manner through a CDC.
- The Programme conforms to the mission, goals and objectives of the University/Faculty, national needs, and reflect global trends and current knowledge and practices.
- Programme design complies with the SLQF and is guided by other reference points such as SBS. The DFST is planning to match the requirements of the Institute of Food Technologist (IFT), USA for future accreditation.
- Programme design and development procedures include specific details relating to ILOs, qualification level criteria, and qualification type descriptors.
- Teaching, learning and assessment processes are constructively aligned. Course unit ILOs are mapped against the programme mission and goals (Programme outcomes), external reference points such as SLQF, and SBS.
- The students have the choice of taking some inter-disciplinary / multi-disciplinary courses in agriculture (food production) and allied disciplines.
- The Curriculum is structured in a manner which promotes progression, so that students are provided opportunity to gain knowledge, skills, conceptualization and learning autonomy systematically with progression from one level to another.
- The Faculty follows the University prescribed curriculum approval process, with full consideration of design principles, academic standards, and using appropriateness of the learning opportunities available and content of the programme specification.
- The TMU monitors implementation of the curriculum. FQAC comprises all chairpersons of key committees such as CDC and TMU and relevant matters are discussed.

#### *Weaknesses:*

- The major weakness that the reviewers observed (and the staff acknowledged) was the long overdue curriculum revision. After introducing the curriculum in 2004, it has not been reviewed and no major revisions have been done up to now. Few minor revisions were accommodated in between, but systematic review and need assessment have not

been done, apart from stakeholder consultations during the time period relevant to the external review (2014-2019), to determine the need for curriculum revision.

- Although employer and student feedback surveys were conducted sometimes ago, specific evidence regarding whether such feedback was considered in previous or proposed curriculum revisions is not clear (specific evidence not provided). Department meeting minutes indicates that comprehensive discussions were conducted at the Department level.
- Exit pathways as well as lateral entry are not specified. There is evidence that the Faculty has been discussing this matter in the last few years, but no decision has been taken.
- High graduation rate was used as an indicator of overall achievement of ILOs. However, student feedback during the course or graduate feedback were not considered as to ascertain whether programme outcomes are realistic, deliverable and feasible to achieve. Feedback taken were not analysed and actions taken based on the feedback in curriculum development and revisions are not specified.
- Although some fractions of students engage in university-wide cultural and co-curricular activities, it is doubtful if such activities alone will develop socioemotional skills. Formal teaching-learning activities addressing behavioural and psycho-social aspects are very limited within the curricula.
- Although formal bodies (CDC, TMU) are established, the procedure and practice of formal monitoring and evaluation of implementation of the curriculum are not evident.
- ILOs for work-based placement/industrial training/ internship included in the curriculum are not appropriate and they do not appear to address the expectations of this aspect of the study programme. Short duration of exposure to the 'world of work' and lack of long-term engagement of students with real work environment may affect the employability of the graduates, compared with other local and overseas similar degree programmes.
- Independent learning activities promoting self-directed learning, collaborative learning, creative and critical thinking, lifelong learning, interpersonal communication and teamwork are limited, or not specified in some courses, according to the course plans.
- Programme monitoring is not done routinely in an agreed cycle. Some workshops were held from time to time, and the minutes of CDC/ TMU indicates that the SP is reviewed at the time of curriculum revision. Otherwise, periodic reviews were not conducted. Therefore, opportunities to incorporate new knowledge, practices (not necessarily subject specific) and applications may have been missed.
- No tracer studies were conducted. Although annual employment surveys had been done at the time of convocation, no evidence was available for use of such data for improvement of the programme.
- Although some provisions were available for students who have temporary disabilities to continue the academic programme in an ad-hoc manner, documented procedures in handling such situations are not available.

## *Recommendations*

1. A comprehensive curriculum review and revision is strongly recommended without further delay.
2. Consider exit pathways, fall-back options, credit transfer and lateral entry options in future curriculum revisions.
3. Systematically analyse and act upon feedback of current and former graduate students during curriculum revision.
4. Introduction of formal, credit-based work-related learning of longer duration (10-15 weeks fulltime) to provide students hands-on experience with industry partners.
5. Provide more opportunities for self-directed learning, which should be guided and evaluated using proper assessment methods.
6. Introduce a proper mechanism to monitor and evaluate teaching-learning and implementation of the curriculum. A systematic student feedback mechanism, tracer surveys and employer and student satisfaction surveys can be used as tools.
7. Formulate University / Faculty / SP policies, strategies and procedures to handle students with disabilities.

## **Criterion 4: Course/ Module Design and Development**

Courses are designed according to approved procedures of the CDC and Academic Planning Committee of the Senate. Course curriculum provides aims and objectives, learning outcomes, content, teaching methods, and methods of assessment.

Course credits conform to the guidelines prescribed in the SLQF, in terms of notional hours and credit definition. Monitoring of the implementation of the curriculum is said to be done by the TMU. However, the exact mechanism of monitoring is not documented. Absence of curriculum revision for a long-time restricted incorporation of modern day needs and updates into the curriculum.

### *Strengths:*

- Courses were designed and developed by a team with the involvement of internal and external subject experts, following the guidance provided by the CDC. Courses match with the programme objectives and outcomes and reflect knowledge and current developments in the relevant field of food science and technology.
- The courses are designed in compliance with SLQF credit definition and are guided by other reference points (SBS).
- The curriculum specifies course contents, learning activities and assessment, which are systematically aligned with the course outcomes, which in turn are aligned with the programme outcomes (constructive alignment). The course curriculum is available to the students.
- Courses have been designed taking into account student-centered teaching strategies.
- The credit value and the workload (notional learning hours) comply with the SLQF and are broken down into different types of learning activities.

- Courses are offered in a balanced distribution across the semesters. Course content has adequate breadth, depth, rigour and balance.
- Course design, development and delivery incorporates appropriate learning-teaching technology.
- Course design, approval, monitoring and review processes are facilitated by making available appropriate and adequate resources by the Faculty and the University. Course approval decisions was taken by the Faculty Board and the Senate after considering accepted procedures, curriculum development principles, academic standards, and appropriateness of the learning opportunities etc.

### *Weaknesses:*

- Although the course design and development seem to have integrated appropriate learning strategies, feedback given by students, concerning their perceptions of the learning-teaching strategies, learning tasks, activities or environments they have engaged with, were not systematically collected, analysed, reported. Remedial actions taken to correct the shortcomings are not recorded and the feedback outcomes were not shared with the class.
- The major drawback in terms of quality assurance of the SP was lack of documented internal monitoring strategy. IQAU and FQAC have not provided guidelines and effective processes to evaluate, review, and improve the course design and development, and course approval processes. Their intervention in the whole process is very minimal at the Senate and Faculty Board levels, respectively.

### *Recommendations*

1. Further strengthen the student feedback mechanism. It should be utilised systematically in the management of teaching activities, decision making and the development of teaching. Special emphasis must be given to communication of results and subsequent measures, as well as monitoring and evaluation of their impacts. The IQAU and FQAC should facilitate this in partnership with the TMU and CDC.
2. Develop a formal mechanism / system for internal quality assurance, by integrating existing best practices and introducing new dimensions. FQAC should lead this process.

## **Criterion 5: Teaching and Learning**

The teaching and learning process has several components leading to SCL in keeping with OBE. Conventional face-to-face lectures dominate in some courses. A practical component is sufficiently incorporated into courses along with a variety of learning methods in some courses. Active learning is encouraged through student projects, driving them to develop new food products, self-studies etc. Student feedback is received as a strategy of improving teaching quality. Teachers are informed of their measures of success in teaching, yet proactive measures to overcome difficulties that are identified have not been documented and informed back to the students.

### *Strengths:*

- Teaching and learning strategies are based on the Faculty's mission, and curriculum requirements. The students are informed about the courses through course specifications and timetables before commencement of the course.
- Teaching learning strategies, assessments and learning outcomes are closely aligned.
- The students are encouraged to contribute to scholarship, creative work, and discovery of knowledge to relate theory and practice, through in-class and out of the class activities such as group assignments, participation of food-related exhibitions, product development etc.
- An undergraduate research symposium provides opportunities for students to present and publish their research work.
- Teachers adopt both teacher-directed and student-centered teaching-learning methodologies. They use appropriate facilities, amenities and activities to engage in active/deep learning.
- Allocation of work for staff (observed only the workload of the DFST) is fair, transparent and equitable.

### *Weaknesses:*

- Blended learning (combination of offline and online learning) approach is not very much in practice. Majority of the courses use physical presence of both teachers and students.
- Limited evidence was available related to use of research and scholarly activities of the teachers, and current knowledge in the public domain.
- There is no comprehensive and co-ordinated mechanism to routinely monitor teaching and learning activities for their appropriateness and effectiveness. The student feedback mechanism is not effectively used by the Faculty to enable lecturers to take corrective actions to improve the course and teaching.
- Not all teachers adopt innovative pedagogy and appropriate technology, especially e-learning, into teaching learning processes. Agri e-hub usage by both students and teachers is below expectation. Use of e-resources such as internet, databases, open-source software and information systems in day to day teaching is not sufficient, considering the fact that food science and technology is a rapidly changing discipline.
- The Faculty/University does not use a defined set of indicators of excellence in teaching to evaluate performance of teachers, identify champions of teaching excellence, and promote adoption of excellent practices.

### *Recommendations*

1. Extend & expand further, blended learning, web-based learning, online learning, and distance learning as a powerful enabler of student-centered learning.
2. Encourage lecturers to use a research-based teaching approach whenever possible, to enable students to acquire high-level subject-based, research, leadership and personal competencies required for higher positions in future careers. Lecturers should take an interest in communicating their research among students.
3. Develop and establish a comprehensive and co-ordinated mechanism to routinely monitor teaching and learning activities for their appropriateness and effectiveness.

4. Use of the Learning Management System (LMS) in all courses and units of study, as a means of supporting and enhancing student learning and facilitating access to learning materials. If needed, training, technical support and infrastructure should be provided to the staff, students as well as LMS administrators.
5. Expand the use of e-resources such as internet, databases, open-source software and information systems in teaching and learning.
6. Develop and use a defined set of indicators of excellence in teaching to evaluate performance of teachers, identify champions of teaching excellence, and promote adoption of excellent practices.

### **Criterion 6: Learning Environment, Student Support and Progression**

The University provides adequate support for SCL and OBE as a policy, and the Faculty recognizes it as a best practice. The SP is supported by several learner support services such as counselling, academic advisory mechanism, career guidance, ELTU, library and IT support. A supportive learning environment equipped with physical infrastructure used for the SP and the outstanding unique educational environment and extra-curricular facilities of the University, aim at student success in higher education.

The GPA is calculated, and cumulative GPA is provided to the students at the end of semester as a measure of their performance. What remedial actions are taken by the student advisors /mentors for those who are not progressing well or seeking advice is not clear, since no such records are kept by them.

#### ***Strengths:***

- Establishment of a mini library is considered as a good practice. The PR team observed that all the standard textbooks are available in this mini library.
- Induction programme offered by the Faculty addresses the rules and regulations of the institution, student-centered learning, outcome-based education and technology-based learning.
- Across the curriculum, various course modules and learning opportunities (e.g., task project, group project, study report on market foods, industrial visit etc.) are provided to expose the students to the world of work. Some students do their research projects in collaboration with the food industry.
- Students receive information on counselling, healthcare, career guidance and other facilities available in the Faculty/University.
- Faculty encourages and facilitates co-curricular activities such as participation in exhibitions and extra-curricular activities such as sports and aesthetic programmes.
- A GEE Center is in operation under a unit named Gender Education and Women's Initiative Unit (GEWIU). The policy on SGBV is available.

### *Weaknesses:*

- Although a conventional student support system (administrative, academic and technical support) was in place, the lack of modern-day amenities such as student helpdesk, integrated service counter, complaining mechanism / logbook and student satisfaction surveys, downgrade the quality of a conducive and caring environment, and interaction among students and staff.
- The Faculty / SP does not have an individual learning support service to help students take control of their learning and develop confidence, peer mentor schemes led by students, to support students, a well-organized formal mechanism of academic advisory service, disability advisory support service to advise physical or sensory disability, a specific learning difficulty, or mental health problems (in addition to the services available at University Medical Center and services offered by Counsellors).
- The guidance given to students to comply with the Code of conduct for students (Student Charter), discharge their rights and responsibilities and utilize services available in an effective and efficient manner, is not sufficient.
- The ongoing training for students and staff on common learning resources, such as library, ICT, and other learning resources, is not sufficient and not organized.
- The Faculty has not addressed the need for appropriate infrastructure, delivery strategies, academic support services and guidance to meet the needs of differently abled students, although some supportive services were provided when a need arises. There is no formal strategy to discover and address student disability and specific learning difficulties.
- Use of ICT-led tools by the library to facilitate student access and use of information effectively, is not adequate. Library services provide conventional services, while some improvements such as online catalogues and access to limited databases are available. The library does not seem to be user friendly considering the modern-day educational needs.
- Specific provision of career management skills along with soft skills, empowering the students following the SP to make informed career choices through the CGU, is not evident. The Faculty needs to strengthen the links with CGU.
- Learning experience provided through fulltime on-site formal industrial placement/ internships/work-based placements is lacking and it is suggested to consider this favourably in the next curriculum revision.
- Student and staff satisfaction on support services and other facilities is not regularly and systematically monitored. Therefore, no evidence of using stakeholder (students, employers etc) feedback in improving such facilities.
- The academic guidance system is not formalized and not proactive to facilitate their progression from one level of the programme to another and for qualifying for an award and employment/advanced study.
- The study programme does not have fall-back options for those who are not progressing as expected.
- The Faculty has not conducted any tracer studies to track their graduates and their employment after graduation.
- The mechanism adopted by the Faculty to deal with student complaints and grievances and delivering timely responses, is not satisfactory, not effective and not

student friendly. Sufficient documentation was not available regarding resolving such issues during the past 5 years.

- Although the Faculty has a network with alumni, a mechanism to encourage alumni to assist students in preparing for their professional future, is not observed.

### ***Recommendations***

1. Establishment of services such as student helpdesk, integrated service counter, complaining mechanism / logbook and conduct of student satisfactions surveys periodically.
2. Establish individual learning support service beyond traditional methods to help students to take control of their learning and develop confidence. (e.g., Peer mentor schemes led by students, to support students, formal mechanism of academic advisory service, disability advisory support service).
3. Provide more guidance to students regarding students' rights, responsibilities and Student Charter.
4. Provide greater awareness to students and staff about learning support services available in the library and ICT centre.
5. Publish a 'disability statement' setting out how it provides support.
6. Transformation of the agriculture library into a more user friendly, technology enhanced educational resource centre.
7. Co-ordinate with the CGU to conduct career guidance programmes tailor-made for their discipline.
8. Include a work-based training module / industrial training placement, lasting at least a semester, in the curriculum.
9. Conduct tracer studies of graduates, student satisfaction surveys and employer surveys periodically.
10. Formalize the student grievance handling system, making it user friendly and effective.
11. Strengthen the link between students and alumni by providing students with access to their alumni using a web-portal, fostering a partnership between career services and alumni relations, and establishing a mechanism to obtain industrial placements through alumni.

### **Criterion 7: Student Assessments and Awards**

A variety of assessment methods are being used depending on the ILO to be tested.

Assessment methods encourage the student learning process and support academic development of students. The results of the examinations are released on time and the time of releasing the examination results are scheduled in the academic calendar. Examination results are documented accurately maintaining strict confidentiality, at the Examination Division of the Faculty.

### *Strengths:*

- Assessment strategy of student learning was carefully designed and there is a clear relation between assessment tasks and the programme outcomes.
- Assessment methods are aligned to specified qualification/level descriptors of the SLQF and SBS.
- The Faculty has an approved procedure for designing, setting, moderating, marking, grading, monitoring and reviewing the assessment methods and standards of awards.
- The transcript accurately reflects the stages of progression and student attainments. The transcript indicates the courses followed, grades obtained and the aggregate GPA/grades, and class (where appropriate).
- Examination results are documented accurately, and the results are released to students within the stipulated time. The dates for conduct of examinations and release of results are determined at the beginning of the semester and communicated to the staff. Conduct of a pre-results board meeting is a good practice and ensures the timely release of the results.
- The Faculty has an Examination Unit with facilities for record keeping.
- The degree awarded and name of the degree complies with the requirements specified in the SLQF.
- Examination By-Laws are adhered to, and the examinations are conducted according to the institutional policies and procedures in a timely manner.
- Development of an examination manual is a good practice. The examination manual was well prepared, and it has been proposed that the entire University adopts it.

### *Weaknesses:*

- The Faculty adopts a distribution-based grading system. However, the students are not very aware of it.. Also, whether the same system is adopted for formative assessment is not clear.
- Although the SP claims that it comprises more than 50% practical, and is aimed at learner-centered education, it is not evident that the ILOs related to such components are effectively assessed and marks are allocated proportionately. The weightage of the summative and formative assessment is not appropriate. It was observed that formative assessment is not given much emphasis and weightage in some courses is not appropriate, although the students are assessed throughout the semester.
- Feedback given to students on formative assessments, is not very constructive to promote effective learning and support academic development of students. In some cases, only the grades are given without any meaningful feedback.
- The Faculty has not yet decided on a fall-back option for the students.
- Summative assessment carries a considerable proportion of final marks of a course. However, marking is done by a single lecturer (or may be a group), but without second marking of the answer scripts. Having a second marking process is important to ensure accuracy and fairness.
- The Faculty does not implement a system of appointing external examiners, which may hinder fairness, transparency and consistency in the overall assessment process.
- Although offering a Certificate for English is a good practice, it does not reflect the level of competency achieved by the students.

## *Recommendations*

1. Develop a fall-back option in future curriculum revision.
2. Assign a proportionate mark for the formative assessment component in calculating the final mark.
3. Provide meaningful constructive feedback to students for formative assessment.
4. Students must be made aware of the distribution-based grading system.
5. Introduce a second examiner / external examiner system, to ensure transparency and to minimize bias.
6. Issue a certificate for the English course indicating the proficiency level and reflecting the content in the course titles e.g., English for Food Science etc.

## **Criterion 8: Innovative and Healthy Practices**

Several healthy practices are evident in the BFST SP and FoA, such as use of ICT-based platform (Agri e-Hub), to facilitate multi-mode delivery and student-centered learning, incorporation of a research component into the SP (compulsory research project in the final year), holding a student research symposium, international collaborations and exchange of students and staff, student participation in co-curricular activities (Pro-Food Pro-Pack annual exhibition, faculty organized exhibitions) and institutional & national level competition in sports, aesthetic activities, food product innovation and commercialization, through ICE grant received from HETC and AHEAD projects, linkages with alumni and industry through social functions. etc. Furthermore, all staff are involved in postgraduate teaching and research, which contributes to enhance quality of undergraduate training. The on-line ragging complaint system is one of the recent additions and can be considered a timely action. The link to this complaint system is clearly visible to the students on the home page of the Faculty.

### *Strengths:*

- The Faculty, as a policy, facilitates multi-mode teaching and student-centered learning. It uses ICT-based platform (LMS) and ICT-enabled tools and techniques. An E-learning and Computer Management Committee is in place. This committee appears to be doing a commendable job in promoting an e-learning culture at the Faculty.
- The Faculty recognizes the importance of academic training, research and development (R&D), innovations, and industry engagement of academics. Several formal and informal links and collaborations with respect to research and innovation and promoting community and industry engagement were established through the Agri-Business Center and the Agriculture Education Unit.
- The University / Faculty recognizes research achievements of staff members through an award scheme. It was observed that some staff members of the SP received these awards in the recent past.

- A full-scale undergraduate research project and a faculty-wide undergraduate research symposium is commendable. Some students have even received patents, and some presented their research findings at professional research forums.
- The Faculty as well as the University promote students and staff engagement in co-curricular activities and such pursuits are well supported with physical, financial and human resources.
- The Faculty encourages student participation at national and international level competitions and such students are recognized through a reward scheme.
- An on-line ragging complaint system is in place. The link to this complaint system is clearly visible to the students on the home page of the Faculty.
- An on-line transcript request facility is incorporated into the new system. The proposed new curriculum has many good practices like this.

### **Weaknesses:**

- Open Education Resources (OER) are not used in the SP as a practice.
- There is no system of recognizing the staff engagement in outreach and teaching.
- A properly structured industrial training component, with appropriate ILOs, are not included as a component in the curriculum, although the SP aims to produce graduates employable in the food industry.
- A mechanism to evaluate whether industry-university collaboration measurably enhances the capability of partners is not available. Therefore, any positive impact on company products and processes is not clear.
- The staff involved in the SP have not attracted significant external funding (except the World Bank funds) through University-private partnerships, although there is a lot of potential.
- Plagiarism checking software, or an alternative mechanism is not available, although the Faculty policy is to prevent plagiarism.
- A fallback option is lacking. The new curriculum should include credit transfer, lateral entry and exit points as per the guidelines of the SLQF 2015.
- External examiners and second examiners are not appointed to ensure a transparent, accurate and fair system of student assessment.
- The Faculty/University has not adopted a credit transfer policy.

### **Recommendations**

1. Encourage staff and students to use OER and free online courses.
2. Introduce an appraisal system to recognize the contribution of staff in teaching and outreach.
3. Use plagiarism checking software, or an alternative mechanism to prevent plagiarism.
4. Encourage staff to obtain grants from industry for research and product development, while catering to industry needs.
5. Introduce an industry training component at the next curriculum revision process, in order to meet the requirements of this course by professional bodies.
6. Introduce external examiner and second examiner systems.

## Section 6: Grading of overall performance of the programme

The Table below gives the review team's assessment of the level of accomplishment of quality expected of the SP, based on the grading of **overall performance**. Standard-wise scores and raw criterion-wise scores were estimated based on the scoring system given in PR Manual (Chapter 3). Actual criterion-wise scores for each criterion, based on the allocated weightage, were calculated using the formula given in Box 1 in Chapter 3 of the Manual. The sums of the eight actual criterion-wise scores were converted to a percentage score for the SP.

No	Criterion	Weighted minimum score*	Converted Actual Score
1	Programme Management	75	133
2	Human and Physical Resources	50	89
3	Programme Design and Development	75	123
4	Course / Module Design and Development	75	139
5	Teaching and Learning	75	122*
6	Learning Environment, Student Support and Progression	50	68
7	Student Assessment and Awards	75	121
8	Innovative and Healthy Practices	25	32
	Total score (out of 1000)		828
	Total score (out of 100)		83

*\*Standard no 5.4 was not considered as the SP does not cater to differently abled students as specified by the Faculty. Therefore, the total number of standards considered in criterion 5 was 18. However, availability and provision of such facilities were considered in other standards relevant to this aspect.*

**Final Grade: A**

**Performance descriptor:** Very Good

**Interpretation of descriptor:** High level of accomplishment of quality expected of a programme of study; should move towards excellence.

## Section 7: Commendations and Recommendations

Based on the strengths and weaknesses of the SP (Section 5), the following major commendations and recommendations are outlined in this section. More detailed recommendations are given in Section 5 under each criterion.

### *Commendations*

1. The organizational structure of the Faculty supports effective management and execution of its core functions. Faculty human resources have been used effectively, through various faculty committees with clear functions assigned to them. SOPs are available for a number of operations.
2. The Faculty adheres to the annual academic calendar, which facilitate students to complete the programme and graduate on time.
3. The Faculty adopts a participatory approach in its governance and management and accommodates student representation in several faculty committees.
4. The Students' Guidebook and Prospectus gives details on necessary information on the Faculty, study programme, learning resources, student support services etc.
5. The Faculty website is up to date with current information.
6. The Faculty offers a well-organized orientation programme for all new students, helping them to adapt to university life.
7. The SP complies with the SLQF and SBS. OBE-SCL approach has been used in academic development and planning and education provision.
8. The Programme conforms to the mission, goals and objectives of the University/Faculty, national needs, and reflects global trends and current knowledge and practice.
9. The Faculty / University adopts a rigorous policy and procedure on programme approval and implementation.
10. Programme design and development procedures include specific details relating to ILOs, qualification level criteria, and qualification type descriptors. Teaching, learning and assessment processes are constructively aligned. Course unit ILOs are mapped against the programme mission and goals (Programme outcomes), and external reference points such as the SLQF and SBS.
11. The Faculty has an approved procedure for designing, setting, moderating, marking, and grading of student assessment and reviewing of the standards of final awards.
12. Examination results are documented accurately, and the results are released to students within the stipulated time.
13. The Faculty has developed an examination manual, which has been proposed to be adopted by the entire University.
14. The Faculty adopts and practices University approved By-Laws pertaining to examinations, examination offences, student discipline, and student unions.
15. Academic mentoring, student counselling and welfare mechanisms and procedures are available to support student progression and wellbeing.
16. The Faculty has a well-qualified and competent staff of adequate number for designing, development and delivery of academic programmes, research and outreach.

17. The Faculty adopts and practices the policy of requiring new staff to undergo an induction programme offered by the SDC.
18. Adequate and well-maintained infrastructure facilities for administration, and specialized training facilities such as industrial training, laboratories, field visits etc. are available.
19. The Faculty, as a policy, facilitates multi-mode teaching and student-centered learning. It uses ICT-based platform (LMS) and ICT-enabled tools and techniques.
20. The students are encouraged to contribute to scholarship, creative work, and discovery of knowledge to relate theory and practice, through in-class and out of the class activities such as group assignments, participation of food-related exhibitions, product development etc.
21. A full-scale undergraduate research project and a faculty-wide undergraduate research symposium is commendable. Some students have even received patents, and some presented their research findings at professional research forums.
22. The Faculty recognizes the importance of academic training, R&D, innovations, and industry engagement of academics. Several formal and informal links and collaborations, with respect to research and innovation and promoting community and industry engagement, have been established through Agribusiness Center and Agriculture Education Unit.

### *Recommendations*

1. Periodic monitoring of the Action plan of the Faculty and evaluation of progress against the KPIs.
2. SP and the Faculty urgently needs an MIS.
3. Develop a University/Faculty performance appraisal system or a mechanism to reward high performers in teaching and outreach.
4. Periodically conduct graduate tracer studies, employer survey and student satisfaction surveys.
5. Establish a counselling centre for the FoA, to provide an array of integrated services.
6. Establish a formal mechanism for academic mentoring/advising, with TOR for mentors, procedural guidelines and a record keeping mechanism.
7. Develop and implement a Laboratory Safety Plan, which provides SOPs that apply to laboratory work involving the use of hazardous chemicals, hazardous biological materials, and/or operations with a high degree of risk.
8. Setup a strong mechanism to facilitate University-Industry interactions and collaborations with national, regional and international universities, HEIs and organizations, particularly relevant to the discipline of the SP.
9. Modernize the Agriculture Library, to keep up with the latest developments, and using electronic information tools and techniques to provide services in digital form.
10. Expand ICT services provided to students in the Faculty and halls of residences and wi-fi / internet facilities made widely available.
11. Coordinate SP management with the CGU to provide specific career guidance programmes relevant to the job market of the SP.
12. Provide training to ELTU staff on developing curricula, modern pedagogies and designing materials.

13. A comprehensive curriculum review and revision is strongly recommended without further delay.
14. Consider exit pathways, fall-back options, credit transfer and lateral entry options in future curriculum revisions.
15. Introduction of a formal credit-based, longer duration, work-based learning is recommended to provide students hands-on experience with industry partners.
16. Formulate University / Faculty / SP policies, strategies and procedures to handle students with disabilities.
17. Further strengthening and systematic use of the student feedback mechanism in the management of teaching activities, decision making and the development of teaching.
18. Develop a formal mechanism / system for internal quality assurance, by integrating existing best practices and introducing new dimensions. FQAC should lead this process.
19. Extension and expansion of blended learning, web-based learning, online learning, use of e-resources such as internet, databases, open-source software and information systems and distance learning facilities.
20. Use of the LMS in all courses and units of study, as a means of supporting and enhancing student learning and facilitating access to learning materials.
21. Introduce a second examiner / external examiner system to ensure transparency and to minimize bias.
22. Establish individual learning support service beyond traditional methods to help students take control of their learning and develop confidence.
23. Strengthen the link between students and alumni, by providing students with access to alumni.

## Section 8: Summary

External Quality Assurance or review is an important component of the Quality Assurance framework of any higher education system. Its main objectives are to ensure the quality of education provision and standards of awards. Programme review evaluates the effectiveness of Faculty's processes for managing and assuring quality of study programmes, student learning experience and standards of awards within a programme of study.

The BFST SP of FoA, UoP was reviewed by a team of 3 external academic members appointed by the UGC. The review team observed that the SER was compiled according to the Manual for Review of Undergraduate Study Programmes of Sri Lankan Universities and Higher Education Institutions. The SER was compiled by the SP management through a participatory approach, consulting relevant stakeholders and obtaining the concurrence of the teaching staff and the Faculty Board. Reviewers visited the UoP for site visit evaluation from 27<sup>th</sup> to 30<sup>th</sup> January 2020. During the site visit, the reviewers met a number of individuals and groups including the Vice Chancellor, Dean, academic staff, non-academic staff, students and other stakeholders and had discussions with them regarding specific roles they play relevant to the SP and its quality.

The review team observed that the FoA and the SP follow a number of good practices relevant to the standards specified under eight (8) different criteria, in order to maintain the quality of the SP. This report outlines the strengths, weaknesses and recommendations of each criterion evaluated.

The Faculty has developed an Action Plan, which reflects the new trends, and it is aligned with the University Strategic Plan. The BFST SP maintains a conducive environment and strong administrative structure to maintain the quality of the teaching-learning process. This can be further improved by developing an MIS. The FoA has well qualified and competent staff to design/develop and deliver academic programmes and the academic staff of the DFST, which is the principal department that runs the SP, are doing commendable work. The ratio of staff and students also appears to be appropriate for the programme. The Faculty members engage in an impressive array of scholarly, professional, and service activities that enhance their teaching and contribute to the University's mission.

The Program's mission statement (objective) is clearly stated, and the Program and learning outcomes are clearly stated in course syllabi. The BSc FST curriculum at FoA was developed in line with national trends and standards in 2004. The SP is in line with external reference points such as the SBS and SLQF. Further, the curriculum incorporates SCL and OBE concepts and approaches. However, the reviewers noted that the curriculum of the SP has not been revised in recent years, to account for new trends in the specialized discipline and novel education requirements. All students and stakeholders the reviewers talked to, expressed their satisfaction with the SP. The Faculty commitment to the requirement of writing assignments and reports, is laudable. The foundations for research skills in food science and technology are provided through statistics courses and the research project. Many similar undergraduate programs include options for student internships, practicum, and similar industry-based experiences. However, the BFST SP has not considered such options in its curriculum. Inclusion of such a course in future curriculum revisions, would enable a large numbers of

students to get invaluable real-world experiences that aids both the students and the industry. The Faculty makes necessary arrangements that permit timely completion of the degree. Not all lecturers effectively use the LMS, whereas many students do not have adequate access to computers and the internet to take full advantage of online courses or materials. This situation has to be addressed by both the University and the staff by widening the IT facilities and using the LMS in a more productive way.

The Faculty conducts an induction programme and have counselling and academic advisory system for advising its students. Subject specific and transferrable skill development activities are embedded to the curriculum.

The staff works very hard to secure necessary resources, and although the situation has improved in some ways, there is still a great deal of room for improvement. Laboratory facilities are satisfactory but need upgrading. Library holdings are very good for a faculty of its size, but the access to electronic databases and resources in food science and technology and related fields is not satisfactory. One concern is the limited capital budget for the Faculty. The low capital budget allocation is especially distressing, given the faculty staff's impressive research productivity and commitment to education.

Students regularly evaluate every course taught, using the Faculty's standard rating form. The evaluations are summarised and conveyed to the staff. However, remedial actions taken based on student feedback are not properly conveyed to the students. It is suggested to conduct tracer studies to identify areas to be improved and to enhance the employability of graduates. It is also recommended to introduce an award system, to recognize contribution to teaching, research and outreach at Faculty level. With regard to assessment, the Faculty / University should reconsider appointing second examiners and external examiners. The review team highly appreciates the effort of the FQAC and staff in maintaining quality standards, which is reflected by the grade obtained in this review process. Altogether, several quality enhancement practices are in place, but there is no documented quality framework for the University/Faculty. There is no integrated internal quality assurance mechanism at the Faculty/SP level. These have to be attended to urgently by the IQAU and FQAC.

This report gives several recommendations to be considered for the enhancement of the quality of the SP.

The SP has secured the above minimum scores required for all eight-review criteria prescribed in the PR Manual and has achieved an overall score of 83%. Therefore, it is recommended to award a **Grade of "A"** (*which interprets as 'High level of accomplishment of quality expected of a programme of study; should move towards excellence'*) for the Bachelor of Science in Food Science & Technology study programme of the Faculty of Agriculture, University of Peradeniya.

## Annexures

### Annex 1: Final schedule for site visit

#### PROGRAMME REVIEW

#### FACULTY OF AGRICULTURE UNIVERSITY OF PERADENIYA

#### BSc Food Science & Technology Study Programme

#### SCHEDULE FOR SITE VISIT 27<sup>th</sup>– 30<sup>th</sup> January 2020

**Date: Monday 27 January 2020 (Day 1)**

<b>Time</b>	<b>Activity</b>	<b>Participants</b>
8.30 am – 9.00 am	Meeting with the Vice Chancellor	Vice Chancellor/ Dean, Director – IQAU/ Coordinator – FQAC, Chair – SER Preparation, HoD – FST Organized by Director/IQAU Venue: Senate
9.00 am – 9.30 am	Meeting with the Director - IQAU	Director – IQAU Organized by Director/IQAU Venue: IQAU Office
9.45 am – 10.45 am	Presentation about the Faculty and respective study programs  <i>Working Tea</i>	Dean / Director-IQAU/ Coordinator FQAC/ HoDs involved in offering courses in the Study Program / SER Team / Study program coordinator Organized by Dean Venue: Board Room
10.45 am -11.45 am	Meeting with teaching panel	Permanent academic staff involving in Study Programme & Senate representatives [excluding HoD] Organized by Head/FST Venue: Board Room
11.45 am -12.15 pm	Meeting with temporary academic staff / academic support staff	Temporary Demonstrators, Tutors, Instructors etc. Organized by Head/FST Venue: Board Room
12.15 pm -1.00 pm	Meeting with Administrative Staff	Registrar/Bursar/SARs/AB/SAB/Works Engineer Organized by Dean Venue: Board Room
1.00 pm -1.30 pm	<i>Lunch</i>	

1.30 pm -2:15 pm	Meeting with Directors of Centres / Units / Cells	All Directors of Centres/ Units/ Cell Coordinators Organized by Dean Venue: Board Room
2.15 pm – 2.45 pm	Meeting with Student Counsellors	Senior Student Counsellor and student counsellors Organized by FQAC/Coor. Venue: Board Room
2.45 pm– 4.00 pm	Observing Teaching-learning facilities	Review Team/ Facilitators Facilitated by Head Venue: Food Science
4.00 pm – 5.00 pm	Private meeting of Reviewers <b>Working Tea</b>	

**Date: Tuesday 28<sup>th</sup> January 2020 (Day 2)**

<b>Time</b>	<b>Activity</b>	<b>Participants</b>
8.30 am – 10.30 am	Observing documentary evidence	Review Team
9.30 am – 10.30 am	Observation of teaching-learning sessions	Review Team
10.30 am – 1.00 pm	Observing documentary evidence <b>Working Tea</b>	Review Team/ Facilitators Facilitated by Head Venue: Food Science
1.00 pm – 1.30 pm	<b>Lunch</b>	
1.30 pm – 2.00 pm	Meeting with Librarian/Senior Assistant Librarians [Library Visit]	Librarian/Senior Assistant Librarian/ Library Staff Organized by FQAC/Coordi. Venue: Food Science
2.00 pm – 2.30 pm	Meeting with Technical Officers	All Technical officers involved in laboratories of DFST Organized by Head Venue: Food Science
2.30 pm– 4.00 pm	Observing documentary evidence <b>Working Tea</b>	Review Team
4.00 pm – 5.00 pm	Open hour for any stakeholder to meet review panel	Review Team Organized by Head

**Date: Wednesday 29<sup>th</sup> January 2020 (Day 3)**

<b>Time</b>	<b>Activity</b>	<b>Participants</b>
8.30 am – 10.30 am	Observing Documentary Evidence	Review Team
10.30am – 11.30 am	Meeting with Students <i>Working Tea</i>	Group of students (30) [gender, ethnicity, level of study program representative group will be selected by the reviewers] Organized by Head Venue: Head will inform
11.30 am – 12.30 pm	Observing Documentary Evidence	Review Team
12.30 pm – 1.00 pm	Meeting on research activities	Chairman / Research committee, members of research committee Organized by FQAC/Coordi. Venue: Board Room
1.00pm -1.30 pm	<b><i>Lunch</i></b>	
1.30 pm – 2.00 pm	Meeting on support for student welfare	Director/Physical Education, University Medical Officer Organized by FQAC/Coordi. Venue: Board Room
2.00pm– 2.30 pm	Meeting with staff of English Teaching Unit / Department	Members of English teaching Unit / Department Organized by FQAC/Coordi. Venue: Board Room
2.30pm – 3.30 pm	Meeting with external stakeholders and alumni members <i>Working Tea</i>	Group of external stakeholders (about 20 employers, industry, private sector, representatives with link to or involvement with the University) and Alumni Organized by Head. Venue: Food Science
3.30 pm – 4.00 pm	Meeting with mentors and Career Guidance staff	Coordinator/mentoring and mentors, and Director and staff of Career Guidance Unit Organized by FQAC/Coordi. Venue: Food Science
4.00 pm – 5.00 pm	Open hour for any stakeholder to meet Review Team	Review Team Organized by Head Venue: Food Science

**Date: Thursday 30<sup>th</sup> January 2020 (Day 4)**

<b>Time</b>	<b>Activity</b>	<b>Participants</b>
8.30 am – 9.00 am	Meeting with a cross section of academic support staff and non-academic staff	Representative group of academic support staff and non-academic staff (10) Organized by Head Venue: Head will decide
9.00 am – 12.30 pm	Observing Documentation <i>Working Tea</i>	Review Team
12.30 pm– 1.30 pm	<i>Lunch</i>	
1.30 pm– 2.00 pm	Private meeting of reviewers and report writing <i>Working Tea</i>	Review Team
2.00 pm– 3.00 pm	Closing meeting for debriefing	Vice Chancellor/Dean/Director – IQAU/ HODs/ Coordinator – FQAC/Chair & the SER – Team Organized by FQAC Venue: Faculty Board Room

**Notes:**

1. Student group for the discussion will be selected by the review team. Please provide us list of students and timetables on Day 1
2. Please assign some facilitators to assist the review team in handling documentary evidence provided by the study programme and to guide them to various teaching-learning facilities.
3. Please notice the staff and students in advance regarding the ‘Open time slot allocated for any stakeholder to meet Review Team’ – on 24 and 25 September from 4.00 – 5.00 pm.
4. Teaching sessions to be observed will be selected randomly by the review team.

### Annex 3: Photographs taken during site visit



Dean of the Faculty of Agriculture presenting the overview of the SP on Day 1



A section of the staff attending the opening session of the site visit



Discussion between the review team and academic staff of the Faculty



Observations at the Examination Unit of the Faculty



Arrangements of the documents for the observation of the review team

Discussion with the Student Counsellor of the Faculty and the staff