



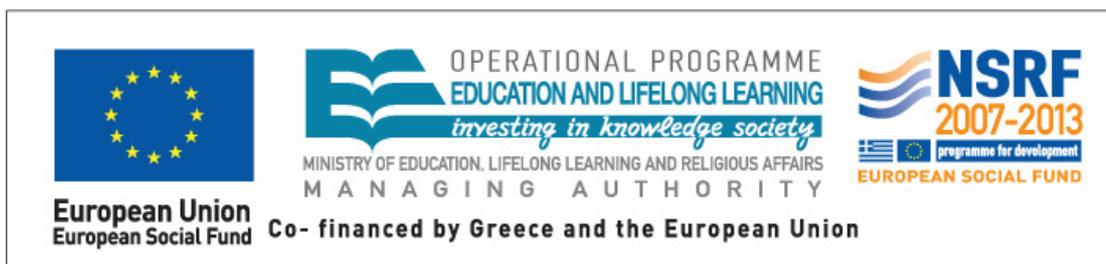
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HELLENIC REPUBLIC
H.Q.A.
 HELLENIC QUALITY ASSURANCE AND
 ACCREDITATION AGENCY

EXTERNAL EVALUATION REPORT

DEPARTMENT OF PLANT PRODUCTION
 TECHNOLOGICAL EDUCATIONAL INSTITUTE OF LARISA

June 2012



External Evaluation Committee

The Committee responsible for the External Evaluation of the Department of Plant Production of the Technological Educational Institute of Larissa consisted of the following four (4) expert evaluators drawn from the Registry constituted by the HQA in accordance with Law 3374/2005:

1. Dr. George Vellidis, University of Georgia, Tifton, Georgia, U.S.A. (Coordinator)
2. Dr. Athanasios Alexandrou, California State University-Fresno, California, U.S.A
3. Dr. Dionysis Bochtis, University of Aarhus, Aarhus, Denmark
4. Dr. Georgia Drakakaki, Department of Plant Sciences, UC Davis University of California, Davis, California, U.S.A.

***N.B.** The structure of the “Template” proposed for the External Evaluation Report mirrors the requirements of Law 3374/2005 and corresponds overall to the structure of the Internal Evaluation Report submitted by the Department.*

The length of text in each box is free. Questions included in each box are not exclusive nor should they always be answered separately; they are meant to provide a general outline of matters that should be addressed by the Committee when formulating its comments.

Introduction

I. The External Evaluation Procedure

- Dates and brief account of the site visit.
- Whom did the Committee meet?
- List of Reports, documents, other data examined by the Committee.
- Groups of teaching and administrative staff and students interviewed
- Facilities visited by the External Evaluation Committee.

II. The Internal Evaluation Procedure

Please comment on:

- Appropriateness of sources and documentation used
- Quality and completeness of evidence reviewed and provided
- To what extent have the objectives of the internal evaluation process been met by the Department?

The External Evaluation Committee (hereafter the EEC) visited the Department of Plant Production, of the School of Agricultural Technology, of the Technological Educational Institute of Larissa (hereafter Department), from June 11th to June 13th 2012. On the evening of June 11th, the EEC met informally with the Department Head Prof. N. Chouliaras, Dr. E. Vogiatzi-Kamvoukou, Dr. A. Papachatzis, Dr. I. Anastasopoulos, and Dr. P. Eliopoulos. That the Department Head expressed his personal commitment to the external evaluation process was indicative of the Department's dedication to the H.Q.A.A. National program.

On Tuesday, June 12th, from 9:00 till 16:30 (with a short break for lunch) the EEC had a series of meetings which included:

A presentation by the Head of the Department of Plant Production, Prof. N. Chouliaras which provided a summary of the Department's history and current status as well as the curriculum of the Undergraduate Teaching Program. Next, Dr. P. Eliopoulos presented the Practical Training Program (Πρακτική Άσκηση). This was followed by a presentation of the Department's activities within the mobility program ERASMUS. The Department's research activities were presented by Dr. I. Vasilakoglou. A separate presentation focused on an EU-funded LIFE project which is coordinated by Dr. A. Papachatzis – a member of the Department. Finally, Dr. E. Vogiatzi-Kamvoukou reviewed the employment prospects of past and future Department graduates. The Department provided a copy of these presentations to

the EEC which were used for development of this report.

After a short break, the EEC visited the Department's facilities including greenhouses and teaching laboratories. During this visit the EEC had an un-planned meeting with a small group of undergraduate students attending a laboratory course. Later in the day, the EEC had another impromptu meeting with approximately 80 students who were assembling to take a final exam. The group consisted mostly of first and second year students. The discussion lasted approximately 45 minutes and covered a variety of issues ranging from work load, teaching quality, educational materials and interaction with the faculty.

On the morning of Wednesday, June 13th, the EEC visited the TEI's teaching and research farm which is on campus and only a few minutes' walk from the classrooms. Dr. I. Vasilakoglou showed us a series of field plots which he uses for teaching and research. After this visit, the EEC met with the following groups:

- eleven (11) former graduates of the Department;
- the Department's two (2) nonpermanent teaching staff
- the Department's two (2) technical support staff (ETII); and
- the Department's permanent faculty

Meetings with the Department's Secretariat and the Director of the School of Agricultural Technology, Dr. D. Pateras, were not scheduled and did not take place. The EEC did have a chance to meet Dr. Pateras briefly during the day. The final meeting of the site visit was with the TEI Vice-President on Academic Affairs Prof. P. Ipsilandis who also serves as President of the TEI's Quality Assurance Agency (MO.ΔI.II.), and MO.ΔI.II. members Dr. Y. Papadopoulos, Prof. N. Batis, Dr. D. Kantas, and Dr. Y. Tzigouras, and the Self Evaluation Report Committee (OM.E.A.) members Dr. A. Papachatzis, Dr. I. Anastasopoulos, and Dr. P. Eliopoulos.

During the preparation of the external evaluation report, the EEC considered the Self Evaluation report and the discussions that occurred during the two-day site visit. In addition, the EEC requested and subsequently considered several documents including supplementary information that was promptly provided by the Department. The EEC highly commends the Department for its valuable and honest self-assessment.

The updated (January 2012) Self-Evaluation Report provided information for the period 2006-2012. The Self-Evaluation Report was well written following the recommended format provided by HQAA. It contained most of the information needed by the EEC for the evaluation. The Self-Evaluation Report provided an

accurate and objective portrayal of the current conditions which the EEC confirmed during the site visit. The site visit also allowed us to propose potential solutions to the problems identified by the self-evaluation procedure.

The Department's teaching facilities are considered good to very good with well-equipped teaching laboratories and classroom space. These teaching laboratories and the greenhouses are used very intensively to fulfill the Department's teaching mission and provide an excellent environment for hands-on teaching. The adjacent farm is also used for teaching and research but considerably less intensively. In general, we find the Department to be in a relatively healthy condition with a very positive relationship between faculty, staff, and students. Faculty and staff were focused on providing the best possible education to the students. This included providing advising, after class tutoring, an open door policy, and an opportunity to do meaningful work for their internship. Students with whom we met were generally very positive about their interaction with the faculty and expressed high levels of satisfaction with their courses and laboratory sections. The students were particularly pleased with the hands-on experience provided by laboratory sections – especially those that take place in the greenhouses. Nevertheless, the current and increasing shortage of faculty and staff has hindered the effectiveness of the laboratory sections as discussed in detail in subsequent sections of the report. This issue was cited as the primary concern threatening the teaching effectiveness of the Department by students, staff, and faculty. Several students told us that faculty members are obviously stressed by the additional workload resulting from shortages in faculty and staff. Currently four faculty members are teaching courses outside their immediate area of expertise which although commendable verifies the additional workload resulting from faculty shortages. The EEC also noted that the Department has highly qualified and exceptionally motivated and committed faculty members who overall do an excellent job under the circumstances, and who are willing and able to respond to the challenges that they face.

In conclusion, the site visit took place in an atmosphere of professionalism and collegiality. The Department gave the EEC full access to students, faculty, and staff graciously adjusting the schedule to allow for impromptu meetings. Furthermore, the Department provided additional data upon request both prior to and during the site visit. The EEC is unanimous in expressing our gratitude to all the staff, faculty and students of the Department for their honesty, hospitality and assistance in all aspects of the evaluation site visit.

A. Curriculum

To be filled separately for each undergraduate, graduate and doctoral programme.

APPROACH

- What are the goals and objectives of the Curriculum? What is the plan for achieving them?
- How were the objectives decided? Which factors were taken into account? Were they set against appropriate standards? Did the unit consult other stakeholders?
- Is the curriculum consistent with the objectives of the Curriculum and the requirements of the society?
- How was the curriculum decided? Were all constituents of the Department, including students and other stakeholders, consulted?
- Has the unit set a procedure for the revision of the curriculum?

The curriculum was revised during 2010-2011 academic year. The goal of the curriculum is to provide students with specialized knowledge in agriculture and particularly on agricultural production with a special emphasis placed on field crops and fruit tree and vegetable crops, and the application of environment-friendly cultivation techniques and practices. The curriculum has 3 areas of emphasis (τομείς): plant protection and biotechnology; pomology and soil resources; and arable crops and agricultural economics. The importance and value of the Department and School in preparing professionals for the agricultural industry in Thessaly cannot be overstated.

The current curriculum consists of 39 (240 ECTS) courses, 36 of which are required courses and 3 are electives (choice between 6 courses.) In addition, students are required to participate in a one-semester internship (Πρακτική) and conduct a thesis project (Πτυχιακή). The curriculum is officially a 4-year program of study. The curriculum is well described in an easy to read Program of Study booklet which is available in printed form and from the Department's website.

Over the evaluation period (2005-2011), there were between 23 (2006) and 15 (2011) faculty members in permanent positions and between 45 (2006) and 29 (2011) part-time faculty (non-permanent) teaching the courses. Currently there are 14 faculty members in permanent positions and 3 part-time faculty (non-permanent) teaching the courses. The Department has its own teaching facilities but also uses other campus facilities as described in the Self Evaluation Report. At current student numbers, the facilities are adequate.

The content of the courses included in the curriculum is rather diverse, a fact that is explained by the nature of the Department. Courses are clearly interconnected and have a small degree of overlap. Discussions with students indicated that most teaching materials are current and relevant. PowerPoint files and other electronic media used by faculty are commonly posted in the e-class system so that it is available to students.

From discussions with two groups of students, and especially from a group of about 80 first and second year students, it was concluded by the EEC that about 40% of the students had selected this program of study as one of their top choices when taking the PanHellenic Entrance Exams. This is a significantly larger percentage than encountered by members of the EEC in similar departments during other evaluations and reflects well on the Department. To the EEC, this indicates that the Department and its curriculum are better understood and appreciated by the local community than most similar departments. Nevertheless, most students who enter the Department do not have it ranked among their top choices. Contributing factors to this problem include but are not limited to:

- The plethora of agricultural related programs currently offered by Greek higher education institutions;
- The decline of agriculture in Greece and perhaps most importantly;
- The system which the Greek government uses to assign students to programs of study based on their scores on PanHellenic Examinations. Students are assigned to programs of study according to their score on the Examinations and, in many (if not most) cases NOT by their area of interest. The EEC recognizes that this method of selecting/assigning a program of study causes significant problems to the individual academic programs and to the overall academic system of the Nation.

Because a minority of the students enrolled in the Department selected this course of study as their first choice, many are not academically prepared for a science-based program of study. For example they will have inadequate preparation in chemistry, mathematics, and physics. Faculty and students told the EEC that prior to the current budget cuts, temporary teaching faculty provided help sessions (φροντιστήρια) for students in these topics. However, with the loss of resources, this is no longer feasible. It is evident to the EEC that the Department's faculty were making efforts to provide their students with the tools needed to successfully complete their program of study.

Two major issues were identified by the EEC for the program of study. It should be noted that based on the experience of the EEC members, both of these issues are endemic to departments offering agricultural degrees at Greek Institutions of Higher Education (AEI.)

1. The first major issue is the low percentage of students passing certain courses (data from Table 12.2 for 2010-2011 academic years.) Although the overall passing rate is in the mid-60% range, there are several courses which have passing rates of 25% or less. The EEC finds these passing rates **unacceptably low** but acknowledges that there are many factors at play. Some of these factors are identified in the Self Evaluation Report and include student and professorial attitudes, course overloading (discussed below), scheduling, taking courses out of sequence, taking advanced course without having passed courses taken earlier in the program of study, and examination methods. Nevertheless, every effort must be made to resolve this issue.
2. The second major problem is the extensive delay in graduation time. The Self Evaluation Report (section 4.2, p.19) states that the average time to graduation is 5.03 years. During discussions with the EEC, faculty reported that this number was too low. In fact Table 7 in the Self Evaluation Report indicates that average time to graduation is well beyond 6 years of studies. According to Table 7, only 8 students graduated in 4 years (official duration of the program of study) and 18 graduated in 5 years during the evaluation period. This graduation rate is considered **unacceptable**. Nevertheless, many factors affecting graduation rate are beyond the control of the Department. In any case, the reasons for this phenomenon should be identified and action taken to address this issue where possible. The areas which EEC believes that can be addressed by the Department are:
 - a. the very large course load that greatly contributes to the inability of most students to graduate within 4 years, and
 - b. the relatively low student attendance rates in the theoretical course sections. Although the Department has improved attendance significantly by adding mandatory in-class assignments to lecture course sections, the EEC believes additional actions can be taken. Suggestions are included in the recommendations section.

The TEI has an online system for class registration, course grades, and

documentation. This has greatly relieved the workload of the Department's clerical support staff and has also improved the ease with which students access information and obtain registration and other documents. EEC commends the TEI for moving towards this electronic registration system.

The curriculum was revised during the 2010-2011 academic year. The new curriculum was implemented for the first time during the 2011-2012 academic year. The new curriculum provides students with a comprehensive knowledge of production agriculture. In the opinion of the EEC, the new curriculum's weakness is that it does not include courses which reflect emerging technologies in agriculture such as Geographic Information Systems (GIS), Remote Sensing, Precision Agriculture, Agricultural Operations Management, and Computer Sciences in general. In other countries it has been shown that students who take such courses have a significant competitive advantage when entering the job market so the EEC strongly believes that these types of courses should be added to the curriculum. To the Department's credit, some of these courses were offered in years past by non-permanent teaching staff. However, with the loss of the non-permanent teaching staff, the courses were dropped. To the EEC, it appears that the faculty chose to remain within their comfort zone (expertise) as much as possible when revising the curriculum. Although it would require additional effort and retraining, the EEC suggests that the Department explore ways to offer such courses in the near future with existing faculty.

Adding these new courses can be done by further refining the new curriculum. Included in the curriculum are courses which students reported are repetitive (Biometry and Scientific Methods and Experimentation was cited by several). In addition, the EEC believes that some areas of expertise are overemphasized in the curriculum with sequences of several courses. These courses could be condensed into one or two courses or offered as electives. If students desire additional courses in a particular area of expertise, they can take the courses as electives or pursue a post-graduate degree.

The number of available elective courses in the curriculum is very limited – only three (3) of the courses are electives. The electives are chosen from a pool of 6 courses. According to the Department Head, this limitation was imposed by the Ministry of Education when the curriculum was recently modified. Although adding more electives is beyond the Department's control, the EEC strongly believes that students should be provided with considerably more choices.

The alumni we spoke to unequivocally agreed that the curriculum prepares them for

the job market by providing a wide range of knowledge. The EEC suggests that future revision include the input of stakeholders so that the curriculum continues to meet the needs of the agricultural sector of economy.

Recommendations

Recommendation A1: The Department must consider European and local trends in agriculture and make appropriate adjustments to its curriculum to enhance its relevance, its ability to provide marketable skills and knowledge, and its ability to attract high quality students. The EEC recognizes that some of the proposed changes cannot be implemented unless there is change in Government policies regarding entrance examinations and student assignment to degree programs.

Recommendation A2: We strongly believe that the Department consider replacing some traditional and/or outdated courses with courses that provide the students with the ability to use modern technologies which have become important to plant production. Examples of these technologies are Geographic Information Systems (GIS), Remote Sensing, Precision Agriculture, Agricultural Operations Management, and Computer Sciences in general. It has been demonstrated that having taken just one of the above mentioned courses provides graduates with a competitive advantage when pursuing job opportunities. New courses should be added only as older courses are eliminated or combined.

Recommendation A3: Establish a mandatory seminar for the incoming students in the Department during which faculty members, alumni, or agricultural producers will present information about agriculture and job opportunities in the field. Alumni also suggested that seminars and/or courses in the last year of studies relevant to marketing, agro-business, and preparation of graduates for job placement would be extremely helpful to future graduates. Additional topics for discussion may include the ERASMUS program, the importance of student evaluations and how they will be used to improve teaching, and other topics that directly affect the students.

Recommendation A4: The EEC recommends that the Department make more courses pre-requisite and enforces this principle. In this suggestion it is implicitly understood that students will be required to pass pre-requisite courses prior to enrolling in more advanced courses. Implementation of this suggestion also directly addresses both the problem of the length of studies and the low average grades of students.

Recommendation A5: The EEC recommends that the Department commits itself to reevaluating its Curriculum on a regular basis to reflect the Department's mission

and not limit changes to minor adjustments.

B. Teaching

APPROACH:

Does the Department have a defined pedagogic policy with regard to teaching approach and methodology?

Please comment on :

- Teaching methods used
- Teaching staff/ student ratio
- Teacher/student collaboration
- Adequacy of means and resources
- Use of information technologies
- Examination system

Teaching Methods Used

Teaching methods include classroom teaching using PowerPoint presentations, class assignments (Ασκήσεις Πράξης), laboratory exercises, laboratory activities in the Department's greenhouses, orchards, vineyards, farm, and other facilities, opportunities to engage in laboratory/farm research, and field trips in selected courses. Most of the faculty also place class-related material on electronic platforms (e-classroom). All methods used are considered appropriate. The EEC believes that alternative lecture formats that may include participatory components (presentations by students, group discussions) would further student engagement and attendance.

It should be noted that the curriculum consists of a series of topics covered by lecture (θεωρία) and laboratory courses. These lecture courses and laboratory courses are designed to be taken concurrently but frequently students pass the laboratory part of the course but do not pass the lecture course until several semesters later or vice versa. Attendance in the laboratory section is mandatory and final grades are a combination of activities conducted during the semester and the final exam. Faculty and staff mentioned that students are frequently in the position of enrolling for more advanced courses without having successfully passed one of the two components of the earlier course (mostly the theoretical part). It is the EEC's opinion that students would benefit if a single course contained both lectures and

laboratory and be treated as a single course with one passing grade; this would enhance engagement of the students, maximize their ability to process the information and also facilitate course management.

Without exception, the students with whom the EEC met stated that they were particularly pleased with the hands-on experience provided by laboratory sections – especially those that take place in the greenhouses. On the other hand, the number of students in laboratory sections has increased to above 20 per session while the number of instructors most laboratory section has been reduced to one. The EEC briefly spoke to a group of 4 students that they were attending an industrial and bioenergy crops make-up laboratory. They expressed their overall satisfaction with the quality of the instruction in that lab although they noted that they would like to have more hands-on experiences. However they did understand that the timing of the laboratory did not always coincide with the crop growing season. The instructor noted that the bioenergy plant portion of the course is new and designed to meet emerging trends in agriculture.

Attendance in the laboratory sections is mandatory and final grades are a combination of activities conducted during the semester and the final exam. For some laboratories with full attendance, the lone instructor may be unable to provide the quality of the instruction expected by the students and required by the industry. Moreover, the presence of only one instructor in a laboratory section may pose safety risks for some laboratories where equipment is used or chemicals are involved.

The committee had an impromptu meeting with approximately 80 students who were assembling to take a final exam. The group consisted mostly of first and second year students. The discussion lasted approximately 45 minutes and covered a variety of issues ranging from work load, teaching quality, educational materials and interaction with the faculty. Approximately 50% of the students had a farming background. They mentioned that only about 10% were considering an international exchange program through ERASMUS and some were completely unaware of the program. They stressed that the introduction of the lone instructor in the laboratories has negatively affected the quality of the educational process and increased the risk of an accident.

A persistent problem at all Greek Institutions of higher education is low attendance in lecture courses. By Greek National policy, attendance in the lecture courses is not mandatory and this has been interpreted by most students as license not to attend. In many institutions this student attitude is reinforced by poor teaching methods

and a variety of other problems. This Department has implemented a series of measures to improve attendance in lecture courses. They include a small number of mandatory in-class assignments during the lecture course sections which have improved attendance. Students are only required to participate in half of these exercises. In addition, students are given the opportunity of taking a mid-term exam and including the grade of the exam in the final course grade only if it is beneficial to them. Faculty reported that very few students take advantage of this opportunity. The EEC commends the Department for these measures but also suggests that the Department take additional measures to improve attendance in lecture courses. The EEC firmly believes that lecture courses in which quizzes, mid-term tests, homework assignments, and class projects significantly contribute to the final grade is the best approach for increasing student participation in lecture courses.

Completely new instructional technologies should also be considered. An example which is widely used in the United States and used on a more limited scale in the EU is an audience response system (commonly referred to as "clickers"). Instructors use clickers to assess students' knowledge of a topic after it has been explained. The students' responses are recorded automatically and can be displayed immediately thus providing immediate feedback to the instructor. The clickers are also used to survey student opinions during the lecture. Under the appropriate circumstances, student responses can be used as the results of a quiz. This is a relatively low-cost investment which keeps the students engaged during the lecture and has been shown to encourage attendance. Specific recommendations are provided below.

Teacher/Student Collaboration

The students respected the teaching staff both for their expertise and their dedication to the teaching mission. It was evident from our discussions with the undergraduate students that the permanent teaching faculty are largely accessible and responsive to the students' needs but at the same time the students mentioned that the faculty were overworked. Each faculty had office hours although not widely publicized but the permanent teaching faculty make a concerted effort to have an open-door policy, provide assistance to the students outside the classroom, and generally be accessible.

Adequacy of Means And Resources

The Department has 14 permanent faculty members and has lost 9 faculty members through retirement over the last 5 years. Only 2 members have been replaced. One more retirement is expected over the next year. Continued attrition at this rate jeopardizes the teaching mission of the Department. Although the new group of

faculty is dynamic and actively seeks research and educational funding opportunities, specialties needed to teach several courses may not be longer available within the group of existing faculty. It is mentioned in the internal evaluation report that four faculty members are now teaching courses outside their area of expertise.

Since the base of 10 in the PanHellenic Entry Exams was eliminated as a standard for admission to higher education institutions, the number of incoming students has sharply increased and is overwhelming the teaching resources currently available. The Greek Ministry of Education must address this issue promptly if this Department's teaching program is to remain viable.

The student faculty ratio is 40-50 students per faculty for the lecture sections of courses and 20 or more students to one instructor for the laboratory section of the course. As mentioned earlier, students were dissatisfied both with the increase in the number of students per laboratory section as well as with the reduction of instructors to one per laboratory section. Overall, students were satisfied with the available resources. In most cases laboratory consumables were adequate and equipment was well maintained. Students have adequate access to major libraries and databases through the internet. The library is located in the main campus was well staffed and maintained. It was an attractive space that was in sufficient use by students at the time of the visit. It provides reference material, books, adequate reading space and computer facilities.

The Department used to employ 21 part-time teaching faculty. Currently, the Department employs only 3 part-time teachers because of budget cuts. During our meeting with part-time faculty, it was mentioned that because of the shortages in personnel, they work excessively long hours – many more than the required by their contract – without additional financial compensation.

Use of Information Technologies

All students and faculty have been issued university e-mail addresses. All buildings of the Department are equipped with wireless connections. A computer lab is available as is IT support. A fully equipped teleconference room is available on campus and is used for various meetings.

Examination System

Grades for most theoretical sections were assigned from the in-class assignments and a final written examination. While there is a provision for a mid-term exam, it is not compulsory and few students take advantage of this opportunity. The

laboratory section of each course is mostly assessed through laboratory exercises and written and/or oral final exams. The Department uses a 10-point grading scale and the student has to earn at least a grade of 5 to pass the course. When the course has both laboratory and theoretical sections, both grades are used to determine the final course grade. Students do not pass the course until they have passed both sections (get a minimum 5 out of 10 in each section). Data provided in the Self Evaluation Report (Table 6) indicate that most students graduate with an overall grade of between 6 and 6.9 with an average of 6.34 (2011). The EEC notes that during the evaluation period, no student graduated with an overall grade higher than 8.4. During the evaluation period, an average of 68 students graduated per year.

Quality of Teaching Procedures

Most faculty members are dedicated and enthusiastic about their teaching, but attendance of lecture courses is frequently low. However, instructors can implement measures that can encourage and reward attendance, as indicated above (mid-term exams, bonus points for participation in group discussions and presentations, etc.). Moreover, some courses are taught by faculty that do not specialize in the subject area of the course that they teach without prior training. This affects the quality of the educational process.

Quality and Adequacy of Teaching Materials and Resources

During interviews with students, comments were made that teaching materials used are appropriate. The EEC examined available books for selected classes and found them to be excellent resources, frequently in effective formats (e.g. plant pathology books with numerous high quality images). Books and other class materials are available to students at no cost.

Mobility of Academic Staff and Students

Overall, mobility of students is very low. Only 6 students participated in study-abroad programs (Erasmus) during the evaluation period. Eleven foreign students studied in the Department using the same program. It is worth noting that the Department approves the courses that home students will take abroad so that credits will transfer back to the home Department.

Only one faculty member from the Department per year participated in an exchange program during 4 of the last 5 years of the evaluation period. A number of foreign faculty visited the Department during the evaluation period. A concerted effort must be made to instil and encourage the culture of mobility so that all its members have

an opportunity to travel abroad and share ideas with colleagues at other institutes.

Evaluation by the Students of (a) the Teaching and (b) the Course Content and Study Material/Resources

The Self-Evaluation Report included evaluation results averaged over all courses. Upon receipt of the report, the EEC requested the evaluation results of individual courses. The OM.E.A. provided the EEC with these results upon arrival for the site visit in an easy-to-read format and we thank them for this additional effort. The evaluations began during the 2009-2010 academic year using the questionnaire provided by the HQAA for the purpose of the self-evaluation. A total of 92 courses were evaluated during the 2009-2010 academic year and 60 during the 2010-2011 academic year. The discrepancy between the number of courses evaluated each year is due to the fact that most courses are now taught once a year instead of during every semester. Overall evaluation results were average to good indicating that students are generally satisfied with both the course and the instructors.

The average rating for the courses evaluated during the 2009-2010 was 3.61 out of 5 with a rating of one being unacceptable and a rating of 5 being very good. The rating was virtually unchanged for the following academic year (3.57). Although the 2 year sample is relatively small for drawing long-term conclusions, any course consistently receiving evaluations results averaging below 3 should be carefully reviewed both by the instructor and the Department. The average satisfaction with instructors averaged 3.99 in 2009-2010 and 3.87 in 2010-2011. Clearly this is an indication that overall students are satisfied with their instructors. However, review of the individual course evaluations indicated that there were courses in which instructors received ratings as low as 2. Any instructor consistently receiving evaluations results averaging below 3 should re-evaluate his/her teaching methods and if appropriate take a short course in modern teaching methods. Alternatively, the department should establish workshops for the professors that receive evaluations below 3. Funds should be made available by the Department for this type of continuing education activities.

Student evaluation of instruction should be done for every semester and every course and results shared with the instructor but only after final grades have been entered. This type of feedback will allow even the best instructors to improve their teaching. The EEC acknowledges the fact that the course evaluation process is in its infancy in Greece. Evaluation results are scanned electronically at a central office and results transmitted to the Department. Nevertheless, there is room for improving the course evaluation process.

Recommendation B1: Critical teaching faculty positions should be replaced promptly by the Ministry of Education.

Recommendation B2: Introduce weighted grading where a student's grade will depend on midterm exam(s), quizzes (announced and unannounced), assignments, group discussions or presentations, laboratory exercises and a final exam. This will provide an incentive for students to attend classes. Higher attendance and multiple grading options may reduce the fraction of students who fail each course. Simply making lecture courses mandatory may increase student attendance but does not assure student retention of knowledge.

Recommendation B3: New instructional media and technologies should be used to engage students in courses. These technologies may include audience response systems (commonly referred to as "clickers"), quizzes and mid-term tests with multiple choice answers which can be graded electronically, etc.

Recommendation B4: Pre-requisites should be enforced.

Recommendation B5: Student evaluations of teaching should be utilized to support excellence in teaching. The Department Head should annually discuss the faculty member's student evaluation scores with the faculty member and provide financial support for improving teaching methods if needed.

Recommendation B6: An outcomes assessment process with metrics should be gradually introduced for courses taught. The assessment should be referred to individual courses and examine if at the end of the course the student has achieved the learning outcomes as outlined in the syllabus.

Recommendation B7: TEI Teaching Excellence Awards (or equivalent tools for recognition of excellence) should be instituted to recognize individuals who excel in teaching. These awards should be presented at gatherings of the entire faculty of the TEI to increase their prestige. When possible, the awards should be accompanied by a one-time allocation of TEI resources to improve the teaching laboratory/methods of the awardees.

Recommendation B8: The EEC recommends that the Department encourage faculty to take sabbaticals at other institutions with the provision that resources are available to cover that faculty member's teaching responsibilities during the sabbatical period.

Recommendation B9: The EEC recommends that the Department introduces an introductory seminar for new students.

Recommendation B10: The EEC recommends the following actions for improving the course evaluation process:

- Discuss the importance of the evaluation process with the students and assure them that it will be used to improve the teaching program.
- Use the results for improving teaching techniques and course content.
- Review the evaluation form with someone who specializes in creating surveys to ensure that the evaluation instrument provides the necessary data.
- Ensure that the evaluation forms are distributed during class periods near the end of the semester so that students who participate in the course are the ones completing the evaluation.

C. Research

For each particular matter, please distinguish between under- and post-graduate level, if necessary.

APPROACH

- What is the Department's policy and main objective in research?
- Has the Department set internal standards for assessing research?

Teaching has been the focus of the TEI's mission since it was founded and this is clearly still the focus. Nevertheless, TEIs all over Greece now have the legal authority to conduct research although there are as yet no national or institutional rules, guidelines, expectations or release time for research. However it is clearly expected that faculty seeking promotion must now have a research program which results in refereed journal article publications. These circumstances reflect the research program of the Department. Approximately half of the Department's permanent faculty do not have terminal degrees in their field and are thus not eligible to develop and submit research proposals (6 of 15 permanent faculty submitted research proposals during the evaluation period.) Consequently, it is practically impossible for them to develop their own research programs and are dependent on others to include them in proposals and projects. The non-permanent faculty have also contributed to the Department's research productivity. The research accomplishments of the Department reflect these conditions.

The self-stated mission of the Department is to conduct applied research that is important to regional and national stakeholders. During the evaluation period, the Department developed research programs on tree physiology, phytopathology, soil science-based greenhouse crop production techniques, vegetable crop production,

and the emerging area of essential oils from native herbs. Recent additions of well-trained young faculty with terminal degrees have significantly expanded the research potential of the Department.

Research facilities and equipment ranged from several greenhouses including the newly constructed state-of-the-art water saving greenhouses funded by the LIFE EU supported project. Several laboratories with adequate equipment are also available. Selected labs had state of the art equipment for gas chromatography, NIR and soil mineral analysis as well as equipment for molecular/genetics research. The research infrastructure of the green houses was excellent while the general laboratory equipment was deemed good.

The Self-Evaluation Report states repeatedly that the TEI of Larisa has approximately 150 ha (1 ha = 10,000 m²) of arable land available for teaching and research. Approximately 30 ha are currently used for research purposes. TEI policy prevents government-allocated recurring funds from being used for research purposes so all field plots also have to have an educational purpose. A significant portion of the 150 ha has been rented to area farmers and is not used at all for educational or research purposes. This land provides an excellent opportunity for faculty and students to conduct teaching laboratories and applied research on working farms.

The Department has joint research activities with both regional and national research groups including nearby TEI, the University of Thessaly and the School Agriculture of the Aristotle University of Thessaloniki. Interactions with research groups abroad include the University of Craiova in Romania and the University of Plovdiv in Bulgaria, University of Reading in the UK, and the University of Bari in Italy. The Department is also working with local and regional cooperatives and local authorities on research activities important to these entities.

Because the Department does not have a post-graduate program, the research activities are heavily dependent on attracting graduate students from other research institutions to conduct their research with the Department's faculty. Within the Erasmus project several students from the University of Craiova have visited the Department to conduct research. The Department is discussing the possibility of working with an international institution to offer a M.S. degree. On the horizon is also the potential of the TEI's School of Agricultural Technology offering M.S. degrees. This potential was discussed at great length during the meeting with TEI officials. Either approach will provide an immediate boost to the research productivity of the Department since a major limitation in research productivity is

faculty time. Post-graduate students will be able to assume a large component of the day-to-day activities associated with research programs.

The Department has not yet established research priorities on which most of the faculty members collaborate. In the meantime, research goals are established by individual faculty members or through small research team collaboration as reflected by peer reviewed publications. The effect of natural compounds from aromatic herbs has been investigated in terms of organic matter biodegradation and other soil chemical properties. Similarly the phytotoxicity and antifungal and antimicrobial activity of aromatic plant essential oils has met with increased attention providing a very exciting research area for the department.

This effort is considered very useful to the Department because it will provide a unique contribution to the local and regional economy. During the site visit and within the Self-Evaluation Report, the most discussed research activities were on bioenergy and pharmaceutical plants. Another applied research project of note was alternative olive cropping systems. The TEI's large arable land area provides a great opportunity to test this alternative cropping system.

Additional projects included a bioacoustics method of insect identification and development of plant freeze tolerance. Those projects have yielded very promising results and have contributed to several filed patents.

After considering that the Department under evaluation is within a teaching-intensive institution, the EEC compared its research activities to acceptable international standards for teaching-intensive institutions in Europe and the United States. The EEC also compared the Department with respective Departments of Greek Universities and TEIs. Compared to the above mentioned standards and the State policy towards TEI, the EEC finds that the overall research productivity is adequate for a department with the constraints described above.

The EEC noted that the number of non-permanent faculty was dramatically reduced during the last two years (2011-2012) from 21 part time teaching faculty to currently three. This has created several gaps both in teaching and research considering that the youngest faculty are the most productive. A limited number of the Department's permanent faculty were hired within the last 10 years and have a strong interest in their research programs. The EEC believes that the Department has a dynamic group of researchers setting the foundation for successful projects.

Overall the EEC noted that in general the faculty members of the Department are very enthusiastic about their research and are actively involved in research and

mentoring. Considering that research is not part of the mandate, this level of activity is significant. The lack of a post-graduate program is considered a strong inhibitor for further development in this area. Although establishment of a post-graduate program is not a panacea, the committee considers it an important element that can help to reach such a goal.

For the reasons discussed above, research productivity is not distributed equally among current faculty members. For example, several current faculty members do not have any measurable research activities during the evaluation period. In contrast several others have very active and relevant research programs. Research productivity in terms of peer-reviewed publications is discussed below.

Research Productivity

Measuring and documenting research productivity is always a difficult task. Some of the means typically used are presentations at international conferences, publications in peer-reviewed journals, and impact on the stakeholders. The EEC has used these three parameters to gage the research productivity of the Department's current permanent and temporary faculty members.

Table 1 summarizes data on presentations at international conferences as aggregated from CVs provided by the Department. Recognizing the financial constraints under which the Department operates and the excessively high cost of attending international conferences, we find that the Department's permanent faculty generally compare well to faculty from peer institutions in this category. The Department should establish the goal that every faculty member should make at least one presentation at an international conference per year.

Table 1. Presentations at international conferences with published abstracts or proceedings by faculty by rank during the evaluation period (2005-2010)

Rank*	Number of publications	Publications per person per year
Professor (1)	6	1.0
Associate Professor (0)	-	-
Assistant Professor (5)	39	1.3
Lecturer (6)	2	0.1
Non-permanent (2)	24	2.0

* number of faculty members in rank for which CVs were available

Some permanent faculty members of the Department have published extensively while others have not published at all. In total, the permanent faculty published **103** refereed journal articles or book chapters during the evaluation period (Table 2), which corresponds to a ratio of approximately **1.2** peer-reviewed publications **per**

faculty member per year. This rate is similar to that of other agricultural departments at TEI around Greece and peer institutions of higher education abroad. Overall the EEC noted that the publications were in relevant and sometimes prestigious journals. Our assessment is based on review of CVs provided by each faculty member and not on data included in the Self-Evaluation Report.

Table 2. Refereed journal articles and book chapters by faculty by rank during the evaluation period (2005-2010)

Rank*	Number of publications	Publications per person per year
Professor (1)	5	0.8
Associate Professor (0)	-	-
Assistant Professor (5)	65	2.2
Lecturer (6)	8	0.2
Non-permanent (2)	25	2.1
Total	103	1.2

* number of t faculty members in rank for which CVs were available

As with any academic institution, the level of productivity as measured by publishing varies significantly among scientists. This assessment is further complicated by the fact that in some sectors of agricultural science, data from which publications are created can be collected rapidly while in others, several years of data are required in order to publish. Nevertheless, the data in Figure 1 are indicative of individual productivity.

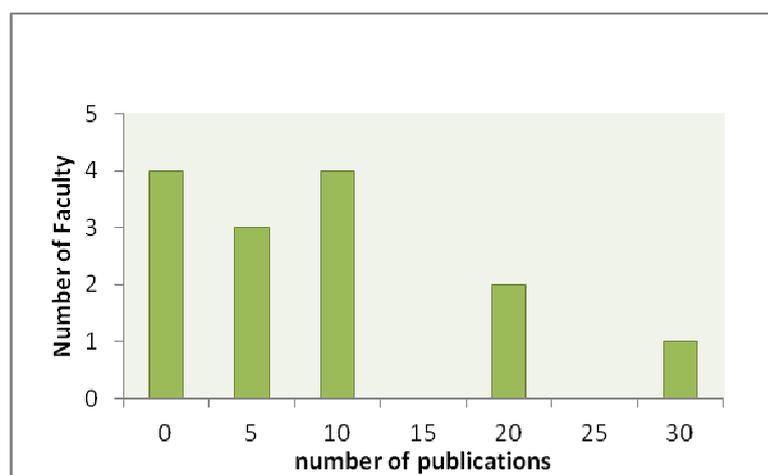


Figure 1 - Histogram of the distribution of peer reviewed publications of faculty during the evaluation period (2005-2010)

In the lowest performing category, there are 4 permanent faculty without any publications. Under the current academic structure, there are no repercussions for

not publishing. Lack of publications only affects a faculty member when that person is interested in promotion as research productivity is a criterion for advancement. As academics we all know that faculty members have different interests. If a particular faculty member is not interested in conducting research, then it should be possible for the Department Head or a more senior administrator at the TEI to assign that person a higher teaching load and proportionally relieve the teaching load of faculty member actively pursuing research.

Certain faculty members have extensive research activities that contribute significantly to the local and regional economy. During the evaluation period, permanent faculty members of the Department secured 3.701.000 € in extramural funding to support research or research infrastructure from private local, state and European Union funds. Department faculty members are the principal investigators of all but one of these projects which is an important accomplishment. However, this also indicates that there is more potential to participate in proposals lead by other departments. The EEC noted that there is a great momentum for enhancing research activities and it is expected that this will increase the publication record within the next few years and will provide the opportunity for students to pursue a postgraduate research project. This can provide an opportunity to increase the Department's visibility as well as increase the number of undergraduate and post-graduate students supported by those funds.

Extensive discussions took place during the site visit about the importance of addressing local and regional agricultural research problems and securing funding from local and regional business and agencies to support this research. There was high awareness from faculty members that this was a priority and several faculty members were considering approaches to increase this interaction. The EEC strongly encourages the Department to pursue this approach.

However, there was no clear evidence in the Self Evaluation Report and during the site visit that the Department makes a concerted effort to disseminate the results of its research programs to potential users and stakeholders. In general, this is done on an individual basis and usually at the initiative of a stakeholder. Regular dissemination of results and presentation of ongoing research projects with various media (field days, seminars, newsletters, newspaper articles, etc.) will greatly increase the visibility of the Department and increase awareness of the Department to important stakeholders. This issue was discussed during our visit and we received nothing put positive reaction to this idea. Successful outreach activities can make a huge difference in relationships with stakeholders. We feel that by increasing its

profile, the Department can increase its ability to attract high quality students in the future.

The EEC appreciates the healthy balance struck by most faculty members between pursuing external funding, executing grants, publishing results (papers, reports, conferences, etc.), teaching activities and committee service.

The EEC believes that if TEI are to be considered “applied universities” by the Greek state, research should be an indispensable part of teaching because it promotes the introduction of students to fresh ideas, hands-on experience in the laboratory and allows the teachers/researchers to introduce new knowledge into their courses that makes learning fun and rewarding by stimulating creative thinking and problem solving ability.

Last, but not least, the committee strongly recommends of the Department form a standing committee that will actively cultivate relationships with the major stakeholders in the public and private sector in order to create a database of potential applied projects that assist both members. This way, the Department will be able to pursue more projects and attract more funding with the help of the parties that will benefit from such joint research ventures. This Department is in a very advantageous position since it is located in one of the most productive agricultural regions of the country.

Recommendation C1: The EEC urges faculty and staff to maintain high levels of quality research and outreach despite the acknowledged obstacles posed by the current crisis in the Greek economy.

Recommendation C2: The development of a post-graduate programme is considered very useful especially when viewed in connection to a Research/Teaching Assistant model. Such a programme could be developed in collaboration with the other TEI departments thus taking advantage of the expertise of each department and using resources more effectively. Such an arrangement would also increase student mobility which is currently very low. The post-graduate programme will provide the essentials to facilitate and stimulate faculty research activities and interactions within and outside the department. The identification of specific research “niches” will create funding opportunities both at national and international level.

Recommendation C3: The EEC urges faculty to improve the visibility of their work, especially their applied research and the relatively small projects undertaken for individual growers and producers. The results of this work are conveyed to those

that ask for it, but little use is made of it elsewhere. The internet, local and national newspapers, and informative seminars and spin-off companies are valid outputs for this sort of work.

Recommendation C4: All permanent faculty members should be encouraged and incentivized to participate and present at international meetings and publish their research findings in peer-reviewed journal articles.

Recommendation C5: Further align the Department's research with the strategic needs of Greek Agriculture and particularly those of surrounding region.

Recommendation C6: Identify novel areas for research (with accompanying training) to address current needs and trends, e.g. in bioenergy, safety of produce, unique minor crops whether conventional or organic, and promotion of niche markets for agricultural commodities (for example, aromatic herbs or local bioenergy crops.) Utilize TEI land which has been rented to area farmers for faculty and students to conduct applied research.

Recommendation C7: The EEC recommends that the president of the TEI establish an Excellence in Research Award to given every 2 years in recognition of the best research completed within that time period. A TEI-wide multidisciplinary committee should evaluate nominated projects and select the winner. The award, along with the Excellence in Teaching award discussed earlier should be presented at gatherings of the entire faculty of the TEI to increase the prestige of the TEI and encourage younger faculty members to excel.

Recommendation C8: The EEC recommends that the president of TEI establish a means of assessing productivity of awarded projects reflected by publications and integration in teaching and outreach. Within this format a science day can be established in which all research groups are presenting their projects.

Recommendation C9: Encourage the development of a group consisting of stakeholders and/or local authorities and private sector for possible financial support of research and solving local and regional problems.

Recommendation C10: The EEC recommends that the TEI develop a protocol for the Department Head or a more senior administrator at the TEI to assign a person not interested in conducting research to a higher teaching load and proportionally relieves the teaching load of faculty members actively pursuing research.

Recommendation C11: The EEC recommends that the Department begin to use

paid student workers or students conducting their internship to support its research activities. This has two major advantages: students gain significant research experience and researchers obtain research support at relatively little cost. This approach is used successfully at universities around the world and is used by some TEI in Greece.

D. All Other Services

For each particular matter, please distinguish between under- and post-graduate level, if necessary.

APPROACH

- How does the Department view the various services provided to the members of the academic community (teaching staff, students).
- Does the Department have a policy to simplify administrative procedures? Are most procedures processed electronically?
- Does the Department have a policy to increase student presence on Campus?

Inadequate administrative (Γραμματεία) support is available to the Department. Only one person works in this office and this is not adequate for all of the Department's administrative responsibilities. This person is also approaching retirement and there is great concern about how the Department's affairs will be managed after the retirement. Because of the short staffing, faculty spend an inordinate amount of time conducting bureaucratic paperwork normally conducted by the administrative support (purchase orders, etc.) Because of good planning by the TEI, faculty members enter grades electronically and students are able to create registration documents and other similar documents electronically. Students appeared very pleased with electronic access to grades, online registration, and access to bureaucratic documents. The Department has access to web support and computer stations are available to students in a computer laboratory. Wireless is available in virtually everywhere in the institution.

Food services were good and above average. Athletic facilities are available and used by the students. There was evidence of intramural tournaments in various sports.

Based on the information provided in the Self Evaluation Report, discussions with faculty members and students, and actual visits to the Department and related facilities, the EEC considers the functionality of the Department's administrative services marginally effective.

The two technical support staff (ETII) appear to be very well educated and trained and provide critical support for the teaching and research missions of the Department. The Departments' faculty without exception praised these two staff members for their dedication and capabilities. Additional support staff is needed to adequately support the teaching mission of the Department. Students, faculty, and staff repeatedly told us that the shortage of faculty and staff results in large lab sections (more than 20 students) with inadequate supervision which in certain situations (chemistry, pruning labs) may be a safety issue.

Recommendation D1: The EEC recommends the development of an organized mentoring system for junior faculty on issues related to professional growth and development, teaching and scholarly activity. This is also critical for members of the non-permanent instructional staff on annual contracts. In this process senior faculty and academics outside the institution could be also involved.

Recommendation D2: The EEC recommends that the TEI institutes a regular program for reward of excellence in teaching (Recommendation B7), research (Recommendation C7), service and outreach for faculty and staff.

Recommendation D3: Student evaluation of courses should be made available to the instructors soon after the course is completed. We recommend that completed evaluations be submitted to the administrative staff where data will be digitized and summarized. We also recommend that the instructor of each course be provided with the cumulative (of all courses) high, median, average, and low evaluation scores for that semester so that they can compare themselves to their colleagues. This should promote an interest in improving teaching methods when necessary.

Collaboration with social, cultural and production organizations

The Department does not have regularly-scheduled outreach activities. Faculty have regular contact with individual producers who call them for information and advice on production problems. Occasionally field days are organized to inform producers of new opportunities. We did not learn of initiatives with local and regional organizations. There is need for significant improvement in this area. For instance, workshops on specialized applied topics can be offered (free or for a nominal fee to cover the cost of meetings) to farmers and agricultural businesses. Seminars open to the public can be given on a regular basis (e.g. once each semester) to present those

aspects of faculty research programs that are of special relevance and interest to the TEI and to the community.

Recommendation D4: The EEC recommends that the Department organize field days/seminars/workshops where growers could have the opportunity to see first-hand an important local problem and its potential solutions.

E. Strategic Planning, Perspectives for Improvement and Dealing with Potential Inhibiting Factors

For each particular matter, please distinguish between under- and post-graduate level, if necessary.

Please, comment on the Department's:

- Potential inhibiting factors at State, Institutional and Departmental level, and proposals on ways to overcome them.
- Short-, medium- and long-term goals.
- Plan and actions for improvement by the Department/Academic Unit
- Long-term actions proposed by the Department.

Major Reorganization: The School of Agricultural Technology at the TEI of Larisa anticipates that based on new national laws that its three departments will be eliminated. Students would be admitted into the School rather than into a department. Once this occurs, the School of Agricultural Technology will develop post-graduate degrees. Included in those will be post-graduate degrees in crop production.

Post-Graduate Degrees: The research capacity of the Department is limited by human resources and the current permanent faculty members expressed a strong desire to offer a post-graduate degree as a solution to this problem. In the opinion of the EEC, the teaching load of the current permanent faculty members in the Department is currently too high for them to consider offering new courses for a post graduate degree. Creating and teaching new graduate courses requires additional resources or a reorganization of the undergraduate curriculum. This could also be done by reorganizing the curricula of the three departments in the School of Agricultural Technology so that there are more common courses thus reducing the undergraduate teaching load. If a post-graduate program is implemented, it is very important that new courses be offered rather than the same courses under a new catalogue number.

Incoming Students: The number of students entering the Department from 2005 to

the present has fluctuated wildly (ranging from 144 to 39) as a result of Greek Ministry of Education policies. Some of the fluctuation is a function of changes in the minimum PanHellenic exam score used by the Ministry to admit students. When the minimum score was set to 10 for the TEI as well as the universities, the number of students allocated to the Department dropped by more than 100 students and fluctuated around 50. During the 2010-2011 academic year the ministry policy was reversed and 144 were admitted. These types of fluctuations make planning and administration of teaching programs incredibly difficult. Furthermore, they negatively affect the morale and productivity of the Department.

The Department has lost several faculty members due to retirement during the evaluation period and recent budget cuts have resulted in dramatic reductions in the number of non-permanent teaching staff (from over 20 to 3). Consequently a further increase in student numbers is not feasible without additional faculty and support staff. Students, faculty, and staff repeatedly told us that the shortage of faculty and staff results in large lab sections (more than 20 students) with inadequate supervision which in certain situations (chemistry, pruning labs) may be a safety issue.

The EEC finds the current method of admitting and allocating students to be counterproductive. The TEI in general have been allocated students who have scored poorly on the PanHellenic exams and have no interest or aptitude for their degree programs. The admission system for the Greek higher education system must be radically modified so that incoming students are allowed to pursue the careers to which they aspire.

Our discussion with 11 Department alumni produced many ideas to improve the visibility and effectiveness of the Department. The alumni graduated from between 1983 to 2011 and included men and women. Several alumni are successful entrepreneurs (agricultural producers, green space developers, owners of business which sell agricultural chemicals and other products, and owners of companies providing agricultural services, etc.) Without exception, the alumni were very complimentary of the education they received and stated that it had provided them with the tools to be successful. They also expressed the opinion that the majority of the Department's graduates could find employment in agribusiness. The alumni also expressed a keen interest in having closer ties with the Department and receiving newsletters, seminar announcements, and other information at regular intervals. Although several alumni occasionally call faculty members for advice on agricultural production problems, they expressed a strong interest in continuing

education opportunities and suggested that the Department organize seminars on issues important to local and regional agriculture and invite producers, businessmen, and other relevant people.

Recommendation E1: The EEC strongly recommends that the TEI of Larisa pursue the idea of merging the three departments of the School of Agricultural Technology into a single academic unit with degree offerings which would meet local, regional, and national stakeholder needs.

Recommendation E2: The current method used by the Greek Ministry of Education to allocate students to different departments within universities and TEI is absurd. It must be replaced by a system in which students are allowed and encouraged to pursue their career interests.

Recommendation E3: The EEC strongly recommends that the Greek Ministry of Education allocate a steady number of students to the Department to allow for reasonable planning and resource allocation.

Recommendation E4: The Department should define a clear novel identity, mission, and operational niches compatible with: the capabilities and technical competencies of its staff and the needs of the agricultural sector, the food industry and related socio-economic stakeholders in the plain of Thessaly. Included in this should be a clear understanding of who are the Department's stakeholders.

Recommendation E5: The Department should develop focused plans to increase its visibility and impact on the local community. Outreach efforts could involve: workshops on their area of departmental expertise; development of an Arboretum where aromatic herbs including native and introduced flora could be demonstrated. This could not only be used for teaching and research purposes but would also provide excellent community outreach, become a source of potential fundraising through private donors and regular plant sale events, and could involve both students and the community at large in volunteer positions for the maintenance of the Arboretum.

Recommendation E6: The EEC recommends that the Department develop an Advisory Council consisting primarily of stakeholders but which should also include the Department Head and the Head of the School of Agricultural Technology as ex-officio members. Stakeholder members should include leading agricultural producers (farmers) from key commodity groups, agribusiness leaders, and community leaders. The Advisory Council should not be constituted exclusively of

alumni. The Advisory Council will serve the dual purpose of providing the Department with feedback on what issues are relevant to the stakeholders while also increasing the visibility of the Department among its stakeholders. The Advisory Council should be involved with recommendations **E4** and **E5**. In the event that the departments in the School of Agricultural Technology are merged, this recommendation applies to the School.

F. Final Conclusions and recommendations of the EEC

For each particular matter, please distinguish between under- and post-graduate level, if necessary.

Conclusions and recommendations of the EEC on:

- the development of the Department to this date and its present situation, including explicit comments on good practices and weaknesses identified through the External Evaluation process and recommendations for improvement
- the Department's readiness and capability to change/improve
- the Department's quality assurance.

The most important conclusions reached by the EEC are assembled here.

General

The EEC was impressed with the teaching and research facilities available to the students including lecture rooms, well equipped laboratories, and greenhouses. There was excellent IT support and very good library facilities. We found a very positive relationship among faculty, staff, and students. Faculty and staff were focused on providing the best possible education to the students. This included providing advising, after class tutoring, an open door policy, and an opportunity to do meaningful work for their internship (Πρακτική Άσκηση). Despite this, the number of students graduating on time (4 to 5 years) is abysmally small. It should be noted that based on the experience of the EEC members, this issue is endemic to departments offering agricultural degrees at Greek Institutions of Higher Education (AEI) but must be resolved if these programs are to survive in the current competitive environment.

The Department should develop a novel identity and a cohesive, long term mission. In so doing, agricultural sectors of local and regional importance must be taken into account. In particular, the new strategy should take into account factors such as the

prime geographical location of the Department which allows it to address specialty crops (horticulture, viticulture), arable crops (cotton, corn, etc.) and emerging crops (bioenergy, etc.) Additional advantages include the excellent facilities, available farm, and the overall excellent quality of human capital. The Department should add a strong international dimension to its future by encouraging its students and faculty to participate in international exchange programs.

Unbiased evaluation metrics of performance for members of the faculty must be established at the Institute, School, and Department level. These metrics must be used to evaluate the performance of individual members of the faculty, the Department, and the School and **must include teaching and research performance** (and outreach if that becomes a future mission of the Department and School). A system must be established to recognize and reward high performers and motivate underperformers. Underperformers who refuse to improve their performance should be removed from the Institute. Performance evaluations must be conducted regularly – we suggest annually. Faculty members, Departments, and Schools which are not fulfilling the mission entrusted to them by the taxpayers of the state are consuming resources which should be allocated to those who are performing.

Similarly, an award system should be developed to recognize student academic performance at multiple levels – Department, School, and TEI.

Curriculum

The EEC recommends that the Department add cutting-edge courses to its curriculum using the strategies described earlier, that it introduce measures to prevent registration for courses for which the appropriate pre-requisites have not been successfully completed, that it incorporate components (availability of additional grading options; group discussions and class participation etc.) to encourage attendance, and that it introduces a faculty-led student advisement program to assist students in decision-making for enrolment and reduce time to degree completion. Students, staff and faculty need to work together to reduce the length of the degree program which is currently unacceptably high.

Teaching

The Department should establish processes to assess the efficacy of teaching and act upon the findings. It should fully utilize the student evaluations of courses to improve instruction as discussed earlier. Teaching excellence should be acknowledged and rewarded through a TEI-based assessment system as described

earlier.

Research

The Department should concentrate its activities in targeted areas of demand that can catapult the program into excellence while maintaining the present high quality of research. Research excellence should be acknowledged and rewarded through a TEI-based assessment system as described earlier.

Planning

The Department should develop a long term vision with main aims to carry out a thorough review and restructuring of the curriculum to truly reflect the core aims and objectives. The Department should also draft a research strategy that will include specific methods and procedures for the identification, fostering and development of high-impact, high-relevance research areas. Lastly, the Department should encourage and assist faculty, staff and students in design and implementation of novel and expanded outreach efforts. This Department exceeds the standards of a teaching-intensive institution in most areas with clearly strong potential for sustained excellence, innovation, and strategic planning to best address current trends, needs and opportunities related to agriculture in west-central Greece. In turn, the Greek Ministry of Education should support the Department in its effort to educate students interested in agriculture – a key economic sector for Greece.

The Members of the Committee

**TECHNOLOGICAL EDUCATIONAL
INSTITUTE OF LARISSA
DEPARTMENT OF PLANT
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