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HELLENIC REPUBLIC
H.Q.A.A.
HELLENIC QUALITY ASSURANCE AGENCY
FOR HIGHER EDUCATION

EXTERNAL EVALUATION REPORT

DEPARTMENT School of Agriculture

UNIVERSITY/TEI Aristotle University of Thessaloniki

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External Evaluation Committee

The Committee responsible for the External Evaluation of the School of Agriculture of the Aristotle University of Thessaloniki consisted of the following five (5) expert evaluators drawn from the Registry constituted by the HQAA in accordance with Law 3374/2005 :

1. Prof. Spiros N. Agathos (President)
(Title) (Name and Surname)
University of Louvain, Louvain-la-Neuve, Belgium _____
(Institution of origin)

2. Prof. Athanasios Alexandrou
(Title) (Name and Surname)
California State University-Fresno, Fresno, CA, U. S. A. _____
(Institution of origin)

3. Prof. Konstantinos Giannakas
(Title) (Name and Surname)
University of Nebraska-Lincoln, Lincoln, NE, U. S. A. _____
(Institution of origin)

4. Prof. Sophia Kathariou
(Title) (Name and Surname)
North Carolina State University, Raleigh, NC, U. S. A. _____
(Institution of origin)

5. Dr. Christopher Lambrides
(Title) (Name and Surname)
University of Queensland, Brisbane, Australia _____
(Institution of origin)

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.

Monday December 6

Morning

Brief meeting with ADIP members Dr. Vlahos and Dr. Diamantaras at the Electra Palace Hotel in Thessaloniki regarding the external evaluation process.

Meeting with the Coordinator of the Internal Evaluation Committee (OMEA) Dr. Constantinos Biliaderis and transfer to the Aristotle University of Thessaloniki (AUTH) School of Agriculture in the main campus.

Meeting with Dr. Dimitra Prophetou-Athanasiadou, President of the School followed by a brief courtesy meeting with Dr. Mylopoulos, Rector of AUTH and a briefing by the Vice-Rector, Dr. Lialiou.

Outline presentation by Dr. Prophetou-Athanasiadou of the School, its mission, status and future.

Afternoon

Presentations by Dr. Christos Babatzimopoulos on the School’s post-graduate programs, by Dr. Prophetou-Athanasiadou on its undergraduate curriculum and by Dr. Biliaderis on the Internal Evaluation, its main findings and potential adjustments.

Presentation by Dr. Ilias Eleftherochorinos on the Division of Field Crops and Ecology (FCE) and meeting with faculty and students capped by a brief laboratory tour.

Tuesday December 7

Morning

Presentations by Ms. Georgia Petridou on the AUTH Research Committee and by Mr. Panagiotis Tzounakis and Mr. Nikos Chairetouras on University-wide informatics networks and support of computer services.

Interaction with representatives of Specialized Laboratory and Teaching Personnel (EEDIP) and Technical and Administration Personnel (ETEP) , followed by a tour of the School’s library and one computer park. Interaction with faculty members and students from Division of Agricultural Economics (AE).

Afternoon

Presentation by Dr. Tsatsarellis of the Division of Hydraulics, Soil Science and Agricultural Engineering (HSAE) followed by meetings of the EEC separately with students (undergraduate, postgraduate and Ph.D. candidates) and faculty members of HSAE.

Presentation by Dr. Tsalikidis of the Division of Horticulture and Viticulture (HV) followed by meetings of the EEC separately with students and faculty members of HV. Presentation by Dr. Dimitris Kovaiois of the Division of Plant Protection (PP) followed by meetings of the EEC

separately with students and Faculty members of PP and terminated with a tour of the division's laboratories.

Evening

Meeting with alumni of the School and with employers. Exchange of experiences by the stakeholders and potential opportunities for employment of the School's graduates.

Wednesday December 8

Morning

Transport to the School's Farm (Agroktima).

Presentation by Dr. Melpomeni Avdi of the Division of Animal Production (AP) followed by meetings of the EEC separately with students (undergraduate, postgraduate and Ph.D. candidates) and Faculty members of AP.

Presentation by Dr. Constantinos Biliaderis of the Division of Food Science and Technology (FST) followed by meetings of the EEC separately with students (undergraduate, postgraduate and Ph.D. candidates) of FST. Visit of the FST laboratories.

Presentation by Dr. Prophetou-Athanasiadou, Chair of the School's Board and interview by the EEC of Dr. Prophetou-Athanasiadou, Dr. Misopolinos, former Chair and Dr. Lithourgidis, Executive Director of the Farm.

Afternoon

Visits of various buildings on the Farm (laboratories and study facilities of Agricultural Engineering, Greenhouses, Apiculture, Pesticide Chemistry).

Meeting with Faculty members of FST Division.

Brief meeting and concluding remarks by School Chair and by OMEA Chair. Adjournment.

Departure for Athens.

Thursday December 9

Morning and afternoon

Meeting of the EEC at the Divani Acropolis Hotel, to discuss and start the preparation of the report. Tasks were assigned to individual committee members.

Brief meeting with Dr. Spyros Amourgis, President of ADIP.

Friday December 10

Morning and afternoon

Meeting of the EEC at the Divani Acropolis Hotel to integrate the thoughts and texts of the individual members into the preliminary report.

Saturday December 11

Morning

Meeting of members of the committee at the Divani Acropolis Hotel and continuation of work on the preliminary report.

- Whom did the Committee meet?

All the individuals the Committee met are listed in the above outline of the visit.

- List of Reports, documents, other data examined by the Committee.

The EEC had at its disposal

- The Internal Evaluation Report of the School of Agriculture, including its Annexes
- The Guide for Undergraduate Students of the School of Agriculture for 2010-2011
- The copies of individual powerpoint presentations of each Division together with related handouts on the School's metrics

The EEC requested additional documentation on

- The numbers of faculty members that went on sabbatical leaves during the last evaluation period
- The list of recent (last evaluation period) and current external funding by source and monetary amount (this was furnished during the EEC's deliberations in Athens)
- The CVs of the School's faculty members that had not already been posted on the School's website (a partial list including the "census data" was furnished during the EEC's deliberations in Athens)
- 'Syllabus' from the Division of Animal Production
- Groups of teaching and administrative staff and students interviewed

All the groups of stakeholders interviewed by the Committee are listed in the above outline of the visit.

- Facilities visited by the External Evaluation Committee.

All the facilities visited by the Committee are listed in the above outline of the visit.

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 EEC found that the Internal Evaluation was fully documented, as seen from the Report that had been made available to the EEC and from the individual powerpoint presentations during the site visit, whose transcripts were also distributed to the EEC members.

The Internal Evaluation Committee is to be commended for the thoroughness of the self-evaluation that was carried out by individual Divisions with the encouragement of the School's President and for the professionalism with which all these data were put together and analyzed under the leadership of the Committee's Chair. Although the Report was excessively long (over 580 pages including Annexes) and somewhat off-balance (e.g. heavy on the research aspects with less attention paid to the teaching and service dimensions), it constituted a reasonably complete mirror of the status of the School over the 5-year

evaluation period (2004-2008).

The objectives of the internal evaluation of the School have been met quantitatively, since a majority of faculty members participated in the evaluation exercise, and qualitatively, since a number of sensible conclusions and recommendations have been formulated by the School on the basis of these findings.

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?

Overall, the curriculum was designed to serve the diverse Agricultural and Food sectors of Greece. The importance and value of this School to Agriculture in Greece cannot be overstated and in the opinion of the EEC the School should be given every opportunity to improve and modernise its curriculum as we enter the era of climate change, globalization and increased world population growth.

The School has 104 faculty members that provide around 250 courses. The curriculum aims to provide all incoming students with a basic set of core courses that are completed in the first 4 semesters of a 5-year Bachelors' degree. In semesters 5 to 10 students are able to specialize in one of seven specialty tracks including: 1. Animal Production; 2. Agricultural Economics; 3. Hydraulics, Soil Science and Agricultural Engineering; 4. Food Science and Technology; 5. Field Crops and Ecology; 6. Horticulture and Viticulture; and 7. Plant Protection. A new curriculum that includes a 5 semester core course set has been developed and is currently under review. Given that, the advising staff of the School should pay special attention and make sure that students are not unduly delayed.

Under the current curriculum, undergraduates are required to take 24 core courses (13 compulsory, 7 elective, 4 foreign language and at least 30 courses in their specialization (20-33 compulsory, 10-16 elective) equivalent to 285 ECTS. MS students are required to take 8 courses to be completed in 3-6 semesters and this is closely monitored. Ph.D. programs are entirely research-based. The duration and breadth of both undergraduate and postgraduate programs meet or exceed equivalent agricultural degrees in Europe and around the world including USA and Australia.

While the effort is made to offer a timely sequence of the courses, the system allows a student, in our view inappropriately, to carry a fundamental core course "indefinitely" over the years, without having passed it. This reflects the fact that prerequisites are not truly required. This system is of course highly undesirable because it allows students to take "specialized" courses without the proper intellectual or experimental foundation. In some Divisions (e.g. Ag Engineering) it was felt there were too many courses. A major consequence of these issues is that the average time for degree completion is almost 7 years with an upward trend, which both the School and EEC find unacceptable.

Students generally don't find great incentive to be involved with the Erasmus program due to the perceived lack of transferability of courses and expenses involved in travelling abroad.

The required “Practical Exercise” is linked with a report and must be completed in the summer, which may be inflexible for some students and is currently under evaluation. The 13 week semester is often compromised because of student ‘sit-ins’, strikes and university elections. This obstacle can be overcome by placing lecture notes online with software web-teaching packages (e.g. Blackboard) although this service is generally undersubscribed by faculty as they feel it could adversely affect student attendance in the classes.

While the undergraduate curriculum calls for a short diploma thesis this is often presented in the form of a literature review. The EEC strongly supports the students’ desire to have more hands-on practical work and identifies this area as a clear deficiency of the curriculum. Attendance to laboratory classes but not lectures is mandatory. Consequently, class numbers for lectures can be extremely low so some faculty members are contemplating in-term quizzes to boost attendance.

IMPLEMENTATION

- How effectively is the Department’s goal implemented by the curriculum?
- How does the curriculum compare with appropriate, universally accepted standards for the specific area of study?
- Is the structure of the curriculum rational and clearly articulated?
- Is the curriculum coherent and functional?
- Is the material for each course appropriate and the time offered sufficient?
- Does the Department have the necessary resources and appropriately qualified and trained staff to implement the curriculum?

The School has an annual student intake of 300-350 new students (250 + 80-90 transfer students) which far exceeds their requested quota of 180. These high student numbers have clearly inhibited the School’s ability to implement the curriculum effectively. It is therefore the opinion of the EEC that this situation is not sustainable and the School cannot be expected to educate cohorts beyond its capacity. Direct and undesirable consequences of high student numbers include overcrowded lecture theatres, laboratory classes with inadequate resources and a clear shortage of technical assistance.

Despite the high student numbers the School has been able to effectively and clearly articulate a rational curriculum. The curriculum meets appropriate, universally accepted standards in providing students with a large and diverse range of subject areas. However, the EEC recommends that the School introduce a policy which will provide a detailed syllabus for each course which clearly articulates applicable policies, learning outcomes and expectations, assessment schedule, grading system, office hours and contact details for faculty.

Based on the limited number of examples observed and its interactions with students, the EEC found significant variability in the quality of the course materials with appropriate ones coexisting with outdated. Faculty members do not seem compelled to improve the quality of lecture notes, particularly if class sizes are small.

Some students requested greater flexibility in scheduling, to accommodate work commitments (e.g. one student was a young father with a job). Some courses and tracks

(Divisions) were not seen to be as transparent compared to other programs. Importantly, many courses seem to have considerable overlap and lack opportunities for practical engagement of the students. As pointed out in the teaching section below, the classroom assignment policy of the School needs review.

The EEC feels that the range of courses is too large overall and a case for rationalizing the number can easily be made. The disproportionate number of students in each specialization area can lead to extremes in class sizes from too small to too large. This particular characteristic of the School can at times affect the cohesiveness and functionality of the curriculum. Nonetheless, there is room for more modern courses in areas such as plant molecular biology and, in addition, a 1-2 ECTS course on Professional Ethics would be useful.

Classes are given across two campuses, Thessaloniki and Agroktima (14 km apart), which has presented problems for some students including traffic safety and time management. The research farm at Agroktima was considered as functioning well below capacity and seen to be a weakness in the implementation of the curriculum. However, this can be an opportunity for consolidation of the educational activities, and, in this vein, there is an expressed desire of the faculty members to have all classes at the Agroktima.

The curriculum (especially postgraduate) also largely lacks a seminar series (with the exception of the Food Science and Technology Division) by which students can be exposed to researchers and research ideas from other disciplines and other national and international organizations.

RESULTS

- How well is the implementation achieving the Department's predefined goals and objectives?
- If not, why is it so? How is this problem dealt with?
- Does the Department understand why and how it achieved or failed to achieve these results?

The School continues to graduate a high number of undergraduate, MS and PhD students and based on this metric the implementation of the curriculum can be considered to be highly successful although there are clearly areas of improvement needed. The School lacks an outcomes assessment process for all its programs. EEC strongly encourages the introduction of such a process.

IMPROVEMENT

- Does the Department know how the Curriculum should be improved?
- Which improvements does the Department plan to introduce?

The School is acutely aware of some deficiencies in the curriculum and is currently engaged in developing a new one. There is a plan in place to merge the 3 plant-based Divisions and rationalize course offerings. The EEC strongly endorses this strategy.

Of great concern to the EEC is the claim that the high school education system is deficient in providing traditional core skills in chemistry, mathematics and physics. This has necessitated the introduction of specialist courses into the curriculum to address these deficiencies.

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

The School of Agriculture provides knowledge in the areas of Animal Production; Agricultural Economics; Hydraulics, Soil Science and Agricultural Engineering; Food Science and Technology; Field Crops and Ecology; Horticulture and Viticulture; Plant Protection.

- **Teaching methods used**

Teaching methods include classroom teaching, laboratory exercises and fieldtrips for selected courses, and opportunities to engage in laboratory research. The School has started to utilize the software web-teaching package Blackboard in a rather limited number of courses.

- **Teaching staff/ student ratio**

The faculty member/student ratio for the School is 1 to 21. There is significant variation between Divisions (κατευθύνσεις). For example, the ratio of students who selected the various Divisions (κατευθύνσεις) for the 2004-2005 academic year per faculty is as follows:

- Animal Production: 5.5,
- Agricultural Economics: 20.5,
- Hydraulics, Soil Science and Agricultural Engineering: 3.0,
- Food Science and Technology: 16.0,
- Field Crops and Ecology: 14.5,
- Horticulture and Viticulture: 25.0,
- Plant Protection: 18.0.

It should be noted that the majority of the courses contain a laboratory section. The lab provides practical skills to the student, and is taught in small groups of students with no more than 20 per session for most courses. Some laboratory sessions use specialized personnel to teach the labs. Several students brought up the fact that labs were often demonstration-based, where the students observed but lacked hands-on experience.

- **Teacher/student collaboration**

From our interviews with a significant number of postgraduate and undergraduate students from all Divisions (κατευθύνσεις), it was evident that teaching staff is largely accessible and collaborate with students. That was particularly true for postgraduate students.

- **Adequacy of means and resources**

All stakeholders stressed the inadequacy of the facilities in the main campus. The building has been damaged during the last earthquake in 2007 and has been declared dangerous. During the meeting with the EEC the Vice-Rector stated that there is funding secured and

within the next three years the School is going to move to the farm (Agroktima).

Undergraduate students voiced strong objections to the current policy of classroom assignment. They were particularly critical of the classroom assignments when the number of seats in the classroom assigned were significantly fewer than the registered number of students for the same course. They stated that they had to attend lectures standing and even from the corridor. Moreover, they complained that some classes are offered at the Agroktima and transportation from/to the main campus is far from ideal. The President of the School stated that there is some transportation available and that the School is doing its best to accommodate the needs of the students under the current budget restrictions.

Students criticized the lack of consumables for most laboratories with the notable exception of a few labs in the Food and Plant Sciences. Faculty members confirmed the deficiencies and clarified that the budget allocated to the purchase of consumables has been limited and does not exceed 1,800 euros a year per faculty member, an amount not sufficient to cover even a month's supplies for most labs. They have been creative and use funds from research programs, when possible and allowed, to complement the budget of the corresponding teaching labs. The committee suggested to the students to request from their elected representatives their intervention to the University administrative bodies so that the University can make more funds available for the purchase of consumables.

Students also mentioned that in most laboratories the equipment is dated and although well maintained there is a need for improvement. Postgraduate students were critical of maintenance issues and training for the various instruments that they need to use. Faculty recognised the problem and they mentioned that for many years the state has not provided funds for equipment and that most of the equipment has been purchased with funds from competitive research programs.

Students have adequate access to major libraries and databases through internet. The School's library is located in the main campus and provides reference material, an adequate reading room and computers. It should be noted that the reading room had a limited number of students using it during the visit of the evaluation team.

- **Use of information technologies**

Students and faculty have been issued university e-mail addresses. All buildings of the School of Agriculture (including buildings at the farm) are equipped with internet connections. The University has introduced Blackboard and faculty members are currently using it in two courses. We were told that it has been introduced recently and it is expected that the number of internet assisted courses will increase in the very near future.

- **Examination system**

The quality and effectiveness of the teaching is evaluated mostly by a single final examination; only certain classes employed midterm exams ("proodos"). Examinations are almost exclusively written. Students have the opportunity to take an exam at the end of the semester in a three week exam period. If they fail an exam in either semester they have the opportunity to repeat it in an additional exam period in September.

IMPLEMENTATION

Please comment on:

- Quality of teaching procedures
- Quality and adequacy of teaching materials and resources.
- Quality of course material. Is it brought up to date?
- Linking of research with teaching

- Mobility of academic staff and students
- Evaluation by the students of (a) the teaching and (b) the course content and study material/resources

- **Quality of teaching procedures**

Most faculty members appear dedicated and enthusiastic about their teaching and as a result, the quality of teaching seems high. Attendance of courses is rather low. Students do not attend all courses and current legislation does not allow for the instructor to introduce compulsory attendance. The introduction of weighted grading where the student grade will depend on midterm exam, quizzes (announced and unannounced), assignments, laboratory exercises and a final exam can provide an incentive for students to attend the classes.

- **Quality and adequacy of teaching materials and resources**

During interviews with students and faculty it became apparent that some of the notes provided to the students are outdated. It was mentioned in more than one case, that some notes were even written in the polytonic system. Faculty should address this issue and regularly update the notes. Students have adequate access to major libraries and databases through the internet. There were complaints registered relating to the lack of electronic copies of material presented to them by the instructor. Increased use of Blackboard by faculty members will certainly eliminate complaints in this area.

- **Quality of course material. Is it brought up to date?**

Students indicated that for most courses material is appropriate. They expressed concern for some courses where they consider the material outdated. Course material should be reviewed and updated regularly by the instructor.

- **Linking of research with teaching.**

Few undergraduate students seemed to have the opportunity to participate in laboratory research. Currently, such students are generally not compensated for their work. Postgraduate students often assist in the teaching of laboratory classes typically without compensation. We believe that it would be desirable and appropriate to award stipends to such students in recognition of their effort.

- **Mobility of academic staff and students**

Faculty members accumulate sabbatical time, which they can use for their scientific advancement according to a personal plan that fits their needs. Faculty members should be encouraged to use their sabbatical leave to carry out research in other institutions.

During interviews with students the committee asked about their experience with mobility programs such as Erasmus. Although we have no complete data set, participants in the interviews stated that there were few students making use of Erasmus. In our questions as to why this was the case, students mentioned as one of the reasons the difficulty of transferring credits from the courses that they may take and pass abroad. Faculty members agreed with the criticism and suggested that students consult with them before they schedule their classes abroad. It may be helpful to establish an institutional process where the students will be obliged to submit their program of studies abroad and ascertain that the courses that they will take are transferable before departing.

- **Evaluation by the students of (a) the teaching and (b) the course content and study material/resources**

The OM.E.A. provided us student evaluation of instruction for some courses taught in the School. The questionnaire is considered appropriate and included questions on teaching, course content and material used. Results were used in the internal evaluation report. Interaction with students indicated that most Divisions (κατευθύνσεις) have not repeated the evaluation in subsequent semesters with the exception of the Division of Food Science and Technology which uses evaluation in every course and semester. Regular evaluation can only lead to improvement of teaching and the upgrade of the faculty's teaching skills and its continuous use in all semesters and courses is strongly encouraged by the EEC.

RESULTS

Please comment on:

- Efficacy of teaching.
- Discrepancies in the success/failure percentage between courses and how they are justified.
- Differences between students in (a) the time to graduation, and (b) final degree grades.
- Whether the Department understands the reasons of such positive or negative results?

- **Efficacy of teaching**

Currently there is no established process on assessing efficacy of teaching. An outcomes assessment process with metrics should be gradually introduced. The assessment should be referred to individual courses and examine if at the end of the course the student has achieved the learning outcomes.

- **Differences between students in (a) the time to graduation, and (b) final degree grades.**

The average duration of studies for undergraduate students is around 13 semesters. The number is considered excessive and most faculty members recognize this. The existence of student advisors in the School is considered very positive.

IMPROVEMENT

- Does the Department propose methods and ways for improvement?
- What initiatives does it take in this direction?

- **Does the Department propose methods and ways for improvement?**

Yes. The School has been trying for a number of years to move to the farm (Agroktima) in new and expanded facilities. There is a building with classrooms almost ready and construction of a new building for laboratories will commence shortly.

The School also recommends the reduction of the annual student intake, a measure which is quite appropriate for the size of faculty and the building conditions.

- **What initiatives does it take in this direction?**

There is not much the faculty can do as the number of students assigned to the School each

year is the product of government policy.

The School should introduce compulsory student evaluation of instruction for all courses taught. This can provide faculty members with incentives to further enhance the teaching experience.

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?

- What is the Department's policy and main objective in research?

The School's stated mission is to promote research training of students and to develop high-level research programs in all areas of relevance to Agriculture in Greece and the greater region. Both basic and applied research is to be pursued to acquire new knowledge and to develop and promote agricultural applications. The School's mandate is to train scientists and professionals in the various areas of Agriculture. There is clear understanding of the importance of research both in production and in post-harvest applications and marketing of agricultural products. The School's mission in research is to also protect natural resources and promote the health of both agricultural and natural ecosystems. There is emphasis on research to promote sustainability of agricultural production and processing through quality assurance.

- Has the Department set internal standards for assessing research?

Currently the School lacks a fully articulated and approved policy on assessing research output among the different Divisions and faculty members. However, a set of guidelines has been developed by the Division of Food Science and Technology (dated 4 May 2007) for objective assessment of faculty members' research productivity. The EEC considers this a positive step and strongly encourages its adoption and implementation, with due adjustment to the specific missions and special conditions in the different Divisions.

IMPLEMENTATION

- How does the Department promote and support research?
- Quality and adequacy of research infrastructure and support.
- Scientific publications.
- Research projects.
- Research collaborations.

- How does the Department promote and support research?

The School's Administration is fully aware of the importance of a strong research component in Agriculture. Current research facilities on the main campus are considered sub-standard for a modern research environment. The proposed new facility at the Agroktima was supported by the vast majority of the faculty members and its successful realization will require full and consistent support by the University Administration. The EEC considers this move of paramount importance for research productivity of the School, but the internal report expressed frustration with the slow pace of this transition. Such support was expressed unambiguously during the EEC's meeting with the Vice-Rector for Academic Affairs.

- Quality and adequacy of research infrastructure and support.

The infrastructure for research appeared largely inadequate, with the exception of certain facilities at the Agroktima. Pilot facilities need to be made available and analytical equipment is often antiquated. Grant management services need to be streamlined to assist the faculty members in the preparation of grant proposals and management of grant awards. There seems to be little consistent financial support for maintenance of research laboratories, research space renovations, or for set-up of new facilities. The amount of discretionary funds provided to each faculty member for student research training (less than 1,800 euros) is completely inadequate.

- Scientific publications.

In terms of research productivity (based on both publications and grants) the School ranks in the top 10 among the more than 40 administrative units of the University. Publication productivity varies among and within Divisions; a small number of faculty members in each orientation are highly productive (and to be commended), but for many others productivity is low or minimal.

- Research projects.

In terms of research productivity (based on both publications and grants) the School ranks in the top 10 among the more than 40 administrative units of the University. As also observed with publications, productivity in terms of grant awards varies significantly among and within Divisions. The EEC noted that there are few grants from government sponsors in Greece and that contracts from the European Union are becoming increasingly more difficult to procure. The EEC strongly suggests that faculty seek more collaborative opportunities, both within the School and outside. The University Research Committee also needs to invest more resources in facilitating grant-seeking activities and proposal preparation.

- Research collaborations.

As mentioned above, the EEC considers it highly desirable that faculty members engage in more collaborations within the School and with outside research units. The EEC noted that several faculty members did not collaborate with NAGREF (National Greek Research Agricultural Foundation) and instead felt that this agency was antagonistic. The EEC believes that collaborations would benefit both institutions, and also believes that this should actively be endorsed by the University. The EEC also believes that the faculty members need to actively pursue and develop successful collaborations with industries that focus on agricultural commodities in the region, as well as other areas. Such collaborations need to be part of the strategic plan of all Divisions.

RESULTS

- How successfully were the Department's research objectives implemented?
- Scientific publications.
- Research projects.
- Research collaborations.
- Efficacy of research work. Applied results. Patents etc.
- Is the Department's research acknowledged and visible outside the Department?
Rewards and awards.
- How successfully were the Department's research objectives implemented?
Generally, the research objectives of the school are successfully implemented.

- Scientific publications.

Faculty members of the School have published 568 peer reviewed publications in scientific journals and 49 books/chapters in the 2004-2008 period. The number is considered satisfactory for a Faculty of Agriculture, although some orientations may appear more productive than others.

- Research projects.

Currently there are 68 active grant programs with a budget slightly over 10.5 M euros, which, on average per faculty member basis, appears rather low.

- Research collaborations.

There are no comprehensive institutional data provided by the School to the EEC regarding research collaborations with other institutions. However, individual divisions appear to have both national and international collaborations and vary in size. For example, the INTERREG collaboration between the Ag Engineering division and European partners is considered significant. Some labs are already ISO certified. A strengthening of collaborations both at the national and international level is to be encouraged.

- Efficacy of research work. Applied results. Patents etc.

The average h-factor of faculty members is 6.6 which for the field of Agriculture is good. The average number of citations on a division basis exceeds 1000 which again is considered reasonable given the sizes and peculiarities of the different fields and the often applied nature of the disciplines. There is a sustained level of productivity of postgraduate theses with 232 MS and 61 PhD degrees awarded in the period 2004-2008. There is a weakness in the transfer of research results into the economy as seen by the award of only one patent in that period.

- Is the Department's research acknowledged and visible outside the Department?
Rewards and awards.

There are examples of outstanding international recognition of individual faculty members as evidenced by metrics such as h-factor or total number of citations. The EEC makes particular note of the superior performance of some younger faculty members.

IMPROVEMENT

- Improvements in research proposed by the Department, if necessary.
- Initiatives in this direction undertaken by the Department.

- Improvements in research proposed by the Department, if necessary.

The EEC recommends the establishment of an internal system to reward the most outstanding junior faculty member and the best PhD thesis. We encourage the standardization of quality criteria to create and maintain an environment where excellence will flourish.

- Initiatives in this direction undertaken by the Department.

A set of guidelines has been developed by the Division of Food Science and Technology (dated 4 May 2007) for objective assessment of faculty members' research productivity. The EEC considers this a positive step and strongly encourages its adoption and implementation, with due adjustment to the specific missions and special conditions in the different Divisions.

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?

The need for adequate administrative and staff services is clear throughout the School of Agriculture. The School is also clearly aware of the importance of web-based services for students and faculty, including unlimited student access to library and scientific publications through the internet, and class delivery through internet-based modalities.

It is recognized that laboratory and classroom facilities clearly must satisfy requirements for teaching effectiveness, safety and handicap access. It is also recognized that properly equipped and maintained greenhouses, animal facilities and field plots for student and faculty research are critical. Access to the Agroktima for such work is considered to be an essential component of the effectiveness of student research.

The importance of student academic advising is recognized, as is the need to facilitate student involvement in research; students and faculty members recognize the importance of such engagement for a rewarding student experience and for student academic and professional networking. Available venues include the required Practical Exercise (once in the undergraduate program, and lasting one or two months) or other means such as internships.

IMPLEMENTATION

- Organization and infrastructure of the Department's administration (e.g. secretariat of the Department).
- Form and function of academic services and infrastructure for students (e.g. library, PCs and free internet access, student counseling, athletic- cultural activity etc.).

Adequate administrative infrastructure is in place. The School has excellent access to web support, and computer stations are available to students at the central library (with ca. 500 new books purchased each year, and access to electronic journals covering all relevant areas of interest) as well as smaller libraries at the individual Divisions. Computer stations at the central library are numerous and up-to-date; computers are renewed regularly. Extensive internet support is available on campus (at a site adjacent to the School of Agriculture Building on the main campus) not only for all sites on campus but also for Agroktima and for students, faculty and staff on and off campus through VPN.

Greenhouse space is well maintained and available for student research projects at Agroktima. Animal and field space is available for research projects, but staff positions for the Agroktima are few and at risk of being further reduced upon imminent retirements.

Certain laboratory programs offer services dedicated to specific deliverables of significance to

the local economy and public health / environmental health sectors. Prominent examples of state-of-the-art equipment in world class laboratories include quality and safety assessment of honey, certification of agricultural structures and detection of pesticides and other contaminants in water and soil samples.

Students have access to academic advisors (at a stated ratio of 4-5 students per advisor) on an ad hoc basis for course and curriculum counselling. There seemed to be overall limited guidance related to the Practical Exercise, internships, mobility, or for future professional placement. Nonetheless, the School's initiative to have the EEC meet with alumni and employers is appreciated as a sign of the School's willingness to maintain and enhance the links between itself, its students and the greater economy sectors.

Certain Divisions (FST, PP and HSAE) have well organized outreach to the community, the local agricultural sectors and the industry.

RESULTS

- Are administrative and other services adequate and functional?
- How does the Department view the particular results?

The functionality of the School's administrative services and infrastructure is inferred from the internal self-evaluation, discussions with faculty members and students, and actual visits to the School and related facilities. The University's Administration seems committed to supporting the School's needs and growth, within the constraints created by numerous other units in the AUn. Web infrastructure is excellent, allowing each student unlimited internet access, including the scientific literature online and access to internet-based course delivery modalities such as Blackboard.

Clerical, technical and administrative staff positions are often limited. Most Divisions lack accounting and financial staff dedicated to grant management and other fiscal operations of the divisions. Grant management services are provided by the University through the Research Committee; however, several faculty members expressed concern that the University Research Committee frequently did not facilitate the preparation of proposals and instead made it unduly onerous.

The lack of filling positions left vacant through retirements and the increase in the number of students has created a lot of stress to existing faculty members and staff who struggle to train students with severely limited resources. For most divisions, the number of students admitted is simply too large for the existing facilities and staff. At the School's building on the main campus facilities and equipment seem antiquated, and there is no handicap access. The EEC noted a concern for safety in the case of an earthquake, since the building has in fact been declared dangerous.

Greenhouse, animal and field facilities at Agroktima have great potential for serving the students, but are currently severely understaffed, and there seems to be a certain lack of good mutual understanding between current Agroktima staff and certain users from the School; this can complicate the planning and implementation of experiments and delay the completion of student research projects.

Excellent programs in certain laboratories have served and continue to serve the local economy and other stakeholders (e.g. apiculture, certification of agricultural structures, monitoring of pesticide and other residues in soil and water). Profit generation from some of these services has contributed to the sustainability of these programs.

Students have access to academic advisors (at a stated ratio of 4-5 students per advisor) for

course and curriculum counselling. However, regular meetings with advisors are typically not required, potentially contributing to the commonly stated problem of students taking course prerequisites subsequent to the course itself, unduly extending the time required for the completion of their degree. There seemed to be overall limited guidance related to the Practical Exercise or future professional placement. In most Divisions there appears to be limited awareness or promotion of the opportunities for student internships through the Erasmus program, and student participation was quite limited.

Students appear reluctant to utilize elected student representative bodies in order to voice their grievances regarding academic issues. Stated reasons were the perception that elected representatives were primarily concerned with promotion of certain political agendas, and not with general academic issues.

Outreach to the community, the local agricultural sectors and the industry was well organized and extensive for most of the Divisions. Prominent examples included frequent workshops for the industry and extensive educational outreach to schools through an FST Division program funded by the Daskalopoulos Foundation.

IMPROVEMENTS

- Has the Department identified ways and methods to improve the services provided?
- Initiatives undertaken in this direction.

There is urgent need for adequate, safe and handicap-accessible laboratory space for student training. The School repeatedly expressed the desirability of new facilities at Agroktima. The addition of technical staff will be critical to adequately prepare and supervise the student laboratories. The School also critically needs dedicated staff to handle grant management and other fiscal operations for the Divisions.

Continuous efforts need to be in place to assure good understanding between current Agroktima staff and users from the School. This will minimize delays in student projects involving use of facilities at the Agroktima. Additional and adequately trained staff for the Agroktima will be a valuable investment, critical to the School.

Job placement services for students are limited. Organized meetings with representatives from the agricultural sector, industry, government, institutes, foundations etc would assist students in networking with potential employers; faculty engagement in assisting students with choices for the performance of the Practical Exercise and with internship opportunities will continue to be crucial. It will be desirable for each Division to have a faculty liaison for mobility-related programs such as Erasmus (an Erasmus liaison was present in some but not all Divisions). Administrative staff and faculty advisors need to clearly inform students prior to Erasmus participation on the need to assure course equivalencies with individual faculty at the School of Agriculture. It is essential that faculty encourage students to take advantage of Erasmus and related mobility opportunities.

Regularly scheduled advising sessions will assist students to design their plan of coursework in proper order to avoid placement in courses without listed prerequisites. This issue can also be addressed with an electronic registration-based system to assure that students will not register without relevant prerequisites.

The EEC strongly recommends the development of an organized mentoring system for junior faculty on issues related to professional growth and development, teaching and scholarly activity.

The EEC strongly recommends the development of a retention, promotion and tenure

institutional policy which will provide guidance to faculty members on related issues.

A number of programs and laboratories have excelled in providing much needed services and outreach to numerous stakeholders, and these need to be adequately recognized and honoured by the School as well as the University. Recognition and reward of excellence will promote visibility and encourage opportunities for the School to build on existing areas of strength.

Collaboration with social, cultural and production organizations

Please, comment on quality, originality and significance of the Department's initiatives.

The School's initiatives are mainly oriented towards maintaining active outreach programs to the community, the local agricultural sectors and the industry. These appear to be both extensive and well organized for most of the Divisions. Frequent workshops for the industry and extensive educational outreach to schools through an FST Division program funded by the Daskalopoulos Foundation constitute notable examples in this area.

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.

- **Short-, medium- and long-term goals.**

Based on the Internal Evaluation Report, the various presentations (School's President and representatives of the individual Divisions and of the Agroktima) as well as the discussions of the External Evaluation Committee with the School's President and members of the Internal Evaluation Committee, the following were identified as the goals and wishes of the School:

Faculty, Students, Curriculum and Teaching:

- a) To move the entirety of the School's facilities from the current unfit building of the

downtown AUTH campus to the Agroktima and to consolidate the School's teaching and research infrastructure with renovation of the existing buildings and with establishment of new ones.

- b) To decrease the size of the annual student intake in order to facilitate the training of the student body, whose size is not currently under the School's control.
- c) To upgrade the curriculum and make it more flexible with respect to the Divisions.
- d) To reinforce the students' course attendance with proper incentives.
- e) To establish clear criteria of checks and balances in evaluating faculty members' teaching performance.

2) Research:

- a) To enhance faculty members' activity in competing for research funding with appropriate incentives and support services.
- b) To upgrade major equipment, which are aging rapidly and help with a more even access of all Divisions to modern, high-quality instrumentation.
- c) To promote uniform indices of quality and strengthen the rewards system, so as to create and maintain an environment where excellence will flourish.
- d) To fully exploit the possibilities offered by the Agroktima both for research and for professional outreach programs (e.g. establish photovoltaic systems and create a model Ecological Park).
- e) Grant management services by a more professionally staffed University Research Committee will need to be streamlined to assist the faculty members in the preparation of grant proposals and management of grant awards.

Strengths and Weaknesses

The School's goals and wishes regarding faculty members, students, curriculum and teaching are reasonable and appropriate. The External Evaluation Committee strongly agrees with the School's self-assessment.

The same is true with the School's goals regarding its research: the enhancement of its effectiveness as an instrument of economic development and of its overall visibility and recognition are fully endorsed by the EEC.

Plans regarding the Agroktima are also entirely appropriate and, at the present juncture, they meet with the support by the University's authorities. Proceeding quickly with the move is strongly recommended.

The School's president and many faculty members expressed the wish for autonomy of the Divisions so that they become Departments within the School (analogous to those of the Agricultural University of Athens), because the current large administrative structure often prevents decision-making and impedes change at the Division level. In addition, the budget allocated by the University administration to the School corresponds to that of a typical single Department, which, however, given the size and complexity of the School of Agriculture, is inadequate. Therefore, the creation of 5 distinct Departments (representing, as the Divisions currently do, distinct disciplines) within the School as a way to both improve decision-making and overcome the paucity of finances from the institutional budget of the University, is fully supported by the EEC.

- **Strategies, programming and actions.**

1) Curriculum and Teaching.

a) The majority of faculty members have participated in discussions on adapting the curriculum and streamlining the teaching. Students also wish to have more relevant preparations for their chosen profession.

b) Overall, the School has collected the required data and teaching indicators. However these should become a regular activity within all Divisions and not be triggered once every 5 years in view of the Evaluation exercise.

c) There is no clear and institutionalized monitoring plan regarding the attainment of goals. Also, there is no institutionalized plan as to how to respond to deviations from current strategies.

2) Research.

Despite the recognized initiatives to address individual issues regarding research productivity and establish criteria of excellence for faculty members' promotion, the School's current structure does not seem to emphasize the setting of goals and the formulation of long range strategic plans. These are important and the 'culture' change required for this could come from an institutionalized Annual Assessment Report that should register the School's progress and accomplishments in full transparency (to be posted on its website).

Strengths and weaknesses

Strategies to address weaknesses discussed in the preceding section have been recommended in previous sections of the report.

An additional area of concern is the School's apparent preference for its own doctorate-level graduates when filling faculty positions. The EEC encourages the hiring of qualified candidates with different professional perspectives to enrich the School's human potential. Regular sabbatical leaves must also be encouraged for the professional development of faculty members.

- **Potential inhibiting factors at state, institutional and departmental level.**

Several inhibiting factors were identified, including:

1) Suboptimal governmental funding, which is exacerbated by the administrative structure of the School (constituting, as it does, a single Department among over 40 other departments within ATh). This is most prohibitive for new faculty members, who are not given sufficient start-up funds when they are hired.

- 2) Rational assignment of space, which, at least in the main building (Panepistimiopolis AUTH) currently varies widely.
- 3) The current mechanism of National Entrance Examinations and student intake. a) Current law forces students to choose a path not on the basis of their declared interests but rather on the basis of where they were accepted given their performance in the entrance exams. b) Universities are not allowed to select their students and they do not have sufficient autonomy to decide on the number of students they can train effectively with the resources at their disposal.
- 4) Insufficient autonomy of the universities and their dependence on a micromanaged “framework law” (“nomos-plaisio”), which in addition to the areas discussed above, affects all aspects of university life.
- 5) The current irrational mandate for “one textbook” (or set of notes) within the framework of the long-established cost-free supply of educational materials.
- 6) The paucity of incentives, such as scholarships and awards for both students and faculty members.

Recommendations:

Most of the problems discussed in the preceding paragraph are problems that can only be corrected at the state level. We therefore recommend that the state assumes the leadership to correct these problems because their correction is vital for the well being and advancement not only of higher education but of the entirety of Greek society.

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 EEC noted the large number of the School faculty members and the adequate number of students that participated in the evaluation process – both in submitting their personal evaluation report and in meeting with the EEC during the on-site visit. The EEC also noted the very positive student comments about the academic conduct of the faculty members but also the School's strong preference to its own graduates when filling recent faculty positions.

The EEC strongly recommends the seeking of qualified outside candidates for new positions as well as the restructuring of the School into five Departments. Such a restructuring should address, at least partially, the School's funding problems and would increase the efficiency and effectiveness of the decision making process on key issues related to strategic planning, curriculum development, hiring and promotion of faculty by the different units involved.

Measures should be taken by the School to correct for the uneven distribution of students among the different Divisions. The School should also consider the possibility of restructuring the various Divisions and Laboratories by moving staff among the Divisions/Laboratories or hiring replacements for retiring faculty members in other emerging research fields within agricultural and food sciences.

The EEC feels that the current number of course offerings in the School's program of undergraduate studies is borderline excessive contributing, at least in part, to the delayed student graduation. In addition, the EEC would like to point out that the current number of core courses is also excessive. The subject-matter of the postgraduate courses must be clearly defined as advanced topics and the overlaps with undergraduate courses should be kept to the minimum necessary.

The EEC noted the relatively small number of courses evaluated by students as well as the extremely small number of students participating in the evaluation process. It recommends the regular evaluation of the teaching so that this becomes a feature of the prevailing quality assurance culture in the School.

During the on-site visit, students noted the existence of a significant number of dated class notes supplied by professors of the School as well as the use of the same questions in consecutive years' final exams for a number of courses. Perhaps more importantly, many students repeatedly noted the condescending and unprofessional behaviour of University faculty, outside the School of Agriculture, teaching courses in Chemistry and Animal Pathology.

The EEC notes and compliments the significant grant activity of the School (ranking 5th among all Departments of AUTH in terms of grants), the research activity of some junior faculty members, the involvement of students in research projects as well as the breadth of research topics addressed by faculty and graduate students. While the average research

productivity of faculty members is moderate, most published research has been conducted by a small subset of very productive researchers. The EEC noted substantial differences in research infrastructure and space between different laboratories that should be lessened with the eventual move of the entire School to the Agroktima.

The School is strongly encouraged to continue its efforts to improve its funding of graduate students and their research (which, in some cases, has been noted as being almost nonexistent) and facilitate the professional development and growth of its faculty through the promotion of carefully designed sabbatical leaves. Central to the academic development and growth of both faculty and students could also be a seminar series which, with the notable exception of the Division of Food Science and Technology, is currently missing from the School's Divisions. In addition to generating goodwill for the School, seminars by constituent groups could bolster the relevance and significance of the School's research and create synergies that could prove beneficial for everybody involved. Finally, the School's research will also benefit from a better-staffed Agroktima that will be more responsive to the faculty and student needs and the provision of start-up funds and access to graduate students for new faculty members .

It is clear that the deficit in cooperation, communication and vision is a general problem of the Universities in Greece, leading to inward-looking (εσωστρέφεια) and inhibiting progress. Against this background, the strong participation of the AUTH School of Agriculture stakeholders (faculty members, undergraduate and post-graduate students and staff) in the evaluation process attests to the willingness of the School to establish a culture of merit, accountability and transparency.

Such an exercise could become an on-going process, whereby the School will get into the habit of preparing an annual assessment that would register the School's progress and accomplishments in full transparency (to be posted on its website). This would, in turn, become an invaluable tool for the formulation of long-range strategic plans, which will impel the School in the consistent pursuit of excellence, in full cohesion with the society at large.

The Members of the Committee

ARISTOTLE UNIVERSITY OF THESSALONIKI
SCHOOL OF AGRICULTURE

Name and Surname

Signature

Professor **Spiros Agathos**

University of Louvain, Louvain, Belgium

Professor **Athanasios Alexandrou**

California State University-Fresno, California, U.S.A.

Professor **Konstantinos Giannakas**

University of Nebraska-Lincoln, Lincoln, U.S.A.

Professor **Sophia Kathariou**

North Carolina State University, Raleigh-North Carolina, U.S.A.

Dr. **Christopher Lambrides**

University of Queensland, Brisbane, Australia

APPENDIX

1. Animal Production

The activities of this Division are carried out at the Agroktima. A pioneering post-graduate program was implemented already 33 years ago. The Division has the potential to be an important component of the School in education and research in this key area for the Greek and wider regional economy.

A. Curriculum

Required courses address key areas of focus in the Division (Reproduction, Nutrition, Husbandry, Aquaculture and Fisheries). As Animal Production is an actively growing field with special implications for the local economy, faculty may wish to consider an updated curriculum that reduces or combines some of the existing courses and includes a course on alternative animal production systems (including issues such as sustainable animal production, antibiotic-free production and waste management) plus additional instruction on farm animal nutrition. It is also desirable for the specializations offered by this Division to include laboratories and more practical, hands-on experience.

B. Teaching

The Division recognized the critical need to address serious challenges presented by inadequate coverage of two courses (Pathology and Genetics) that had not been adequately taught by faculty members from outside Departments. During the on-site visit, students expressed the desire and need for classes that would include actual contact with animals and they expressed the strong wish for a skilled and caring animal care staff. There was also an expressed need for more contact with the profession, e.g. through visits by stakeholders from the Animal Industry and seminars within the Division. Undergraduate students indicated that they would appreciate more guidance by faculty members on identification of opportunities for the required Practical Exercise. At the site visit it was also noted that the majority of class materials were noticeably out of date, and a strong wish was expressed for electronic versions (pdf) of the class notes. Most classes have not been evaluated by students on a routine basis. There were indications that the faculty members were interested in implementing routine class evaluations and addressing the other class-related issues discussed above.

C. Research

The EEC was impressed by certain especially active research areas but also noted relatively few (4-12 in 2003-2008) total publications (SCI). There are several active collaborations with other research groups, including teams in France, the UK and Belgium but international mobility involving students seems to be lacking. During the on-site visit, undergraduate students indicated that their diploma thesis was typically a Literature Review and involved no laboratory engagement. Masters students expressed strong concern with severely limited reagents, lack of fundamental equipment, insufficient numbers of animals and challenges in having access to animal facilities, all factors that could seriously compromise their ability to complete their research projects properly and in a timely fashion. Most post-graduate and Ph.D. students did not receive any monetary support. Adequate coordination and agreements with staff at Agroktima will minimize current stated difficulties with student access to facilities for their projects.

2. Agricultural Economics

The EEC noted the small number of Agricultural Economics faculty that participated in the evaluation process – both in submitting their personal evaluation report (9/14) and in meeting with the EEC during the on-site visit. The EEC also noted the very positive student comments about the academic conduct of Agricultural Economics faculty members as well as the Division's strong preference to its own graduates when filling recent faculty lines.

A. Curriculum

The EEC feels that, while the curriculum of the Division of Agricultural Economics is effective in covering the bases of the discipline, it could be improved with the inclusion of areas that are at the forefront of the profession. These areas could include the Economics of Energy/Biofuels, Water Economics, Economics of Innovation & Quality, Ecological Economics, Behavioral & Experimental Economics, New Industrial Economics and/or Food Economics & Policy that are highly relevant in the changing landscape of the increasingly industrialized agri-food system. Given that the current number of course offerings is viewed by the EEC as borderline excessive, the addition of any new courses should probably come at the expense of existing ones that have completed their life cycle. Finally, the EEC would like to point out that the current number of core courses required from students that end up specializing in Agricultural Economics is excessive.

B. Teaching

The EEC noted the very limited teaching space available to the Division. The EEC also noted the relatively small number of Agricultural Economics courses evaluated by students (18/31) as well as the extremely small number of students participating in the evaluation process. To the extent that these limitations do not completely negate the validity of the evaluation scores, the latter were below average in most major categories.

During the on-site visit, students noted the existence of a significant number of dated class notes supplied by professors of the Division as well as the professors' accessibility and interest in their students.

C. Research

The EEC notes and compliments the significant grant activity of the Division of Agricultural Economics, the research activity of some junior faculty members, the involvement of students in research projects as well as the breadth of research topics addressed by faculty and graduate students. While the average research productivity of faculty members of the Division is moderate, most published research has been conducted by a small subset of the faculty. The EEC also noted the absence of mainstream agricultural economics journals from the Division's publication list. Disseminating the Division's research outcomes through journals like the American Journal of Agricultural Economics, the Journal of Agricultural Economics, Agricultural Economics, and the European Review of Agricultural Economics could broaden the exposure of both the results and the Division. Finally, the Division is strongly encouraged to move the completed graduate student research to publication on a more consistent basis, facilitate the sabbatical leave and professional development of its faculty, and develop an intellectually stimulating seminar series addressing the latest trends and issues in the field.

3. Hydraulics, Soil Science and Agricultural Engineering

The EEC noted the satisfactory number (18/23) of Hydraulics, Soil Science and Agricultural Engineering faculty that participated in the evaluation process – both in submitting their personal evaluation report and in meeting with the EEC during the on-site visit. The EEC also noted the very positive student comments about the academic conduct of faculty members but also the low number of students choosing this orientation. In addition, this Division's active involvement in creating their own research and study space in the Agroktima is commendable.

A. Curriculum

The EEC feels that the curriculum of the Division of Hydraulics, Soil Science and Agricultural Engineering includes a rather large number of courses. It was argued that most of the courses are necessary, since the orientation is virtually an engineering discipline and the incoming students are not academically prepared for engineering courses. The EEC understands the argument but feels that some of the courses should be revised, updated and combined. A new program of studies may be necessary to include all these changes resulting in a reduced number of offered courses.

B. Teaching

The EEC noted the good quality of the teaching laboratories in the Agroktima and the participation of laboratory personnel in the preparation and teaching of the laboratory sessions. The hands-on experience that this specialized personnel offers to the students is considered important. The fragmentation of the labs between main campus and Agroktima is a drawback which should be addressed by the complete move of the School to the Agroktima following the completion of the plans for one new building and the renovation of a second building.

C. Research

The EEC notes and compliments the significant grant activity of the Division, with 13.2 million Euros for the period 2007-09. Student involvement in research projects is considered satisfactory. The average research productivity of faculty members of the Division is moderate, and it should be further encouraged. The EEC also notes the limited university financing of the laboratories of the Division and the lack of adequate technical support. The committee wishes to recognize the outward-looking faculty members who have established strong international collaborations and have augmented the Division's visibility with their involvement in the regulation of agricultural structures and buildings in Greece.

4. Food Science and Technology

The EEC noted the total participation of this Division's faculty members in the evaluation process. It also recognized the strategic decision of the FST Division to move in its entirety to the Agroktima, where, over the period of 2005 – 2009, it has progressively renovated and occupied a dedicated building of around 2000 sq.m. The Division's outreach programs and link with a charitable foundation is of particular note. The EEC compliments the Division for its efforts to avoid inbreeding with its own graduates when filling recent faculty lines.

A. Curriculum

The Division's strategic plan includes two new focus areas, Nutrition and Molecular Biology which are fully consistent with international trends. The decision to increase the duration of the common trunk courses from 2 to 2.5 years has to be balanced against that of the courses proper to the specialization of the Division, so that the students become familiar with industrial practice and research in this expanding area.

B. Teaching

The Division is carefully assessing teaching performance and outcomes. During the on-site visit, students indicated that written materials for classes were frequently (4/10) old, and not very useful; the wish for electronic versions of the materials was also expressed. In the case of three of the rather demanding required classes that had a theoretical exercise component, there was no time allotment in class for the exercises. Frequent external seminars added significantly to the academic culture of the Division and complemented the student learning experience. A pilot plant, which is a key target of the Division, will contribute importantly to the teaching program.

C. Research

The Division is housed in a new and attractive building with excellent infrastructure. The Division is to be commended for excellent research involvement, reflected in large numbers of active funded projects and publications (SCI); the publication record of the Division is 108 papers in SCI Journals, with an average of 7.2/faculty member. Sabbaticals, student participation in Erasmus, and numerous collaborations all contribute to the high research profile of the Division. The EEC agrees with the Division's self-assessment that productivity, albeit impressive, is unevenly distributed among faculty. Two new research areas in the Division's strategic plan will include a focus on Nutrition and Molecular Biology; the pilot plant (also in the strategic plan) will also be utilized extensively for research projects. During the on-site visit, undergraduate students indicated that their thesis sometimes was a Literature Review and involved no laboratory engagement. However, masters and pre-doctoral students were overall highly satisfied with their research involvement, their guidance and supervision, availability of reagents and equipment, and encouragement to publish. Pre-doctoral students were commonly supported through scholarships and research programs, but masters students typically did not receive any monetary support.

5. Field Crops and Ecology

The EEC has noted the participation of the totality of this Division's faculty members in the evaluation process. A pioneering post-graduate program has been in place since 1972. The Division plays a significant part in the training of field agronomists and in promoting relevant research in a domain of central economic importance for Greece and the region. The Division is distinguished by training the greatest number of post-graduate students in the School and by awarding the largest number of doctorates amongst all Divisions.

A. Curriculum

Required courses address key areas of focus in the Division (Field Crop Production and environmental issues). As this orientation has a huge agricultural crop focus with implications for the national economy of Greece, faculty members may wish to consider an updated curriculum that reduces or combines some of the existing courses and includes new courses on plant molecular biology. Curriculum adaptation will have to be undertaken in any case in view of the projected merging of the 3 plant-directed orientations (Field Crops & Ecology, Horticulture & Viticulture, and Plant Protection) into a single one, an initiative that is endorsed by the EEC.

B. Teaching

There was great pride among the faculty of this orientation in educating students for careers in Greek Agriculture. The EEC strongly recommends the universal use of Blackboard for all courses. It also encourages faculty members to try and reduce, with appropriate incentives, the chronic absenteeism of the students from the courses and to bring down the average time required for graduation. In response to students' remarks, the EEC recommends updating and modernization of class notes for undergraduate courses and the introduction of more lab-oriented contact hours for post-graduate courses. As with other Divisions, there is an acute need for specialized technical support and for adequate and consistent supplies for laboratory classes, plus a need for hands-on demonstrations (e.g. more microscopy, etc.).

C. Research

This orientation has a very strong and creditable research output with 133 publications in SCI journals at a rate of almost 9/faculty member. However, this high productivity is very unevenly distributed among faculty members. The orientation showed a general dissatisfaction in being unable to attract competitive EU grants. Attempts to collaborate with other Greek scientists (NAGREF) have often been unsuccessful. The laboratories are deficient of modern equipment and faculty members expressed their disappointment at not being able to obtain equipment from EU grants. However the faculty members in this orientation pride themselves on their ability to be creative despite having a meager budget.

6. Horticulture and Viticulture

The EEC noted the rather low number of this Division's faculty members that participated in the evaluation process – both in submitting their personal evaluation report (11/15) and in meeting with the EEC during the on-site visit. The EEC also noted the positive student comments about the academic standards and accessibility of Horticulture & Viticulture faculty members but also the Division's strong preference to its own graduates when filling recent faculty lines. Finally, the EEC noted the lack of technical support staff and competition for infrastructure (e.g. greenhouses) but also the remarkable success of the apiculture activity (equipment, training) and its good cooperation with the private sector.

A. Curriculum

Required courses address key areas of focus in the Division (Commercial production of fruits, vegetables and flowers and the design and establishment of parks and gardens). As this orientation is an actively growing field with implications for the national economy, faculty members are encouraged to consider an updated curriculum that reduces or combines some of the existing courses and includes courses on modern tissue culture methods, and plant molecular biology (including transgenic research). Also the wish for a greater focus on biological/organic agriculture and a closer link with the needs of the real economy is endorsed by the EEC. Such a link would also give a further impulse to the post-graduate programs offered by the Division.

B. Teaching

There was a healthy respect among students for teaching staff in the orientation. Some Agroktima laboratory space (e.g. apiculture, greenhouses) provides an excellent facility for teaching. The EEC strongly recommends the universal use of Blackboard for all courses. It also encourages faculty members to try and reduce, with appropriate incentives, the chronic absenteeism of the students from the courses and to bring down the average time required for graduation. In response to students' remarks, the EEC recommends updating and modernization of the class notes.

C. Research

In the period 2004-2008 the Division published 81 papers in SCI journals at a healthy average of 6.38/faculty. The Division should consider extending their research portfolio to include modern techniques of plant molecular biology. The number of research grant awards (26) is good and should provide an impulse for further success and for an outward vision (e.g. EU), especially given the existing collaborations with international bodies.

7. Plant Protection

The EEC noted the total participation of this Division's faculty members in the evaluation process. It also recognized the great number of grant awards obtained over the period of 2004 – 2008 and was impressed with some of the analytical instruments housed in the Division for research on pesticide residues. The EEC noted the positive student comments about the academic standards and accessibility of Plant Protection faculty members but also the Division's strong tendency to favor its own graduates when filling faculty openings.

A. Curriculum

Required courses address key areas of focus in the Division (Ecology and management of plant pests and diseases including IPM and proper use of pesticides). As this orientation has a huge environmental focus with implications for Greece and neighbouring countries, faculty members may wish to consider an updated curriculum that reduces or combines some of the existing courses and enhances course content on plant molecular biology.

B. Teaching

There was a healthy respect among students for teaching staff in the orientation. Student evaluations suggest that the class and lab components of courses could be improved significantly. There was a request from students that greater use is made of Blackboard. There was a concern from students that some faculty members do not release electronic notes for fear of theft. The EEC strongly recommends the universal use of Blackboard for all courses. While the faculty members accepted some of the concerns mentioned by students, they have resisted the use of Blackboard to encourage class attendance. Although in two laboratories of the Division (Entomology and Phytopathology) there is a lack of technical staff and the budget is extremely low, a high number of laboratory exercises are being prepared and carried out. In these two laboratories, the need for technical staff and an increase in the budget is urgent.

C. Research

The EEC was highly impressed with some world class laboratories (e.g. research on pesticide residues) functioning within this orientation but also recognized the inadequacies in infrastructure and technical support staff in others. The Division published 95 SCI journal articles for 11 faculty members, which was well above the School average. The pesticide research is clearly of great importance to Greece and the EU and should be expanded upon. It appeared to the EEC that this research for which the Division appears to be among the leading groups in Europe should consider additional international linkages beyond Europe. At the same time, other research lines within the Division should become more competitive and increase the overall rather low number of Ph.D. students trained. This said, it is also fair to point out that the laboratories of Entomology and of Phytopathology, despite the inadequacies in infrastructure and technical support, produce a very high quality of research work: the number of SCI articles published by their members (9 per member) and the number of citations are among the highest in the Department. These laboratories also have a high number of research projects in cooperation with other laboratories and with Industry.