



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ

HELLENIC REPUBLIC

**Α.ΔΙ.Π.**

**H.Q.A.A.**

ΑΡΧΗ ΔΙΑΣΦΑΛΙΣΗΣ ΠΟΙΟΤΗΤΑΣ

HELLENIC QUALITY ASSURANCE AGENCY

ΑΝΩΤΑΤΗΣ ΕΚΠΑΙΔΕΥΣΗΣ

FOR HIGHER EDUCATION

## **EXTERNAL EVALUATION REPORT**

**Department of Animal Production**

**Technological Educational Institute of Epirus**

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### **External Evaluation Committee**

The Committee responsible for the External Evaluation of the Department of Animal Production of the Technological Educational Institute of Western Macedonia consisted of the following three (3) expert evaluators drawn from the Registry constituted by the HQAA in accordance with Law 3374/2005:

1. Dr. Andreas P. Mavrogenis (Coordinator)  
(Title) (Name and Surname)

Agricultural Research Institute, Nicosia, Cyprus  
(Institution of origin)

2. Dr. Spyridon Agathos  
(Title) (Name and Surname)

Professor, University of Louvain, Louvain, Belgium  
(Institution of origin)

3. Dr. Vladimiros Christodoulou  
(Title) (Name and Surname)

NAGREF Animal Research Institute  
(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.**
- **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.**

The Department was visited by the External Evaluation Committee (EEC) on December 12 through 14<sup>th</sup> of 2011. Upon arrival at the site we were received by the members of the Internal Evaluation Committee (IEC), Dr. Anastasios Tsinas, Dr. Ioannis Skoufos, and Dr. Georgios Vatzias. At the meeting the EEC met also with the other members of the permanent academic staff, Dr. Athena Tzora, Dr. Soterios Kandrelis and Mr. Lambros Chatzizisis, and administrative staff of Department, Ms. Evangelia Tsoumba and Eleni Maggiorou. The EEC met also with the Technical staff Mr. Georgios Maglaras, Ms. Konstantina Fotou and Mr. Charalambos Koutsoukis. Also present was the vice - President of the TEI Dr. Evripides Glavas. Following short briefing the Internal Evaluation Committee presented the outcomes of the internal evaluation focusing on some of the particular features of the Department.

The presentations focused on the program of undergraduate study, research activities of local, national, and international focus, report on the collaboration with local producers and industry and an overview of administrative infrastructure supporting faculty and students. The Committee members were provided with several reports and other documents including the Internal Evaluation Report (IER), the study guide book of the Department, statistical data and various documents related to the operation of the Department. Particular attention was given to issues regarding the number of incoming students and the criteria for admission, the manner in which text books are distributed to students and the lack of an experimental farm.

However, the lack of the experimental farm was turned to a strong advantage by the close links developed between the Department and the local animal production enterprises and related animal and feed industries. The EEC strongly believes that the tight and bilateral relations between the educational and extension activities of the Department and the farmers, the animal industry and related enterprises is a major competitive advantage of this TEI and particularly relevant to its mission as a technological institution.

On Tuesday, December 13<sup>th</sup>, the EEC met again with faculty members and students and visited teaching and laboratory facilities. The library facilities were impressive equipped with teaching and research material relevant to the subjects of the Department in a pleasant environment. Internet and intranet facilities were at the disposal of the faculty and student bodies. The EEC also visited several animal farms (piggeries, poultry and

sheep farms), where students were practicing and a large cooperative of pig producers. The manager of the cooperative expressed his sincere appreciation for the consulting work of the Department towards the industry. The meeting with faculty members (permanent academic staff) was very productive. Most of them participated in a lively discussion and expressed freely their personal views and they were directly or indirectly involved with the preparation of the IER.

There are no on-campus dining facilities available to students. Dining facilities are available in the town a short bus drive from the campus. Dorms are also available in the town for a limited number of students. The EEC met also with 18 students in the absence of faculty members. The Committee notes the high number of students participating at the meeting with the Committee and considers the outcome as very useful and productive. The views expressed by students confirmed the relevance of the curriculum and appreciated the initiative of the Department to substitute the lack of an experimental farm by on-farm training. They indicated their real interest and concerns about the value and quality of their education.

In the evening, the EEC met with 37 representatives, executives and owners of the local and regional animal and feed industry, farmers, meat and milk processors, local and regional government officials. The EEC was highly impressed by the high participation given that the industry representatives of this region represent more than 10% of the whole Greek animal production. They expressed their appreciation for the essential contribution of the TEI towards the development of the animal and feed industry of the region through advisory and extension work and well trained personnel.

On Wednesday, December 14th, the EEC met with several non-permanent faculty members, visited classrooms, the computer science laboratory, a video conferencing equipped classroom, laboratories for milk analysis and processing, microbiology, anatomy and physiology, meat processing, pasture and grassland plants, molecular biology and animal nutrition. Most labs were equipped with novel and highly specialized instruments. Gym facilities, a tennis court and a basket court are also available.

### **The Internal Evaluation Procedure**

- **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 recognizes that the time allotted to the visit of the Department was sufficient and points out the willingness of the staff and the students to cooperate. The detailed materials provided were useful and complete which facilitated the work of the EEC and when questions were raised they were answered in a timely and appropriate manner. The objectives of the internal evaluation process were met by the department as evidenced by the presentations and documentation. The strengths and weaknesses of the Department were identified in order to develop a plan to overcome problems and define the future goals and aspirations of the Department. It was evident that the external evaluation of the Department was not only anticipated but actively sought by the Department.

## **A. Curriculum**

### **APPROACH**

- **What are the goals and objectives of the Curriculum? What is the plan for achieving them?**

The Department offers an undergraduate program as well as a postgraduate program in cooperation with the University of Ioannina. “The Department of Animal Production has the mission to promote the development and transfer of knowledge in technology and science of animal production through teaching and basic and applied research. The Department provides students with the necessary knowledge that ensures the proper education/training for their scientific and professional careers and development”.

More specifically the department has as goals to:

- Provide theoretical and practical education adequate to apply scientific, technological, and skill based knowledge in the profession of animal production in order to contribute to the development of specialized graduates able to respond to the needs of the work market.
- Applies methods for the hygienic and safe production of animals and their products.
- Implements novel technological and scientific methods to improve productivity and yield from farm units.
- Conduct basic and applied research in the area of animal production.
- Follow the international advances in the scientific and technological areas of the subject.
- Serve as a center for knowledge dissemination and as a provider of services to the farmers and related industries of the country and particularly of the region.
- Establish academic and educational collaboration with regional, national and international universities funded through national, European and international grants.
- Utilize innovative modern technologies in course delivery to enhance the knowledge and skills of the graduates of the department.
- Organize and participate in regional, national and international conferences.
- Adapt to the fast changing educational, economic and social circumstances at the regional, national and international level.
- Enhance the employment opportunities of all graduates.
- Contribute to the cultural, educational and economic development of the region.
- Develop strategies for continual education.

The aim of the Department is to deliver highly trained professionals for all areas of animal production, including marketing and processing, with the ultimate goal to make animal farms and relevant industries more competitive and profitable in developing products that combine quality and safety. The curriculum of the Department covers the subject of Animal Science and associated fields with emphasis on the application of modern technological methods in animal housing, farming, nutrition, breeding, reproduction, and health protection of farm animals, within the context of animal welfare. Moreover, it addresses the methods of production, processing and standardization of animal products of protected designation of

origin.

- **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?**

The present curriculum was implemented following its revision by the General Assembly in 2005 during which 20 new subjects were added aiming towards the competitive advantage of the graduates in terms of employment opportunities. The new revised curriculum provides for the implementation of two basic directions of specialization in animal science course work namely: 1. Animal production and environmental protection, leading to the emerging specialization of **Agro-ecologist**. 2. Animal production and total quality and bio-safety, leading to the emerging specialization of **quality assurance and bio-safety controller**. New compulsory and elective courses were added to further strengthen the curriculum. The duration of studies is eight semesters with the last semester being used for the completion of the six-month practical exercise and the submission of diploma thesis.

- **Has the unit set a procedure for the revision of the curriculum?**

There curriculum was revised through the program for the upgrade of undergraduate curricula of TEI Epirus in the framework of EPEAEK II. According to the Internal Evaluation Report, the academic staff of the Department considers that the objectives of the Department are accomplished, especially with regard to the quality of the graduates and their response to market needs in the wider area of Animal Production. Revision of the curriculum was based on employment opportunities and market demand for qualified technical personnel and scientific and technological developments in the wider area of animal production. The employment of graduates reaching 65 - 70% is admirable. Continual collection of information on the needs of the market should be maintained.

## IMPLEMENTATION

- **How effectively is the Department's goal implemented by the curriculum?**

According to the IER, head of the Department, faculty, staff and students, the curriculum is implemented reasonably and in accordance with the goals and objectives of the Department. In the opinion of the EEC, the curriculum is balanced between theoretical and practical training and the goals are achieved as shown by the high employment of graduates in relevant industries. However, the delay in hiring two permanent faculty members is a major concern of the department. At present, there are 6 positions for permanent faculty. Two positions, although initially approved, have not been filled (Animal biotechnology and Pig production). Based on the updated IER, there is a need for the employment of permanent staff in three distinct areas that are essential for the development and improved implementation of the aims of the department, in addition to the two approved but not yet filled positions. These are 1. Animal microbiology – Immunology, 2. Animal Nutrition and Feeding and 3. Milk and meat Technology. In addition, there is a need for the appointment of one trained technician. The equipment of the computer lab is almost totally obsolete requiring the replacement of 20



PC's for the improvement of teaching and access to bibliographic and reference material.

The system of admission to institutions of higher education does not reflect the actual needs of the individual educational institutions. As a result, the number of students admitted fluctuates tremendously from year to year, with either much higher or lower number of students being admitted, than the actual capacity of the institution. The EEC strongly believes that the suspension of first year student admission imposed by the Ministry jeopardizes the very existence of a successful Department.

- **How does the curriculum compare with appropriate, universally accepted standards for the specific area of study?**

The curriculum is in accordance with similar programs offered by higher educational institutions. According to the IER, during the development and revision of the curriculum several curricula of similar departments of National and European Universities were consulted. The curriculum is composed of two major sections, i.e., the main body, which contains 31 courses and the specialization section, offering 30 courses. Sixteen (16) out of 31 main – body courses are compulsory, twelve (12) are compulsory electives and only three (3) are free elective. In the specialization section, fourteen (14) courses are compulsory, thirteen (13) are compulsory electives, and three (3) are free electives. The requirements for the degree are 38 courses and a total of 240 credit units (ECTS).

- **Is the structure of the curriculum rational and clearly articulated?**

For the majority of courses the ratio between theoretical teaching and laboratory practice is 53:47. The practical training lasts 6 months and is offered in the last (8<sup>th</sup>) semester provided that the student has successfully completed 2/3 of the course work including all courses of specialty. A questionnaire distributed among students (N=124), revealed that the theoretical part of the curriculum was evaluated as good to very good 95/124 (77%) and the lab part as good to very good 98/124 (79%).

- **Is the curriculum coherent and functional?**

The curriculum is considered coherent and functional, as evidenced by the high degree of relevance among lab, practical training and theory (98/124). The implementation of theoretical and practical training was considered by students (N=124) as effective (Theoretical part 79% and lab 86% good to very good, respectively). As previously stated, practical training is performed on private units under real production conditions and is characterised as very effective.

- **Is the material for each course appropriate and the time offered sufficient?**

The material is considered appropriate. However, it is generally believed (academic and student body) that the Pan-Hellenic entrance examinations are not suitable for all institutions, resulting in the admission of students with no appropriate background in subjects directly related and required by the Department.

- **Does the Department have the necessary resources and appropriately qualified and trained staff to implement the curriculum?**

- The Department operates at the low limit of human resources. The academic staff is well qualified, all of them except one PhD holders. The permanent faculty can not cover all the teaching requirements. Therefore, there is a marked dependence on external, part-time staff. There is a definite lack of technicians (three), which obliges the faculty members to perform technical tasks, at the expense of their regular duties.

The infrastructure and equipment are adequate with appropriate space. The Department has facilities for teleconferences and conferences-seminars. The library, as mentioned above, is well equipped with teaching and research material relevant to the subjects of the Department in a pleasant environment. The students have free access to electronic literature and course material.

## 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?**

Based on an inquiry made by the Department and our findings determined from meetings with alumni and industry representatives regarding employment opportunities of the graduates and the staff perception, the implementation achieves the aims of the curriculum to a high degree. Until 2009 a total of 323 students had graduated of which 73% were gainfully absorbed in relevant animal production positions. About 10% of the graduates followed postgraduate studies (according to the IER). The publication and frequent update of notes by the educational staff and the efficient practical training contribute to the excellent professional acceptance of graduates by the animal industry. The average time to graduation over the last 6 years is 7.2 years and the average grade at graduation 6.6, the proportion of students dropping out of school within 2N (8) years is 39% (according to data presented by the head of the Department). The relatively mediocre grade reflects mostly the demanding nature of the curriculum and the aspirations of the faculty. The somewhat high time of graduation may reflect partly the current system of admissions which requires changes. It is expected that the new law will shorten this period. It should be noted that is considered similar in relation to other institutions.

- **Does the Department understand why and how it achieved or failed to achieve these results?**

The Department is fully aware of the pros and cons of the curriculum. It suggests ways of strengthening of the Department's image and actual role as a primary actor in the economic development of the region. It strongly believes that the region, which is the primary producer of almost 55% of poultry production, 16% of pig production and 12% of milk production, deserves the maintenance of a technological institution that actively and successfully participates in the production process. In order to achieve these goals the Department recognizes the need for continuous upgrading of human resources and infrastructure. The Department is aware of the need for further improvement in the curriculum and particularly in the postgraduate program that has now become possible to develop independently through the newly revised law. A major cause for the extension of studies or complete failure to graduate is the admission to the institution of students for whom this orientation was not their first choice. The Department considers as disadvantages causing administrative and educational problems the small number of permanent academic staff, the low number of technical staff and the frequent changes in the non-permanent staff. The number of students

enrolling each year should be fixed, and should reflect the actual capacity of the Department.

#### **IMPROVEMENT**

- **Does the Department know how the Curriculum should be improved?**

The Department regularly revises the curriculum adapting it to new developments generated from research and technological advances in the wider area of animal production and animal products. It is also highly receptive to the feedback of the industry.

- **Which improvements does the Department plan to introduce?**

The Department has every intention to implement plans that assure the development of the curriculum that was stated above.

### ***B. Teaching***

#### **APPROACH**

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

#### **Teaching methods used**

The methods used for teaching include lectures and exercises in the laboratory setting for the application of theoretical knowledge. The teaching aids include power point presentation. Other methods of instruction include seminars and guest lectures for specialized topics. The program consists of lectures (53%) and practical exercises (47%). The most important teaching method used is carried out at the private animal farms and industrial settings that provide students with experiences with the farm animals and animal production applications (e.g. analysis of feedstuff and preparation of diets, the automated milking and milk analysis, artificial reproductive techniques, etc.). In addition to the seven teaching semesters, there is one semester of practical training in the animal industry, and completion of a diploma thesis. Attendance in lectures is very poor as a result of its optional attendance. The student body, acknowledging the usefulness of attendance to the lectures, stated that they would seriously consider the matter in case that compulsory attendance was established as part of the course grade.

#### **Teaching staff/ student ratio**

According to the IER the ratio of permanent academic staff to students is 1:82 and the ratio of total staff to students 1:11. Based on the capacity of the labs and the current teacher/student ratio human resources seem adequate.

#### **Teacher/student collaboration**

According to the IER faculty members are available to provide advisory work to students during publicized office hours. Students are also welcome to meet with faculty before and after lectures or labs. The EEC found this to be accurate based on communication from the students. The students appear to be satisfied with their collaboration with the faculty who make themselves available for consultations outside scheduled times. The same was reported emphatically by the alumni of the department.

### **Adequacy of means and resources**

According to the IER, the existing lecture rooms are adequately equipped. All laboratories are equipped with instruments adequate for the needs of instruction. In fact the EEC is confident that some if not all labs can serve as providers of specialized services to a number of external users. The industry representatives were positive in using those services with a substantial financial contribution that would at least cover the operational cost. In cases of tests requiring official recognition of labs the faculty and industry representatives expressed their willingness to investigate this matter and set up lab accreditation. The facilities of the library and the pertinent literature are adequate for the needs of the students. The overall teaching facilities of the Department are considered adequate, functional and of good quality, and completely cover the educational needs of the students. The EEC recognises the fact that insufficient funding is available for subscriptions to electronic journals and other resources.

Book and other teaching material can be considered adequate. Teaching material is upgraded and updated quite often. However, students argue that there is a problem with the timely availability of teaching material, mostly because of the printing and procurement procedures of the industry. The Department was successful in including in EUDOXUS a number of teaching aids (notes, text books, etc.) making available to the student optional and supplementary means of education. Teaching aids are updated regularly (every 5 to 6 years) with new scientific and technological knowledge.

### **Use of information technologies**

Approximately, 60% of the lectures are presented using multimedia educational technologies, primarily power point, access of materials using the internet. Educational multimedia technologies are systematically used in the laboratories, including video presentations. The faculty provides to the student lectures, exercises and other learning material in the form of CD's.

### **Examination system**

The examination system is considered satisfactory. It provides the opportunity for the evaluation of the student at different stages of the course and for different parts of the subject, such as mid-term exams, lab tests, home works, oral presentations and final exam for the theoretical and practical part of the course. Some of the exams are in electronic form. The type most frequently used is the essay type, although other forms, such as true/false and multiple-choice are also used.

Active participation in lectures and particularly in lab sessions and field practice constitute an important part of the overall grade. All exams are proctored. It is required that the evaluation procedure and schedule are communicated to all students at the beginning of the course, and all students are evaluated in the same way.

In cases of learning disabilities special arrangements for examinations are made. Some of the examinations are conducted orally. The diploma thesis defence takes place in the presence of a three member committee, including the major advisor of the student.

The EEC finds this examination system with all its characteristics to be representative of an educational program of high calibre.

## **IMPLEMENTATION**

- **Quality of teaching procedures**

The teaching methods utilized by the faculty are consistent with those used in other academic and technological institutions. Multimedia, board, intranet, lab- and field work are some of the means available for teaching. The EEC believes that faculty members utilize appropriately all means available for teaching. Instructional technologies are fully used by all faculty.

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

The EEC believes that the teaching material is adequate. Book and other teaching material may be considered adequate. Teaching material is upgraded and updated quite often. The Department was successful in including in EUDOXUS a number of teaching aids (notes, text books, CD's, etc.) making available to the student optional and supplementary means of education. The library is adequate and appropriate for the needs of students; however, more consistent and timely funding would increase access to electronic journals and other resources.

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

According to the IER, the content of each course is renewed every five years as approved by the general assembly of the department. The teaching process is periodically evaluated and improved in terms of technique, enrichment of content, and development of new teaching materials.

- **Linking of research with teaching**

Novel technology and relevant research findings are incorporated whenever course material is updated and/or upgraded by the faculty. Students are introduced to research results through bibliographic search during their thesis preparation. The involvement of students in field research or basic research is limited. The EEC recommends that a greater involvement of students should be sought particularly in research programs directly linked with the primary animal production sector.

- **Mobility of academic staff and students**

Although ERASMUS provides for mobility of both students and teachers its utilization is limited. Students have expressed their willingness to participate provided that certain economic constraints are alleviated. On the other hand, although faculty recognizes the usefulness of the cooperative program the small number of permanent academic staff is prohibits their active involvement.

The EEC believes that the Department would benefit from stronger participation in mobility programs.

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

Teachers' performance was evaluated by the students for the first time during the 2008-2009 academic year. A questionnaire distributed among students (N=222), revealed that 73.0% of the respondents evaluated the curriculum as good to very good; teaching level was evaluated as good to very good by a high 67.5% (IER). Since then the evaluation of the instruction is conducted for each course. The questionnaire presently used was acquired from the Hellenic Quality Assurance Agency (HQAA). The results of the last evaluation for the period 2010-2011 provide again separate evaluations for the quality of academic staff and the relevance of the curriculum (N=124). The corresponding levels for the curriculum and teaching level were 76.6% and 83.9% as good to very good, respectively. Results are shared with the faculty who in turn use the information to improve their teaching procedures. The totality of the results is also used for the annual assessment of the department. The EEC feels that this evaluation system can help to improve teaching approaches and promote the use of innovative and more efficient teaching techniques. The teaching schedule is adhered to consistently, the instructors are experts in the content area, and they constantly update their course content. The general opinion was confirmed by the students in discussions with the EEC. The EEC feels that this evaluation system can help to improve teaching approaches and promote the use of innovative and more efficient teaching techniques. The recommendation is that instructors attend faculty development seminars to improve their teaching technique. The vast majority of the students (95.2%) believe that the link between theory and practical training is satisfactory to effective.

## RESULTS

- **Efficacy of teaching.**

Based on the IER, the quality and effectiveness of teaching evaluated by the students during the academic year 2010-2011 was rated as high on a scale from 0 to 10 (most subjects scored between 8 and 9). Another measure of the high effectiveness of teaching is the accomplishment of strong ties with the industry and livestock units.

- **Discrepancies in the success/failure percentage between courses and how they are justified.**

Discussions of the EEC with faculty revealed that most of the students entering the institution are weak in subjects closely associated with the biological nature of the Department; mathematics, chemistry, biology and physics are subjects that cause relatively high rates of failure early in studies. There is a strong belief (IER), which is share by the EEC that these deficiencies result from the inherent system of pan-Hellenic examinations. The

Department as well as the EEC strongly suggest that subjects, such as biology and chemistry, should be included in the entrance examinations for agricultural and geotechnical studies.

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

According to the IER the average time to graduation is 7.2 years and the graduation grade is 6.6. According to the IER the proportion of students who do not complete studies within 2N (8) years is 39%. In the opinion of the EEC the graduation rate and graduation grade, although mediocre, reflect procedures followed for entrance examinations.

- **Whether the Department understands the reasons of such positive or negative results?**

The obvious efficacy of teaching is attributed to the excellent preparation of the teaching faculty and high level of collaboration between students and faculty. The absence of a training farm has led to the utilization of the private sector to a commendable level, strengthening the ties between the academic community and the industry. The active involvement of students in daily farm operations provides a definite advantage for their future employment opportunities. The current system leads to a compulsory acceptance of attending an institution of low preference by the student.

The Department recognizes that the trends are common to other Departments and are related to the drop of the minimum threshold of 10 for entrance to higher educational institutions, along with entrance of students with poor background in science and mathematics and with no background in biology and chemistry. The Department as well as the EEC strongly suggest that subjects, such as biology and chemistry, should be included in the entrance examinations for agricultural and geotechnical studies. Another reason presented was the very low attendance in lectures sometimes reaching complete lack of attendance by students.

## **IMPROVEMENT**

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

According to the IER, the primary improvement proposed relates to the hiring of permanent faculty (5), and specialized technical staff. Further recommendations include the completion of buildings and training farm (pending since 1997) and enrichment of equipment for the some laboratories; increase of the library subscriptions and resources. According to the academic staff the change of policy to compulsory attendance of lectures would result in higher rates of student success. The Department proposes that improvements should also be made in student care (campus restaurant, dormitories and transportation). The Department believes that some of the labs can be further utilized to provide specialized services to the animal, feed and food industry. Certification of protocols for the labs is a prerequisite. The training farm is envisioned as part of a novel sustainable animal unit model. Improvement is also sought through the continuous exposure to scientific and technological events. It is understandable that any efforts for improvement are strongly associated with the availability of the appropriate number of incoming students based on the capacity of the Department for training. The IER points to a reasonable number of freshmen every year (60) which in the opinion of the EEC appears to be realistic.

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

Strategic planning of the department will include the modernization of the educational process with support of innovative teaching and learning based on international standards. This can only be achieved through the engagement of highly qualified faculty exposing graduates to administrative and practical experiences making them highly competitive, both regionally-nationally and internationally. Another initiative involves the possibility of adjusting the curriculum with new courses to match the needs of the profession more closely, based on information directly from the industry, in order to improve the new Greek agricultural economy. The promotion of student mobility at the international level and increase of international collaborations will also contribute to the overall improvement of the department's performance. Further efforts will focus on research and external grant applications, along with the organization and attendance of conferences, publications in internationally recognized venues. The department strongly desires the establishment of graduate programs in collaboration with national and international universities, and the membership in international educational and research societies (e.g. European Universities Association).

## **C. Research**

### **APPROACH**

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

The Department follows the policy set by the TEI Epirus. According to the IER, research objectives are defined primarily by research interests and specialization of the faculty members. The Department, although oriented towards education, it encourages and promotes applied research activities. The results in this area are more than satisfactory considering the high number of citations and the high impact factor (61.2), despite the insufficient state funding for research in the field of animal production. According to "Greek Scientific Publications 1993 – 2008: A bibliometric analysis of Greek publications in international scientific journals" (National Documentation Centre "EKT", Athens 2011) the TEI of Epirus has the largest percentage of all scientific publications among the TEI in Greece in "Agricultural Sciences". Furthermore, during the period 1997-2008 it scored first or second among all TEI of Greece in recognition of their research (citations / publication) by the international scientific community.

The permanent staff developed research initiatives in their respective fields focusing on the applied technological part of research, exploiting their own facilities and also cooperating with other institutions within the country and overseas. The Committee believes that certain labs are well equipped for research purposes. The number of research technicians is nil and this is one of the disadvantages for performing research activities.

- **Has the Department set internal standards for assessing research?**

There are no internal standards for assessing research presented in the IER. All research performed is funded by either national or international agencies indicating that the Department has adopted the standards of quality of research set forth by those agencies in order to be successful in supporting research projects.



## IMPLEMENTATION

- **How does the Department promote and support research?**

The EEC's understanding is that the research record of a faculty member is a decisive factor for tenure and promotion considerations. The Department promotes the organization of thematic conferences and seminars for the scientific community and the animal production sector. It cooperates with a number of national and international universities and research centres. Research findings are utilized in teaching and in the training of students. Results from research have been successfully transferred to the animal food and feed industry as well as stakeholders.

- **Quality and adequacy of research infrastructure and support.**

The level of research activity considering the low number of human resources and the lack of their own animal farm is more than satisfactory and of high standards. Inhibiting factors for the increase of research projects are the lack of their own postgraduate program, the limited number of permanent faculty, the lack of technical personnel and low state funding. The labs, with the exception of the computer lab, are very well equipped and in need of technical staff. It is worth noting that the Department is situated in the centre of the Epirus region, an area with intense animal production activity, which the Department fully exploits for novel and innovative research purposes.

- **Scientific publications.**

During the last seven years (2004-2011) the faculty (N=6) published 55 peer reviewed, 3 non-reviewed publications and 89 communications in national and international conferences. Given the available research facilities and the amount of time devoted to teaching and administrative tasks, the publication levels of the faculty members are more than satisfactory.

- **Research projects.**

The faculty is actively involved in submitting proposals for obtaining competitive research projects and funds. During the last seven years (2004-2011), the faculty members were involved in 18 research programs funded by a variety of programs including Archimedes (I and II) and INTERREG. Five more projects have been approved for the period 2011-2015. Several other projects have been submitted awaiting evaluation in national and international competitive program calls. Additionally, faculty members participated as partners of research teams in a number of projects in collaboration with other TEI and universities.

- **Research collaborations.**

Studies have been conducted through collaborations with the regional government agencies, including a series of seminars and presentations focused on the development of animal production applications in the region of Western Greece. Research collaborations include national and international institutions, ie. the Aristotle University of Thessaloniki, the Universities of Bari, Liverpool, Edinburgh, Newcastle, Budapest, Ioannina, Aegean, Agricultural University of Athens, Democritus University of Thrace, Veterinary School of the

University of Thessaly, the Royal Veterinary College, University of London, NAGREF, Pasteur institute, the Biomedical Research Foundation of the Academy of Athens and several other research institutes.

## RESULTS

- **How successfully were the Department's research objectives implemented?**

The departmental research is primarily focused on solving problems of animal production of the region, on a national scale and internationally. The internal evaluation report refers to the limited degree of participation of students in research and is dependent on the requirements of each research project. There is a strong feeling among farmers and the food and feed industry of the region that some research findings were readily implemented in the production process with positive results.

- **Scientific publications.**

Given the available research facilities and the amount of time devoted to teaching and administrative tasks, the publication levels of the faculty members are quite satisfactory.

- **Research projects.**

The faculty is actively involved in submitting proposals for obtaining competitive research projects and funds. The EEC feels that based on the content of research, results have contributed to the regional animal production improvement. Meetings of the EEC with representatives of the animal production sector have provided ample evidence to support the above statement.

- **Research collaborations.**

Research collaborations include national and international partnerships with scientists from a number of countries. The EEC feels that the level of collaborations is sufficient but it could improve with a stronger permanent faculty.

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

Research findings are utilized in teaching and in the training of students. Results from research have been successfully transferred to the animal food and feed industry as well as stock farmers. The Department intends to secure intellectual property rights for its work on functional foods and animal products of protected designation of origin.

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

The Faculty members publish in specialized scientific journals, and their publications are cited. The internal evaluation report provides information on the number of scientific citations for the years 2006-2011 relating to the published research results of the permanent staff. Specifically, according to the IER, there were 467 citations. One of the permanent

faculty members serves as editor in “Animal” the official journal of the European Association of Animal Production.

### **IMPROVEMENT**

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

The Department would like to improve its research capabilities. A key issue is the lack of permanent faculty and trained technicians. Furthermore, the department believes that the new law will present opportunities to offer graduate degrees, resulting in the enhancement of its research potential. The EEC feels that the current relationship with the industry should be maintained and further enhanced, with more emphasis on real problems and emerging opportunities of the stakeholders. The EEC recommends the development of a clear research strategy and clear identification and definition of priorities.

- **Initiatives in this direction undertaken by the Department.**

According to information presented to the EEC, the Department will work towards developing programs for graduate studies, increase the number of permanent faculty and specialized technical personnel, and improve opportunities of hiring of research faculty. The EEC feels that as long as the faculty evaluation is based partially on research productivity the implementation of graduate programs is needed. The primary duty of the faculty remains excellent in teaching using innovative techniques. The EEC believes that the Department recognizes the necessity of direct involvement of the primary industry in solving real life problems and maintains a positive attitude towards this matter.

## ***D. All Other Services***

### **APPROACH**

- **How does the Department view the various services provided to the members of the academic community (teaching staff, students).**

Regarding other services, such as administration, Information Technology, Library and support to livestock units, the general consensus is that they are adequate. The secretarial staff is very competent and helpful. The collaboration between administration and faculty is excellent, providing high level support to the faculty. The Library, in addition to its primary function as a book lending service, provides online access to data bases, e-books, and scientific journals. It also has facilities for teleconferences and meetings. It should be emphasized that the Department maintains close collaboration with not only a number of livestock units in the region but also with the feed and food processing industry of the animal sector. It provides specific services to farmers, such as feed, milk and meat analyses, microbiological analyses, antibiotic sensitivity tests, etc.

- **Does the Department have a policy to simplify administrative procedures?  
Are most procedures processed electronically?**

The secretariat has made significant progress in this direction and the use of TEI-online has

provided streamlining for administrative procedures. Most procedures exist in electronic form, including applications, certifications needed by students, submission of grades, etc.

- **Does the Department have a policy to increase student presence on campus?**

The student presence on campus is relatively low resulting, partly from the lack of dining facilities and the limited number of dormitories, which are located in town.

#### **IMPLEMENTATION**

- **Organization and infrastructure of the Department's administration (e.g. secretariat of the Department).**

The Department's administration is well organized and supported by an effective and competent two-member secretarial staff.

- **Form and function of academic services and infrastructure for students (e.g. library, PCs and free internet access, student counseling, athletic- cultural activity etc.).**

The library has adequate resources in terms of subscriptions and book collections. Online access to journals exists but needs to be further enriched. Counseling services are available, and moreover the faculty is very engaged with all students. There are athletic facilities on campus, such as gym, tennis court and basketball court. Students have free internet access in the library and the computer laboratory. However, there is a need to replace or upgrade the existing PC's that are obsolete.

#### **RESULTS**

- **Are administrative and other services adequate and functional?**

Administrative services are adequate and have a noteworthy cooperation with the Department. The secretarial staff although consisting of only two people handles all student and faculty issues efficiently. The Department's web site, although developed since a number of years, needs considerable improvements.

- **How does the Department view the particular results?**

There is considerable concern regarding the shortcomings caused by the absence of catering facilities on the campus. The low capacity of the dormitory is another issue that is on the priority list. The Department is aware of the limitations in term of services provided to the students and staff and do their best to resolve these problems.

#### **IMPROVEMENTS**

- **Has the Department identified ways and methods to improve the services provided?**

The Department has recognized the areas in need of upgrading or improvement and is

actively seeking ways to remedy the problem.

- **Initiatives undertaken in this direction.**

The Department is in contact with the private sector in developing the certification of protocols and their laboratories to provide specialized services to all stakeholders. It will also enhance the capacity of the Department to successfully participate in competitive calls for research proposals. A second initiative concerns the establishment of a model sustainable animal farm that could serve both research activities and upgrade undergraduate and postgraduate studies.

### ***Collaboration with social, cultural and production organizations***

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

The collaboration with local and regional public and private bodies through a series of studies, seminars and conferences were instrumental in improving the economy of the region in terms of animal production and animal products. Seminars on Agro- and eco-tourism promote the cultural and economic development of the region. The Department has frequently organized international conferences, seminars, open days and workshops addressing several issues such as, organic farming, quality and safety of animal products, health aspects of animal production, the past and future of animal production in the region, etc. In addition, several invited speakers addressed significant issues of local and national importance.

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

- **Potential inhibiting factors at State, Institutional and Departmental level, and proposals on ways to overcome them.**

Inhibiting factors include the lack of a postgraduate program, the limited number of permanent faculty positions, the lack of technical personnel, and the limited state funding. Last but not least, it is imperative that the hasty decision of the Ministry of Education for suspension of admission of first year students should be immediately lifted, effective from the oncoming academic year 2012-2013.

The Department aspires to utilize the private sector in developing certification of protocols (accreditation) and departmental laboratories that could provide specialized services to stakeholders. Another initiative concerns the establishment of a novel sustainable animal farm unit model that could serve both research activities and upgrade undergraduate and postgraduate studies. Among others, this will also enhance the capacity of the Department to successfully compete for research funding. In addition, it will promote the creation of products of animal origin with specific dietary/consumer health-oriented characteristics, the establishment of new and innovative procedures, such as for alternative environmentally friendly standards in animal production.

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

Some of the goals are: introduction of alternative methods of production and distribution of animal products in the region, e.g. ecologically or environmentally friendly animal production. The development of environmental awareness among all partners involved in production, processing and consumption of animal products. Development and promotion of new standards for animal production, bio-safety and quality. Another priority of the Department are the promotion of a bio-food (functional food) industry, the implementation of smart IT systems in animal production and the production of commodities of designated animal origin.

Medium term goals include the modernization of educational processes and innovation, direct research efforts with focus on the needs and problems of regional farmers and industries related to animal production, the development and implementation of graduate programs in collaboration with national and international universities, the membership in international educational and research societies. Development of autonomous postgraduate programs in the wider area of animal production. Continue the applied research activities of high quality and international recognition (innovation and excellence). One of the most important tasks is to achieve a further improve the already high employment rate (73%) of their graduates in animal related professions. Continuous update of their graduates' professional rights. To institutionalize current practices between the Department and the animal industry regarding the employment of trainees.

- **Plan and actions for improvement by the Department/Academic Unit.**

To above goals can only be attained if faculty positions are filled, technical personnel is appointed and state funding becomes available to complete the infrastructure of the campus. It is understood that the suspension of admission of first year students is lifted with immediate effect the next academic year (2012-2013).

- **Long-term actions proposed by the Department.**

The Department proposes the following necessary actions to be taken: improvement of communication between all stakeholders, adjustment of entering student number to match the capacity of the Department of Animal Production. Evolution of the Department into either a Department of animal production and food science or into Department of animal production and nursing. The EEC could consider a change of the first option that incorporates animal products and their processing and reject the idea of incorporating veterinary elements in animal science curriculum. Another long term objective is the adoption of a new national system of entrance examinations which will hopefully include biology and chemistry subjects.

## ***F. Final Conclusions and recommendations of the EEC***

**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 Department of Animal Production functions at an excellent level producing well educated graduates with a very high percentage of employment (73%), despite the recent shortages in permanent faculty, technical staff, and the lack of on-campus animal farm. The collaborative nature of the work conducted and the positive attitude of all employees was obvious and it is instrumental for the success of the educational experience of the students. These conditions are ideal for the purposes of education and research in the sector of animal production. A major asset of the Department is its remarkable cooperation with the animal production sector. It was a unique experience of the EEC to receive the uniform support and praise of the Department from industry representatives, SME leaders, farmers and Government officials. The region contributes a substantial part of the animal and animal product output of the country. The Committee strongly believes that the Department is capable of offering scientific and technological education of the highest level and of responding readily and positively to current and future needs of the animal production sector.

### **The main positive aspects identified are:**

- the EEC underlines the importance of the location of this Department in this area of Greece, which represents a major part of animal production activities
- the Department provides high quality teaching, extension services, research and training in an area of strategic agricultural economic importance for Greece
- in general, the staff, the equipment, the teaching methods, the communication between teachers and students, and the library services are at a very high level
- the lab facilities are considered as state of the art equipment that can be utilized for pioneering research and high quality services to the sector
- the socioeconomic dimension of the Department and its interactions with the local and regional stakeholders and the milk and meat processing industry is extremely high
- the evaluation of the students during the interview was very positive in all aspects
- faculty members are productive, with a significant number of grants from competitive projects and a very good output of publications and presentations from their research; their collaboration with national and international institutions are also commendable
- the students are motivated and engaged in their studies and the program in general
- the employment rate and absorption of the graduates in the production process are very high
- the EEC recognizes the practice of the Department to continuously adapt the curriculum in accordance with market needs and scientific and/or technological advances
- the tele-conference and meeting-hosting capability, facilitates collaboration with researchers and remote teaching as well as extension services
- the lack of on-site animal farm has turned into an advantage through the effective hands-on training that the students receive and their familiarization with technological daily routines applied in the production process

**The main weaknesses identified are:**

- the vacant positions of permanent academic and technical staff
- the on-campus facilities that remain incomplete since 1997
- the suspension in the admission of new students since 2010-2011 academic year. Moreover, admissions should be based on the capacity (60) of the Department and not on any other criteria
- non-compulsory attendance of lectures is a problem inherent in the regulations that apply to higher education in the country. The faculty and the students agree that lectures must be compulsory
- there is a heavy dependence on part-time faculty members
- the low budget inhibits the good functioning of the department
- delays in the procedures of hiring and promoting on the part of the Ministry of Education
- the deficiency in the website negatively affects both the Department's visibility and full utilization of their professional potential
- the lack of on-campus catering facilities and dormitories
- low faculty and student mobility through international programs

***The EEC recommends:***

**General recommendations:**

- A. to continue the remarkable association with all animal industry stakeholders
- B. to ensure that staff and policy makers are fully aware, supportive and involved in the implementation of the strategic plan towards the diversification of the terms of reference of the Department (to evolve into an institution that will provide advice and services on total quality assurance, officially certified labs, creation of a model sustainable animal farm)
- C. it is suggested that the issue of student admission be resolved at the state level taking into full consideration the views of Technological Education Institutions
- D. terminate immediately the suspension of admission of new students

**Curriculum related recommendations:**

- E. establish compulsory attendance to lectures
- F. to maintain flexibility in the curriculum able to adjust to the needs of the sector
- G. develop an independent postgraduate curriculum with a technological research orientation

**Teaching related recommendations:**

- H. to improve the on-line course related information and course content and upgrade the web site
- I. to improve online access to journals
- J. to maintain and expand the use of the tele-conference capability that facilitates collaboration with research and academic staff as well as other stakeholders
- K. to increase stakeholder participation in teaching (e.g. invited seminars)
- L. to improve student and faculty mobility through national and international programs



**M.** establish research related diploma theses (a suggestion of the student body)

**Research and service related recommendations:**

- N.** to increase national and international research collaboration
- O.** to increase participation in international project funding, considering the limited access to the national funds
- P.** to make every effort to secure funding for infrastructure improvement through the ministry and the private sector
- Q.** orient research towards real-life problems in animal production and food and feed industry
- R.** be receptive to the feedback from the animal industry

The Members of the Committee

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