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ΑΡΧΗ ΔΙΑΣΦΑΛΙΣΗΣ & ΠΙΣΤΟΠΟΙΗΣΗΣ ΤΗΣ
ΠΟΙΟΤΗΤΑΣ
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EXTERNAL EVALUATION REPORT

FACULTY OF FORESTRY & NATURAL ENVIRONMENT

ARISTOTLE UNIVERSITY OF THESSALONIKI

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MINISTRY OF EDUCATION, LIFELONG LEARNING AND RELIGIOUS AFFAIRS
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External Evaluation Committee

The Committee responsible for the External Evaluation of the Faculty of Forestry & Natural Environment of the Aristotle University of Thessaloniki consisted of the following four (4) expert evaluators drawn from the Registry constituted by the HQA in accordance with Law 3374/2005 :

1. Professor STAVROS AVRAMIDIS (Coordinator)

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Introduction

The External Evaluation Committee (EEC) visited the Faculty of Forestry & Natural Environment (FFNE) between May 28-30, 2012. Two of the EEC members arrived to Thessaloniki in the afternoon of the 28th and were met by the President Prof. Voulgaridis and vice-President Prof. Vlahos of the FFNE, while the other two arrived the day before. At 3 pm, the EEC met at the Macedonia Palace for a quick briefing. At 4 pm, the President of the FFNE accompanied the EEC to the Aristotle University's (AUP) main administrative complex for a visit with the Vice-Rector for Academic Affairs, Prof. Lialiou and the Internal Evaluation Committee (IEC). Prof. Lialiou gave a presentation on the structure and function of the university. Thereafter, an informal discussion on issues and challenges facing the university in general and the FFNE in particular took place in a very productive and cordial environment. The EEC members requested clarifications on various aspects relating to the internal evaluation report and all parties participated in the discussion.

The Aristotle University of Thessaloniki (AUP) is the largest university in Greece. It sits on a large campus with infrastructure and facilities ranging from very good to aging depending on the college, large undergraduate and post-graduate student population, and significant funding problems that have been heightened by the recent national financial crisis. This unfortunate state of affairs has trickled down to the FFNE and thus has created significant challenges that are also becoming momentous for the proper functioning and academic proficiency and development of the unit. For example, diminished budget has hindered the maintenance and replacement of aging instruments and equipment which are essential for the delivery of quality education and excellence of research. These challenges are exasperated by the fact that about 30 % of the faculty will be retiring within the next 3 to 5 years. The State has no plan in place to rectify the financial crisis or fill in faculty positions with new hires. Retirements are expected to create significant gaps in teaching and research, unless immediate actions are undertaken to mitigate the problem. The EEC recognizes that these circumstances are not specific to AUP and FFNE, but they are a widespread problem that has affected most institutions of higher education in the country, and significantly impacted the excellence in knowledge creation and dissemination.

After the visit of the EEC with the Vice-Rector, the EEC made a decision to cancel the AUP campus tour as all members were very familiar with the campus, and instead met with a select FFNE faculty members in an informal setting to discuss the review process and request some clarifications regarding the internal review document.

During the Vice-Rector's presentation and at the informal gathering with select faculty members, the EEC was informed that the FFNE is presently split between two locations, the main campus at AUP and the new facilities at Finikas. Specifically, the Agriculture building on the AUP main campus facility houses the large amphitheaters which accommodate large classrooms and some office space (i.e., Secretariat Office, and few faculty offices), and the Finikas campus which houses laboratories and offices of faculty members, staff and post-graduate students. Finikas is a satellite mini-campus built ~ 30 years ago and is located in the suburbs about 10 km from the main AUP campus. Although Finikas campus covers much needed space and facilities, it has created some difficulties associated with transportation, boarding, internet connection, library facilities, secretarial support and class scheduling and space. In particular, there is a lack of operational amphitheaters that can accommodate large undergraduate teaching space which forces faculty to offer their large

enrollment classes at the main AUTH campus, which creates further transportation and coordination challenges. Also the internet connection is very slow, and there is no wireless connection which has limited students' and faculty access to resources, and imposed a great challenge for faculty reliant on fast internet for research and teaching. The EEC is very concerned about this situation because this hinders faculty integration and student camaraderie in FFNE. The committee strongly supports the continuation of FFNE faculty and administration efforts to secure the funds for REPAIRING the two auditoriums in Finikas that are not suitable at the moment to accommodate students due to serious cracks in the building infrastructure. These cracks also impose serious hazard to the faculty and graduate students who currently occupy the rest of the building. Support on this issue from the AUTH central administration and the Ministry of Education (MOE) is deemed paramount. Also we would like to recommend to the faculty to better coordinate their efforts for a more efficient use of the laboratory space in Finikas especially computer labs.

FFNE is also the custodian of two major forests sites. The first site is located in northern Greece, and is dominated by deciduous forest species, and the second site is located in central Greece and is dominated by coniferous forest species. Both sites are managed by FFNE and used for research and education purposes (i.e., training of the undergraduate students during summer field school or practicum). These forests are significant in size thus making the FFME the only Forestry school in Europe with such large training facilities, and based on the FFNE are managed in an outstanding way.

On May 29, the EEC had the opportunity to walk impromptu into a class in progress in one of the amphitheaters on the main AUTH campus and asked the instructor who gracefully obliged to permit the EEC to have a discussion with the students. There was an open dialogue that provided some insightful information on teaching and other related topics that will be elaborated on in the "Teaching Section" of the document. Thereafter, the EEC was escorted to another classroom where presentations were made by one faculty and two staff members on FFNE's history, curriculum architecture, research and computer networking. Afterward, the EEC visited the FFNE Secretariat Office where the members had a brief overview of its function and challenges related mostly to the low staffing.

The EEC had the opportunity to meet with most FFNE faculty members on May 29. There was a very productive exchange of information, and frank and honest discussions on topics related to curriculum, teaching, research, retirements, budget etc. Many EEC questions were answered and noteworthy ideas floated reciprocally. Summary of this discussion, conclusions and recommendations are presented in their respective sections.

After a nice lunch break at the AUTH Faculty Club, the EEC members were escorted to Finikas campus, where they had the opportunity to tour the facilities and meet with the lead faculty and staff including post-graduate students in each laboratory. The EEC was presented by faculty and staff with a brief description of each program followed by questions about current research and teaching activities, research grants, and post-graduate students. Due to the large number of labs (21 in total), the EEC had the opportunity to only visit about half leaving the rest for the following day (i.e., May 30). The visit ended at about 19:00.

The EEC members had a brief rest and thereafter met for dinner with a small group of faculty members. The EEC members expressed their gratitude for the cordiality, hospitality and warm treatment of the FFNE faculty and staff. The EEC members were also given the opportunity for a briefing over dinner in a much more relaxed environment.

On May 30, the EEC was escorted back to Finikas for the continuation of the lab visits and discussions with faculty, staff and students. Labs visits were alternated with a sequence of meetings with students and the support staff.

First, the EEC had the opportunity to meet with an undergraduate alumnus who has been working for the last ten years in the private sector as an environmental and forester specialist. The EEC had an extensive discussion about the qualifications and credentials that the current and future graduates should possess to be successful in the private sector in such line of work. The alumnus pointed out that upon graduation, current students should have good grasp of the basic forestry related sciences, as well as, practical experiences in forestry and the environment. In the opinion of the Alumnus, much of that can be achieved through student participation in classrooms, research and practice, and through attending lectures by invited speaker from the private and public sectors. The EEC believes that the latter will provide the complementarity based on real-life experiences and case-studies that will heighten the curiosity and understanding of the students and potentially increase course attendance.

Next, the EEC visited with student representatives of the undergraduate program. Over 50 first and second year students were participated. After a brief introduction about the EEC's function and objectives, specific questions were put to the students about the curriculum, teaching quality and rigor, and facilities. The discussion was very engaging and many interesting points were brought forward. Due to the limited time, the EEC asked individual student to write down on a piece of paper their concerns and suggestions. A total of 38 were collected by EEC. Data were compiled and a summary is presented in an appendix to this report.

Then, the EEC met with student representatives of the post-graduate (MSc) and doctorate (PhD) programs. Topics relating to program of studies, research, funding and future opportunities for employment were discussed. The committee felt that there was a significant amount of anxiety among that group regarding their future under the current abysmal financial conditions of Greece. Furthermore, the EEC detected a strong attitude towards continuation of studies abroad either as PhD students or Post-Doctoral Fellows. This is very encouraging since students' mobility and cultural enrichment are critical for professional development and are emphasized in the EU educational policy. Also, several scholarships are offered to support such activities. We encourage faculty to emphasize the multicultural and multidimensional education during their student mentoring and academic advising.

It is worth noting, that although the number of graduate students in FFNE is not very high by other university standards abroad, there was an interesting observation that needs to be visited which applies to this unit and to the Greek University system in general. There has been a concern raised by the students in the FFNE about employment after graduation. Based on our conversation with the faculty and students, it seems that supply far exceeds the demands in the field of forestry and related disciplines given the size of Greece. We encourage faculty and the ATh administration to re-evaluate the admission process to better reflect the demand versus supply in the various disciplines. Also, faculty need to discuss with students the various types of employment and encourage students to reinvent themselves in these disciplines and move away from using graduate degree as a mean to acquire extra "points" for becoming public employees, instead, we encourage faculty to imbed in the students the notion that graduate education is a mean to acquire and create new knowledge for their professional development.

Last, the EEC met with a group of special staff (IDAH) who hold PhD degrees and make significant contributions to the teaching and research missions of the FFNE. IDAH staff are classified as “administrative” staff (i.e., same as a support secretary). These positions need to be re-examined and re-classified to better reflect the credentials of the group and to be given the opportunity to securely function as full time “support technical” staff and not “administrative” staff.

On a final note, the EEC members would like to thank the IEC and the rest of the FFNE faculty and staff for being open and honest about their programs, as well as great hosts to the EEC members. Faculty and staff of NNFE are very proud of their programs and facilities, and have an overwhelming desire to further improve their unit and seem to be determined to use this evaluation to become a better group of teachers and researchers.

A. Curriculum and Teaching

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

A1. Curriculum

FFNE offers one undergraduate program, a post-graduate program (MSc) and a doctoral program (PhD).

The mission of FFNE is to provide quality education and conduct basic and applied research in the areas of Forest Science and Natural Environment. Additionally, FFNE is expected to contribute to the mission of the Hellenic Forestry sector to promote the protection and sustainable use of forests and natural environment, through their multi-objectives mission.

Undergraduate Program

The main goal of the undergraduate program is to offer high quality education to future foresters and natural resources managers in the public and private sectors who will contribute to the sustainable multi-use of forests and the environment.

The FFNE offers one undergraduate degree with five specializations:

1. Forest harvest and technology of forest products
2. Rangeland science, and wildlife and fresh water fisheries
3. Forest and water management engineering
4. Management and development of natural resources
5. Forest production – Forest protection – Environmental conservation

The undergraduate curriculum is designed as a five-year program (i.e., 10 semesters with a total of 307 ECTS). In the third semester, students are required to select one of the five above specializations. An undergraduate thesis is required for the completion of the degree. The thesis topic is selected no later than the 8th semester with the consent of the academic advisor.

There are 51 core courses that are required by all undergraduate students in the program. Additionally there are a total of 60 offered specialized courses that contribute to the requirements of the five specializations (12 in each specialization). Four months practical training (practicum) in forests and forest services/companies is compulsory, and takes place during summer months. Additionally, short class field trips are also conducted. The program is quite large, and there is some overlap between courses. The large number of courses contributes to observed delays in graduation. The EEC recommends the re-evaluation, and revision of the curriculum to better reflect the contemporary challenges and environmental problems that are facing Greece, the region and the globe, like climate changes, vegetation cover change, increase in population and increase in demands on natural resources.

Graduate Program

The overall objective of the MSc program is to further the education and professional development of students in one of the following six specializations:

1. Forest production – forest protection – environmental conservation

2. Rangeland science, and wildlife and fresh water fisheries
3. Planning and development of natural resources
4. Forest and water management engineering
5. Forest harvest and technology of forest products
6. Sustainable management and development of natural environment

The curriculum is designed to be completed in three semesters (90 ECTS) and includes six required and four elective courses. Students are also required to prepare and defend a post-graduate dissertation.

Doctoral Program

The objective of the PhD program is to educate and train highly specialized academics, scientists and researchers in the fields of Forestry and Management of the Environment and Natural Resources. There are no class or seminar requirements in the doctoral program for students with degrees in Forestry or related disciplines. Students with deficiencies or from unrelated disciplines are required to take three courses as directed by the advisor to cover disciplinary deficiencies. Although public thesis defence is required by the State, only members of the committee are permitted to ask questions or request clarifications, the EEC believes that since this is a public defense, all attendees should be given the chance to ask questions. Theses written in a language other than Greek require the approval of the University Senate. The EEC committee strongly recommends to the faculty and administration of the FFNE the modernization of the doctoral program through the introduction of graduate level seminars and classes, and the encouragement of student exchange. Additionally, we recommend to the AUTH central administration to change its policy on thesis language and allow students to use English to speed up the process of publications, and increase international recognition of the program.

Some undergraduate curriculum revisions were performed two years ago. The method of determining the ECTS per course was based only on the number of teaching periods and did not take into account the overall effort of the student as required by the Bologna process. FFNE showed willingness to bring in curriculum modifications to answer contemporary issues pertaining to the management of forests and natural resources. The EEC greatly supports changes to allow such modifications.

While there has been a great effort to develop a curriculum that meets the contemporary societal and environmental needs, the EEC observed that there are areas that are not well emphasized in the undergraduate and graduate curricula including climate change and variability, ecosystem services, vegetation cover change (i.e., desertification, adaptation, alien and invasive species), management for contemporary forest insects and diseases, and biodiversity. The curricula were developed based on the faculty expertise with little input from stakeholders and other constituents. To accommodate the revisions and modernization of the program the EEC strongly recommends the re-evaluation of the existing program to consider the removal of outdated courses and the merging of others.

Although the existing coursework covers several aspects of Forestry and the Environment, modernization of the undergraduate curriculum to incorporate core specialized courses and more field training is critical. A mandatory course entitled “introduction to forestry and the natural environment” was viewed by the students as great potential course, is recommended in the first semester. This course would provide a general holistic overview of the discipline and familiarize the students with the technical, social and economic values, biological

sustainability, geospatial analysis, and the non-timber forest and rangelands amenities including wildlife, fisheries, and aesthetics and outdoor recreation. The class could be team-taught and outside speakers and alumni could be invited to deliver lectures. A holistic approach is essential for this course, as good well-rounded managers should have a broad perspective of forest and forestry.

Another core course that is critical for the program and should be required by all students is an introductory course on “geospatial analyses” that would cover the essentials of GPS, GIS and remote sensing. Such skills are increasingly required by managers in most disciplines.

The EEC noted that the coursework generally promotes critical thinking and problem solving, especially in the last four semester years. Teamwork should be more emphasized. Student intellectual development will benefit by an additional course in the second semester aiming towards critical thinking and improvement of presentation skills.

During the meeting with a successful alumnus from the private sector, the person emphasized to the EEC committee the importance of the offered theory in the FFNE, and stated that class attendance, the practicum and studying are critical for the success of students. Linking theory to practice is considered critically important to the EEC.

The EEC found no formal process to track the professional development and the careers of graduates and get feedback pertaining to the contribution of the curriculum to their professional success. A system must be setup to systematically track the alumni professional progress. The FFNE webpage should be updated and a webpage of alumni should be constructed. A committee of alumni should be formed to consult and provide feedback FFNE faculty and students. Alumni also can be invited to offer seminars in the unit.

Overall, the undergraduate curriculum corresponds to the overall scope and objective of the unit. A major hurdle is the perpetual continuation of the student ability to take repeated examinations of one or many failed courses far and beyond the years of studies resulting in a confusing and incoherent sequence of attendance. This problem will be solved with the application of the new policy for higher education.

The EEC was informed that in some undergraduate courses there is a distinct difference in the material and sequence of delivered theory and laboratory sections which stems from the fact that in many courses the laboratory and lecture parts are not delivered by the same person. The coordination of the process is essential for the success of the student and the program. Another issue in the process stems from the fact that laboratory attendance is mandatory while that of the theory is not. As a result, participation rates are significantly lower in the theoretical part. Also, this puts stress on the teaching staff because they are asked to cover material in the labs while the students do not have the theoretical background just because they did not attend the lectures. This issue needs to be dealt with in order to provide better incentives for students to attend the lecture part of the course which in turn will not only help them with the labs but also make them better understand the fundamentals of the discipline.

The EEC appreciates the FFNE’s efforts to develop a comprehensive undergraduate program that meets the needs of modern forestry, but is urgently asked to revise the mission statement to reflect the breadth of its faculty and to update the curriculum to address modern issues pertaining to forestry and natural environment.

A2. Teaching

In general, detailed syllabi including learning objectives and expected outcomes are presented to the students at the beginning of each course. According to the internal evaluation report the majority of theoretical courses are delivered through lectures with the support of multimedia centers (e.g., PowerPoint presentations), and are followed up with discussions to ensure better comprehension of the concepts involved. With regards to the laboratory section of the relevant courses, the main teaching method focuses on the application of the theory. Resources such as books, notes, manuscripts, monographs, and PowerPoint presentations are provided to students, although in the case of books, there were complaints that the timing of books distribution was too close to the exam period. The EEC believes that in later case, the problem is beyond the control of the FFNE, but efforts should be made to convey the issue to the AUTH and thereafter to the MOE for a more effective book distribution process. Given the challenges associated with books availability and distribution, it is imperative that faculty make their notes or PowerPoint presentations available to students (based on students, this was not the case for numerous courses)

There was no evidence that teamwork was generally practiced in the classroom. Granted, classes are large, and in some cases poorly attended. Encouraging teamwork and team class assignments could actually increase participation because lectures will become more appealing and necessary for the success of the student. Based on the FFNE faculty, teamwork efforts are encouraged and required during practicum. The EEC believes that teamwork should extend beyond the practicum, and that faculty members should encourage student participation with questions, group discussions, and more interactions among students. For example, a teaching member could ask a question or give a small problem and then ask the students to turn to the student next to them, discuss the problem for couple minutes and then provide an answer. Critical thinking and integrated system approach should be more emphasized in appropriate courses. Updated books, notes and PowerPoint presentations are encouraged on a regular basis.

General teaching technology and resources are available at the Department. The quality of teaching installations and equipment is valued, in general, as sufficient to good. Funding is needed for some upgrading. The practice employed by some courses in using IT in the teaching process (electronic presentations and teaching material available online, course announcements, specialized software, etc) is to be commended and serve as a model to the rest of the courses.

The residence buildings at the Pertuli site that serve as a place for the practicum are outdated, but the university forest is considered as top quality and important for the training needs of the students. The university forest installations in Taxiarchi are of good quality based on the information provided to EEC.

Most teaching and research laboratories at the Finikas campus are well equipped to adequately support course implementation at both the undergraduate and graduate levels. There are several computer labs to assist courses with adequate software, but several are close to becoming obsolete and will soon require replacement. Thus, the EEC recommends that the FFNE undertakes a study to explore options to increase efficiency by possibly

consolidating the computer labs, consolidating resources and encourage collaboration between disciplines so that the labs are kept updated.

The total number of permanent faculty members in FFNE is 58. Additionally, there are 16 IDAH PhD holders classified as administrative staff. In 2011, there were 756 students in the undergraduate program, 83 MSc and 92 PhD students. Considering the total number of students in 2011 (931), the faculty/student ratio is 1/16. Considering only the undergraduate program the ratio is $756/58=13$. This ratio is an overestimation given the low general classroom participation and the involvement of some IDAH in instruction. This ratio is expected to change significantly in the next 3-5 years with expected retirements. Although this might be a manageable situation on the average, some disciplines are expected to be more impacted than others, with negative consequences on the quality and breadth of undergraduate and graduate education. The EEC is quite concerned and proposes priority to be given to hiring/replacing retired faculty members in the disciplines that will be most impacted.

The average duration of studies is 6.31 years. During the last 6 years, 549 undergraduate students graduated with average grade of 7.16/10. The ratio of enter-to-exit students was estimated to be about 73%, which means that about 27% of the students quit their studies along the way. There was no data provided about the employment of the students during the first years after graduation. We think that this is important and the FFNE should pursue such information should resources become available in the future.

As stated earlier, FFNE is presently split between two locations. Unification of the two locations is paramount. The current situation is not only disruptive to the daily lives of students and researchers, but is also having negative impacts on the quality of program. EEC strongly recommends moving all FFNE activities to Finikas. The AUTH central administration is strongly urged to provide every possible support for upgrading and repairing the Finikas facilities so that the aforementioned happen.

Provided that the server is accessible and operational, faculty members are encouraged to develop their own respective course websites within the FFNE portal, and post all notes and reading materials electronically. Within each course site, the faculty member would be responsible for introducing and updating teaching material as well as providing links to relevant subject matters on the web. This would help in familiarizing students with current developments and improving their linguistic skills. In the majority of the courses, students depend on course notes or books prepared by the respective faculty members. Although this practice is standard in many institutions the EEC believes that multiple bibliographic resources should be offered and links posted electronically. Although the EEC was informed that the updating of the course material is carried out frequently no evidence of procedures that secure a systematic updating and validating of the course material was identified.

Evaluation of teaching faculty by students is carried out by collecting questionnaires first on paper and then online on a regular basis. The EEC was presented with averages, but there weren't any internal established departmental process for further statistics or analysis pertaining to the results. Concerns were voiced by the students regarding the practicality of the exercise given that the results are not usually shared with the faculty member and there is no documented follow-up on the findings. The EEC believes that these evaluations should be taken more seriously for the advancement of the curriculum and improvement of teaching

skills.

Some undergraduate students are involved in research activities within the framework of courses. However, this is not widely practiced and the reality is that in general, the link between research and teaching remains very limited. The EEC suggests the implementation of a “seminar series,” where senior graduate students, or outside speakers informally present their work to the undergraduate students, so that they could get some exposure on current research relating to the management of forests and natural resources.

The EEC visited one class in session and was briefed on the methodology. Although this was a very limited exposure to the day-to-day teaching in the Department, nevertheless, the EEC was left with the impression that the instructor was very capable in delivering the content of that particular unit. Although the students were asked questions and the instructor tried to engage them in problem solving, there was limited participation. Situations like that, i.e., no student participation regardless the effort of the instructor, do not assist in the development of critical thinking and problem solving. Unfortunately, this is a common characteristic among university units and is the result of a national educational system that requires urgent and significant reinvention.

Efforts must be made by introducing modern teaching techniques to stimulate more discussion in the classroom. Further, and in connection with the comments raised by the students, it seems that there is a need for more case studies presentation and analysis in the class besides what is usually done in the lab sessions.

Faculty sabbaticals, and professional leaves and development are not expected and/or required under the current framework. The EEC urges the establishment of this practice. Also the EEC encourages more student presence in the Erasmus programs. The EEC noted a low number of foreign students in the graduate program.

The EEC was given the impression that the FFNE has some extrovert aptitude (acceptance and delivery of ‘Erasmus’ students), which could further be strengthened: (a) by increasing the countries that they can exchange ‘Erasmus’ students, (b) by making adjustments to the curriculum that will be based on the requirements of the major European Departments of Forestry, in order to enable them to exchange ‘Erasmus’ students, and (c) by adopting the Bologna instructions, such as 30 ECTS per semester on about a constant rate for a total of 300. This is just a soft suggestion in order to better “normalize” the program.

In the opinion of the EEC the students should be trained more in group (cluster) projects to create management plans that would allow them to integrate their knowledge in subjects such as forestry, soils, water, wildlife, remote sensing, geology, etc., into the document. That will allow the students to gain an integrated perspective on how to manage systems by better understanding the interconnections and effects among various disciplines.

Based on student input and experience with other universities, the EEC believes that the course evaluation process should include progress evaluation quizzes instead of only a final exam. This way, the students will have a better idea of how their learning process develops and the whole marking system will become fairer. This system might also help attracting more students in the classroom. On exam scheduling every effort should be made to provide

at least one day gap between consecutive exams should classroom and timetable restrictions allow.

The availability of faculty members to respond and support students in need is considered satisfactory as it is stated in the internal evaluation report and confirmed by the students themselves. However, because there is some confusion regarding the faculty office locations and office hours, the EEC suggest to faculty to make an effort to inform all students with faculty office hours and location (i.e., AUTH and/or Finikas).

The daily course timetable should be optimized so that no large gaps exist between classes. The EEC expects some modifications now under the restrictions of the campus duality. However, this situation will be greatly alleviated once everyone and everything moves to Finikas permanently.

Finally, the EEC feels that it is important at a time of financial crisis in Greece to train students in starting their own businesses after they graduate and not to expect to become public servants. It should be promoted by possibly adding a class on 'starting your own business' at the last semester of studies where the students will develop an innovative idea about a new enterprise. Such a course will also provide "real life" examples of potential business opportunities. Examples could be the link of wood technology to the phytosanitation issues of wooden products and artifacts or the bioenergy production possibilities from fast growing species grown in plantations, just to mention a few.

Internet is an integral part of teaching nowadays. It is therefore of the outmost importance to have a fast and voluminous access to the main campus. The current fiber optic pipe that allows 2Mbps is deemed very inadequate for such a large facility in Finikas so AUTH must make every effort to upgrade it. This pipeline is also instrumental to graduate students for information access and research.

Overall, the EEC feels that students are satisfied with the quality of the teaching, although certain concerns and remarks were raised during the interviews (see appendix). The EEC takes this opportunity to commend the faculty and staff of the FFNE for doing their best to provide education under the current financial crisis in Greece.

B. Research

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

The FFNE mission aims at promoting research in sustainable management and multipurpose use of forests. Revisions to the mission statement are recommended to better reflect the breadth of research, conducted in the 5 FFNE program areas and 21 laboratories, and pertaining to studying ecosystem and environmental management and services in multiple natural and managed systems.

The FFNE recognizes the standards for assessing research, such as the number of publications in international scientific refereed journals, the number of citations, and grants generated. However, there are no internal established departmental standards for using these assessments in the promotion and tenure process.

Between 2007 and 2011, FFNE received annually 957.000 € in operating budget from the central administration of the Aristotle University. Some of these funds are usually allocated to faculty to support laboratory operations and research. Faculty supplement their research and the research of their graduate students using personal funds. Number of faculty have been successful in securing competitive (EU, and national) and non-competitive grants and programs to support their research. Of the total 11.333.080 € funds secured between 2004 and 2007 (average of approximately 1.500.000 € per year), 2.487.236 € (22 %) were secured from competitive EU grants. We encourage faculty to continue their efforts to submit and secure grants to support their research and facilities and provide paid assistantships to their graduate students (less than 8% of students receive assistantships in FFNE). The level of government support will continue its diminishing trend for the near future, therefore securing external grants to conduct quality research should be one of the FFNE priorities.

Based on the Self Evaluation Report, the number of research publications showed a positive trend between 2004 and 2011. Overall, the EEC observed over 30% increase in ISI refereed publications, varying between 0.6 and 1.5 and averaging 0.95 ISI publication per faculty per year during this period. Research output in the form of conference proceedings and non-ISI refereed and non-refereed journal articles and reports showed little year-to-year variability and averaged around ~ 5 per faculty member per year. It is imperative that faculty continue with their efforts to further increase the number of ISI referred journal articles to be in line with their European peers.

It is worth noting that the level of productivity in the forms of publications and research grants varied considerably between disciplines, laboratories, and faculty members (i.e., some faculty members and laboratories have impressive, established, successful, well-funded and nationally and internationally recognized programs while others need to continue to put effort to improve their research output and further their professional recognition). This observation is further complicated by the fact that in some disciplines several years of data collection are required to publish a study, and that some faculty have had no ISI referred journal articles in the past few years. Most faculty members attend and present their findings in national and international conferences, we encourage faculty (and their graduate students) to continue with their efforts to present and showcase their findings to increase professional recognition and the exposure of the FFNE and AUTH.

Although the FFNE harbours broad range of expertise (e.g., forestry science, wood science and utilization, range management, economics and policy, soil science, forest protection, water science, remote sensing and GIS, fisheries and wildlife, biometry and informatics, etc.), the EEC noted little interdisciplinary collaborations between faculty within the unit. This should be encouraged.

Research collaborations with other institutions in Greece and abroad have been developed by selected faculty to respond to interdisciplinary and disciplinary calls for proposals from the EU. We encourage faculty to seek sabbatical and professional leaves to advance their careers and establish new collaborations. Similarly, faculty should encourage PhD students and IDAH-PhD staff to seek similar opportunities to advance their research career and training.

Faculty members in the unit conduct by large applied research to answer contemporary questions pertaining to forests and rangelands sustainability, management and multiuse and responses to the environment. Results are applied in nature and have the potential to be disseminated to, and utilized by the state (government) forestry authorities, private sector, NGO, and natural resource managers among others. In general, the faculty seek the collaboration of the forestry authorities and other stakeholders that are active in the wider area of forests, rangelands and environmental management. This, however, is not done in a structured way, but it depends on individual initiatives of faculty members. The EEC recommends that the FFNE creates a standing committee to act as the liaison with major stakeholders to mitigate this problem. This will enable FFNE to increase collaborations and attract more funding with the support of the parties that will be benefited from such joint research venture.

The current efforts by several faculty members in research and the subsequent publication of their results increase the exposure, visibility and recognition of the faculty, unit and the university. FFNE is acknowledged through the participation of its faculty in organising professional conferences, and serving on editorial boards of scientific journals, and as reviewers for a large number of scientific journals. This momentum should be capitalized on for the development of research networks and the participation in new national and international research projects.

The average number of citations of the faculty's published work was provided, but this number does not reflect the variability observed among faculty members and publications. On average the number of citations increased from 3 to around 7 ISI citations per faculty between 2004 and 2011, with an overall average citation number of 5.4 per faculty. The EEC recommends that faculty should continue to seek publications in more main-stream and disciplinary referred journals to improve these figures.

The EEC was curious to why publications and accomplishments by the IDAH-PhD group were not incorporated in the document. The EEC recommends that the IDAH-PhD group needs to be mentored and guided to eventually apply and compete for academic or professional positions in Greece and elsewhere.

The EEC observed that there is involvement of graduate students in research activities and publications. This is also indicated by the students' will to acquire their degree through publishing agreed number of papers in internationally recognized journals.

Overall, the EEC recognises that despite the unfavourable funding situation, there has been notable research activity in the FFNE and the number of publications has increased

considerably in the last few years.

C. All Other Services

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

Faculty and staff in the unit are generally satisfied with the level of support and services provided by the AUTH and central administration. There are however few concerns that were raised regarding the significant challenges associated with the current split of classes and faculty between the two campuses – the central Aristotle University campus and the new campus in Finika on the premises of Thessaloniki.

More specifically, while the FFNE faculty, staff and students are overwhelmingly in support of the move of all operations and services to the Finika campus, they continue to maintain the administrative offices, and offer and deliver large enrolment classes (over 70 students) on the AUTH main campus. The facilities in Finika are very adequate to support the current needs of faculty, teaching and technical staff, and graduate students in terms of offices, laboratories and classroom space. The laboratories are generally well equipped, clean, and maintained to up-to-date standards.

The major problem arises from the fact that the two large auditoriums on the ground level in Finikas reside in a building that has been seriously damaged as the facility settled and are considered dangerous for use. This problem needs to be addressed immediately as the damage does not only endanger the lives of students, but also the lives of faculty, staff and graduate students who reside on the upper floors of the facility. The EEC was told by the FFNE faculty that they have repeatedly requested the assessment of the facility for safety but their requests have fallen on deaf ears. To alleviate this problem faculty continue to offer large enrolment classes on the main AUTH campus, which has created a problem for students in terms of transportation between the two campuses (they are at least 10 km apart).

Furthermore, the fact that the internet connection is only 2Mbs, and wireless connection is absent from the new facility has created a major problem for faculty and students to have access to the literature and run programs. This problem is exasperated by the absence of a common library in Finikas. It is worth noting here that while each laboratory has created a disciplinary library to serve their students, a common library to serve all students, faculty and staff is lacking. The EEC recommends the immediate hiring of a permanent librarian and the transfer of all books to the library facilities there for a better teaching and research support. The FFNE could approach the TEI Library Studies department and offer access to students doing their practicum. This way and with the help of some forestry graduate students, the librarian-students can do the cataloguing and placement of all books. This is a win-win situation for both the Faculty and the students.

The EEC also noted the lack of a dedicated room in Finika with videoconferencing capabilities. It is critical to equip a conference room with multimedia and videoconferencing capabilities to promote and encourage national and international collaborations.

Based on the information collected by the FFNE administration, faculty and staff, and based on the on-site EEC assessment, it is clear that the unit supports the permanent move of all its

operations to Finika contingent upon the new construction or repair of the two auditoriums, the creation of a single library and the construction and operation of facilities catering to students, i.e., food services and more frequent transportation to and from AUTH campus. The EEC also observed during its session with undergraduate students, that there was a general agreement that students preferred to be located on one campus, but raised similar concerns about the current facilities and services provided including a university restaurant. When the students were asked if they will be willing to solely use the Finikas campus if all the food, transportation and support issues are resolved, the support was unanimous. Therefore, the EEC strongly recommends that the AUTH central administration does its utmost to make this happen as soon as possible.

In terms of support staff, FFNE is currently served by 3 people. The staff serves the administrative needs of the unit. Given the size of the unit, the director of the Secretariat considers that it is necessary to hire a fourth staff member. The lack of support was also highlighted by students who raised strong concerns about the fact the Secretariat is only open for one hour per day to serve over 600 students. This, in the assessment of the EEC is totally unacceptable, hours should be extended and services should be provided to students as needed. Additionally, there was an overwhelming agreement among students that the Secretariat's office is either unwilling to help or claimed that they cannot give them answers to some of their administrative problems. This problem needs to be urgently addressed.

The internet access to registration and others administration activities (statement of courses, grades etc.) is satisfactory, but announcements regarding exams, teaching cancellations and other information are not shared electronically with students, which does not facilitate the daily life of students, which is exasperated by the fact they are commuting between two campuses. The EEC strongly proposes the creation of a mailing list (electronic bulletin board) where all student emails will be included and where with minute effort all announcements will be sent before they are even posted on the boards.

The FFNE webpage is by far below acceptable standards, basic information are lacking on several aspects of the undergraduate and graduate programs including curriculum, opportunities, research, service activities, faculty information and operation procedures. With the exception of very few faculty members, the overwhelming majority has no personal webpage. Highlighting programs and faculty accomplishments and research interests are essential for several reasons including the initiation of collaborations with other national and international faculty and institutions, the recruitment of graduate students, and the attraction of grants and research programs. The EEC believes that there must be students in the programs that are capable of putting together a much better webpage. There might be even an internal competition among student to design one. Regardless the means of achieving that, this issue is one of the top priorities of the FFNE for the immediate future.

Neighboring the webpage overhaul is the upgrading of the printed Studies Guide. That publication is quite confusing and too much emphasis is given to the detailed description of the various sections and labs. Almost 50% of the guide is dedicated to FFNE and only the last half to its objective which is to provide information, albeit somehow confusing and incomplete, to the students about their studies. The EEC would like to see a more focused and leaner Studies Guide that will be informative and easy to use.

The FFNE has created a splendid museum of natural history that includes an impressive and

considerable number of native mammal and avian species including several endangered ones. The museum serves to educate students and the public, and offer tours for outside visitors. The museum is unfortunately understaffed and is currently run by faculty and selected staff on a part-time basis. Unfortunately, staff shortage has limited the wider operations of the museum and is currently restricted to the education of undergraduate students. The EEC strongly recommends the support of this facility in terms of operation funds and personnel for a better outreach and public relations.

The FFNE needs to develop a clear plan regarding the future of the botanical garden in terms of species addition and long-term maintenance. Such gardens are important for forestry students eager to learn about woody species taxonomy, physiognomy, anatomy, etc., so that they can easily and accurately describe the plant makeup of an area.

Overall, the EEC believes that there is plenty of room for improvement some of which can be done with little resources, but most of it will require significant support from AUPh and the MOE. Should these improvements be implemented, there will be significant enhancement in infrastructure that will clearly benefit the creation and dissemination of knowledge.

D. Strategic planning, perspectives for improvement and potential inhibiting factors

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

The ECC estimates that the process of self-evaluation had a positive impact as it provided an opportunity for a comprehensive approach to the problems and shortcomings of the Faculty. These findings will provide an opportunity for improvement and a better planning of activities.

The ECC considers it necessary for the FFNE to improve their data collection on teaching, publications, research support etc., and recommends that the FFNE effectively uses the results for the development of both the next internal evaluation report and their strategic goals in teaching and research including national and international collaborations.

The FFNE in collaboration with the AUTH central administration needs to address the upcoming retirements of faculty and staff. Measures for faculty replacement and/or shifting resources need to be considered, i.e., discrepancies between sections as far as percent reduction of faculty members should be eliminated.

E. Conclusions:

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

The EEC highly commends the FFNE for maintaining, in its majority, research and teaching activities under very difficult circumstances, including the enduring lack of government investment in higher education and research. The EEC felt that lack of state funding together with over-legislation, lack of personnel renewal especially from outside the Faculty and lack of clear departmental goals have resulted in a number of lingering problems.

These problems need immediate action at two levels. First and foremost government funding needs to be increased considerably. However, given the current and future fiscal state of Greece we urge the Faculty to pursue more EU funding that will possibly alleviate this situation. The Greek state in general and MOE in particular has to make higher education a top priority to prevent an otherwise imminent total devaluation of the whole higher education sector. In the specific case of the FFNE, extensive refurbishment of the Finikas campus buildings are matters of urgency in order to consolidate all personnel and students, and facilitate the delivery of the program. Second, to support internationally competitive teaching and research in forestry the Faculty needs to build on existing strengths and realign its structure and philosophy of operation, program delivery and recruitment. The EEC has provided several concrete suggestions to this effect.

Finally the EEC wishes to note that while the self-evaluation is time consuming and sometimes laborious, overall it must have been extremely useful to the FFNE. It is now up to the AUTH central administration to recognize the problems detailed above, and act on EECs recommendations. Evaluation without investment to solve the problems identified would be a futile exercise.

Upon further reflection and in-depth discussion among the EEC members, the following recommendations are put forward:

Curriculum and teaching

- Reevaluation of mission, and modernization and reevaluation of the program of study for the bottom up by the Faculty for both undergraduate and graduate levels.
- Reduction of number of courses by elimination of obsolete ones or by shrinking the ones that contain too expanded syllabi, or by fusion of courses that show significant overlapping.
- Introduction of a first year course that provides a general holistic overview of the discipline.
- Addition of a geospatial analysis course in the core program that will cover the essentials of GIS, GPS and remote sensing.
- Incorporate in various courses the principles and methodology of interdisciplinary project analysis and implementation for the development of problem solving, writing and critical thinking skills. The students should learn how to innovate and how to use their knowledge to start up new enterprises.
- Faculty members should attempt to place their notes and PowerPoint presentations

on line to facilitate student learning progress.

- Provide incentives to increase attendance in classes and improve graduation rates by introducing progress quizzes, outside guest speakers, group assignments, etc.
- Student evaluation of courses should become transparent and used for the improvement of teaching and course content.
- Update textbooks on a regular basis.
- Student exchange among EU country members should continue and expand because that program enriches scientific background and the understanding of new trends and developments.
- English terminology should become an indispensable part of notes.
- Addition of an early seminar to assist the new undergraduate students to decide their concentration, and transfer of that decision to a later time in their studies.
- Establishment of a monthly Research Seminar open to all faculty, staff and students (all levels) where PhD candidates or other researchers (including visiting ones) will present completed or in progress research findings.
- We highly recommend to PhD student to become more mobile and spend time outside Greece by taking short courses, conduct research and/or attend short workshops in order to enrich their skills and scientific background.

Research

- The FFNE should further promote teaching and research collaborations and networks, upgrade infrastructure and strengthen existing and foster new participation in projects of national and international interest. Towards this direction, it would be essential for the Faculty to secure participation in EU funded research collaboration platforms.
- Continue to increase the number of faculty published research findings in mainstream refereed disciplinary journals.
- Form a standing committee to act as the liaison with the major stakeholders in the public and private sector.
- Seek alumni who work at outside academic/research institutions and foster research collaborations.
- Encourage graduate students to publish and/or participate in conferences.
- Create a database linked to the FFNE webpage with all produced theses at all levels.
- Faculty members should capitalize on the diversity throughout the FFNE and try to collaborate more internally in grant applications.
- Develop internal standards for the promotion and tenure process based on the overall faculty performance in teaching, grants generation, research and service.
- Encourage the development of patents.

Services

- Transfer of all services and classes relate to FFNE to Finika campus. Provide food services, activate the local Library, statically upgrade the two amphitheatres that bad

and dangerous shape, build an additional large one to accommodate large classes and increase the bus trips to the main campus.

- Upgrade and enhance internet access speeds and bandwidth for fast information transfer, fast access to computer programs residing on the main frame and videoconferencing capabilities.
- Better service to students with extended secretariat support, electronic mailing list creation for fast and secure communication with students, upgrading of the FFNE webpage (curriculum, course content, faculty profiles, link project database, general and specific announcement posting, etc., under a regular updating timetable.
- Move all books to the Finikas library, hire a permanent librarian and a also hire custodian/curator for the museum.

F. APPENDIX:

The EEC had the chance to talk and survey a group of over 50 undergraduate students from the first and second years. Thirty eight surveys were collected. It is well understood that the student sample that was interviewed was not statistically proper in design and thus, the answers should be treated with caution. Below are the main comments/suggestions from the students as compiled with no particular order of significance. The EEC urges the FFNE faculty members to review and reflect upon these results and possibly use them as tools for improvement. These are:

- teaching staff in general, uses modern teaching methods and they show interest in knowledge transfer to students;
- the summer forest practice is important and useful, but some have raised concerns about few hours of training per day and the length of the total residence (i.e., few hours of training per day over a long period of time)
- the practicum in the Forest Service and private offices is positive in most cases;
- the FFNE should permanently move to Finikas location assuming transfer also of the Secretariat, operation of the Library, food services and more trips of the bus between the two campuses;
- more help from the faculty members is required regarding the choice of concentration and further studies abroad (undergrad and grad);
- declaration of concentration is too early and must be moved a year later;
- in some courses students tend to take significantly more time to complete so the reasons for that trend must be investigated and the right steps should be taken to alleviate this problem;
- re-thinking by the FFME of the actual concentrations (more?, less? new?);
- better written Studies Guide with more details about the studies sequence;
- informative sessions about future employment, problems and future of forestry;
- more practical sessions and less theory because there is significant overlapping among courses in some cases, some courses must be merged if there is significant overlapping;
- optimized teaching timetable with fewer and shorter gaps and better distribution of exams to allow at least one day between consecutive exams;
- no politics and political parties in the school premises;
- a general forestry overview course in year one to give them a taste of what to expect in this program and upon graduation including new theories and trends;
- more seminars on Finikas campus with invited speakers for Greece and abroad;
- fostering of a better academic spirit within the School to improve moral and make students proud about the FFNE and their profession;
- more office hours for the professors;
- daily update of webpage info section – mailing list;
- the Secretariat office hours need to at least double;
- there are too many courses in the program.

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