

Accreditation Report

Natural Sciences

Faculty of Environmental Sciences
Agricultural University of Iceland

Expert Committee

May 22nd, 2007

List of contents

1	Introduction	3
1.1	The Expert Committee	3
1.2	Terms of reference	3
1.3	Working method	4
1.4	Short evaluation of the work process	6
2	Roles and Objectives	7
3	Administration and Organization	7
4	Organization of teaching and research	8
5	Personnel qualification requirements	10
6	Admission requirements and student rights and obligations	10
7	Facilities for Teachers and Students and Services Provided	12
8	Internal quality system	13
9	Description of study according to learning outcomes	15
10	Finances	15
11	Summary of Findings and Recommendations	16
Appendices		
A1	Agenda for the Expert Committee site visit to the Agricultural University of Iceland (UI) in Keldnaholt and Hvanneyri, Iceland	19
A2	List of documents received	21

1. Introduction

Accreditation Report on the Faculty of Environmental Sciences, Agricultural University of Iceland (AUI)

1.1 The Expert Committee

Prof. Friedrich Seifert, Professor Emeritus of Geochemistry and Geophysics, University of Bayreuth, Germany, **Chairman.**

Professor Rolf Hernberg, Professor of Physics, Tampere University of Technology, Finland.

Professor Paul Engel, Professor of Biochemistry, University College Dublin, Ireland.

Dr. Anna Kristín Daníelsdóttir, Senior Advisor, Division of Research and Innovation, The Icelandic Centre for Research – RANNIS, Reykjavik, Iceland, **Liaison Officer.**

1.2 Terms of Reference

The Expert Committee (EC) was appointed to carry out a review of the Agricultural University of Iceland Faculty of Environmental Sciences according to Article 3 of Higher Education Act, No. 63/2006, No. 1067/2006 with the following instruction:

“The committee of experts shall provide the Minister of Education, Science and Culture with a report that outlines the results of the evaluation of items a to i, paragraph 3, article 2 of the Rules*, based on the application and information provided by Higher Education Institutions in Iceland (HEIs) in accordance with article 2, in addition to evaluation of the following factors:

- a. Expertise and competence in a particular field of study and the subdivisions therein. With a view to the quality of teaching and research and the appropriate facilities the dissemination of knowledge and in service to society.
- b. The cooperation and support of the university towards the field of research, teaching staff and experts in any particular field. The appropriate measures for the education and training of its students.
- c. Special attention to fields of research and any subdivisions therein. Cooperation between undergraduate and graduate studies and any other appropriate expertise.
- d. The status of fields of study subdivisions therein on a national and international comparison with view to i.e. cooperation with other HEIs and other

institutions/organisations nationally and internationally in that particular field of expertise.

The committee shall provide a detailed, objective and supported evaluation.

Should the conclusions of the committee be not to recommend accreditation then it shall provide a detailed report of any failure on the part of the HEI to fulfill the regulations according to article 2 or any recommendations for reparations that the HEI must undertake before accreditation for that particular field of study is awarded. In receipt of such report, the Minister of Education, Science and Culture will afford the HEI a specific extension to make any amendments needed. The amendments will be evaluated by the expert committee in question, who will provide the Minister of Education, Science and Culture with a report detailing the aptness of the amendments. Final decision regarding accreditation will be announced to the HEI.”

*Items a to i referred to above are *a. Objectives and Roles; b. Administration and Organisation; c. Organisation of teaching and research; d. Personnel qualifications requirements; e. Admission requirements and student rights and obligations; f. Teacher and student facilities and services; g. Internal quality system; h. Description of study according to learning outcomes; i. Finances.*

*Items a to i referred to above are *a. Objectives and Roles; b. Administration and Organisation; c. Organisation of teaching and research; d. Personnel qualifications requirements; e. Admission requirements and student rights and obligations; f. Teacher and student facilities and services; g. Internal quality system; h. Description of study according to learning outcomes; i. Finances.*

1.3 Working Method

The three foreign members of the Expert Committee (EC) received the AUI accreditation application in advance of arrival in Iceland, circulated electronically by Dr. Anna Kristín Daníelsdóttir (AKD), the Icelandic member of the group. The application was supported by a large volume of detailed documentation in the form of appendices, also received in advance of the visit. EC members therefore had the opportunity to form some preliminary impressions of important issues in advance.

The EC came together initially on March 19th in the evening, all meeting for the first time. This allowed the committee members to get to know one another in an informal setting and learn more of individual members' background experience. AKD explained her own role, providing local support and contextual information but maintaining strict neutrality in terms of the expression of opinions and influencing decisions.

The entire following working day and the latter part of the evening was spent in preparatory discussions of the materials provided and issues arising. Discussions were held during the day in a meeting room at RANNIS, offering the possibility to spread out the relevant documentation for easy access and reference. In the evening the foreign

committee members continued discussions at the hotel, where a small meeting room was also available. The discussions highlighted a number of general issues and some well-defined and more specific matters to raise with the institution.

March 21st in the daytime was spent in a site visit to various sites of the AUI. First the EC visited Keldnaholt, the modern Reykjavik research facility of the AUI, meeting various members of academic staff. After a useful general introduction to the focus and purpose of this relatively small and new university from Prof. Áslaug Helgadóttir, Vice-rector for Research and Dean of the Faculty of Land and Animal Resources, a more detailed description of the scope of the Faculty of Environmental Sciences was given by Prof. Ólafur Arnalds, Dean of that Faculty. This clearly placed the University's work in the context of the unique Icelandic geology and climate. After a rapid tour of the building, the EC drove out to Hvanneyri, a former agricultural college which has united with the research institute at Keldnaholt to form the AUI. Professor Ágúst Sigurðsson, Rector of the AUI, supported by Prof. Björn Þorsteinsson Vice-Rector for Academic affairs and Academic Programmes, gave an introduction to the facility and explained how, following the merger of the two facilities, research staff from Keldnaholt were gradually taking up more teaching, thus freeing up the time of Hvanneyri staff to carry out more research. Following lunch in the staff and student canteen the EC met with a group of six students studying a variety of courses. Two were overseas students (Denmark and Faeroes). The others either had already studied abroad (Norway, Denmark) or intended to do so before returning to work in Iceland. The students were uniformly enthusiastic about the quality of personalised education they were receiving and praised the response to student feedback, leading to visible improvement. Access to books, computing facilities etc. was also good. In view of the fact that the AUI is a new institution with relatively few students and a restricted scope, the EC questioned the students on contact with the University of Iceland. There is apparently little such contact at the student level, but the students clearly felt self-sufficient within their own institution.

Next the EC had a meeting with staff (Lecturers, Associate Professors and Research Scientists) Ragnhildur Sigurðardóttir Lecturer, Samson Harðarson Lecturer, Hlynur Óskarsson Research scientist, Fanney Ósk Gísladóttir Lecturer, Brita Berglund Laboratory manager, Sigríður Kristjánsdóttir Lecturer, Berglind Orradóttir Lecturer, and also the Programme Coordinators: Prof. Anna Guðrún Þórhallsdóttir (NA-EN Programme), Prof. Bjarni D. Sigurðsson and Prof. Ása L. Aradóttir (FS-REM Programme) and Assoc. Prof Auður Sveinsdóttir (Landscape Planning and Architecture programme).

At this meeting the EC again pursued the question of the usefulness of closer collaboration at a teaching level with the University of Iceland, but staff was clearly keen to teach their own chemistry etc. in a way tailored to the particular needs of agriculture students. In relation to Physics, apparently little represented in First Year teaching, staff insisted that their students' physics preparation at high school level was generally sufficient.

Percentage of time spent on teaching was favourable for the development of a research-intensive university. There was a strong feeling, however, that teaching was not properly rewarded. In relation to the needs of an expanding institution, several other anxieties

were noted:- insufficient clerical support, the need for more funding of laboratory facilities, absence under the Ministry of Agriculture of funding directly related to the number of students.

Overall, despite these concerns, the EC were impressed with the commitment and unity of purpose of the academic staff.

In a further meeting with the Management Team the EC pursued the issue of sabbaticals for staff, which appeared to be very important in building up external links. The rector explained that a proper system has not yet been organized but that staff are encouraged to take such leave and also that each member is entitled to one foreign trip (e.g. for conferences) per year.

The EC were shown some of the agricultural facilities, including the cowsheds and horse stables and also saw (from the outside) the blocks of student accommodation.

During the evening and the following day the EC compared impressions and drew preliminary conclusions and planned the writing of the report. Some elements of the report were drafted before the EC members' departure on March 25th and others were assigned between the members for subsequent drafting. The draft material was further edited and refined by circulation between the EC members over the next several weeks, and additional material received May 10th, 2007 was incorporated. A draft of the factual part of the report was sent to AUI for checking and comment. Following receipt of these comments the report was finalized for submission to the Ministry of Education.

1.4 Short evaluation of the work process

From the EC's point of view the process was very efficiently organized and ran smoothly. The size and balance of the team allowed it work together very well. It was extremely helpful to have an Icelandic neutral member in the EC group to explain local nuances and put everything in an appropriate context. We would pay particular tribute to Dr. Anna Kristín Daníelsdóttir's patience, consideration and unfailing helpfulness, which made this not only an easy but a pleasant task.

At the other HEI forming part of the EC's accreditation task on this visit to Iceland, a preceding quality assurance had by chance been carried out, reporting only quite recently. Such an exercise not only draws an HEI's attention to things that need to be put right ahead of an accreditation, but also similarly draws the EC's attention to the same issues, enabling them to ensure that the necessary remedial steps have been taken. We would suggest that, in preparation for renewal of accreditation in a few years' time, a similar sequence of events might usefully be built into the procedures for other institutions.

The EC thanks the AUI staff for the efficient manner in which they made materials available in English, greatly assisting in efficient preparation for the site visit.

2. Roles and Objectives

The application sets out clearly the role of the Agricultural University of Iceland, newly formed on January 1st 2005, through a merger of two pre-existing institutions, one originally mainly dedicated to research and the other with a primary focus on teaching, the common link being the agricultural theme. This is governed not only by the general Higher Education Act 63/2006 but also by the more specific Act on Agricultural Education 57/1992, amended by Act 71/2004 setting out the required roles under the aegis of the Ministry of Agriculture. Accordingly the application declares the university's role as "an educational and research institution in the field of agriculture and environmental sciences" with a "main focus on the conservation and sustainable use of land and animal resources". Within this defined brief, the AUI's objective is to "pursue high quality education" "supported by competitive.... research programmes".

Conclusion

Roles and Objectives have been put forward in accordance with Article 2 of Laws on HEIs No. 63/2006 and also in keeping with the specific requirements of the Acts on Agricultural Education.

3. Administration and Organisation

As mentioned above, the organisation of the AUI is governed not only by Higher Education Act 63/2006 but also by the specific legislation on Agricultural Education which underpins the existence of the institution (Acts 57/1992 and 71/2004). The latter instruments laid down arrangements to govern the AUI and facilitate the integration of formerly separate institutions. The AUI is led by the Rector and the University Council. The Council has representatives of the two Ministries of Agriculture and of Education, of the farmers' organisation and the employers' organisation, of the employees and of the students. There is also a representative of the Governing Council of the University of Iceland, and the Rector chairs the Council. This body of eight people advises the Minister of Agriculture in selecting a Rector for a 5-year term. Thereafter the Rector is "responsible for vocational and operational planning" and for gaining Council approval. He/she "leads the University Council in devising a comprehensive policy for university business." Under this guiding structure there are two Faculties, i) Environmental Management and ii) Land and Animal Resources and also a separate Department of Vocational and Continuing Education. Cutting across and serving this academic structure are Divisions of Academic Affairs and of Research and an Office of Operations and Physical Plant.

The Expert Group met all the senior figures in the Management Team and were impressed at the way in which this group appear within a rather short period of time to have evolved a united strategy for their institution. Their commitment to and enthusiasm for their mission was obvious.

Conclusion

Administration and organisation as explained are in accordance with the requirements of Articles 15 and 16 of the Act on HEIs No. 63/2006.

4. Organization of teaching and research

The study programmes proposed for accreditation are listed in Appendices A9 through A15 of the application.

At the B.Sc. level, the programmes cover the relevant range of general science and math education in the first year. In the Na-En and FS-REM programmes synergies in teaching are achieved by having compulsory courses that are common for the two streams (the more fundamental and the more applied), and the streams have some courses in common also in the second and third year. The Umsk programme meets the great challenge of spanning the entire range from science and technology to sociology and thus forms a strong basis for planning.

Teaching is mostly conventional in the form of classes, field trips and field courses. However, teaching of general skills (such as scientific writing, presentation etc.) and student-managed learning (also in groups) is well integrated into the coursework.

In summary, these arrangements represent a very efficient way of teaching a number of programmes in related but distinct fields by a relatively small faculty without compromising quality. There is no duplication of AUI programmes in the environmental sciences with those of UI, because UI has no interdisciplinary B.Sc. programme.

The EC was particularly impressed by the strong motivation of students and tutors in the teaching and by the enthusiastic support and encouragement they give each other. AUI keeps track of their students after graduation, and the fact that some 44 per cent continue their studies for M.Sc. (mostly abroad), and some 36 per cent are employed in professions related to their education, documents the success of the programmes.

AUI will meet its overall objective “to pursue high quality education in its academic fields supported by competitive nationally and internationally oriented research programmes” only if sufficient qualified human capital can be attracted for postgraduate studies. The EC is convinced that the existing arrangements for teaching and research at AUI form a strong basis, but nevertheless AUI staff will have to work hard on a sustainable development of such programmes.

The M.Sc. programmes (which have only started in the year 2006) are research-oriented and are being tailored to the individual needs, as defined by the supervisor and the student. Only two courses (Research Methodology and Scientific Writing; Ethics and Philosophy of Science) are compulsory. The programmes therefore allow for maximum

flexibility and for use of collaboration with other universities (mostly UI, but also abroad) as well as government agencies. They can, however, only be successful if a sufficient number of graduates stay on for their M.Sc. studies and additional students can be attracted from the outside (see below). The EC was informed that international Master's programmes are planned, and these would be in English.

Rules for doctoral studies are flexible as well, but also maintain high standards for entry, number of units, assessment etc. In addition to the rules defined in A4, it is recommended that an outside reviewer is asked for his opinion on the thesis, and that articles forming the thesis should be submitted or published in international refereed journals. It should be a high priority for AUI to gain effective recognition by the international scientific community for its doctoral programme. To that end, EC recommends frequent involvement of international experts in the evaluation of doctoral theses.

With the flexible approach to teaching and research at the postgraduate level, it is clear that AUI does not have a problem in defining themes or subfields of studies in which Icelandic science is particularly strong or even unique. Such research projects within the M.Sc. programmes should then also be advertised internationally. Many faculty members, and some of the recently appointed members in particular, are highly visible through their publications in internationally refereed journals, and their participation in conferences and joint research programmes. Because such activities are vital to attract graduate students from abroad, these efforts should even be strengthened further.

Sabbaticals are granted at present as the case arises, and AUI might want to consider a more formalised system for associate and full professors, which could then further strengthen international exchange.

AUI is currently distributed over several sites, which is not ideal for such a small operation. However, this seems to be only a minor nuisance for the research-oriented programmes at the postgraduate level. In the longer run, however, consolidation at the Hvanneyri campus might be helpful, as it would also further strengthen the B.Sc. programmes.

Conclusion

The organisation of teaching and research at the AUI are carefully described as required by the HEI Act 63/2006 both in general and in more specific detail in Appendices A9 to A15 of the application.

Recommendations

- Further strengthen the postgraduate programmes by increased international visibility in fields in which AUI's science is particularly strong
- develop international Masters and Ph.D. programmes and training sites
- plan for frequent use of international experts as reviewers and/or opponents in the evaluation of Ph.D. theses

- increase international exchange and networking also at the professorship level by sabbaticals and invited guest professorships

5. Personnel qualification requirements

Hiring and promotion for academic positions has so far followed a grading system developed by Kjaranefnd (now Kjararað). In an additional paper (“Further details related to Part 4: Staff qualifications”) requested by the EC the grading system is described in detail. It is stated that the minimal academic degree for associate professor is a Ph.D. and that this requirement can only be bypassed in exceptional cases when the candidate has published an amount of good academic articles (ISI) sufficient that it can be regarded as equivalent to Ph.D.

This system as run by Kjaranefnd (now Kjararað) has been terminated as of January 2007, and AUI has made its own regulations (Rules Guiding the Work of Selection Committee and Recruitment or Promotion of Teachers at AUI) in compliance with the law, agreed by the University Council, May 9, 2007.

Conclusion

The HEI is in compliance with the requirements of personnel qualification as defined by articles 17 and 18 of the law on HEI's and any obligations therein.

Recommendations

- Positions for academic employees of AUI should always be advertised both nationally and internationally.
- At least when a position is newly filled at the associate professorship or professorship level, a Ph.D. should be made a necessary requirement for hiring.

6. Admission requirements and student rights and obligations

The admission of students to Higher Education Institutions is regulated by Article 19, Higher Education Institution Act (63/2006). The AUI has formulated detailed rules for admission requirements and procedures separately for the three study levels: Bachelor's, Master's and Doctoral studies. These rules are embodied in the Regulations for the Agricultural University of Iceland – University faculties and in the Agricultural University of Iceland Regulations for the Doctoral Programme. The rules are summarised in the application document, Part 5.

Paragraph 1.2 (Entry requirements) of the Regulations for the Agricultural University of Iceland – University faculties, states that “An applicant needs to have completed a Matriculation Examination or other secondary level exam which the University Council deems equivalent and approves. Students from other universities can also take part of their studies at the Agricultural University if this is stipulated in a special agreement between the institutions. In order to enrol, a student must pay registration fees on time pursuant to Act No. 57/1999 regarding agricultural education.”

This regulation is in full agreement with Article 19 of the HEI Act (63/2006).

The AUI is a very small university still at the initial phase of its development. The total number of B.Sc. and M.Sc. students in the Faculty of Environmental Sciences at present is about one hundred, which means that the student body is bound to grow both much and fast in the near future, in order to reach a level of operation that will support the recruitment of foreign students. The number of 500 students was mentioned as a goal for the whole university, but it was also said that this was in fact more a yardstick for the purpose of planning the infrastructure rather than a carefully analysed goal based on the actual quantitative need for academically educated persons. Five hundred students is still quite a small number for a university, but on the other hand it is not clear whether the population base of Iceland alone will be able to sustain a greater number, while retaining, at the same time, a qualitatively acceptable level of academic education.

It is evident from the existing regulations that the admission criteria and procedures have been given thorough consideration in the planning process for this young university. This gives the EC confidence that the university leadership understands the primary importance of the student recruitment process for the successful development of the Agricultural University, and that priorities are being set and actions taken in accordance with this understanding. A formal policy for the development of the student body was not presented. However, there are several facts indicating that the responsible leaders possess a comprehensive understanding and knowledge of the needs of the Icelandic society for the quantity and quality of university education in this area. The organisational structure of the AUI grants society a high degree of control of the strategic planning, because of the large representation of external stakeholders on the University Council. The rector is nominated by the Minister of Agriculture. The university has been remarkably successful in raising external funding, which also indicates that there is trust in the university and its strategy. Nevertheless, the EC recommends that a strategic plan for the AUI be laid out and accepted by the University Council.

Conclusion

The Expert Committee perceives that the rules and procedures governing student admission are in agreement with Article 19 of the HEI Act (63/2006). The rules and procedures are formulated in a detailed and clear fashion covering all different levels of academic study.

Recommendations

- It is recommended that a strategic plan for the AUI be laid out and accepted by the University Council. The plan should, in particular, define the quantitative needs of the Icelandic society for academic education in the academic areas covered by the AUI and set a goal and timetable for the quantitative development of the student body. A goal for international student exchange should be included and consideration should be given to demographic limits constraining the potential number of sufficiently qualified students available for the AUI.

7. Facilities for Teachers and Students and Services Provided

The EC had the chance to see first of all the modern research facilities at Keldnaholt and then the teaching accommodation at Hvanneyri along with the facilities for cows and horses. It is clear that the AUI is still in a period of transition, and academic staff explained that staff previously dedicated exclusively to research are now taking up teaching commitments, thus gradually freeing research time for staff previously predominantly tied to a teaching role. There are possibilities for resentments and strains in such a situation, but the EC did not detect such attitudes. Rather there seemed to be a shared sense of optimism about the future of the new institution. The attitudes of students are always very revealing as they are the major customers and tend to be less guarded in expressing opinions. The AUI students (6 from various programmes and stages) were uniformly enthusiastic about both facilities and teaching. The EC had wondered about possible isolation at the outlying campus at Hvanneyri. In fact, although the students said they had relatively little contact with the University of Iceland, they were clearly content, feeling that the necessary expertise to support their studies both at undergraduate and postgraduate level was available within the AUI, and also that the support through books and computers was excellent. The EC noted the extensive student housing complex on the Hvanneyri site. From the staff side, two significant complaints emerged, namely the shortage of secretarial support, meaning that skilled scientists effectively waste time on mundane clerical tasks, and the shortage of money for laboratory facilities. Undoubtedly the ongoing unification of this institution will require further capital expenditure to bring its parts into proper equilibrium but overall it is clearly already functioning well, given its various constraints.

Conclusion

The working conditions for teachers and students and associated support structures are overall adequate to qualify for accreditation of the listed courses.

Recommendation

- In order to encourage an ethos in which the whole institution is able to operate as a research-active body competing at an international level, it would be desirable

a) to ensure that there is adequate secretarial support so that time free of teaching is more profitably employed; b) to provide more funding for travel, enabling AUI staff to establish international collaborations and take full advantage of the unique features of the Icelandic situation in relation to environmental research. Care also need to be given to upgrading laboratory facilities so that the whole institution can operate at a uniform standard of scientific excellence.

8. Internal quality system

The description of the Internal Quality Management in Part 7 of the Application of AUI is detailed, clear, logical and strongly to the point. It addresses properly the issues mentioned in Articles 11 and 12 of the HEI Act No. 63/2006. Based on the findings during the site visit at AUI on March 21st it became evident to the EC that the university leadership is in the hands of highly qualified persons with a comprehensive view on all aspects of the development process of a young university, definitely including the questions of internal quality assurance. As pointed out in the application, the small size of the university creates conditions where quality issues can be addressed and followed on a personal level much more easily than in large institutions. The discussions of the EC with student and faculty representatives strengthened the impression of a very open atmosphere, which is, in reality, an important prerequisite for high quality university work, despite the fact that requirement of a good atmosphere cannot be included in the formal criteria of quality assurance.

In particular, the requirements of Article 11 of Act No. 63/2006 are addressed in the application document in the following way.

a. To ensure that the requirements for accreditation of Higher Education Institutions are met.

The application document is structured to cover the individual criteria for accreditation. The EC finds that the whole application document is well and clearly written and makes it credible that all aspects of the accreditation criteria are properly and continuously addressed in a competent manner at AUI.

b. To ensure that the qualification framework for higher education and degrees is fulfilled.

This is defined as the responsibility of the Programme Coordinator in cooperation with the Division of Academic Affairs (7.7., Application document)

c. To improve the quality of teaching and research in an efficient way

There are certain standard means for quality improvement, which are generally adopted at universities, namely

- **Course evaluation (CE)** by students,
- **Staff development interviews (SDI)** and
- **Incentives for the faculty and research staff** based on research achievements

The AUI has a CE system, which is operated over the Internet. Interviewed student representatives indicated satisfaction with the functioning of the system. It is important that information has been provided by the university leadership to the students on improvements of the educational process that have followed from the CE.

SDI's are conducted by the Dean with all faculty members, whereas other SDI with other staff is delegated to lower level leadership. During the interviews personal performance in teaching, research and administration activities is discussed with reference to set written goals the year before. The comments given by faculty representatives regarding the SDI were positive in general. The SDI were said not to be felt intimidating.

Promotion is based on a professional assessment of performance and results of research, teaching and administrative work at AUI. The university has a committee for distributing annual monetary bonus to researchers based on achievements during the year, on which reports are handed in to the committee. A faculty representative said that reasonably high activity on the publication of scientific results may render a bonus comparable to one month's salary. Another important incentive, on the level of the research group, is that return on overheads from external funding comes to the benefit of the group.

d. To encourage increased responsibility of Higher Education Institutions for their own activities

The EC's impression was that the management team at AUI demonstrate a high level of initiative and exercise their leadership in a wise and responsible manner.

e. To ensure competitiveness of Higher Education Institutions at international level

The EC does not find it easy to predict how this young and very small university will develop its international competitiveness. The university's educational and research programme addresses areas of fairly specific Icelandic interest. The EC feels that the challenges of the AUI in reaching international competitiveness are not questions of internal quality assurance, in the first place. This question is of strategic nature and cannot be properly addressed within the competence frame of the EC.

Conclusions

The EC perceives that competent groundwork has been made at AUI in order to set up a functioning internal quality assurance system. The system is largely operative, whereas some minor parts are yet to be approved this year. The EC emphasizes competence shown by the leaders and the atmosphere of genuine openness and trust, experienced during the site visit, as vital components of credibility in the emerging internal quality assurance system.

9. Description of study according to learning outcomes

Part 8 of the AUI Accreditation Application lists the courses under the Faculty of Environmental Sciences which the EC has been asked to accredit. These include six B.Sc. courses in various aspects and combinations of Natural Resources, Environmental Science, Forest Science, Restoration Ecology, and Landscape Planning. There are also five M.Sc. courses in the same broad areas and four areas defined for Ph. D. programmes. In the case of the taught courses, i.e. for B.Sc. and M.Sc., the full scope, content and intended learning outcomes of these programmes are spelt out in commendable detail in Appendices 9 – 14 (B.Sc.) and 15 (M.Sc.) of the application.

Conclusion

Details of degree programmes and intended learning outcomes of each programme are included as required by Chapter II of the Act on HEIs No 63/2006.

10. Finances

In the application, bulk budget numbers for the entire university are given only, without specification on distribution of funds and cost over the faculties. AUI budget for the years 2005 and 2006 has fluctuated significantly because of the cost of merging the individual institutions into AUI, for reorganizing offices etc. The external funds/earning income amount to a healthy ca. 30% of the total cost.

In general, AUI staff considers available funds to be appropriate for the present tasks. However, more secretarial support would be needed to free the academic staff from some of the more routine administrative duties and some of the laboratories also seem to be slightly underfunded. Furthermore, the planned increase in (mostly postgraduate) student numbers might create financial strain in the somewhat longer run because presently government funding is not tied to student numbers and the programmes they attend. The planned and necessary increase in research activity will lead to increased cost for the infrastructure (offices, housing, laboratories/stables, technical support etc), and it is suggested that AUI should negotiate with the Ministry for a funding structure on the basis of the number of students completing degrees. Within AUI, such funds should then be distributed also on a competitive basis of research points of the faculty and for matching funds.

Conclusion

Present funding is basically sound for the tasks existing now but might run on the low side when expansion of teaching on the postgraduate level takes place. The possible relocation of sites from the Reykjavik area to the Hvanneyri site would require additional funds.

Recommendations

- Create a financial structure by which funds allocated by the government are tied to the success of AUI as expressed mainly in the number of students completing degrees.
- Within AUI consider a financial distribution system for operations cost, travel money for faculty staff according to research points, matching funds etc.

11. Summary of Findings and Recommendations

The main findings of the EC are summarized here as conclusions and recommendations to the Ministry of Education, Science and Culture, AUI authorities and to the faculty of Environmental Sciences of AUI. More detailed summaries of the EC conclusions and recommendations are to be found at the end of each chapter of the report.

The EC unanimously recommends full accreditation of the proposed programmes at the Faculty of Environmental Sciences at AUI in accordance with The Higher Education Act no. 63/2006 and The Rules of Accreditation of Higher Education Institutions no. 1067/200.

AUI has so far not submitted a strategic plan for its future development in terms of fields, student numbers, and finances. Although the HEI act does not require such a strategic plan, EC recommends AUI to define the quantitative needs of the Icelandic society for education in the academic areas covered by AUI and to set a goal and time table for the expansion of the student body. AUI's educational and research programmes address areas of fairly specific Icelandic interests. As the faculty is aware, some of them are at the same time also fairly unique in an international science context and could therefore be attractive for foreign graduate students. In the strategic plan, therefore, the planned internationalization should be described in more detail and a goal for international student exchange should be defined with due consideration of individual (sub-)fields. Furthermore, consideration should be given to demographic limits in Iceland constraining the potential number of sufficiently qualified students available for the AUI.

Such a strategic plan would set an appropriate basis for an agreement providing medium-term funding of education and research activity, as well as planning reliability. Funding should also be linked to student numbers.

Because elaboration of the strategic plan and finding an agreement with the Ministry will require time, accreditation of the programmes proposed should not be postponed until the agreement is reached.

Recommendation to the Ministry

- For future accreditation reviews it is recommended that prior to the review the faculty makes a self-evaluation and that sufficient time is made available to incorporate the results of such a future self-evaluation into the application for accreditation.
- It is recommended that the Ministry asks AUI to submit a strategic plan for the development of fields of study, student numbers, infrastructure etc., with the aim of coming to a medium-term agreement on funding between the Ministries and AUI.

Recommendations to the Agricultural University of Iceland and Faculty of Environmental Sciences

In order to strengthen operation as a research body competing at an international level, the following measures should be considered by AUI:

- ensure that there is adequate secretarial support
- upgrade laboratory facilities so that the whole institution can operate at a uniform standard of scientific excellence
- provide more funding for travel to increase visibility of AUI staff on an international level
- take full advantage of the unique features of the Icelandic situation in relation to environmental research and advertise these
- consider a financial distribution system within AUI for operations cost, travel money for faculty staff according to research points, matching funds etc.

*Final Report on the Accreditation of Natural Science in the Faculty of Environmental Sciences,
Agricultural University of Iceland*

Signatures of the Accreditation Expert Committee of Higher Education Institutions in the
field of Natural Science in Iceland 2007:

Date

Prof. Friedrich Seifert
Bayreuth Universität, Germany.
Chairman

Prof. Rolf Hernberg
Tampere University of Technology, Finland.

Prof. Paul C. Engel
University College Dublin, Ireland.

Appendix A1

Agenda for the Expert Committee site visit to the Agricultural University of Iceland (AUI) in Reykjavík and Hvanneyri, Iceland.

Wednesday 21st March 2007.

Expert Committee:

Prof. Friedrich Seifert, Bayreuth University, Germany (Chairman).
Prof. Rolf Hernberg, Tampere University of Technology, Finland.
Prof. Paul C. Engel, University College Dublin, Ireland.

Liaison officer:

Dr. Anna Kristín Daníelsdóttir, RANNIS, Iceland.

09:00 – 10:00

Presentations of the major research activities at AUI with emphasis on Faculty of Environmental Sciences by Áslaug Helgadóttir Vice-rector of research and of the Environmental Sciences by Ólafur Arnalds Dean of the Faculty of Environmental Sciences.

AUI, Keldnaholt, Reykjavík.

Present: Jón Guðmundsson Lecturer, Hlynur Óskarsson Research scientist, Fanney Ósk Gísladóttir Lecturer, Brita Berglund Laboratory manager, Sigríður Kristjánsdóttir Lecturer, Berglind Orradóttir Lecturer, Járngerður Grétarsdóttir Lecturer, Ása L. Árnadóttir FS-REM Program

11:00 – 12:30

Introduction and site visit to campus.

Ásgarður, Hvanneyri.

Present: Björn Þorsteinsson Vice-rector of Academic affairs and Ágúst Sigurðsson, the Rector of AUI.

12:30 – 13:00

LUNCH

13:00 – 13:45

Meeting with students.

Austurstofa, Ásgarður Hvanneyri.

Present: Heiða Aðalsteinsdóttir 2nd year undergraduate Environment and Landscape planning, Azel Kárason 2nd year undergraduate Agricultural productions, Elin Gretharsdóttir 2nd year Master study in Animal Breeding, Halla Kjartansdóttir 2nd

year undergraduate Nature and Environment Sigurður Þór Guðmundsson 2nd Master study in Agricultural production, Raket Jakóbína Jónsdóttir 3rd year undergraduate Forestry.

13:45 – 15:00

Meeting with staff (Lecturers, Associate Professors, Research scientists and Program coordinators).

Austurstofa, Ásgarður Hvanneyri.

Present: Ragnhildur Sigurðardóttir Lecturer, Samson Harðarson Lecturer, Hlynur Óskarsson Research scientist, Fanney Ósk Gísladóttir Lecturer, Brita Berglund Laboratory manager, Sigríður Kristjánsdóttir Lecturer, Berglind Orradóttir Lecturer, Prof. Ingibjörg Svala Jónsdóttir, Prof. Anna Guðrún Þórhallsdóttir NA-EN Program, Prof. Bjarni D. Sigurðsson and Prof. Ása L. Aradóttir FS-REM Program, Assoc. Prof. Auður Sveinsdóttir Landscape planning and architecture program.

15:00 – 16:00

Meeting with the management team.

Austurstofa, Ásgarður Hvanneyri.

Present: Ágúst Sigurðsson Rector, Áslaug Helgadóttir Vice-rector of research, Björn Þorsteinsson Vice-rector of academic affairs, Guðríður Helgadóttir Head of the Department of Vocational Training and Continuing Education, Ólafur Arnalds Dean of the Faculty of Environmental Sciences, Þorvaldur T. Jónsson Head of Operations and Physical Plant.

17:00 – 01:00

Accreditation Expert Committee Meeting.

Hótel Holt Meeting Room, Bergstaðastræti, Reykjavík.

Present: Prof. Friedrich Seifert, Bayreuth University, Germany (Chairman of Expert Committee), Prof. Rolf Hernberg, Tampere University of Technology, Finland (Member of Expert Committee), Prof. Paul C. Engel, University College Dublin, Ireland (Member of Expert Committee), Dr. Anna Kristín Daníelsdóttir, RANNIS, Iceland (Liaison officer).

Appendix A2

List of documents received

- Higher Education Institution Act No. 63/2006 (Draft translation)
National Qualification Framework for Iceland (Draft translation)
Accreditation of Higher Education Institutions according to Article 3 of Higher Education Act, No. 63/2006, No. 1067/2006 (Draft translation)
- Application for Accreditation, Agricultural University of Iceland, Faculty of Environmental Sciences
- A1 Act on Agricultural Education – No. 57 of 19 March 1999
- A2 Regulations for the Agricultural University of Iceland Agreed by the University Council, 16 February 2005
- A3 Regulations for the Agricultural University of Iceland – University faculties. Agreed by the University Council 3 March 2006, effective 1 July 2006
- A4 Regulations for the Agricultural University of Iceland – Doctoral Programme. Agreed by the University Council 3 March 2006, effective 1 July 2006
- A5 List of Publications from Annual Report of the Agricultural University of Iceland 2005
- A6 Conference catalogue 2007, List of contents
- A7 List of faculty members and part time teachers of the Faculty of Environmental Sciences at the Agricultural University of Iceland
- A8 Description of Computer services at the Agricultural University of Iceland
- A9 Nature and Environmental Science (Na-En) B.Sc. Program – programme description
- A10 Nature and Environmental Science (Na-En) B.Sc. Program – list of courses and course contents
- A11 Forest Science, Restoration Ecology and Management (FS-REM) B.Sc. programme - program description
- A12 Forest Science, Restoration Ecology and Management (FS-REM) B.Sc. programme - list of courses and course contents
- A13 Landscape Planning and Architecture B.Sc. program – programme description
- A14 Landscape Planning and Architecture B.Sc. program – list of courses and course contents
- A15 Studies for masters degree at Faculty of Environmental Sciences at AUI – program description
- A16 Studies for masters degree at Faculty of Environmental Sciences at AUI – list of courses and course contents
- Additional documents (requested by EC)
CV and publication lists of all academic staff
Further details related to Management and Organisation (overview of present jobs and studies of graduated students from AUI 2003 – 2006)
Further details on Arrangements for Teaching and Research (Recent participation in International Research and Professional Cooperation Programmes)

*Final Report on the Accreditation of Natural Science in the Faculty of Environmental Sciences,
Agricultural University of Iceland*

Further details related to staff qualification: Description of the promotion system at AUI
(valid until Dec. 31, 2006)

Code of ethics of the Agricultural University of Iceland 2007 (agreed by the University
Council 9 May 2007)

Rules guiding the work of selection committee and recruitment or promotion of teachers
at the Agricultural University of Iceland (agreed by the University Council 9 May
2007)