

Accreditation Report

Agriculture
Agricultural University of Iceland
(AUI)

Faculty of Land and Animal Resources

November 2007
Arnarhvoll

Expert Committee

Table of Content

Introduction.....	4
1.1 The Expert Committee	4
1.2 Terms of Reference	4
1.3 Working Method AUI.....	5
1.4 Short Evaluation of the work process	9
2. Roles and Objectives	9
3. Administration and Organisation	10
4. Organisation of Teaching and Research.....	12
5. Personnel qualification requirements.....	15
6. Admission requirements and student rights and obligations	17
7. Facilities for Teachers and Students and Services Provided	18
8. Internal Quality Management	19
9. Description of study according to learning outcomes	21
10. Finances.....	21
11. Summary of Findings and Recommendations.....	22
Appendix 1.....	24
Appendix A2	27

Introduction

Accreditation Report on the Agricultural University of Iceland site visit conducted in October 2007.

1.1 The Expert Committee

Professor Maurice Boland, Head, School of Agriculture, Food Science and Veterinary Medicine, University College, Dublin, Ireland, **Chairman**.

Professor Gerhardus Schultink, International Development Planning, College of Agriculture and Natural Resources, Michigan State University, USA.

Professor Ragnar Ludvig Olsen, Norwegian College of Fishery Science, University of Tromsø, Norway.

Dr Anna Kristin Danielsdottir, 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 by the Minister of Education, Science and Culture to review the applications for accreditation of Higher Education Institutions within the field of Agriculture, and as stipulated in the Higher Education Act, No. 63/2006, cf Rules on Accreditation of Higher Education Institutions according to Article 3 of Higher Education Act, No. 63/2006, No. 1067/2006. The role of the EC is to review applications and subsequent information on the basis of the *National Qualification Framework of Iceland and Rules on Accreditation of Higher Education Institutions No. 1067/2006*.

The EC shall include the results of evaluation using the criteria as laid out in Article 2(3) (a)-(i) in the Rules of the following factors:

- Objectives and roles.
- Administration and Organisation.
- Organisation of teaching and research.
- Personnel qualifications requirements.
- Admission requirements and student rights and obligations.
- Teacher and student facilities and services.
- Internal quality system.
- Description of study according to learning outcomes.
- Finances.

The review shall further evaluate the following, cf Article 3 of the Rules: Expertise and competence in the field of study and the administration therein, taking account of the quality of teaching and research and the appropriate facilities, dissemination of knowledge and relative status within society. The manner in which the support of the Higher Education Institution is

arranged towards: the academic forum as a whole, teaching staff and experts in the relevant field and appropriate measures for the education and training of its students.

Special attention shall be paid to research and any subdivisions therein, with regard to educational infrastructure, especially cooperation between undergraduate and graduate studies and any other relevant fields of study, as appropriate.

The status of fields of expertise and subdivisions therein on a national and international level. Attention shall be paid to cooperation with other Higher Education Institutions and other bodies on a national and international level in that particular field of study.

1.3 Working Method AUI

The three members of the Expert Committee (EC) received the AUI accreditation application along with the appendices in advance of arrival in Iceland by accessing it electronically from a webpage. The additional documents were circulated electronically to the EC members by Dr. Anna Kristín Daníelsdóttir (AKD), the Icelandic member of the group. On arrival, they received a cd disk with the documents.

The EC first came together on the morning of **Sunday, September 30th** at the hotel's meeting room. The EC started to prepare for the three site visits and divide the writing task between the members. AKD arrived after lunch to explain the role of the members, providing local support and contextual information but maintaining neutrality in terms of the expression of opinions and influencing decisions. The remainder of the day was spent in preparatory work, discussions of the materials provided and issues arising. At 19:00 the committee drove to Sauðárkrókur arriving at Hotel Tindastóll at 23:30.

Monday 1st October 2007 was spent at a site visit of Holar University College (HUC) at Sauðárkrókur and Hjaltidalur. The EC drove from Hjaltidalur to Hotel KEA, Akureyri in the afternoon, where they had a meeting to crystallize thoughts from HUC visit and prepared questions for the site visit to University of Akureyri.

Tuesday 2nd October 2007 started with an EC meeting at hotel KEA, Akureyri to finalize preparation work for the visit to University of Akureyri (UNAK). Then the EC visited UNAK and flew back in the night to Reykjavík where the EC crystallized thoughts from the visit. The EC compared impressions and drew preliminary conclusions and planned the writing of the report.

Wednesday 3rd October 2007 was spent writing the reports at the Culture House, Reykjavík.

Thursday 4th October 2007 was spent on a visit to the sites of the AUI at Keldnaholt and Hvanneyri. First the EC visited Keldnaholt, the Reykjavík 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.

Other staff present were: Jónatan Hermannsson Assistant professor in Agronomy and plantbreeding, Tryggvi Eiríksson Animal nutrition, Tryggvi Sturla Stefánsson M.Sc. student, Bragi Línadal Ólafsson Senior Scientist Animal Nutrition, Jón Hallsteinn Hallson Lecturer in Genetics, Sigríður Dalmannsdóttir Assistant professor in Plant physiology, Jóhannes Sveinbjörnsson Associate professor in Animal nutrition, Þóroddur Sveinsson Assistant professor in Agronomy, Laufey Steingrimsdóttir Senior Scientist Nutrition, Þórdís Anna Kristjánsdóttir Senior Scientist Statistics. Issues discussed included organisation, finances, strategy and sustainability for development of the University.

After a rapid tour of the building, the EC drove to Hvanneyri, a former agricultural college which has been united with the research institute at Keldnaholt to form the AUI. Professor Ágúst Sigurðsson, Rector of the AUI, supported by Prof. Björn Þorsteinsson the AUI Liaison officer, Vice-Rector for Academic affairs and Academic Programmes and prof. Áslaug Helgadóttir, Vice-rector of research and Dean of the Land and Animal Resources Faculty showed the EC some of the agricultural facilities, including the cow barn and horse stables and also the blocks of student accommodation and other facilities.

The discussion centred on provision of facilities, the use and maintenance of facilities and the contribution of local society to the needs and development of AUI. There was general satisfaction with the provision of facilities and strong community support was evident. Professor Ágúst Sigurðsson, the rector gave a general introduction to the facility during lunch. Prof. Björn Þorsteinsson Vice-rector for Academic affairs and Academic Programmes and prof. Áslaug Helgadóttir, Vice-rector of research and Dean of the Land and Animal Resources Faculty were also present. This session concentrated on the management of AUI, finances, the role of the University Council, the role of the Rector on the Council and the strategy for future development. The EC concluded that the programmes are well developed and it is the intention to connect research and education in a meaningful manner.

The EC then met with a representative group of eight students and five AUI graduates: Eyjólfur Yngvi Bjarnason student representative in teaching committee and 2nd year BSc Agricultural production, Axel Kárason 3rd year BSc Agricultural production, Sigríður Ólafsdóttir 3rd year BSc Agricultural production, Þorbjörg Helga Konráðsdóttir 1st year BSc Agricultural production,

María Þórunn Jónsdóttir 3rd year BSc Agricultural production, Margrét Guðrún Ásbjarnardóttir 2nd year MSc Genetics, Gunnfríður Hreiðarsdóttir 2nd year PhD Genetics, Elva Dögg Valsdóttir 1st year BSc Agricultural production. Recent graduates: Borgar Bragason BSc graduate, Stefanía Nindel BSc 2001 Teacher at the AUI, Unnsteinn Snorri Snorrason MSc 2001 Farm building and

technology Farmers extension service, Laufey Bjarnadóttir BSc honours 1997 Dairy farmer, Pröstur Aðalbjarnason BSc honours 2001 Dairy farmer. The students were enthusiastic about the quality of personalised education they were receiving. 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 other national and international Universities. Issues raised by EC included strengths and weaknesses of the programme; why they studied at AUI; whether their expectations were met; approachability of staff and responsiveness to queries; if they would recommend the program to someone else?

The student responses obtained included the following:

- Field visits were a good supplement to classroom instruction.
- Students have good access to scientists and facilities.
- Generally there is easy access to supportive staff that provide immediate help.
- Good professional opportunities are created by the study program.
- Students would like to have better access to relevant research outputs and professional publications.

Conclusions:

- Graduates are very satisfied with the quality of the learning experience.
- Small class sizes facilitate good staff/student interactions.

Next the EC had a meeting with the staff (Lecturers, Associate Professors, Research scientists and Program coordinators): Prof. Áslaug Helgadóttir Dean of Land and Animal Resources Faculty, prof. Björn Þorsteinsson Vice-rector of Academic affairs, Jónatan Hermannsson Assistant professor Agronomy and plantbreeding, Bragi Líndal Ólafsson Senior Scientist Animal Nutrition, Jón Hallsteinn Hallson Assistant professor Genetics, Sigríður Dalmannsdóttir Assistant professor Plant physiology, Jóhannes Sveinbjörnsson Associate professor Animal nutrition, Laufey Steingrimsdóttir Senior Scientist Nutrition, Þórdís Anna Kristjánsdóttir Senior Scientist Statistics, Halldór Sverrisson Assistant professor Plant pathology, prof. Þorsteinn Guðmundsson Soil science, prof. Ríkharð Brynjólfsson Agricultural science, Þorvaldur Kristjánsson Senior scientist Animal breeding, prof. Magnús B. Jónsson Agricultural science, Þóroddur Sveinsson Assistant professor Agronomy, Grétar Hrafn Harðarson Assistant professor Nutrition, prof. Bjarni Guðmundsson Grass and Fodder conservation. The meeting with academic staff concentrated on strengths, weaknesses and other issues that staff wished to raise.

Main outcomes include:

- The size of the University is considered both a strength and a weakness.
- Academic staff are faced with significant administration work load,
- causing constraints in teaching and research assignments.

- No internal funds are available to support start-up research.
- Current specializations are perceived as a strength.
- The Departments are mutually supportive.

Conclusions:

- Academic staff is generally content with the location and facilities.
- Lack of clerical/technical staff support is a concern.

Next, the EC had a meeting with representatives of employers of graduates: Sigurgeir Þorgeirsson PhD, Manager of the Icelandic Farmers Association and employer of 13 graduates; Eiríkur Blöndal agricultural engineer, manager of the West Iceland Farmers Association and extension service and employer of 5 graduates; Sigurður Már Einarsson fisheries biologist, Institute of Freshwater Fisheries and employer of 1 graduate. Issues raised with employers included questioning on weaknesses in the graduates, satisfaction with their performance; would they continue to hire graduates from AUI?

The responses obtained included the following:

- No perceived apparent weaknesses.
- Graduates appear to be well trained.
- The program facilitates contact between practitioners and AUI, which is considered important.
- Generally, the employers were very pleased with the quality of the graduates.

Conclusions:

- Although this represents a small sample, feedback indicates a high degree of satisfaction with the graduates hired.
- Employers are very supportive of the programmes offered and reiterated the importance of local interactions between the University and community.

Finally, a meeting with the Management Team took place, including: Ágúst Sigurðsson Rector, prof. Áslaug Helgadóttir Vice-rector of research and Dean of the Faculty of Land and Animal Resources, Björn Þorsteinsson Vice-rector of academic affairs, Guðríður Helgadóttir Head of the Department of Vocational Training and Continuing Education, prof. Ólafur Arnalds Dean of the Faculty of Environmental Sciences.

Issues raised with the management team included: financial stability; the presence or absence of a Rector's strategic fund; the balance between teaching and research; how to address the financial shortfall.

The responses obtained included the following:

- The small size of the institution leads to a relatively high proportion of
- academic staff time spent on administration duties.
- There is no strategic Development Fund in place, but it is considered highly desirable.

Conclusions:

- There is a cohesive group that is aware of the challenges faced.

In the afternoon of **Friday, 5th October 2007** the EC met with the director and staff of the Ministry of Education: with Einar Jörundsson Director at Department of Science and Higher Education, Hellen M. Gunnarsdóttir Head of Division at Department of Science and Higher Education, Rósa Gunnarsdóttir Advisor Department of Science and Higher Education, Friðrika Harðardóttir Advisor at Department of Science and Higher Education, Stefán Baldursson Director at the Office of Evaluation and Analysis and Sveinn Hreinsson. A wide ranging discussion ensued about the review process, potential outcomes and future directions.

A first draft of the report was produced before the EC departed on October 6th. The draft material was further edited and refined by circulation between the EC members over the next several weeks. A final draft of the report was sent to AUI for checking and for comments. Following receipt of these comments the report was finalized for submission to the Ministry of Education, Science and Culture.

1.4 Short Evaluation of the work process

The EC found the assessment process to be very efficiently organised and implemented. The team size and composition provided for a collaborative and supportive endeavor. It is essential to have a local person to organize the process; this proved invaluable where additional information was needed. We wish to pay special tribute to Dr Anna Kristin Danielsdottir for her guidance, knowledge and dedication to the process. She was always on time, worked long and hard days and was ever cheerful, which made our task easier. We also want to thank all staff at AUI for their courtesy, help and frank manner in which they dealt with the EC during the visit. They were well-organised and prepared to discuss any issue raised. If data were not available immediately, they were produced very quickly.

One area of concern for the EC was the large and fragmented volume of material that had to be obtained, read and evaluated before and during the site visit. This could be improved substantially by ensuring that future ECs will receive a single document containing all material relevant to the accreditation process. Of course appendices, weblinks etc can be used, but it will facilitate the review process.

2. Roles and Objectives

The Agricultural University of Iceland (AUI) was founded in January 2005. It is a scientific educational and research institution in the field of agriculture and environmental science. The

main focus is on the conservation and sustainable use of land and animal resources, including traditional agriculture, horticulture and forestry, environmental planning, restoration science, rural development and sustainable development. The AUI awards BSc degrees in these fields; it awards MSc degrees and is in the early stages of educating students for PhD degrees.

The overall objective of AUI is to pursue high quality education in its academic fields supported by competitive nationally and internationally-oriented research provided by competent and dedicated staff. To achieve this objective it is the goal of the University to provide its students with an academic education in an ambitious environment of study and research. The University aspires to provide its academic staff with an environment that is conducive to research and innovation, which in turn will support the growth and prosperity of Icelandic society and stimulate new developments and knowledge. It aspires to providing a challenging personal study environment that will attract students and places increased emphasis on the students' participation and benefits from the study and training in critical thinking. It is clear that the staff at AUI are focussed on expanding current national and international collaboration in teaching (especially at the Masters level) and research; this must be fully pursued to ensure that staff and students are exposed to state-of-the-art scientific methods, technologies and equipment to further facilitate the development of a knowledge-based society.

There appears to be a strong commitment to research that is industry-linked and there are strong links already established with local industries and other academic centres nationally. Interactions with local industry are seen as crucial for the growth and development of the University and efforts are being made to strengthen the mutual transfer of knowledge between the University and industry.

The main goal of the Faculty of Land and Animal Resources is to preserve and develop Icelandic genetic resources in livestock and crops and to develop sustainable production systems that safeguard quality and traceability of products from producers to consumers.

Conclusions:

- The minimal roles and objectives are set out in the documentation provided.
- During the visit it was clear that staff were aware of the limitations of size
- and the requirement to specialise and focus academic programs with the goal
- of creating critical mass.
- There is a clear goal to improve the quality of the education and connect
- research outputs with curricular and community needs.

3. Administration and Organisation

The AUI is composed of two Faculties (Environmental Science; Land and Animal Resources) and one Department (Vocational and Continuing Education).

Within the faculties a number of BSc programmes are offered and this report is confined to programmes in Agricultural Science and Equine Science. The AUI is led by the Rector and University Council, which sets the teaching and research strategy and drives planning. The University Council meets about 4-6 times per year and is chaired by the Rector and composed of nine individuals including representatives of the Minister of Agriculture, Minister of Education, Farmers Association, employees and students. The Rector calls meetings as required. The Rector is appointed by the Minister for Agriculture for a five-year term and reports to the Minister for Agriculture.

The Rector is the head of the University administration and is responsible for its operation. He is responsible for vocational and operational planning with approval of the University Council for operations and policy formulation. The Rector employs an Operational Head who manages the finances and prepares an annual financial plan, and monitors legal affairs.

The Rector appoints a Head of Research for two years. This Head of Research supervises the coordination of research and handles the legal aspects of research with respect to industry, and initiates collaboration and consultation with representatives in the agricultural sector about research initiatives and needs.

The Rector appoints a Head of Academic Affairs for two years. S/he safeguards links with other educational institutions and initiates study coordination. Quality management is part of the assignment. The office also provides oversight of the Division of Academic affairs.

Leadership of Faculties is in the hands of Deans who are appointed by the Rector for two years, following nomination at the Faculty Forum. They manage professional supervision of programmes, have oversight of the educational programmes and initiate the formation of research strategy. They work on financial planning in consultation with the Operational Head and make recommendations about personnel, resources, and responsibilities for research and educational projects.

Conclusions:

- The University has a clear administration and management structure in place which is well understood by staff
 - The appointment process involves consultation with and endorsement by academic staff, thereby likely increasing commitment and loyalty.
 - Evidence of strong leadership was presented at all levels.
 - A concern is the relatively short appointment period for senior administrators, such as Deans. This may lead to great variability in management style and priorities, and poses special challenges for the development and implementation of mid- to long-term development strategies.

4. Organisation of Teaching and Research

The AUI regulations and guidelines are in full compliance with Section III of the University Act 63/2006 and also comply with corresponding Articles of the Agricultural Education Act (57/2006). Courses are given and assessed in standard European Credit Transfer System (ECTS). A full course of study is comprised of 30 ECTS per semester or 60 ECTS per year of two semesters. The study programmes are concerned with BSc, MSc and PhD degrees.

A curriculum guide is prepared for each study programme that stipulates the purpose, contents and general subjects of the studies, including vocational field training, where applicable. A syllabus based on the curriculum guide, wherein the study arrangements, teaching methods and study evaluation are explained, is published.

AUI co-operates with various other Universities, both nationally and internationally, with regard to mutual recognition of study programs. A formal agreement is currently being established between AUI and the University of Iceland, including joint teaching in soil science. There is mutual recognition of courses and transferability of credits between the two Universities. The study programme at AUI is based on international norms and programmes are considered to be comparable in terms of standards and degree composition to larger universities in the fields of agriculture, natural and environmental sciences.

Teaching assessment takes place at the end of each semester and all students are given an opportunity via the web to assess the quality of the courses and the teaching ability of the lecturers. This information is assessed in an anonymous fashion and is used to improve the quality of the learning experience. Information gathered from students on the quality and delivery of the courses is considered highly important to the University and contributes to the drive for quality improvement and is part of the quality management system. Student information indicates that improvements have been achieved as a result of data gathered from the surveys. Students appreciated the role of assignments and essays to spread the workload and achieve more depth in specialized areas; this also reduced the emphasis placed on end-of-semester examinations.

There was concern expressed that areas such as economics and agricultural economics, soil nutrition, biometrics and molecular biology are not adequately represented in the current curriculum and should be addressed with new academic appointments. Recent graduates expressed strong support in general, but identified some curriculum weaknesses such as applied statistics and farm economics. They acknowledged that only so much can be achieved in the course of the degree programme. Concern was expressed that Masters students were not well mentored compared with their experience abroad; they felt that they were left to fend for themselves rather than being part of a caring and supportive Faculty.

Formal Arrangements

There is a formal arrangement between the agricultural and veterinary universities of the Nordic Countries (NOVA Network) with joint courses being offered with mutual recognition of course

credits. Nordic Universities offer joint PhD courses and AUI has hosted some of these courses. There are formal agreements with other Universities such Guelph (Canada), Alborg (Denmark), Tromso (Norway), Padua (Italy) and Ohio State University (USA). Students that have graduated from AUI have received full recognition abroad for their coursework undertaken at AUI.

Facilities

Facilities for the University are at seven locations which is both a strength and a weakness. It is seen as a strength as it links the University with local communities. It is a weakness because of the need to disperse staff and financial resources at each location, which may negate efforts to achieve essential critical mass in the organisation as a whole.

Research

The data provided in the application indicate that research is almost 60% of the activity at AUI, both in terms of manpower and expenditures, thus supporting its role as a research-intensive university. Academic staff apply for funding nationally and internationally. Staff have also participated in many international research projects, both at Nordic and EU levels in animal husbandry, plant breeding and genetic resources. Staff are active in various scientific and academic societies and committees. Examples of cooperation include:

Nordic Gene Bank for Farm animals (NGH) – participation in the NGH Board.

Nordic Gene Bank (NGB) – cereals working group; forage working group; berries working group.

Nordic Association of Agricultural Scientists (NJF) – (i) plant sciences section on timothy, (ii) long term experiments; (iii) trace elements for plants; (iv) dairy cow modelling; (v) animal science and agricultural Analytical Chemistry.

Nordic Joint Committee for Agricultural Research (NKJ)- (i) characterisation of genetic resources; (ii) sustainable agricultural development; (iii) Nordic Forage network

Norfor Feed Evaluation System.

Nordic Co-Operation on Barley Breeding.

EU COST programme.

Sheeprion.

Soil Conservation and Protection in Europe.

One issue raised by the committee was the tendency to cover too many diverse or unrelated areas in research. There is little evidence of a strategic or facultyfocussed research programme, but rather of more opportunistic projects that relate to community preferences, tradition or national

funding availability. It is the view of the committee that significant focus should be brought to bear on the research program to help ensure future program sustainability and coherence.

Careful consideration should be given to closer national collaboration in areas of specialization between the various Universities and Research Institutes. This should add to a position of critical mass and encourage a future multidisciplinary research approach. It is only by having critical mass and focussing on areas of strength that real progress will be made, particularly in an era of fierce international competition for research funds. Adapting academic change to rapid changes in modern society - where business, innovation and technology platforms are working together, ensures that significant and meaningful progress can be made. This requires real leadership to ensure buy-in and contribution from all staff who are prepared to trust the vision of an outstanding leader.

Without good leadership, little if any progress will be achieved. It is evident that there are areas of outstanding research, but more progress can be made. To make the real advances will require vision, strategy, focus and the financial resources to ensure that the University is at the cutting edge in a very limited number and clearly-focussed areas of specialization.

Conclusions:

- The organisation of teaching and research are reasonably well described.
- The teaching facilities including the animal housing (horse barn and dairy) are excellent and appropriate for the programs.
- The research facilities are appropriate for purpose and major efforts have been made to secure modern equipment.
- Critical mass and focus on a limited number of specialized research programmes is an issue for serious consideration.

Recommendations:

- Further strengthen the postgraduate programs by focussing on specific areas of expertise and specialiation.
- Establish an international committee to advise on development of research programmes to enhance the reputation of the University.
- Develop a focussed and limited number of programmes that will attract research funding and make AUI a world renowned centre in 5-10 years time.
- Develop further institutional collaboration but in a deliberately strategic and focussed manner.
- Establish a sustainable, multi-annual budget to allow for a strategic and specialized development plan and increase (international) student and staff numbers accordingly.

- Develop more program depth rather than breadth in research and
- teaching.

5. Personnel qualification requirements

The agricultural university total employment includes 120 Full-Time-Equivalent (FTE) positions, representing 121 persons (46.9 FTE positions are dedicated to operations and maintenance, 51 are part-time employees).

Hiring, staff evaluation and promotion criteria are well-articulated. Hiring and promotion for academic positions have so far followed a grading system developed by Kjaranefnd (now Kjararað). The minimum academic degree for associate professor is a PhD. Exceptions are made occasionally when a candidate has published academic articles that may be regarded as equivalent to a PhD degree.

This system has been terminated as of January 2007, at which point AUI promulgated their own regulations (Rules Guiding the Work of Selection Committee and Recruitment or Promotion of Teachers at AUI) in compliance with Icelandic law, as adapted by the University Council on May 9, 2007. The grading system addresses the outcome and quality of academic work of professors, especially research outputs, including teaching and administration.

The system is primarily suitable for addressing quantitative criteria associated with research outputs, a challenge in objectively assessing teaching performance.

This is done annually and used to determine annual merit compensation for individual professors and advancement in grade. The same grading system is also used in promotion decisions, such as from Assistant Professor to Associate Professor or from Associate Professor to Professor.

The evaluation uses a point grading system whereby the total point score is used to set monthly pay to teachers and scientific personnel. It includes scientific publications, citations and participation in international conferences. Teaching performance is evaluated based on experience, course development, innovation and guidance to graduate students. It may include administrative work, where appropriate.

Annual evaluations are conducted based on employees' reports submitted to the Office of Research by February 1. Award payments are made each year from the Universities' fund for publications. A similar reconsideration occurs in the Fall (September). An evaluation committee, appointed by the University Council, conducts the evaluation.

Conclusions:

- The University is in compliance with the requirements of personnel qualification as defined by relevant laws, regulations and any obligations, therein. The recent merger of academic units and research establishments has resulted in a considerable amount of

stress over the last few years. However interviews indicate the emergence of a fairly strong sense of collegiality among academic staff, and a high level of administrative support and loyalty by staff, students and employers of students

- Progress is being made on developing a strategic vision on future growth. Meetings have taken place, seeking input from academic staff. However, no clear *Strategic Vision* with well-articulated goals and objectives has emerged. Such vision is badly needed to provide a sound basis for defining and prioritizing academic endeavours, articulating a growth strategy and the concurrent formalization of a staffing plan with the appropriate staff qualifications. General concerns were identified by academic staff. Examples include perceived critical staffing needs to supplement existing programs. These include positions in agricultural or resource economics, applied statistics or biometrics and genetics. Such position prioritization should be well-defined for the next 5 years.
- With the small number of permanent academic staff and the large percentage of part-time academic staff members, a fundamental question associated with personnel management is the minimum critical mass needed to establish and maintain a viable academic program with substantial academic specialization in teaching and research, that may be recognized as a future *Center of Excellence*.

Recommendations:

- To advance the quality and elevate the profile of the academic program through new hires, the positions for academic staff should always be advertised, both nationally and internationally, in relevant professional journals.
- For all future positions of the Professorial ranks, a PhD degree should be a minimum requirement for hiring, while minimum years of additional practical experience combined with research and teaching experience, should be identified for Associate and Professors.
- Detailed strategic planning is needed to provide clear guidelines and priorities for future program expansion, concentration and academic position management among departments.
- A clear prioritization of programmatic needs and quality-based staffing plan will help to evolve a pro-active research agenda and improve teaching quality.
- To improve the quality of academic applicants, competitive salaries, relocation allowances and on-site incentives should be offered.
- It is suggested to consider the establishment of a college development initiative to help establish an endowment fund for staff recruitment and financial support. Existing and significant land holdings can be leveraged into financial assets that can be used to fund new program priorities, recruitment and quality assurance.

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: Bachelors, Masters 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.

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 small university still at the initial phase of development and a total number of 316 (including vocational) students. The total number of BSc, MSc and PhD students in the Faculty of Land and Animal Resources at present is about 62. A future growth target to 500 students was identified, a very small number for a university. This level would pose a significant challenge in providing a qualitatively acceptable level of academic education given diversified program needs, the critical mass required in teaching and research, and the need for cost-effective delivery of such service by a public institution.

From the existing regulations, it is clear that the admission criteria and procedures have been given thorough consideration. This indicates that the university leadership understands the importance of recruitment in academic program development. Similarly, discussions and the research initiatives presented, indicate a problem-driven focus on societal teaching and research needs. However, current and anticipated teaching needs have to be clearly identified and reflected in staffing plans and the development of program specializations.

Student’s rights and obligations are well defined in the Code of Ethics, as adopted by the University council on May 9, 2007.

Conclusions:

- The EC perceived that the rules and procedures governing student admission are in agreement with Article 19 of the HEI Act (63/2006).

However, while general rules and procedures are formulated, entrance standards seem to be minimal and do not promote long-term educational quality and reputation.

Recommendations:

- Develop and adapt a detailed strategic education plan. This plan should reflect the needs of Iceland's society for academic education in the academic specializations offered, and the associated sustainable student numbers linked with instructional, research and staffing needs.
- Conduct a systematic identification of the complementarities of educational programs with those at other academic (near-by) institutions with the objective to develop additional cooperation, including joint and complementary course offerings, promote and articulate clearer and higher admission standards that seek to improve program quality, improve cost-effective delivery of instruction and the provision of more applied research opportunities.
- Special consideration should be given to reward faculty members for successful research proposals in priority areas, especially those that address important societal needs, that are multi-disciplinary or could lead to processes and outcomes that can be patented and provide a future revenue stream for the institution.
- Elevate future college entrance requirements to ensure and improve longterm program quality and reputation.
- Explore more course offerings in English, especially at the MSc level.
- Explore the opportunity to charge higher tuition rates for foreign students (that do not pay local taxes, part of which support publicly-funded academic institutions) in order to recover public subsidies.

7. Facilities for Teachers and Students and Services Provided

The EC visited the modern research facilities at Keldnaholt and the teaching accommodation at Hvanneyri along with the facilities for the equine program and the dairy herd. AUI is in a period of growth and transition, in part associated with the recent merger of two colleges and the agricultural research institute. Seven major locations house University facilities throughout Iceland, with the major (campus) facility in Hvanneyri. This includes 2000 m² of lab space, various libraries and database access points, high-speed internet and email utilities, research farms and experimental stations, and support functions such as car pool, technical services and a restaurant.

Currently, more than 300 people live on campus, excluding students and their families. Facilities include a kindergarten and primary school. Academic staff, previously dedicated exclusively to research, is now taking up part-time teaching commitments, thus gradually freeing research time for staff predominantly committed to teaching.

During this transformation of staff responsibilities and of facility use, potential resentment and stress may emerge and such past friction has been identified in interviews conducted by the EC. However, little if any evidence exists of current problems associated with the transformation of

facilities and the adaptation to new use. Such sense of shared optimism has also been identified in interviews with students, typically enthusiastic about facilities and the teaching program. On the latter, however, lack of applied economics (e.g. farm enterprise analysis) was identified as a gap by students, while biometrics, cattle production, plant nutrient management and molecular genetics were identified as expertise gaps in the teaching program or facilities by faculty members.

Discussions ensued about the complementary use of facilities domestically and abroad in teaching and research. In this sense a clear assessment is needed to identify systematic, cooperative effort in sharing or consolidating facilities domestically, including facilities of other institutions.

The relative isolation at the outlying campus at Hvanneyri is not perceived as a significant burden to students. As at other institutions, clerical/technical staff support for cost/effective facility use was identified as a concern. Potential synergies should be evaluated with a more systematic merger of functions and facilities as the current campus expands.

Conclusions:

- The working conditions for teachers and students and associated support infrastructure is overall adequate to qualify for accreditation of the listed courses and academic programs.

Recommendations:

- Improve clerical and technical staff support to create efficiencies in the operation of a more *research-intensive* institution that can compete at the international level by offering a specialized teaching program.
- Provide more targeted funding for research by improving research facilities and provide incentives for research funding procurement such as international travel and publication support.
- Seek more intensive research collaboration with foreign research institutions that may collaborate and cost-share in research and use the unique location and facilities as an agro-ecological science laboratory.
- Incorporate overhead charges in proposal procurement to help off-set laboratory maintenance cost and provide facility improvement and personnel support.

8. Internal Quality Management

The description of the Internal Quality Management in Part 7 of the Application of AUI is detailed and appropriately addresses the regulations as referenced to in Articles 11 and 12 of the HEI Act No. 63/2006. The EC got a clear impression both from the staff and the students that the different aspects of quality assurance were handled in a satisfactory manner. In the application less emphasis is put on formal quality assurance systems because a very small university like

AUI offers the possibility of close interaction between teachers and students in all programmes. The EC recognizes that this very often is the case in small institutions and it is definitely an advantage.

The eleven points stated focus very clearly on the important aspects of the internal quality management. The students evaluate the teaching and necessary actions are taken by the Division of Academic Affairs. Within the Education committee program coordinators and teachers discuss relevant matters and suggest improvements. Each of the academic staff produces a report on research and teaching achievements which is the basis for the incentive-based part of the salary. This may translate to an amount comparable to one month's pay. A personal interview is carried out annually between the faculty members and the dean on the professional development and on how goals set during the last year have been achieved. External quality control has recently been established at the University. Code of ethics, policy on equality and environmental policy have also been implemented. The AUI support continuing education of its staff including in the field of pedagogy.

According to HEI act no 63/2006, the universities have to publish quality reports. The short time since the act became effective has not made it possible for AUI so far to fulfil this obligation, but it will be done soon.

In addition to the amount of teaching, it is the opinion of the EC that one other important problem of a university with few staff members is that teachers often have to teach and supervise in disparate scientific areas. Both could seriously affect the quality of the teaching and research. However, AUI appears to be aware of this and tries to circumvent the size problem by offering BSc programmes in cooperation with other institutions. Both masters and PhD students affiliated to AUI take courses at other universities at home or abroad.

The EC finds that this is very necessary and it also appealed to the students.

Conclusions:

The EC finds that AUI has the necessary quality assurance system in order to satisfy the rules and regulations of the HEI act.

- The EC emphasizes the 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.

Recommendations:

- The yearly evaluation report from the academic staff could be used as a basis for providing internal financial support for research to the individual scientist (general operational support and travel) from a university research fund.

- The AUI should be encouraged to keep up the Icelandic tradition of cooperating closely with other national and international institutions in teaching programmes.

9. Description of study according to learning outcomes

Part 8 of the Accreditation Application includes BSc programmes (level 2), MSc programmes (levels 3 and 4) and a PhD programme (level 5). These include bachelor degrees (180 ECTS) in Agricultural Science, Science, Horticultural and in Equine Science. Master degrees (120 ECTS) in Agricultural Science is given at level 3 (vocational degree) and at level 4. A PhD programme (level 5, 120 ECTS) in Agricultural Science is also given. The following programmes with detailed description of courses are included in the application obtained from WEB based material: BSc programme in Agricultural Science (A8.1 and 2), MSc vocational programme in Agricultural Science (A8.3 and 4), BSc programme in Equine science (A8.5 and 6). The programme description for MSc programme in Agricultural Science is included (A8.7). The descriptions of the compulsory courses for the MSc are found in the vocational MSc programme (A8.4). No description is found for the PhD programme.

Conclusions:

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

10. Finances

In the application the whole budget for AUI is given for the years 2005 and 2006 and showed an increase of about 12% in this period. The income (grants and contract funding, fee for services sold and tuition fees) accounted for approximately 30% of the budget in both years. The governmental funding was reduced from 82% of the total costs in 2005 to 63% in 2006. A consequence was a shift from a 12% budget surplus in 2005 to a deficit of more than 4% the next year. The high governmental contribution in 2005 is supposedly due to additional funding to cover debts from previous years. The staff numbers have been reduced leading to a relatively low increase in salary costs. Other operation costs have increased substantially due to renovating of facilities and new leasing contracts, among others. During the visit the EC was told that an overhead rate of 20% was used on external projects. This amount is too low to realistically cover research overhead costs. The AUI has a travel fund for International travel.

In general, one might say that a weakness with AUI, which is typical for smaller institutions, is that the limited numbers of scientific staff have to engage in relatively more administrative duties and teaching. The impression is that more support staff is needed to release scientific personnel and make them available for research and research-based teaching. This is particularly important if the numbers of master and PhD students are to be increased. From a research point on view the

hiring of Post Doctoral Fellows is also highly recommended. The cost of running a small HEI like AUI is relatively high due to the costly infrastructure needed for teaching and research.

Conclusions:

- Present funding appears slightly low to maintain the facilities in good condition.
- The research capacities of the staff could be used more efficiently if more administrative and technical personnel were present to support daily operations.

Recommendations:

- Raise and use additional funding to increase the number of support staff.
- Increase income from realistic overhead charges on externally-funded projects.

11. Summary of Findings and Recommendations

The main findings of the EC are summarised here as conclusions and recommendations to the Ministry of Education, Science and Culture, the Agricultural University of Iceland Authorities and staff. More detailed conclusions and recommendations are at the end of the sections in the body of the report.

The EC unanimously recommends accreditation of the programmes in the Faculty of Land and Animal Resources, in accordance with the Higher Education Act No. 63/2006 and the Rules of Accreditation of Higher Education Institutions No. 1067/2006.

Although progress is being made on developing a strategic vision for future growth by seeking staff input, no clear strategic plan is yet in place. This should be developed with well-articulated goals related to education and research, development of staff and student numbers and prioritization to ensure viability of future programmes. The plan should address the complementarities of the University's programmes with that of other domestic academic institutions with the principal goal to create robust and viable programmes that will serve the agricultural and natural resources sectors of Iceland.

Recommendations to the Ministry:

It is recommended that the Agricultural University of Iceland develop a robust strategic plan to ensure the long-term viability of teaching and research programmes.

- Strong consideration should be given to the consolidation of complementary academic programs to ensure long-term quality and viability of research, teaching and outreach functions by collaborating institutions and improve the provision of cost-effective delivery mechanisms.
- Consider the provision of multi-annual budgets to the university to facilitate planning and staffing.

Recommendations to AUI:

- Consider carefully a closer association/amalgamation with other Higher level Institutions to develop and sustain education and research programs.
- Develop a strategic development fund to initiate/develop strategic initiatives.
- Enhance national and international collaboration.
- Improve clerical and technical support.

Appendix 1

Agenda for the Expert Committee.

Site visit to the Agricultural University of Iceland (AUI) at

Keldur and Hvanneyri.

Thursday 4th October 2007.

Expert Committee:

Prof. Maurice Boland (Chairman of the Expert Committee).

Prof. Gerhardus Schultink.

Prof. Ragnar Ludvig Olsen.

Liaison officer of the Expert Committee:

Dr. Anna Kristín Daníelsdóttir, RANNIS.

Agricultural University of Iceland (AUI) Liaison officer:

Prof. Björn Þorsteinsson.

10:00 – 11:00

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

AUI, Keldnaholt, Reykjavík.

Present: All faculty members present at Keldnaholt are invited to join this meeting, ready to answer any questions coming up. Prof. Áslaug Helgadóttir Dean of Land and Animal Resources Faculty, prof. Ólafur Arnalds Dean of the Environmental Sciences Faculty, Jónatan Hermannsson Assistant professor in Agronomy and plantbreeding, Tryggvi Eiríksson Animal nutrition, Tryggvi Sturla Stefánsson M.Sc. student, Bragi Líndal Ólafsson Senior Scientist Animal Nutrition, Jón Hallsteinn Hallson Lecturer in Genetics, Sigríður Dalmanndóttir Assistant professor in Plant physiology, Jóhannes Sveinbjörnsson Associate professor in Animal nutrition, Þóroddur Sveinsson Assistant professor in Agronomy, Laufey Steingrimsdóttir Senior Scientist Nutrition, Þórdís Anna Kristjánsdóttir Senior Scientist Statistics.

11:00 – 12:00

Drive from Reykjavík to Hvanneyri.

12:00 – 12:30

Short sight seeing of the Hvanneyri Campus by Ágúst Sigurðsson, the Rector of AUI and prof. Björn Þorsteinsson Vice-rector of Academic affairs, prof. Áslaug

Helgadóttir, Vice-rector of research and Dean of the Land and Animal Resources Faculty.

12.30 – 13:15

Lunch invitation.

13:15 – 14:00

Introduction to AUI.

Ásgarður, Hvanneyri.

Present: Ágúst Sigurðsson, the Rector of AUI and Björn Þorsteinsson Vice-rector of Academic affairs, prof. Áslaug Helgadóttir, Vice-rector of research and Dean of the Land and Animal Resources Faculty.

14:00 – 15:15

Meeting with students and recent graduates.

Austurstofa, Ásgarður Hvanneyri.

Present: Students: Eyjólfur Yngvi Bjarnason student representative in teaching committee and 2st year B.Sc. Agricultural production, Axel Kárason 3rd year B.Sc. Agricultural production, Sigríður Ólafsdóttir 3rd year B.Sc. Agricultural production, Þorbjörg Helga Konráðsdóttir 1st year B.Sc. Agricultural production, María Þórunn Jónsdóttir 3rd year B.Sc. Agricultural production, Margrét Guðrún Ásbjarnardóttir 2nd year M.Sc. Genetics, Gunnfríður Hreiðarsdóttir 2nd year Ph.D. Genetics, Elva Dögg Valsdóttir 1st year B.Sc. Agricultural production. Recent graduates: Borgar Bragason B.Sc. graduate, Stefanía Nindel B.Sc. 2001 Teacher at the AUI, Unnsteinn Snorri Snorrason M.Sc. 2001 Farm building and technology Farmers extension service, Laufey Bjarnadóttir B.Sc. honor 1997 Dairy farmer, Þröstur Aðalbjarnason B.Sc. honor 2001 Dairy farmer.

15:15 – 16:15

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

Invited to the meeting: All faculty including professors, associate professors, assistant professors, research scientists (for names: see application attachment 4.3 List of faculty members of the faculty of Land and Animal Resources at AUI, 15-20 persons). Prof. Áslaug Helgadóttir Dean of Land and Animal Resources Faculty, prof. Björn Þorsteinsson Vice-rector of Academic affairs, Jónatan Hermannsson Assistant professor Agronomy and plantbreeding, Bragi Línal Ólafsson Senior Scientist Animal Nutrition, Jón Hallsteinn Hallson Assistant professor Genetics, Sigríður Dalmannsdóttir Assistant professor Plant physiology, Jóhannes Sveinbjörnsson Associate professor Animal nutrition, Laufey Steingrímsdóttir Senior Scientist Nutrition, Þórdís Anna Kristjánsdóttir Senior Scientist Statistics, Halldór Sverrisson Assistant professor Plant pathology, prof. Þorsteinn Guðmundsson Soil science, prof. Ríkhart Brynjólfsson Agricultural science, Þorvaldur Kristjánsson Senior scientist Animal breeding, prof. Magnús B. Jónsson Agricultural science, Þóroddur Sveinsson Assistant

professor Agronomy, Grétar Hrafn Harðarson Assistant professor Nutrition, prof. Bjarni Guðmundsson Grass and Fodder conservation.

16:15 – 16:45

Meeting with representatives of employers of graduates.

Austurstofa, Ásgarður Hvanneyri.

Present: Sigurgeir Þorgeirsson PhD. Manager of the Icelandic Farmers Association and employer of 13 graduates, Eiríkur Blöndal agric. engineer, manager of the West Iceland Farmers Association and extension service and employer of 5 graduates, Sigurður Már Einarsson fisheries biologist, Institute of Freshwater Fisheries and employer of 1 graduate.

16:45 – 17:45

Meeting with the management team.

Austurstofa, Ásgarður Hvanneyri.

Present: Ágúst Sigurðsson Rector, prof. Áslaug Helgadóttir Vice-rector of research and Dean of the Faculty of Land and Animal Resources, Björn Þorsteinsson Vice-rector of academic affairs, Guðríður Helgadóttir Head of the Department of Vocational Training and Continuing Education, prof. Ólafur Arnalds Dean of the Faculty of Environmental Sciences.

17:45 – 18:45

Drive from Hvanneyri to Reykjavík.

18:45 – 20:00

Accreditation Expert Committee Meeting to crystallize thoughts from visit at AUI.

Hotel Holt Meeting Room, Bergstaðastræti, Reykjavík.

Present: Prof. Maurice Boland (Chairman of the Expert Committee), Prof. Gerhardus Schultink (Member of the Expert Committee), Prof. Ragnar Ludvig Olsen (Member of the Expert Committee) and Dr. Anna Kristín Daníelsdóttir, RANNIS (Liaison officer).

Appendix A2

List of documents received:

1. Law on Higher Education Institutions Act No. 63/2006 (Draft translation).
2. Rules on Accreditation of Higher Education Institutions, No. 1067/2006 (Draft translation).
3. National Qualification Framework for Higher Education in Iceland.
4. Application for Accreditation of Agricultural Science at the Agricultural University of Iceland (AUI) in the categories of Agricultural Science and Equine Science with the following Annexes:
 - Annex 1.1 Act on Agricultural Education
 - Annex 2.1 Regulations for AUI 02.2005.
 - Annex 2.2 AUI Organizational Chart
 - Annex 2.3 Student statistics at AUI Fac. Land Animal Resources.
 - Annex 3.1 AUI Annual report-2005 (2).
 - Annex 3.2 Publication list 2006.
 - Annex 3.3 International cooperation.
 - Annex 4.4 CVs of faculty members AUI Land and Animal Resources.
 - Annex 5.1 Regulations -AUI Faculties.
 - Annex 5.2 Regulations AUI Doctoral Program.
 - Annex 5.3 AUI Code of ethics.
 - Annex 7.1 Overview of present jobs and studies.
 - Annex 8.1 Agr_Sci_Program_description.
 - Annex 8.2 Agr_Sci_course descriptions.
 - Annex 8.3 MS_Vocational program_descript.

Annex 8.4 MS_course_descriptions.

Annex 8.5 Equine_Sci_Program_description.

Annex 8.6 Equine_Sci_course_descriptions.

Annex 8.7 MS_Programme description.

Annex 9.1 Finances.

5. Introductory slides from presentations.

a. Áslaug Helgadóttir, Vice-rector of research and Dean of Land and Animal Resources Faculty. AUI Introduction.

b. Ólafur Arnalds, Dean of the Environmental Sciences Faculty. AUI Faculty of Environmental Sciences.

c. Ágúst Sigurðsson, Rector. AUI Introduction to Hvanneyri and Björn Þorsteinsson Vice-rector of Academic affairs AUI Agricultural Science and Equine Science, Faculties and Research.

