SUBJECT REVIEW REPORT

DEPARTMENT OF ANIMAL SCIENCE

FACULTY OF AGRICULTURE
UNIVERSITY OF JAFFNA

25th to 27th September 2005

Review Team :
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the 25th to the 27th of September, 2005 by a team comprising the following persons.

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The terms of reference for the review team were according to those described in the Quality Assurance Handbook of the CVCD and UGC (page 13 to 16 and Annex E).
The team based its findings on the following documents and activities:

1. A self assessment prepared by the Head of Department and Staff
2. A discussion on aspects of this assessment with the Head/ Staff
3. Observation of classroom teaching
4. Student performance records
5. A survey of facilities available for teaching
6. Visits to field locations used for teaching
7. A report on activities that were conducted at Kilinochchi
8. A tour of academic support facilities such as Library and Computer Unit
9. Interactions with the following personnel:
   a. The Vice-Chancellor
   b. The Dean of the Faculty of Agriculture
   c. The Academic and Academic Support Staff of the Department
   d. The Non-Academic Staff of the Department
   e. Undergraduate Students
10. Perusal of miscellaneous documents related to teaching activities
11. A written report on career guidance and student counseling in the University

The University of Jaffna, established in 1971, now has around 7000 students in eight Faculties. Since agriculture and animal husbandry are an important aspect of life in the region, the need for a Faculty of Agriculture was recognized early. The decision to establish such a Faculty at Kilinochchi was taken in1985 but building activities were affected by disturbances due to the civil war. Despite this, the first batch of student was admitted in 1989/1990 and academic activities commenced using buildings of the Government Department of Agriculture. During the next few years, these were expanded and farm units were added and by the year 1994, the Faculty had developed the basic facilities needed to teach the degree course and had taken in further batches of students. In July 1996, however, due to the intensification of military operations, the Faculty was compelled to move to Karippaddamurippu at Mankulam and in 1997 was transferred to Jaffna as a temporary measure. The Vice-Chancellor stated that the Faculty of Agriculture, despite being uprooted and relocated at short notice, had been able to maintain their academic activities satisfactorily.

The Faculty plans to relocate to Kilinochchi and has commenced constructing buildings on a 400 acre site. Stage I of the construction work will be completed in 2006 whilst funds (Rs 425 million) for stage II have already been committed. They are now waiting to move to Kilinochchi and expect that many of the shortcomings relating to facilities will be then improved.

Departments of Study with the Department of Animal
m. They conduct a 4-year undergraduate degree course with a total of around 150 credits; this includes 6 semesters of common courses and 1 year of specialization in a selected Department. In addition, general courses in IT, English, Communications, Business management and some others are also taught and credited. The current academic cadre is 21 with 3 professors among whom, 4 have PhDs, 12 Mphils with four more expected in each category shortly. The current 2005 batch is the 17th and with these 38 students, the Faculty now has a total enrolment of 179.

2. AIMS AND LEARNING OUTCOMES

The aims of the course are stated as ñto equip the students with a core of knowledge and a range of intellectual, practical and interpersonal skills that will fit them for scientific, ethical and client-related problems they will meet in their future lifeò. This vision is then further elaborated as several goals that are shown below:

1. Create a caring ethos in both academic and pastoral matters. Provide a stimulating and friendly learning environment with appropriate facilities that will attract highly qualified and motivated students, encourage them to attain their potential and to produce graduates that are in demand from employers.
2. To provide training in transferable skills that will enable the students to form judgements based on evidence and to communicate effectively both orally as well as in writing
3. Foster an enthusiastic interest in biological sciences that are primarily relevant to animal science research
4. Develop student skills in the recognition, diagnosis and treatment and prognosis of disease conditions in livestock
5. Provide traditional knowledge in livestock raising and the constraints found in existing systems of production by exposing students to rural smallholder livestock farms
6. Provide transparent information on the teaching program, on what is expected from the students, on their progress and on student support services
7. Support the teaching staff in developing their teaching careers through measures including feedback systems and peer evaluation
8. Enable students to develop scientific, technical and economic knowledge and the vocational, social and personal skills which they will need to pursue careers in a rapidly changing environment
9. Engender the desire for lifelong learning

These goals have been translated into 10 specific learning outcomes that the students should achieve by the end of the program

a) Attain the standards of scientific knowledge both theoretical and practical, needed to manage livestock on a commercial basis
b) Become competent in the recognition, diagnosis, prevention prognosis and basic treatment of the common diseases of animals thereby alleviating pain and suffering
c) Have an insight into the professional and social issues relating to food safety, public health and environmental protection

cademic independence through a progressive shift in
s of study, from teaching by academic staff to learning
ally and cooperatively

e) Develop the ability to design experimental approaches, critically appraise new information and analyse complex problems and to finally reach sound conclusions on the basis of available evidence
f) Learn to plan and organize their activities so that tasks are completed and deadlines are met
g) Mastered the essential laboratory and technical skills needed for livestock research
h) Be able to demonstrate good written and spoken communications skills so that they are able to engage in objective discussions on scientific matters and address sensitive issues in a professional and supportive manner
i) Be competent in the use of computers for word processing, data handling and information retrieval
j) Learn to balance the demands of an intensive training and professional career with a workload that permits broad academic, intellectual and social development

The goals of the teaching program are clear, comprehensive and even visionary in keeping with overall ethos of the University system in Sri Lanka. The expected learning outcomes have been thoughtfully prepared and aim to produce a well-rounded graduate. They expect the students not only to gain knowledge and transferable skills in the subject areas but also to develop as individuals during the four years spent at the University.

It must be pointed out, however, that the facilities available to the DAS during this interim period when the Faculty is located in Jaffna are minimal and in several instances, inadequate. It was noted, however, that the staff were very committed and used the available facilities optimally to deliver the curriculum. For instance, the Faculty had developed a course called ñexperiential learningò where students were attached to individual farmers. They admitted, however, that this course was not a substitute for hands-on development of skills. It was noted here that when the Faculty was located at Kilinochchi, they had begun to establish a degree program that was field and experience based, that they had a strong outreach program and that many of the assignments given to students were problem based. In other words, they had established a teaching program perhaps unique among the Faculties of Agriculture in Sri Lanka. The excellent performance of the DAS in this respect, where they were even able to earn upto a million rupees annually from sales of products, is noted. The review team felt that, to be fair therefore, the assessment would have to be made on the basis of the facilities that would be available once the Faculty moved back to Kilinochchi rather than on the limited resources for skills development available at present.

The Faculty of Agriculture and the DAS had clearly undergone a traumatic experience unique in the University system in Sri Lanka. Under these circumstances, it is a great challenge to the Faculty and to the Department to ensure that the learning outcomes listed above are achieved. They are confident that once they move back to Kilinochchi, they will be able to once again establish the facilities and teaching environment as before, and that they will be able to satisfactorily achieve their goals.

T ASPECTS REVIEWED

t and Review

According to the Dean, the original curriculum of the Faculty and the DAS, initiated in 1990, had been modeled on existing curricula for a 4-year Agriculture special degree. The sources for this purpose included the Faculty of Agriculture at Peradeniya, the Tamil Nadu Agricultural University as well as a few personal contributions from stakeholders. This curriculum has remained largely unchanged except for some minor changes carried out within the Departments without any consultation with any stakeholders.

The Department of Animal Science (DAS) does not offer an independent degree but contributes to the special degree in Agriculture offered by the Faculty. They share the teaching load more or less equally with the other five Departments in the Faculty of Agriculture, namely, Agronomy, Agricultural Biology, Agricultural Chemistry, Agricultural Engineering and Agricultural Economics. According to the structure of the course, the first 3 years are spent on common courses that are compulsory to all students. The DAS contributes one course for each of the 6 semesters during this period. In the 7th Semester, students select specialized courses from one of the 6 Departments and in the final semester carry out a 6-month research project in that selected discipline.

The DAS teaches a total of 22 credits as core courses in the first 3 years (of a total 125) and offers 9 specialized courses of two units each in the 7th Semester of which the students need to select at least three. Ten credits are given for the research project making a total of around 150 credits for students specializing in Animal Science.

The overall structure of the Agriculture course is basically sound and meets accepted academic standards. Any course in Animal Science should cover all aspects of breeding, feeding and management of farmed animals as well as the prevention and control of their diseases that are of economic and public health importance. It should contain both theoretical and practical aspects and include the development of some specific skills relating to both laboratory and field work with animals. An inspection of the curriculum shows that these aspects are satisfactorily covered. The specialization program in animal science, however, is minimal; two of these courses deal with animal physiology, two with basic aspects of breeding and nutrition that should perhaps be taught as part of the core courses. It is only the other four, dealing with technological and processing aspects of Dairy, meat, fish and other by-products that can be considered as specialization courses. Each of these courses is, however, only 2 units and appear to give little opportunity for developing skills, so that the students cannot strictly be considered as animal science specialists.

Although the animal science subject material needed in an undergraduate agricultural degree course are essentially covered, the sequence in which they are taught could be more logical. For example, Swine production is taught in the first semester together with an introduction to Animal Production, even before anatomy and physiology, the latter being taught in Semester 2 together with rabbit production! In addition, some courses on physiology are given in the 7th semester. There are no separate courses on principles of nutrition or genetics which are needed to give the platform for later courses on animal production.

cal to rearrange the DAS program as shown below:

mmendations are taken into account at the next revision of the curriculum. Overall, however, the structure of the Agriculture curriculum is sound, the coverage of the Animal Science component is adequate and this aspect is *judged to be* ***satisfactory.***

1. Introduction to Animal Production
2. Anatomy and Physiology
3. Principles of Nutrition
4. Principles of Genetics and Breeding
5. Animal Production ï dealing with farm level production in each species of farm animals and including disease prevention and control
6. Processing technologies

3.2 Teaching, Learning and Assessment Methods

The methods used for teaching and learning are common to most universities and include the following.
Delivery of lectures using the chalk board: This is the primary method of teaching. The use of multimedia projectors was considered inadequate by the students
Practicals: A residential house in a dilapidated condition has been hired by the University for this purpose and this provides the bare minimum facilities.
Field visits: Students are taken to visit a number of facilities and farmers that are available within a short distance. In addition, they are taken for an extended (two week) tour of the South once during the course to make up for the limited facilities available in Jaffna.
Experiential learning: A unique course has been introduced to make up for the loss of field facilities that were available at Kilinochchi. In this the students are attached to a farming family for one season.
Research project: Students are sent in the final semester to carry out a 6-month research project usually to one of the major research institutes in the South of the country. This aspect has been done well and students clearly obtain the necessary skills relating to a research project.
Some of the shortcomings that affected the teaching/learning process that we were able to identify are shown below:

- Facilities for Practical training and Skills development are poor
- Chronic staff shortages compounded by an inability to get the services of visiting lecturers due to the location
- Access to the Central Library and an inadequacy of books adversely affecting the Students

Some of the positive features that we were able to identify were Readiness with which the Faculty of Medicine allowed the use of their facilities, the excellent commitment of the

use of available facilities and the overall academic ssment were satisfactory and involved both in course ester examinations. Students were sent to some of the major institutions in the South for their research Projects and it was noted that they had used the opportunities to well to carry out some excellent research projects.

In general, it could be stated that the transfer of knowledge in the DAS is satisfactory but that the problems arise with the acquisition of transferable skills due to the lack of suitable practical facilities. It should be pointed out in this connection that the Faculty and in particular the DAS had established some excellent arrangements for practical training at Kilinochchi which had to be abandoned due to hostilities in the area. The opportunities for the students to acquire skills arose from the following programs:

1. A strong outreach program which provided a service to farmers in the area and included activities such as the provision of breeding materials, a problem solving advisory service. Basic training was provided to youth in the area in skills such as Veterinary first aid and raising.
2. Involvement in Development programs: The DAS and the university were deeply involved in the agricultural and livestock development programs funded and implemented by the State and local and foreign NGOs.

It must be pointed out here, that the involvement of the Faculty and the DAS of the University of Jaffna in the development of Agriculture in the Kilinochchi area was unique. Whilst contributing to development in this manner, they were able to train their students as well, thus bringing about an ideal situation. It may be expected that a similar facility will be established once the Faculty moves to Kilinochchi once more and that many of the shortcomings relating to training their students in practical skills will then be overcome.
This aspect was judged to be ***satisfactory.***

3.3 Quality of Students including Students Progress and Achievements

Recruitment and admissions to the Faculty of Agriculture at the University of Jaffna are done by the UGC. Students are all from a Tamil-speaking background although all the courses are carried out in English. They are mainly from the Districts in the Northern Province with an occasional student from the Eastern Province and very rarely from elsewhere. The policy followed by the UGC, therefore, appears to be to only allocate Tamil speaking agricultural students to the University of Jaffna and since the Eastern University also has an Agricultural Faculty, to allocate students from Jaffna, Kilinochchi, Mannar, Mullaitivu and Vavuniya to this Faculty.

This admission policy creates an unusual and perhaps unique situation. Whereas the students from Jaffna District ï with good schools ï obtain high grades the others, particularly Mullaitivu, Mannar and Kilinochchi are from some of the most deprived areas in the country. There is a large difference in the Z scores and therefore in the ñentry behaviourò of students from these different Districts. In the 14th batch of students, for example, the students from Mannar had a Z score of 0.552 when compared with 1.4 for Jaffna, 1.25 for Vavuniya, 0.995 for Kilinochi and 0.854 for Mullaitivu. A similar range of Z scores can be seen for other batches as well. In addition to the discrepancies in technical areas, there are likely to be similar differences in their familiarity with English.

al at entry for educational courses in an Institution. The le task of raising them to a similar standard by the end of the 4 year program. There is no evidence, however, that the Faculty or the DAS has addressed this issue in any systematic manner. They may need to pay more attention to the students from ñdeprivedò areas and perhaps give them some special consideration from the very outset. The UGC may also need to revisit an admissions policy which is based on geo-political considerations rather than on the needs of education.

A superficial analysis of the data made available suggests that the students from Jaffna continue to perform better throughout the course although some students from other Districts have been able to catch up and perform reasonably well and that the entry variation is reduced as the course progresses. In general, we found that the progress of the students was satisfactory and that the learning outcomes were achieved to an acceptable level given the limitations in facilities. The students felt that their knowledge was satisfactory but that their practical and transferable skills were not. Our assessment was that this situation would not improve until the Faculty once again move back to Kilinochchi and developed the necessary facilities. In the meantime, both the Faculty and the students used the opportunities available to them to the maximum.

The programs have been completed on time and the Staff needs to be commended for this achievement in the face of numerous obstacles. Overall, the progress of the students and their achievements can be considered to be satisfactory and that any shortcomings will be rectified once the Faculty and DAS return to Kilinochi. The quality of the students are upto acceptable academic standards.
This aspect of the assessment is, therefore, graded as ***satisfactory****.*

3.4 The Extent and Use of Student Feedback, Qualitative and Quantitaive

At the end of every course, students fill out a questionnaire that evaluates the effectiveness of the teaching, the content of the course and the assessment methods used. Apart from this, there are no other formal mechanisms such as a staff/student consultative committee to obtain student feedback. The questionnaire used is also rather brief and appears to cover only the lectures; there was no evidence of any feedback being obtained on practicals or field training. It is also not clear how the evaluations are used as we did not come across any examples where comments made by the students have led to actual changes or improvements.

Our overall impression was that there appeared to be some ñdistanceò between the staff and the students which may well be a part of the culture established in the University. We feel that more open discussions and interactions with the students are needed and the staff may need to break through some of the traditional relationships in order to make the process effective. The establishment of a staff-student consultative committee that meets at least once a semester would be a start. *Since improvements are needed, we have judged this section as* ***unsatisfactory****.*

3.5 Postgraduate Sudies

No postgraduate programs are being carried out at present in the Department of Animal Science.

er observation has just been commenced and cannot be considered a standard practice. The methods and the mechanisms to make it an effective tool to improve the teaching learning process have not been developed and the practice has not been institutionalized. *Accordingly, we have judged this aspect as being* ***unsatisfactory.***

3.7 Skills Development

Among the general skills that any graduate is now expected to possess, special emphasis is now given to English and Information Technology in the University system. Whilst a separate course on computer skills is taught to students, adequate computers with a lease line for internet access are made available to them. English and computer skills among the students as well as their development over the years were considered satisfactory. Some attention is paid to the development of other ñsoftò skills such as communication ability whilst courses on ancillary subjects such as management help to produce a well-rounded graduate.
The technical skills required by an Agricultural graduate and those relating to Animal science include laboratory as well as ñfieldò skills. At present, the DAS is constrained by the lack of facilities in developing these skills in their students. The interim arrangements made for this purpose include the following:

- A residential house is being used as a laboratory
- Students are attached to farmers in a course entitled ñexperiential learningò
- Students are taken on field visits to available institutions such as the Artificial Insemination Centre and Tinnevely and the Dairy and feed plants of the Cooperative Society.
- Students are taken on a 2-week tour of major facilities in the South

When the DAS was located at Kilinochi the Department (and the Faculty) played a central role in the development of Animal Science in the area in a way that was unique in the University system. The large number of local and foreign NGOs carrying out development programs in the area sought their help and the DAS became deeply involved. Some of these programs are listed below:

- Training of 600 youth in different aspects of animal husbandry and processing
- Raising month-old chicks for a backyard-poultry development program
- Training of youth in Veterinary first aid
- Establishing a feed mixing plant and an Artificial Insemination center to service farmers in the area
- Supply of breeding materials to farmers from the DAS farm units
- Development of fodder resources center to exhibit and issue improved varieties

d in all these activities, they developed the necessary but in development activities with small farmers. The make the best of a bad situation but it can be expected that once they move back to Kilinochchi, it will be possible to once again have an effective program of skills development.

In the final semester of their course, the students are sent to a major Institution in the South of the country to carry out a 6-month research project and prepare a dissertation. They are exposed to good quality laboratories and work with scientists. The excellent quality of the dissertations show that the students are able to develop valuable skills during this period. *Our judgment on this aspect was* ***satisfactory****.*

3.8 Academic Guidance and Counseling

Arrangements for general counseling of students as well as career guidance are organized at University level rather than at Faculty or Department level. For this purpose, the University of Jaffna has a career guidance unit which undertakes the programs such as training in filling applications, preparation of curriculum vitae and conducting mock interviews. The Faculty has programs to inform students on further education and employment prospects in the Agriculture sector. In addition, with the objective of improving employability, several optional courses such as in management, have been introduced.

Student counseling begins with an orientation program for new entrants after which they are assigned to student advisors. These advisors not only deal with difficulties in subject matter but also personal problems relating to funds or examinations. The DAS claims that this system has played an important role in reducing study stress and in helping the students to face up to personal problems and that the low drop-out rate is a vindication of the system. Students from the war-ravaged areas are particularly benefited.

There is no specific mechanism for academic counseling but it appears to be part of the general counseling activities. The DAS staffs advise the students on the scope of the specialization in the Department, employment opportunities and the prospects for further eduation in Animal Science.

It was not possible during the visit for the team to make a judgment whether these systems were working well. According to the students that we met, guidance and counseling are inadequate. It is clear, however, that the systems are in place and but that they are not being fully exploited by the students or it may be part of an overall lack of adequate interaction between staff and students. In this case, it may be necessary for the Department and the Faculty to pay more attention to this aspect but our *judgement was* ***satisfactory.***

4. OVERALL JUDGEMENT

Based on the observations made during the study visit by the review team, the eight aspects were judged as follows:

Reviewed	Judgement
Review	Satisfactory
Teaching Learning and Assessment	Satisfactory
Quality of Students	Satisfactory
Extent and Use of Student Feedback	Unsatisfactory
Peer Observation	Unsatisfactory
Postgraduate Studies	
Skills development	Satisfactory
Academic Guidance and Counselling	Satisfactory

Overall assessment of the team was that the different aspects of quality assurance in the Department of Animal Science were generally satisfactory apart from those described above.

Overall Judgment - *Suspended*

5. CONCLUSIONS

Recognizing that Agriculture and animal science play an important role in the rural economy of the Northern Province, the University of Jaffna has established the a Faculty of Agriculture with a Department of Animal Science(DAS) at Kilinochchi and encouraged them, whilst training their students, to provide services to farmers and participate in development activities. The DAS has developed clear and comprehensive goals for their teaching program, that recognizes the need, whilst imparting knowledge, to develop both transferable and ñsoftò skills in their graduates. The subject matter in Animal Science is adequately covered in the curriculum whilst the delivery and assessment of the courses is satisfactory so that the learning outcomes are in general achieved.

In Jaffna, the facilities available for the development of practical and field skills is poor when compared to those developed earlier at Kilinochchi. In the DAS curriculum, the order in which the material is delivered is not logical whilst the options for specialization in animal science are minimal. The Department has no post-graduate program nor any significant research activity. Aspects such as peer observation and student evaluation are being developed and cannot as yet be considered to be standard practices.

We have no doubt that the DAS and the Faculty will be able to take up the suggestions made in this report and hope that the observations made by the team would serve to further improve the teaching and learning activities within the Department. In conclusion, we would like to thank the Head of the Department and his Staff and the Dean of the Faculty for the ready cooperation and hospitality extended to us in carrying out this task.

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