

ROLE OF THE FACULTY OF AGRICULTURE IN HIGHER EDUCATION IN SRI LANKA

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One hundred years of uninterrupted publication of an agricultural journal is a distinguished achievement in science publishing. It is indeed a rare attainment for a journal of a developing country. The *Tropical Agriculturist* with this issue has joined the century class in expanding the frontiers of knowledge that continue to assist farmers to achieve a better quality of life and Sri Lankans to benefit from the results of scientific endeavour.

In contrast to the centennial event of the Journal, the Faculty of Agriculture in the University of Peradeniya is relatively young at 33 years. But as the Faculty comes of age, it would look forward to a much closer and lasting association with the *Tropical Agriculturist* as a partner in agricultural development. This paper highlights the changes that have taken place in the Faculty recently which would make this linkage a strong and effective channel of communication between the academics and the end users of knowledge.

EXPANSION OF ENROLMENTS

The Faculty of Agriculture commenced an undergraduate programme for the B. Sc. (Agriculture) degree course in 1948 with a batch of 24 students. Subsequent growth in the fifties was slow. Enrolments and graduates in agriculture declined to less than 10 per year because of the poor employment opportunities for the graduating classes and poor promotional prospects for those in service.

An increase in enrolments began to take place from the sixties. The annual intake to the first year class which increased to 25 in the mid-sixties doubled to 50 during the early seventies and doubled once again to 100 at the middle of that decade. It is projected to double once again to 200 by 1985 (Table 1). During this period the degree which was of three years duration previously became a four year course.

Table 1 Faculty of Agriculture enrolments and graduates during selected years

Year	Number of students enrolled				Total	Degrees granted
	1st Year	2nd Year	3rd Year	4th Year		
1948	24	—	—	—	24	—
1950	10	12	24	—	46	17
1960	11	12	5	—	28	5
1970	27	24	26	—	77	24
1980	122	112	115	109	458	101
1985*	200*	125*	120*	115*	560*	110*

* Projected

In addition to our own increased enrolment, two new faculties which were established in the Ruhuna University College in the south in 1978 and Batticaloa University College in the east in 1981 have intakes of 25 in each. Since these two faculties are affiliated to the one at Peradeniya, our role in training graduates in agriculture during the eighties is greater than the numbers given in Table 1. While in the fifties the average output of graduates was 8 per year it increased to 15 per year in the sixties and rose to 56 per year during the last decade. During the current decade the output is projected to increase to 150 per year. Therefore the faculty will continue to play an important role in providing scientific personnel to the entire agricultural sector and related sectors of the country.

IMPROVEMENT OF QUALITY

The kind of academic product a faculty could offer to its clients in the agriculture sector depends on the quality of its teaching and the commitment the teachers have to its academic planning. Academic planning is a continuous process. Nevertheless major improvements have to be made periodically. The faculty has made four significant contributions in this realm during the last ten years.

Firstly in the early seventies the revision of the curriculum brought about the introduction of limited specialization and project studies during the terminal phases of the undergraduate programme. Secondly during 1980 and 1981 the curriculum was revised once again to bring about the introduction of new courses, elimination of redundant and overlapping topics of study, expanding areas of future interest and strengthening the final year advanced training so as to provide the kind of graduate the country would require from the mid eighties. The third major contribution was the academic planning which was done and which still continues to be refined for the two new faculties in Ruhuna and Batticaloa. The fourth contribution was the leadership that was given by the faculty during the mid-seventies to develop and implement a course unit system and detailed syllabuses for the postgraduate courses of the newly created Postgraduate Institute of Agriculture (PGIA). This was the first instance when a successful course unit system of academic planning was introduced to higher education in Sri Lanka.

With the inauguration of the PGIA the faculty became closely associated with extensive postgraduate teaching and research supervision as well, in addition to the undergraduate training which has been the principal role of the teachers for 25 years.

Well conceived academic plans are of little value without well trained academics. Concurrently with the revision of courses the faculty has recently embarked upon the building up of a well trained core staff of younger teachers.

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who would be able to implement the undergraduate and postgraduate programmes that have been planned. During the last 3 years the faculty teaching positions have been increased to about 100 of which 85 per cent were filled (Table 2). Fifty teachers with B.Sc. and M.Sc./M. Phil., qualifications were sent abroad from 1979 to 1981 to obtain higher qualifications. By 1985 it is projected that the faculty would have about 85 per cent with postgraduate qualifications, most of them with Ph.D. degrees.

Table 2 Distribution of teaching staff and their qualifications in the six departments of study in 1981

<u>Department</u>	<u>Highest Degree</u>				<u>Unfilled positions</u>
	<u>B.Sc.</u>	<u>M.Sc./M.Phil</u>	<u>Ph.D</u>		
Agricultural Biology	6	4	4		2
Agricultural Chemistry	3	4	2		6
Agricultural Economics	6	4	3		3
Agricultural Engineering	12	1	1		1
Animal Science	10	2	3		2
Crop Science	12	5	3		3
Total	49	20	16		17

Expansion of undergraduate and postgraduate programmes has increased the responsibilities of the staff to wider fields of teaching and research. Therefore, training the staff to meet these tasks was a priority need. The technical competence now available in the faculty and the emerging ones are shown in Table 3. By 1985, when the emerging competencies begin to consolidate the faculty will be able to train increasingly larger numbers of postgraduate students to meet the requirements of upgraded staff in research, extension and management. In order to support the postgraduate training programme in future years the faculty would also be able to draw upon the competencies of the trained staff of the two new faculties of agriculture.

Table 3 Postgraduate trained available, technical competence, and emerging competence in the Faculty of Agriculture

<u>Department</u>	<u>Available Competence</u>	<u>Emerging Competence</u>
Agricultural Biology	Entomology	Crop physiology Insect ecology Crop botany
	Genetics	Plant breeding (legumes)
	Plant pathology	Systematic botany
	Plant physiology	Virology
Agricultural Chemistry	Food technology	Food analysis
	Plant nutrition	Food microbiology
	Soil science	Food preservation
		Soil microbiology
		Soil morphology
		Soil physics

Table 3 Contd...

<i>Department</i>	<i>Available Competence</i>	<i>Emerging Competence</i>
Agricultural Economics	Agricultural policy Microeconomics Production economics Agricultural extension	Agribusiness Agric. education Agric. finance Communications Home economics Marketing Rural sociology
Agricultural Engineering	Processing Water management	Agric. structures Alternate energies Crop environment Farm machinery Farm power Farm structures Hydrology/conservation Tillage Waste management
Animal Science	Animal genetics Animal nutrition Livestock breeding Reproductive physiology	Agrostology Growth physiology Animal product technology
Crop Science	Genetics/cytogenetics Growth physiology Horticulture Weed science	Agroclimatology Agronomy Agro-forestry Biometry Cropping patterns/systems Horticulture/floriculture Plant nutrition Postharvest physiology Seed physiology Stress physiology

EMERGENCE OF RESEARCH

Faculties of Agriculture have tripartite functions to perform, namely teaching, research and advisement. The last would include the development of an extension arm to transfer the technologies that have been developed by research. However, the development of the tripartite functions in our faculty has been slow. For two decades from 1950-1970 the staff cadre was small and the new recruits to it had to be trained first. Their primary responsibilities were to carry out high loads of undergraduate teaching. Facilities for research were very scarce and funds were non-existent.

During the seventies the faculty's added role in research began to be felt. In spite of the heavy undergraduate teaching load in three media of instruction and the added responsibilities of postgraduate teaching, the faculty has responded to the availability of increased research budgets and improved facilities by a steady output of research and publications arising from it (Table 4). During the ten year period 1971-1980 the output of research publications

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averaged 22 per year. This was a good rate of publishing for a small faculty with limited resources. During the eighties when the existing staff on training returns and postgraduate research students begin to increase, the research output of the faculty is expected to be substantially higher.

Table 4 Output of research publications and other communications (in parenthesis) during 1971-1980 in six departments of study

	<u>Year</u>	<u>1971-72</u>	<u>1973-74</u>	<u>1975-76</u>	<u>1977-78</u>	<u>1979-80</u>
<i>Department</i>						
Agricultural Biology	...	4(1)	2	3	3	10
Agricultural Chemistry	...	2	7	2(1)	7	6(2)
Agricultural Economics	...	4(4)	8	0	3	12
Agricultural Engineering	...	2(1)	1	7	4	11
Animal Science	...	4	6	10(2)	10	13
Crop Science	...	6(3)	9	15(2)	14(3)	17(3)
<u>Total</u>	...	<u>22(9)</u>	<u>33</u>	<u>55(4)</u>	<u>41(3)</u>	<u>69(5)</u>

EXPANDING ROLE

The last decade also witnessed the expansion of the faculty's role in its three principal areas, namely teaching, research and advisement. New linkages continued to form while old ones were strengthened. Through existing government departments and institutions the faculty's role became identified with the chief beneficiary of the agriculture sector, the farmer. When the extension division of the faculty expands, and the proposed Continuing Education Centre is established in the late eighties, the tripartite functions of the faculty will be equally balanced.

Increasingly, more departments in the state and private sectors have sought the assistance of the staff of our faculty to serve on several committees, sub-committees, panels, advisory bodies etc. A list of organisations that our staff served in 1980 given in the annex is indicative of their role in national development. These do not include the consultancy roles the staff have been drawn upon to take on special development projects, which are being financed by international donor agencies.

The Faculty of Agriculture through its formative and development periods has not been confined to an ivory tower of academic isolation. Constant dialogue with key ministries and their agencies have brought about a close interaction of the academics with the agriculture sector. This approach allows us to plan better, be sensitive to the needs of the society, make teaching and research relevant to these needs and makes higher education in agriculture accountable to those who support it.

If we reflect on the vicissitudes of the Faculty of Agriculture during the last 30 years, the fifties could best be described as the 'emerging decade' when

the faculty was going through a neglected phase of existence. The sixties were a 'stabilising decade' when the purpose of an agriculture faculty was beginning to be appreciated slowly. The seventies were the 'awakening decade' when agricultural education in our universities began to be felt and respected. If I may predict, the eighties should turn out to be the 'promising decade' of higher education in agriculture in our country. It will also coincide with the elevation of the alumni in the faculty to responsible positions of decision-making in many spheres of national policy-making and development.

Annex: Organisations served by the Staff of the Faculty during 1980

Ministry of Higher Education

Faculty of Agriculture and Academic Syndicate of Ruhuna University College.
Advisory Board of Batticaloa University College
Faculty of Agriculture and Academic Syndicate of Batticaloa University College
Academic Syndicate of Institute of Workers Education
Board of Management of the PGIA
Boards of Study of the PGIA
Several Selection Committees

Ministry of Education

Committee on Parallel Education on Vocational Streams

Ministry of Agricultural Development and Research

Committee on proposed Agricultural Research Council
National Committee on Seed and Planting Materials
Mahaweli Research Committee
Canada-Sri Lanka Dry Zone Project Committee
Soyabean Development Committee
Committee on 2nd International Seminar on Winged Bean
National Mechanization Committee
Seed Production Committee
Education and Training Committee
Board of Governors of Agrarian Research and Training Institute
Several Selection Committees

Ministry of Industries and Scientific Affairs

Committee on Agricultural Sciences of the National Science Council.
Panel of Plant Sciences of the National Science Council
Committee on Agriculture of the Atomic Energy Authority
Bureau of Standards Committee

Ministry of Lands and Land Development

National Committee on Village Tank Rehabilitation

Ministry of Rural Industries Development

Board of Directors of Oils and Fats Corporation
Pasture Committee

Ministry of Plan Implementation

Fact Findings Committee on Problems of Animal Feed

Ministry of Plantation Industries

Board of Governors of National Institute of Plantation Management