

STAFF PAPERS

on

AGRICULTURAL TRAINING INSTITUTES

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by

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COLOMBO

AGRO-ENTERPRISE TRAINING INSTITUTES

1. GOVERNMENT SCHOOLS OF AGRICULTURE (DEPARTMENT OF AGRICULTURE)

- a) Kundasale
- b) Angunukolapelessa
- c) Pelwehera

2. PRIVATE SCHOOLS OF AGRICULTURE

- a) Trinity College Institute of Agriculture
- b) Aquinas School of Agriculture

3. AFFILIATED UNIVERSITY COLLEGES

- a) Makandura
- b) Rahangala

4. UNIVERSITY FACULTIES

- a) Peradeniya - Faculty of Agriculture & Post-Graduate Institute of Agriculture
- b) Mapalane (Ruhuna) - Faculty of Agriculture
- c) Batticaloa - Faculty of Agriculture

1. Government schools of Agriculture

Prior to the commencement of university education in agriculture, the schools of agriculture played the main role in producing agriculturally qualified personnel to meet the requirements of the country. These schools offer a two year course leading to a diploma in agriculture. Most of the schools are located in or near a government production or a research farm, so as to utilize the resources available in such institutions.

School of Agriculture - Kundasale

This is the oldest institute for learning scientific agriculture in Sri Lanka. It started as a girls farm school and then subsequently promoted to a school of Agriculture and offered courses for a 2 year diploma. The aim of the school is to provide, training in Scientific Agriculture with emphasis on practical farming to young men and women who wish to engage in farming.

The student intake is 120-150 per batch. The staff consist of 18 lecturers out of which five have post-graduate qualifications.

This school being the oldest of the DOA, has more facilities when compared with the other schools of Agriculture which are in other parts of the country. The workshop is fairly well equipped and is funded by a GTZ project. The surveying equipments are fairly old and need to be replaced with latest ones. The teaching aids and audio visual equipment are there but not in sufficient quantities as the student intake has been increased recently.

The curriculum is normally changed every five years and this seems to be too long a period when considering the changes in economy of the country. This is especially so far an agriculturally dependent country.

The medium of instruction is Sinhala and Tamil. Earlier the school had a general course and at a later stage it was replaced with a curriculum offering specialization in one of the following disciplines:

- a) Crop Husbandry
- b) Animal Husbandry
- c) Agricultural Engineering
- d) Horticulture
- e) Rural Home Management.

The school admits two types of trainees. They are:

- 1) Departmental officers; and
- 2) Direct recruits

The admission requirements are passes in at least six subjects from G.C.E (O/L), including science subjects.

School of Agriculture : Angunukolapelessa

This is located at Angunukolapelessa, which is about 22 kms from Tangalle. It is adjacent to the Agricultural Research Station of the DOA and therefore is convenient for obtaining services of the research staff as visiting lecturers. The school offers a 2 year diploma course and the student intake is 50 per batch. The students in this campus are all males as there are no accommodation facilities for females.

The school started in 1980, and the staff at present consist of the Principal and 7 Lecturers. All the staff members are agricultural graduates. Few of them have received

short-term training in third world countries. The aim of the school is to provide training in scientific agriculture with emphasis on practical farming.

The overall extent of the campus is 10 acres and includes the administration, teaching and accommodation buildings. There have not been campus development or any crops grown, such as fruit trees. In addition to the teaching staff there are 3 agricultural instructors, 3 extension officers (low level) and a farm manager to cover the farming aspects of the school.

Library - There is no building at present for the library and the books are outdated. There are about 200 books.

Laboratories - There are only two laboratories and at present they are not fully equipped. The basic equipments such as microscopes, ovens, incubators, refrigerators, distillation plants, specimen jars and kjeldahl units are needed badly. From this year, the school is planning to introduce a course in food technology. At present, there is no laboratory to conduct the practicals for same.

Admission - There are two categories of trainees for these. They are:

1. Department Officers; and
2. Direct Recruits

Departmental officers are from different departments who are involved in agricultural activity. Namely, Department of Agriculture, Department of Export Agriculture, Land Commissions Department, Sugar Corporation, Coconut Cultivation Board and the Mahaweli Development Authority. The candidates must be below 45 years of age and at least should have completed four years of service.

Direct recruits are those who qualify the G.C.E. (Ordinary Level) with passes in at least six subjects. The age limit is 17-25 years.

Curriculum:

1. Agricultural Botany
2. Agricultural Chemistry
3. Crop Production
4. Animal Husbandry
5. Horticulture
6. Agricultural Engineering
7. Workshop Practice (for men)
8. Plant Protection
9. Agricultural Economics & Farm Management
10. Agricultural Extension

The school farm is in need of irrigation equipment such as sprinklers and drip irrigation equipment. The livestock section of the farm has the following animals:

Cattle	-	25
Pigs	-	20
Poultry	-	100 layers

The campus needs assistance in the following areas:

1. Buildings for the laboratories (especially for food technology)
2. Short-Term training for the staff
3. Buildings for the laboratory
4. Transport facilities

5. Theodolite
6. Equipment for the animal husbandry section:

Castrator

Dehorner

Drenching Gun

Toe Puncture

School of Agriculture - Pelwehera

This is located at a place called Pelwehera which is about 3 miles from Dambulla. It started to offer Diploma courses since 1981 and prior to that it was a practical farm school which used to offer certificate courses in Agriculture. Even though the institute has been upgraded the facilities seem to be the same, except for an addition of a new administration building. The student intake is 50 per batch and there are no accommodation facilities for female students.

The school seems to have a very weak program, running only with bare minimum facilities. There aren't any laboratory facilities, teaching aids and basic farm equipment necessary to run a course like this. According to the staff of the school, it is due to lack of funds. There have not been any maintenance nor repairs done to the staff quarters for the past eleven years. The library doesn't get any recent publications and most of the books which are there now are outdated.

2. Private schools of Agriculture

Private schools of Agriculture are normally run by christian organizations as branches or wings of their main educational institutes. Most of these schools started with the intention of providing training to the people who want to run their own farms. Majority

of these farms are animal husbandry farms and therefore the private schools of agriculture are also animal husbandry oriented.

TRINITY COLLEGE INSTITUTE OF AGRICULTURE

Trinity College, Kandy, is a leading non-governmental educational institute in Sri Lanka. It was established about 125 years ago and in 1904, the Principal introduced agriculture to the school curriculum. A small farm too was established for the practical purposes. This was then expanded to 31 hectares and was situated at Pallekelle, Kundasale which is about 14kms from Kandy.

On this block of land, in 1986 the Institute of Agriculture was established. This belongs to the Trinity College Board of Governors. It offers a diploma in Agriculture (2 year duration) to students from all parts of the country. Basically it is a residential course. This diploma is recognized by the government of Sri Lanka and the Department of Agriculture. The institute enrol only male students at present due to lack of suitable hostel facilities for female students. The present intake is 20 students per batch. In 1993, the institute is planning to enrol female students also. The Director of the institute is a Ph.D. holder from New Zealand and the staff consist of 6 agricultural graduates and 2 veterinary surgeons. In the near future, the institute is hoping to offer short-term practical training courses in crop and animal husbandry and floriculture. This is aimed at personnel who are interested in self-employment schemes. More specifically the courses are in the following disciplines:

- a) Commercial Broiler Management.
- b) Dairy and Pig Management.
- c) Establishment and Management of Horticultural and Agricultural export crop nurseries.

Apart from this, the institute proposes to operate a consultancy service to benefit small farmers and provide on site extension services to them.

Request for Assistance:

At present, the college farm has a hatchery project to supply day old chicks mainly to the Mahaweli settlers and Janasaviya recipients. The presently available 2 incubators is not sufficient to meet the demand and they are in need of at least 3 more incubators for which they are seeking financial assistance. The institute has imported 2,000 day old parent stock from France and are planning to multiply in the future. For the 3 incubators, the institute need Rs.300,000.

In addition to that, to overcome the frequent power failure, the institute need a 30kVA stand-by power generator for which they need about Rs.350,000.

Additional housing too will be required for the birds and the cost is estimated to be Rs.350,000.

Equipment and Other Materials:

Basic equipment to run the institute efficiently is not available. A list is given below:

1. Overhead Projector with Screen.
2. Slide Projector.
3. Photocopying Machine.
4. Computer with Printer.
5. Video Cassette Player with Display Screen.

6. Laboratory Equipment.
 - a) Refrigerator
 - b) Electric Balance
 - c) Microscope
7. Library Books.
8. Telephone Facilities for the farm and institute.
9. Two-wheel Tractor with Trailer and rotavator.
10. Survey Equipment (Dumpy level) Theodolite, etc.
11. Slaughter House with defeathering equipment.
12. Freezer truck.

AQUINAS COLLEGE-SCHOOL OF AGRICULTURE

This school was started in 1966 and was the only private institution to train students in Agriculture up to 1986. It is located in Colombo city their farm is at a location which is 10 miles away. The school provides a full time course in Agriculture and Animal Husbandry and awards a Diploma to students who successfully complete the course.

The course is designed to provide scientific knowledge and practical experience;

- a) for those who wish to take to planting or farming as a career;
- b) for those who are to be teachers or instructors in Agriculture and Animal Husbandry;
- c) for those who wish to acquire a preliminary knowledge for more advanced study in this field;

Previously the school offered a three year course leading to a Diploma and the admission requirements G.C.E.(Ordinary Level). AT present the school has upgraded the admission requirements to G.C.E.(Adv.Level) and reduced the duration of the course to two years.

In 1981, the Ministry of Agriculture recognised this diploma to be on par with that of government schools of agriculture, thus making it possible for the qualified students to join the public sector agricultural institutions.

It is a full time two year course with lectures on four days a week and farm practical work on specified days in the week and during the vacations. The academic year consists of three terms of ten weeks each. The staff of the school consists of nine lecturers out of which two have post-graduate qualifications and five have Bachelor's degrees. The student intake is 50-60 a batch.

The subjects taught during the course are as follows:

1. Agronomy 1 and 2
2. Animal Husbandry 1 and 2
3. Agricultural Chemistry
4. Agricultural Botany
5. Agricultural Entomology
6. Agricultural Engineering
7. Principles of Economics
8. Climatology
9. Plant Protection
10. Agricultural Extension
11. Farm management
12. Applied Economics.

3. Affiliated university colleges for Agriculture

Affiliated University Colleges (AUCs) are institutions of higher education, set up in the provinces to provide educational opportunities to a large number of students who do not have higher educational opportunities because of the lack of places in the national universities. In Sri Lanka, nearly 150,000 students sit the G.C.E. (A/Level) examination each year of which approximately 37,000 qualify for university admission. The national universities can only admit 9000 a year. The physical facilities in the national universities can not be expanded any further to increase the admissions above this limit. Limitation on educational opportunities for a majority of students who are eligible for admission creates a sense of frustration leading to youth unrest. Access to education to those that could benefit from it is a basic human right that anyone should aspire to preserve. The economy of the country also has to expand considerably to provide employment opportunities for the educated. At present there are nine such colleges, one in each of the nine provinces. Out of the nine colleges two colleges have been affiliated to the Peradeniya Faculty of Agriculture. Many of the courses that AUCs offer are not found in the national universities. They may have been designed to cater to mid-level positions in the different sectors of the economy and also for self employment. These colleges are aimed at creating a new dimension to the agricultural education system in Sri Lanka. Their major objective is to train appropriate middle level personnel to meet specific needs of the ever expanding and diversifying agricultural sector, while opening new avenues for gainful self employment.

Affiliated University College of Agriculture, Makandura, North Western Province.

The college is located along the Negombo-Kandy road. It is 32 miles from the capital city Kurunegala. Due to the location of the college, it is able to make use of the resources of the neighboring institute at Lunuwila, Livestock farms of the NLDB and the appropriate training center, Pannala.

Affiliated University College of Agriculture, Rahangala, Uva Province.

The location is the former seed potato farm of the DOA at Rahangala. It is 45km away from the provincial capital Badulla, 10km from Welimada on the Keppetipola road via Boralanda. Neighboring this is also a Research Station of the DOA devoted to horticulture and vegetables. There is also a livestock farm in close vicinity.

Present Status.

The colleges have just started sessions and the students are following the pre-admission courses on Sri Lankan studies, computer literacy, mathematics, English language, and environmental studies to broaden their knowledge. There will be 75-100 students per batch and 50% should come from the province where the college is situated. The admission requirement is course work in the subjects - chemistry, botany, zoology and one other subject selected from mathematics and applied maths.

Programs.

Both AUCs will offer the following diploma programs:

1. Diploma in Export Agriculture
2. Diploma in Plantation Management
3. Diploma in Farm Machinery and Post-Harvest Technology
4. Diploma in Field Engineering
5. Diploma in Food Preservation Technology
6. Diploma in Food and Nutrition
7. Diploma in Animal Production
8. Diploma in Soil Fertility Management and Conservation
9. Diploma in Agricultural Development and Communication
10. Diploma in Agribusiness Management
11. Diploma in Agricultural Biology

Each diploma program will be of a two year duration, consisting of three terms in each year. All courses will have an extensive practical component including laboratory, field and workshop practices. During the fifth and sixth terms the students will be attached to industrial/commercial organizations relevant to the diploma course. All these campuses are non-residential and students are supposed to find their own accommodation. Both the campuses have sufficient number of buildings from the previous institutions. Perhaps some might need modifications to suit their present requirements. For example, most of the buildings at Rahangala are former seed potato stores and these need substantial modifications if they were to be used as labs, lecture rooms or workshops.

Needs for Grant Assistance.

The university colleges at present are running with the bare minimum requirements. The lecture rooms are not fully equipped with necessary equipment such as overhead projectors, magi boards and other teaching aids. The laboratories too are lacking basic equipment such as ovens, balances, agitators, lysometers, pH meters, soil testing equipment, to name a few. The food science labs do not possess any equipment at present. The two libraries also need books and periodicals. Each campus has been supplied with six computers, which according to the directors is not sufficient. The field equipment such as tractors, water pumps, sprayers, irrigating units, bud grafting knives and trays are also of short supply. A mini bus or a van will be of immense use to them once they start the practical training at different institutions. An intercom facility and a fax machine too are needed. The staff at present consist of one senior lecturer and four college lecturers per campus. The four college lecturers have to be sent on short term training to other countries to broaden their knowledge on different agribusiness areas. The academic coordinator of the two AUCs who is also at present, the Dean of the Faculty of Agriculture, Peradeniya stated that there is a great demand for courses like export agriculture where they need foreign expertise.

4. University Faculties

There are three university faculties of agriculture at different locations in the country. They conduct four year degree courses in agriculture. Peradeniya faculty of agriculture is the oldest and largest institution for agricultural education in Sri Lanka. The other two faculties namely Ruhuna and Batticaloa are fairly new.

FACULTY OF AGRICULTURE - UNIVERSITY OF PERADENIYA

The faculty of Agriculture was established in 1947 as a single Department of Agriculture and today has seven departments of study. These are Crop Science, Animal Science, Soil Science, Food Science & Technology, Agricultural Biology, Agricultural Economics and Agricultural Engineering. It has a teaching staff of 92 which includes 44 Ph.D's, 38 M.Phil's, and ten with B.Sc (Hons) degrees. About 20 staff members are pursuing Ph.D research programs in several foreign universities.

The B.Sc Agriculture course is of four years duration. The curriculum of the degree course has been revised based on the course unit system of instruction. The basic courses in Agriculture sciences and other supporting courses are taught at the first year.

The second year is devoted for practical farmer training conducted at the Mahalluppalamia sub campus in the dry zone. The final term of the second year includes a training in Plantation Agriculture at a Tea Plantation in Kandy. The students could major in the 3rd year by following packages of courses offered by various departments of study leading to specialization in a specific area of agriculture. The fourth year includes the completion of an independent research project together with several advanced courses of study.

Admission to the faculty at present is 210 per batch which includes an admission scheme under special provisions to upgrade the officers of the Agricultural sector who are already in the service.

In addition to the basic laboratory equipment and machinery to facilitate undergraduate training, there are two experimental stations of 73ha and 21ha and four livestock farms around Peradeniya. These facilities were established when the students intake was around 30 -40 and with the present intake, all these facilities have to be increased in order to cater to a larger number of students. For example even the class rooms are not big enough to accommodate 210 students.

The faculty lacks the staff to teach subjects such as Agro-business, computer science and fruits and vegetables for export markets. This aspect of the program seems to have weaknesses.

Admission Requirements

Admission to the Faculty of Agriculture is subject to government policy on admission to the Universities. Minimum G.C.E (A/L) requirements are as follows. Applicants should have offered each of the subjects chemistry, Botany, Zoology and one other subject to be selected from the following:

Agriculture/ Agricultural Science, Geography, Physics, Pure Mathematics & Applied Mathematics.

University Sub - Campus at Maha - Illuppallama

The Maha-Illuppallama sub campus is situated 130 kms away from Peradeniya campus. It was started in 1968 with a batch of 25 students and at present accommodates 200 students.

The students are trained by a staff of 15, most of whom have obtained overseas post graduate training. Students are exposed to the practical aspects of crop production, Pest/Disease control, Animal Husbandry, Agricultural Engineering, etc.

Here too, the major drawback is the lack of logistical support according to the intake of the students. Teaching aids including audio/visual equipment are not there. Lack of recreation facilities for the students is felt badly as the course is a residential one and the campus is located in a remote area. The library too is not adequate and at present doesn't receive any journals. This campus needs buildings for lecture rooms, library and drawing rooms.

Post - Graduate Institute

The Post graduate Institute of Agriculture (PGIA) of the University of Peradeniya was established in 1975. It is functioning as an organization within the University of Peradeniya, under the direction and control of its Board of Management. The Academic programs of the Institute are developed and implemented by seven boards of study, namely; Agricultural Biology, Agricultural Economics and Extension, Agricultural Engineering, Animal Science, Crop Science, Food Science and Technology and Soil Science.

The PGIA offers facilities for post graduate training and research in approved fields of study at three levels, each represented by a degree. The three levels are described as follows.

Master of Science	-	M.Sc
Master of Philosophy	-	M.Phil
Doctor of Philosophy		Ph.D

At a given time, there will be about 100 students who read for the above degrees.

FACULTY OF AGRICULTURE, MAPALANE, UNIVERSITY OF RUHUNA

The faculty of Agriculture at the university of Ruhuna started in 1978 with 15 students and today has 75 students per batch. The B.Sc. Agriculture degree is of 4 years duration. It is located in Mapalane, 16 kms north of Matara and 2 kms south of Kamburupitiya. The faculty premises of 50 hectares include several academic and administrative buildings which house lecture theaters, laboratories, library, student recreational facilities, etc. Steps are being taken to take over the adjoining rubber estate of 65 acres also for the premises.

The faculty started with a staff of six in three departments, namely Agronomy, Agricultural Economics and Animal Science. This was a constraint with regard to the development of the campus and now the University Grants Commission has agreed to increase it to six departments beginning from next year. At present, there are 42 in the staff and 13 are Ph.D. holders.

The faculty staff at present conduct research programs with international organizations such as IFS - Sweden, IAEA - Vienna, ICRISAT - India and ACIR - Australia. There are two on-going projects with the assistance from France and Belgium on "farming systems research". There is another research program funded by USAID/Sri Lanka. Most of these grants are on "individual basis" obtained through the efforts of the staff. The faculty has developed new iron-toxic paddy varieties and also has designed a new water pump which is becoming popular in the southern district. In addition to the B.Sc. degree, the faculty conducts an M.Phil program and at present there are 10 students on this program.

Library - The faculty has been given a grant of 12 million rupees to construct a three storied building. The present annual budget of Rs.550,000 is not adequate to purchase necessary books as most of this money goes to subscribe for journals and periodicals.

Training - The present quota of scholarships for the staff is determined by the ratio of students to staff. If there are 10 students, the campus gets one scholarship for the staff. The Dean is of the opinion that this is not adequate for a fast growing campus. However, he is requesting USAID to assist in this respect as most of the USAID scholarships were given in the past to Peradeniya Campus.

Farm - The faculty farm has an extent of 100 acres and is managed by an agricultural graduate and two supervisors who are diploma holders of School of Agriculture. The following crops are grown in the farm.

Coconut	-	15 acres
Cinnamon	-	07 acres
Paddy	-	06 acres
Swamp	-	03 acres
Fruits	-	03 acres
Pasture	-	06 acres
Banana	-	02 acres
Pineapple	-	01 acre

The livestock section has the following number of animals:

Cattle	-	42
Buffalo	-	16
Poultry	-	600 layers 200 broilers
Goat	-	50
Sheep	-	06

There are no pigs due to the lack of a building. With the taking over of the adjacent 65 acres, the farm is going to be expanded and therefore is in need of farm machinery and equipment such as tractors and sprayers. At present, there is one four-wheel tractor and 2 two-wheel tractors.

In the near future, there is going to be an Affiliated University College for Agriculture at Kamburupitiya which is 2 kms from the campus. This will use most of the facilities that the faculty has, until it can stand on their own.

Possible grants could be made for research and development funds to help the agribusiness development. More emphasis should go towards developing a curriculum to emphasize on agribusiness development.

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